



REVALUE

D 1.1

Overview of National and European Valuation Techniques

Final
February 2, 2017

Deliverable	<i>D 1.1</i>
Title	<i>Comparison of the Valuation Techniques based on Key Performance Indicators</i>
Editor(s):	<i>LUWOGÉ consult GmbH; RICS, Vanhier, Savills</i>
Contributors:	<i>RICS, Maastricht University, Savills, Vanhier</i>
Reviewer:	<i>RICS, Maastricht University, Savills, Vanhier</i>
Version:	<i>one</i>
Date:	<i>2016/10/25, Resubmittal 2017/01/24</i>
Status:	<i>Final</i>
Dissemination level:	<i>Public</i>
Download page:	<i>29</i>
Copyright:	<i>LUWOGÉ consult, RICS, Vanhier</i>

REVALUE partners

B&W	Bax & Willems
Savills	Savills
MU	Maastricht University
RICS	Royal Institution of Chartered Surveyors
Luwoe	Luwoe Consult
Vanhier	Vanhier Accountants

Deliverable Description

The Deliverable, D1.1 Overview of the National and European Valuation Techniques provides an overview of currently available valuation techniques existing on national and European levels. The analysing of valuation techniques in relationship to the main stakeholders involved in the valuation process; building owners, valuers, accountants and banks are given. A summary of European accountancy and sustainable investment practices in the residential real estate sector data are provided. Conclusions from the analysis of the IFRS Standards as well as key points from interviews with national experts are provided.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649705. The sole responsibility for the content lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission is responsible for any use that may be made of the information contained therein.

Executive Summary

The REVALUE Project aims to incorporate energy efficiency (EE) into housing stock valuation. In establishing the groundwork for the REVALUE Project, the objective of Deliverable 1.1 is to develop an inventory of currently available valuation techniques, regulations and standards complimented by feedback of the industry and laws existing on national and European levels. Valuation techniques vary from country to country according to individual country standards, history and procedures. The principals of valuation are defined along with the relevant influencing factors, why and when valuations are executed and the standard valuation methods used in each country.

Key conclusions of our research, in relation to the project's main objective of linking energy efficiency to valuation of residential buildings, are based on current data and experts in the appraisal, housing and financial industries. Due to the lack of accredited evidence regarding the financial impact of EE strategies on a company's housing stock portfolio, immediate decisions and long term planning of refurbishments often are not executed with energy efficiency and sustainability in mind. Throughout Europe and in our target markets of social and public residential housing, valuation throughout is governed by three organizations:

- The Royal Institution of Chartered Surveyors (RICS)
- The International Valuation Standards Council (IVSC)
- The European Group of Valuers' Association (TEGoVA)

The Royal Institution of Chartered Surveyors, RICS, is the valuer's professional accredited organisation with offices covering the major political and financial centres of the world. They work at a cross-governmental level, delivering a single, international standard, The Red Book, which influences policy and embed standards. They regulate and promote the profession; maintain the highest educational and professional standards; protect clients and consumers via a strict code of ethics; and provide impartial advice and guidance. Red Book Guidance Notes currently prescribes a level of due diligence to be undertaken by Valuers. This includes a duty to consider energy efficiency and other sustainability data 'where available'. It was confirmed that valuation report users, simply check that part of the report and its inclusion does not lead to action. It is a goal of the REVALUE project to provide relevant evidence of the role of sustainability in construction. Thru this evidence, the strength of the sustainable guidelines in the Guidance Notes of the Red Book aim to be improved.

The IVSC acts independently and in the public interest to produce and implement globally accepted standards for the valuation of assets. The IVSC's objective is to build confidence and public trust in the valuation process by creating a framework for the delivery of credible valuation opinions by suitably trained valuation professionals acting in an ethical manner. The IVSC is responsible for developing the International Valuation Standard (IVS) and related technical guidance. These standards are a set of high-level valuation principles giving a framework that describes overarching valuation concepts and principles, with the belief that public trust in the Valuation Profession is enhanced by having a common set of valuation standards. To ensure that the public interest is effectively protected, IVSC works cooperatively with national professional valuation institutes, users, and preparers of valuations, governments, regulators and academic bodies. RICS work closely with IVSC in terms of the developing the IVS and through the Red Book they implement the standards and make them enforceable on members, wherever in the world they practice.

TEGoVA is also a European non-profit industry association, which represents the interests of qualified valuers. The TEGoVA's European Valuation Standards (latest edition 2016) set standards that in many ways mirror those of RICS; however, they differ in two respects:

- No individual country chapters are published – although variants are published on their websites
- The Standards colloquially known as the Blue Book cover methodology as well as process and link to EU regulatory frameworks.

All of these organisations are of major influence on the profession of valuation in the UK, Germany, Poland, Sweden and The Netherlands, which are the target countries for the REVALUE project.

Even though valuation techniques vary from country to country, the valuation methods and occasion for valuation remain relatively consistent. Occasions for valuation are typically linked to the sale, renting or buying of a property. Investment planning, taxes, and loan applications requirements often require a current appraisal of a property.

There are three (3) standard methods of valuation: sales comparison, income and cost approaches, however income and cost approaches are rarely used in the valuation of residential property.

The sales comparison/market approach is the most common and direct approach to valuation in most countries. The subject to be valued is compared to properties with similar characteristics, (as similar as possible), that have been sold recently. Professional judgement is used to adjust the valuation to reflect any differences between the subject property and the comparable used. Challenges arise when two similar buildings, one with EE upgrades and one without are used in an appraisal. In the field, practicing Valuers tend to work on heuristics – intellectual short cuts. Whilst size is an obvious one, location, condition, specification and tenancy details contribute to a valuer's experience and knowledge of the market. In summary, what they consider will make a difference to price achieved, is based on the past. For these reasons, valuers are viewed as backward looking – as they rely on what *has happened* rather than what *might* happen. When no history exists for the EE upgrades, the appraiser has no basis for comparison. REVALUE has the objective to promote a set of new valuation Norms and Standards in regards to how a valuer accesses the EE strategies of a property. Evidence and information critical to the worth of energy efficiency in the existing and future housing stock throughout Europe can be supported by real world data and first-hand knowledge.

Government legislations and tenancy laws contribute to the ability and desire of owners to invest in energy efficient renovations and new energy efficient buildings. Without the motivation and financial capability of an owner, energy efficient upgrades typically do not advance beyond government regulations. In rental properties, a building's energy efficiency and respective tenancy laws can influence the profitability and can reflect in higher property values. In consideration of the objectives of the REVALUE project, three main principle subject fields were determined in connecting building EE and valuation.

- Handling of energy costs as operational or running costs
- Regulations in terms of rent determination and rent increase together with EE-refurbishment
- Deficiencies, comfort and risk for health

The handling of energy cost and hot water production varies throughout the countries studied for REVALUE. In Great Britain and Germany, the tenant, based on their actual consumption, pays for these. In the Netherlands, this can also be the case; however, it can also be part of the operational costs of the owner in the form of a fixed amount. In Poland and Sweden, the property owner predominantly pays for energy and hot water costs as operational costs.

Conclusions reached revealed that when an owner pays the energy costs as part of the operational or running costs, they could glean a financial benefit. Incorporating EE into the standard maintenance and upgrades of existing properties, as the costs of these services should be reduced with the upgrade of the energy efficient products.

The role of rent regulations for rent increase related to EE refurbishment is, however, less attractive due to rent regulations of social and public housing in all of the countries except Sweden. Rarely are housing companies able to raise rents solely due to EE upgrades. Tenants throughout the countries studied appear to recognise that energy efficiency of systems is favourable; however rarely seek out residences with this as the primary goal. The role of energy labelling (EPC, SAP etc.) has little impact on a tenant's decision to choose one property over another. Location is still the primary consideration when selecting a home. Greater market transparency is needed. Education on energy efficiency and sustainability needs to be provided to tenants, owners, lenders and investors.

Essential is that the project will operate in line with the existing IFRS, (International Financial Reporting Standards), framework of IAS 40 and IFRS 13. The objective of general purpose financial reporting and the qualitative characteristics of useful financial information add to the comprehensive verification of the study, since all the values will be reflected on the balance sheets of the investing organisations. The IAS 40 Investment Property applies to the accounting for property (land and/or buildings held to earn income or for capital appreciation, or both). The IFRS 13, Fair Value Measurement, applies to IFRSs' that require or permit fair value measurements.

The IFRS 13 Fair Value Measurement, standard defines fair value based on an 'exit price' notion and uses a 'fair value hierarchy', which results in a market-based, rather than entity-specific, measurement. Therefore, the conclusion reached is that the valuation techniques used and approved by the accounting industry (i.e. IAS40/IFRS13) do not specifically mention the value of energy efficiency. If, however, an item meets the definition of an EE element and satisfies the following criteria for recognition; "It is probable that any future economic benefit associated with the

item will flow to or from the entity and the item's cost or value can be measured with reliability"¹, it will/can be recognised by the accounting industry.

Key points from the interviews with local and national experts in the public housing sector, housing trusts and housing committees support the need for government grants, tax incentives and regulations. Financial support, which encourages EE as part of a company's long-term sustainable vision and strategies, strengthen the concepts of 'future proofing' a company's housing stock. Through the series of interviews, tenant comfort and satisfaction were recognized as key factors when upgrades and maintenance to a property are executed. Across the spectrum, a consensus for guidelines, education of EE-interventions and a more transparent system of identifying the benefits of EE renovations both financially and socially were received.

¹ IAS 40 article 16 (IAS 40.16) and the Conceptual Framework of IFRS (article F 4.38).

Table of Contents

Executive Summary	iii
Chapter 1 Introduction and Scope	1
1.1 Purpose of Document	1
Chapter 2 A Definition of Value.....	2
Chapter 3 Institutions and Specification for Property Valuation.....	5
3.1 International and National Institutions, Regulations and Standards.....	5
3.2 Occasions for Valuation	7
3.3 Overview of Standard Valuation Approaches	7
3.4 Choice of Approach.....	7
3.5 Standard Valuation Methods	9
Chapter 4 Valuation according to IFRS.....	20
4.1 Introduction	20
4.2 Findings	20
4.3 Conceptual Framework.....	20
Chapter 5 Relevant Regulatory Aspects	27
5.1 Tenancy Law and EE-refurbishment.....	27
5.2 EPCs and Sustainability.....	34
5.3 Global Requirements for Valuation.....	36
Chapter 6 Current Practice for Valuation in Respect to Sustainability.....	38
Chapter 7 Expert Interviews and Feedback Groups	39
7.1 Summary of Findings	39
7.2 Germany Conclusions.....	40
7.3 United Kingdom Conclusions	41
7.4 Netherlands Conclusions	41
7.5 Poland Conclusions	42
7.6 Sweden Conclusions.....	43
Chapter 8 Appendix.....	44
8.1 RICS definitions and additional information.....	44
8.2 Minutes Expert Meetings: Reference Deliverable1.1 Appendix Folder.....	58
References	76
Glossary	79

Chapter 1 Introduction and Scope

1.1 Purpose of Document

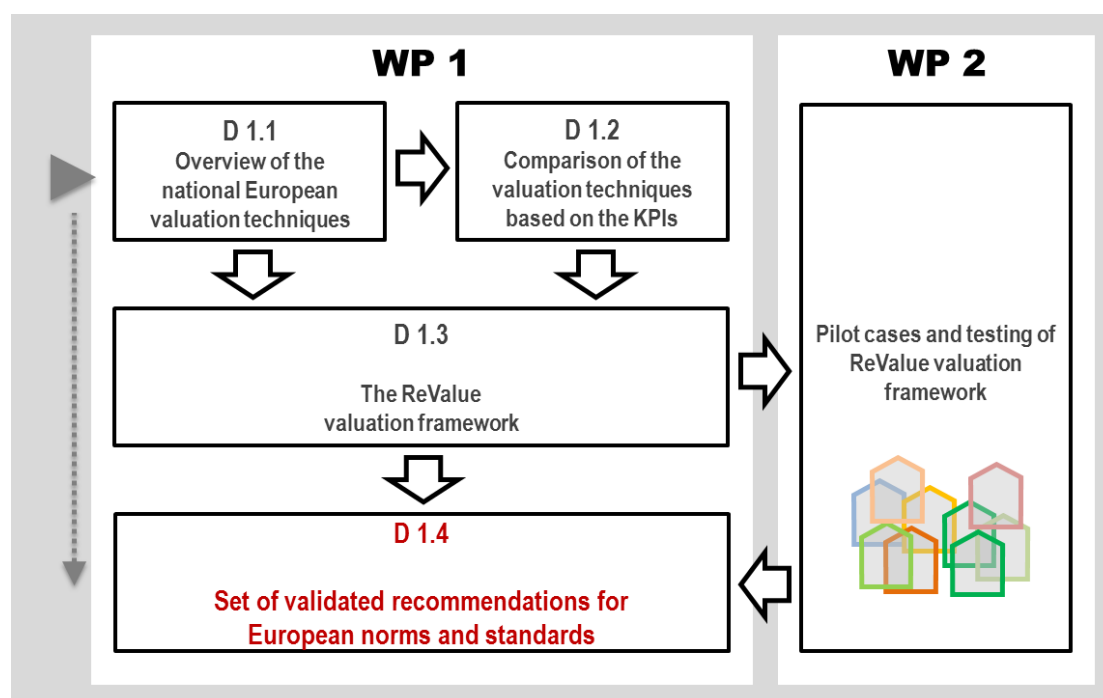
The purpose of providing accounting, regulatory aspects, financing information and expert opinions is to give a comprehensive overview to the national and European valuation techniques. Nonprofessional's and professionals in the industry, from differing backgrounds, and countries can start from a similar place in knowledge and understanding of how valuation functions throughout Europe.

In accounting, almost all 100 countries worldwide use and implement the IFRS standards. REVALUE will operate in line with the existing IFRS since property values are reflected in the balance sheets of the investing organisations.

The relevant regulatory principles of tenancy laws, EPC, sustainability labels and the global requirements for valuation and their significates vary from country to country. These regulations and legislations influence the role of EE in the building industry. They can affect the profitability of a housing companies stock and sometimes play a role in a tenant's decision to let an apartment. These regulations can also influence the motivation of the owner to invest in energy efficient systems and upgrades. How rents are determined, how energy costs are paid and the overall comfort and health of a building are important factors to be considered in valuations. The role of conducting and integrating the results of expert interviews and focus groups is to provide current and practical information in real time. These principles and opinions of how the systems of valuation, finance and housing companies function, gives a 'correctness' to the REVALUE framework which is not possible by only acquiring knowledge through publications.

In distinguishing the significates of how the pilot countries use the key aspects, one can better understand the complexities and challenges of their contributions. Also brought to light are the roles and contributions the building and valuation professions hold in the role to reduce global warming and provide comfortable housing for all.

Figure 1: Towards a set of validated recommendations for European norms and standards



Chapter 2 A Definition of Value

For any discussion on the impact of property characteristic on its 'value', it is important that there is a common shared understanding of what 'value' is: value to whom and for what purpose?

Inherent in any instruction to a Valuer is that the valuation must have a *purpose*. It is this purpose, that determines the basis and methodology that is adopted. Fundamentally, is it *value in exchange*? Alternatively, is it *value in use*? The two are very different and over many years have caused significant confusions. Further is value an *economic concept* related to use of resources – or something more difficult to define – such as *value to society* – so-called *social value*.

For the purposes of the REVALUE project, it is imperative that the terms price, value and worth are clearly defined and distinguished. To do this it is important to turn to the definitions used within professional circles as the standard dictionary definition makes little if any distinction between the three terms; indeed, in some circumstances cost is included in the discussion as if it was the same as value. Add to this that in some languages the words is translated differently, it is easy to see that not only is 'value' an emotive word - it is also difficult to translate.

It was over 20 years ago, with the Mallinson Report (1994) that the debate among valuation circles really began. In that report, Mallinson distinguished between what something might sell for and what it could be 'worth' to an individual investor. Indeed, to misquote him "*worth is the stuff of decisions*"². Whilst the Mallinson report was initially renowned for proposing some 14 possible definitions of price, value and worth, it is his work in distinguishing worth as a subjective analytical figure that is of use to an investor. An *estimate* of transaction price (value) and price (the amount achieved) for which the report is best remembered and by 1997, the RICS had issued guidance on the establishment of worth calculations³ advocating a DCF approach. From then on, not only has the issue been debated academically⁴ and in standard texts⁵ but also the professional bodies have refined definitions so that now they are as follows:

Price: This term is not defined within the RICS Red Book or the International Valuation Standards (IVS) but can be taken to be *the actual observable money exchanged when buying or selling a property*. By definition, it can only be known *after* the event. It is often called the 'hammer price' i.e. that which is achieved at an auction- the price prevailing at the point at which a deal is struck and is contractually binding.

Value: There are several different definitions of value (Market Value, Fair Value, Special Value, etc.) but the most widely used definition is **Market Value**, which in effect is a *transfer* value. This is defined by the IVS (and reproduced in the Red Book as "*the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion*"). In short, it is an expert opinion – and one that, in practice is found through the analysis of previous transactions. The Market Value therefore reflects only those characteristics of a property that the Valuer can observe as influencing the price achieved. Given that the only *public* knowledge of a transaction is normally the sale price (and in the event of an investment sale, the rent and the sale price), the contribution of each individual characteristic is not easily apparent and any attempt to analyse out is problematic.

Valuers tend to work on heuristics – intellectual short cuts. Whilst size is an obvious one (though only just beginning to be used systematically in the UK for residential properties), location, condition, specification and tenancy details dominate. To analyse in more details hedonic pricing is often undertaken by academics – but not in the field by practicing Valuers who work on experience and knowledge of the market – in short what they consider will make a difference to price achieved based on the past. For these reasons, Valuers are viewed as backward looking – as they rely on what *has happened* rather than what *might* happen.

² (Mallinson Report (1994), Commercial Property Valuations, RICS, 1994)

³ (The Calculation of Worth: an information paper, RICS, 1997)

⁴ See for example: McParland, C. McGreal, S. and Adair, A. (2000), Concepts of Price, Value and Worth in the United Kingdom: towards a European Perspective, Journal of Property Investment & Finance, 18.1, pp 84 – 102; French, N. (2006). Value and worth: Scenario analysis. Journal of Property Investment & Finance, 24(2), 176-179.

⁵ See for example: Hoesli, M., & MacGregor, B. D. (2000). Property investment: principles and practice of portfolio management. Pearson Education; Sayce, S., Smith, J., Cooper, R., & Venmore-Rowland, P. (2009). Real Estate Appraisal: from value to worth. John Wiley & Sons.

In terms of valuation for secured lending, whilst the basis of value internationally adopted is currently Market Value, the concern of the lender will always be to reduce the risk of loss in the event of default, and this predicates against including any element of projected value and encourages a cautious approach – except in a rapidly rising market. It follows that there is little incentive upon a Valuer to step away from ‘tried and tested’ approaches. In terms of acceptability of a comparability approach, this has long been accepted by UK courts and has indeed recently been confirmed again in the case of *Titan v Colliers* (2015) with the courts accepting a margin of error of up to 15% in times when accuracy is difficult to achieve.

Fair Value is a term that is adopted for accounting purposes. The IVS define it as “the estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties”. It is generally regarded that this equates to Market Value.

However, under *International Financial Reporting Standards (IFRS 13)* fair value is „the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.” This allows for any special relationship between the parties to be taken into account. The distinction between these two definitions and their usage is discussed in the IVS Framework paras 39-43 and IVS 300, paras G1-G2.

Whilst at the time of writing Fair Value has two definitions, this has been regarded as unsatisfactory and the IVS is proposing to re-define one as Equitable Value to draw a distinction. Both are normally found through market analysis and the application of accepted valuation principles. Another term that is recognised as being related to Market Value, but distinct from is Synergistic Value, which recognises that when either two physical interests or two legal interests are put together the result can be a value, which is greater than the sum of the two parts. This is common in the case of, for example, site assembly of small units to enable a large-scale development.

The definition of investment value or worth is very different. This is defined in the Red Book and IVS as “The value of an asset to the owner or a prospective owner for individual investment or operational objectives. (May also be known as worth.)” This implies that the value is *subjective* and depends upon the individual viewpoint of the individual investor based on own criteria. For the prudent investor, an asset holding which has a lower worth to them than the market value would be prompted to sell – but one which they consider is perhaps undervalued in the market place (i.e. Price and value) they would purchase. Whereas the MV is normally assessed in relation to comparable transaction evidence, worth or investment value is driven by DCF modelling using parameters, discount rates and cash flow predictions that are specific to the instructing client. However, where the asset under consideration is likely to transact to one of a small group of investors all of whom might work on similar assumptions, the MV is likely to tend towards the IV.

The additional commentary in the IVS Framework (para 37) is useful in providing some clarity of the distinction between IV and MV. It says that IV:

“Is an entity-specific basis of value. Although the value of an asset to the owner may be the same as the amount that could be realised from its sale to another party, this basis of value reflects the benefits received by an entity from holding the asset and, therefore, does not necessarily involve a hypothetical exchange. Investment value reflects the circumstances and financial objectives of the entity for which the valuation is being produced. It is often used for measuring investment performance. Differences between the investment value of an asset and its market value provide the motivation for buyers or sellers to enter the marketplace”.

Therefore, some investing owners (or potential market participants) will build into their projections factors such as physical characteristics and financial/ social considerations, which are not apparent within the market pricing of the asset. Given that the REVALUE project is focused specifically on residential investment property and notably social housing, a further definition is relevant to UK stock. This is ‘Existing Use Value for Social Housing’ (EUV-SH). This is defined as MV but with additional special assumptions as follows: It is assumed that:

“The property will continue to be let by a body pursuant to delivery of a service for the existing use and that at the valuation date, any regulatory body, in applying its criteria for approval, would not unreasonably fetter the vendor’s ability to dispose of the property to organisations intending to manage their housing stock in accordance with that regulatory body’s requirements. Further that properties temporarily vacant pending re-letting would be valued, if there is a letting demand, on the basis that the prospective purchaser intends to re-let

them, rather than with vacant possession and that any subsequent sale would be subject to all of the above special assumptions.”

The key point here is that any possibility of redevelopment is ruled out of the valuation. However, in reality there is another consideration in the UK as rents for social housing are subject to a formula and are not therefore market rents - however much a social landlord may invest in a property, they will not necessarily recoup that benefit – even should the tenant be willing to pay an additional amount. EUV-SH is therefore in reality not the same as MV.

Many properties are subject to mortgage finance. From a global perspective, the normal valuation basis underpinning lending secured against real assets is their Market Value, as this represents the figure at which the property would exchange in the market place as at the date the debt was placed. However, such a basis, whilst very widely used and accepted is not universally accepted and a special definition Mortgage Lending Value, MLV is recognised by the European Union (Regulation (EU) No 575/2013 (CRR) and is defined as *“the value of immoveable property as determined by a prudent assessment of the future marketability of the property taking into account long term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property.”* Whilst not universally accepted it has relevance in some member states and its use is advocated by TEGOVA (The European Group of Valuers’ Association).

Finally, the concept of cost requires definition. Cost is a figure that excludes any notion of market demand. Thus a property may have a high cost of production or be expensive (or cheap) to run in cost terms – but this will be largely divorced from its value in the market place. Whilst in a stable market the revenue costs of occupation may influence a tenant’s bid, cost is only one factor: location, scarcity, etc. may well be more important – especially if the occupier is not specifically cost conscious. For an investor, revenue cost considerations are only important insofar as they will effect on the tenant’s bid – now and in the likely future or on the attitudes of potential purchasers.

In valuation the term cost approach is recognised but only where an asset is not normally transacted in the market place due to its specification, location or other factors. In such cases, the cost approach may be adopted as this *“provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or construction”*. It is normally established by reference to land value plus the replacement cost of an equivalent asset, but less an allowance for depreciation and obsolescence.” (RICS Red Book Glossary)

For residential property, which is a type of property for which market evidence normally exists a cost approach is not normally used. For this project, the pertinent bases of value are Market Value, Investment Worth and, for specific landowners, Existing Use Value or equivalent.

Chapter 3 Institutions and Specification for Property Valuation

3.1 International and National Institutions, Regulations and Standards

There are many Valuation Professional Organisations (VPOs). Most operate on a national basis, but some operate across countries. With the development of the globalization, cross border money flows and international companies, the importance of valuations undertaken across borders is recognised and a strong case put forward for international regulatory frameworks for the valuation profession.⁶

Three major organisations' set standards at the national and international levels.

- The International Valuation Standards Council (IVSC)
- The Royal Institution of Chartered Surveyors (RICS)
- The European Group of Valuers' Association (TEGoVA)

All of these organisations exist and influence the profession of valuation in the UK, Germany, Poland, Sweden and The Netherlands, which are the target countries for the REVALUE project.

International Valuation Standards Council (IVSC)

The IVSC is a not-for-profit organisation that acts independently and in the public interest to produce and implement globally accepted standards for the valuation of assets. IVSC consists of 86 member bodies from 56 countries, which include representatives from a number of valuation institutions, providers and standard setters. The IVSC's objective is to build confidence and public trust in the valuation process by creating a framework for the delivery of credible valuation opinions by suitably trained valuation professionals acting in an ethical manner.

The organisation's mission statement is:

To establish and maintain effective, high-quality international valuation and professional standards, and to contribute to the development of the global valuation profession, thereby serving the global public interest.

The IVSC is responsible for developing the International Valuation Standard (IVS) and related technical guidance. These standards are a set of high-level valuation principles giving a framework that describes overarching valuation concepts and principles, with the belief that public trust in the Valuation Profession is enhanced by having a common set of valuation standards. To ensure that the public interest is effectively protected, IVSC works cooperatively with national professional valuation institutes, users, and preparers of valuations, governments,

The standards also have supporting guidance to ensure the consistent application of those principles and the standards for the conduct and competency of professional valuers.

A standard will do one or more of the following:

- Identify or develop globally accepted principles and definitions
- Identify and promulgate procedures for the undertaking of valuation
- Assignment and reporting of valuations
- Identify specific matters that require consideration and methods
- Commonly used for valuing different types of asset or liability
- Identify appropriate valuation procedures for the major valuation purposes

⁶ See for example: (International Valuation Standards Council (IVSC) - GLOBAL REGULATORY CONVERGENCE AND THE VALUATION PROFESSION, 2014, 2014)

Royal Institution of Chartered Surveyors (RICS)

RICS are a professional body that accredits over 118,000 professionals within the land, property and construction sectors, with offices covering the major political and financial centres of the world. Their market presence means they are ideally placed to influence policy and embed standards at a national level. They also work at a cross-governmental level, delivering a single, international standard that aims to support a safe and vibrant marketplace in land, real estate, construction and infrastructure, for the benefit of all.

RICS regulate and promote the profession; maintain the highest educational and professional standards; protect clients and consumers via a strict code of ethics; and provide impartial advice and guidance.

Any individual or firm registered with RICS is subject to their quality assurance and is required to keep up to date with current practice through a programme of lifelong learning. Further, through their Valuer Registration scheme which is in process of being implemented globally, all registered valuers (i.e. those members who practice valuations that are covered by the Red Book) are carefully monitored annually on a 'risk assessed' basis to ensure that they comply with the Red Book provisions. Currently the Registration scheme is in force within the UK and 10 mainland European countries.

The RICS work closely with IVSC in terms of the developing the IVS and through the Red Book they implement the standards and make them enforceable on members, wherever in the world they practice.

Red Book

The aim of RICS Red Book is to engender confidence in, and to provide assurance to, clients and recognised users alike, that a valuation provided by an RICS-qualified valuer anywhere in the world will be undertaken to the highest professional standards overall. Consistency, objectivity and transparency are fundamental to building and sustaining public confidence and trust in valuation. In turn, their achievement depends crucially on possessing and deploying the appropriate skills, knowledge, experience and ethical behaviour, both to form sound judgments and to report opinions of value clearly and unambiguously to clients and other valuation users.

For RICS members, the Red Book professional standards set out procedural rules and guidance, which establish a framework for uniformity and best practice in the execution and delivery of valuations.

For clients and other valuation users these professional standards ensure a consistency in approach and aid understanding of the valuation process leading to the reported figure.

It is important to note that the Red Book details the principles and process through which the valuer undertakes their work, including due diligence, inspection and reporting. Whilst the Red Book defines the bases on which valuations are to be prepared for particular purposes, it is not a manual of instruction and it does not tell valuers how to value or the methods they should adopt.

The European Group of Valuers' Association (TEGOVA)

TEGoVA is a European non-profit making association composed of 61 valuer's associations from 33 countries representing more than 70,000 valuers in Europe. Unlike the RICS and IVSC, which are public interest organizations, TEGoVA "represents the interests of qualified valuers".

The European Valuation Standards (latest edition 2016) set standards that in many ways mirror those of RICS; however, they differ in two respects:

- No individual country chapters are published – although variants are published on their websites
- The Standards colloquially known as the Blue Book cover methodology as well as process and link to EU regulatory frameworks.

For some years, TEGoVA has run a Recognised Valuer Scheme (REV) but in October 2015, it launched its scheme, (TEGoVA Residential Valuer), that required those deemed competent through education and experience to undergo a five yearly renewal of designation, thereby aiming at ensuring continued compliance with standards and CPD (Continuing Professional Development) requirements.

RICS in Poland was established in 1991 by a group of experienced surveyors who saw the need for regulation in a young and developing real estate market undergoing a rapid period of transformation.

3.2 Occasions for Valuation

There are many occasions for which a property valuation may be required.⁷

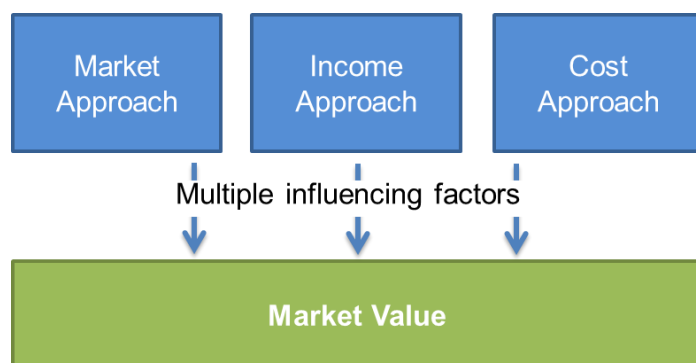
- Selling a property
- Renting a property
- Buying a property
- Real estate evaluation
- Monitoring in company accounts
- Planning of refurbishment
- Investment planning
- Applying for a loan
- Taxes
- Inheritance
- Death, divorce
- Mergers and acquisitions

3.3 Overview of Standard Valuation Approaches

There are three main groups of valuation approaches with each type adapted for country-specific requirements.

- Market Approach (or comparative method, market sales comparison approach)
- Income Approach (or investment method, DCF method, etc.)
- Cost Approach
 - Depreciated replacement cost method
 - Residual method (or development appraisal)

Figure 2: The most common valuation methods



Further descriptions of the single approaches are below in chapter 3.5, Deliverable 1.2 and WP4 of the REVALUE project.

3.4 Choice of Approach

Whilst the basis of the valuation may be set out in the Valuation Standards, depending on the purpose, the method by which the valuation is determined is normally at the valuer's judgement, although there are occasions when it may be prescribed.⁸

⁷ (Shapiro, et al., 2013, p. 1 ff)

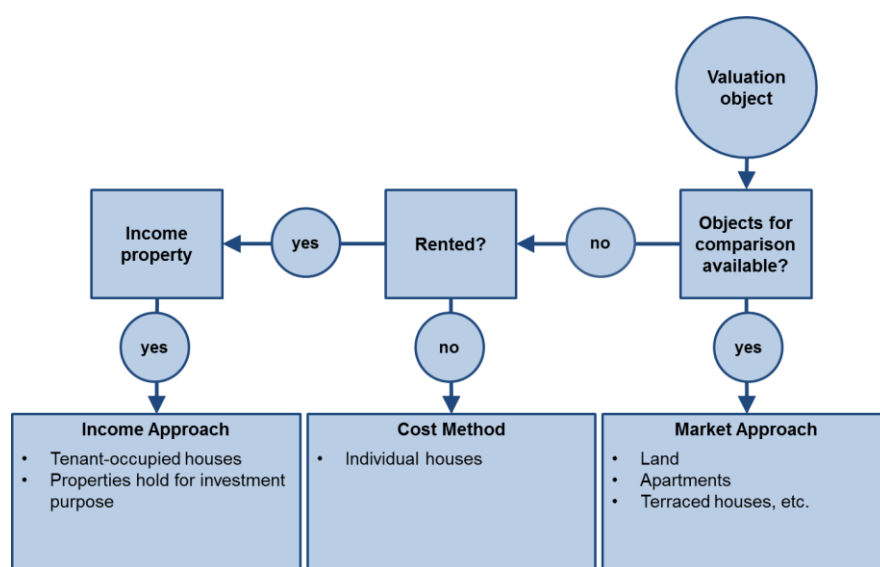
⁸ For example, in the UK, leasehold residential units are subject to legislation (currently the Leasehold Reform, Housing and Urban Development Act 1993 as amended) dictates the approach to the their valuation for the purpose of sale

There are varying divers and different reasons for which valuation approach to use. Building typology and reason(s) for valuation may define which method of valuation to apply. Additionally, there are country specific laws or habits concerning evaluation methods.

For many valuations, the market / comparison approach can provide the closest to market value of a property as long as there is enough evidence from the sale of comparable buildings available in the same region. As this is not always the case or if the business model is that of a rental property, then a valuation using the income approach may be more appropriate.

For buildings where not enough data about comparable sales is available and which are not rented out, the cost method may be the only practicable choice. (See Figure 3: Standard Choice of Method).

Figure 3: Standard Choice of Method⁹



The choice of method may vary in different countries. Based on expert interviews and dialog with various European organisations an overview of the use of different valuation approaches is provided:

United Kingdom:

In social housing when properties are appraised, it is a change in rent, which has a large impact on a properties valuation. The Welfare Reform and Work Act 2016 requires registered providers of social housing in England to reduce social housing rents by 1% a year for 4 years from a frozen 2015 to 2016 baseline and to comply with maximum rent requirements for new tenancies.¹⁰ Many rented private sector units are valued using the comparison method, not the investment method as security of tenure seldom exists beyond a short initial period. Within the social sector, an investment method is more common but subject to the assumptions contained in the RICS definition of EUV-SH¹¹

Germany:

In Germany, the standards for valuation are relatively strict by comparison with other countries¹². Principles of real estate valuation in Germany are regulated by law. General definitions and principles for valuation related aspects are defined in §§ 873 ff. BGB and the administrative orders 'Immobilienwertermittlungsverordnung (ImmoWertV)', Wertermittlungsrichtlinie (WertR), Beleihungswertermittlungsverordnung (BelWertV),

⁹ LUWOG consult

¹⁰ (GOV.UK, Welfare Reform and Work Act 2016 - social rent reduction , 2016)

¹¹ (The Valuation and Sale of Residential Property Routledge, 2008)

¹² Residential Valuation Techniques Feb. 15

PfandBG. These regulations do not directly indicate which approach, in which situation has to be used. Like in general, the market approach is the preferred approach when appropriate comparables are available. Due to the high number of residential rental properties the income approach has a higher relevance compared to other countries with higher rates of ownership. One special example is the relevance and use of the cost approach, which is relatively high compared to other countries. Another relevant aspect is the use of a supporting approach for validation of the results of the first selected approach (e. g. income approach in combination with an cost approach as a support).

Sweden:

In Sweden, in principal, exists no social housing. Instead, there is SABO, the Swedish Association of Public housing Companies. This system accounts for almost 20% of Sweden's housing stock, half of which is the rental sector. There are over 300 companies throughout all municipalities and owned by the municipalities. They are managed a limited companies and are 'universal' open to everyone, therefore not deemed social housing. The cost approach is never relevant for valuations for the property index and rarely for valuations for financial reports.¹³ There is just one method used and this is the (historical) cost method. In private rental and residential real estate for sale, the valuation is done with the acquisition cost value, minus any depreciation and the write-downs or "impairment losses". An impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount (i.e. the higher of fair value less costs of disposal and value in use). Ultimately, it means that the asset should be measured at fair value if the fair value is lower than the value at cost (historical cost less depreciation). Basically, the method comes down to historical cost (less depreciation) or lower fair value. The depreciation or amortisation rate of the economic life length for both types of real estate is around 2%.

Poland:

According to the Polish Law, the "mixed" approach is applicable when current circumstances do not allow the application of the sales comparison or income approach (art. 152.3 of the Property Management Act and Ordinance). The result of a "mixed" approach is the use of the market value approach. (art. 152.3 of the Act the Property Management Act and Ordinance).¹⁴

The Netherlands:

In the Netherlands, regulated social residential real estate, which is rented or owned for income in a fair value market, and for private rental residential real estate the income approach, is used most often. This means the acquisition cost less the depreciation or fair value. In the regulated social housing market, it has only been since 2016 that there is the obligatory fair value. Regarding depreciation or amortisation of the real estate, this is normally 25-40 years. There is no depreciation on the land. For residential real estate that is for sale, the market approach is the most common method of valuation. Acquisition costs and depreciation are similar to that of social and privately owned rental real estate.

3.5 Standard Valuation Methods

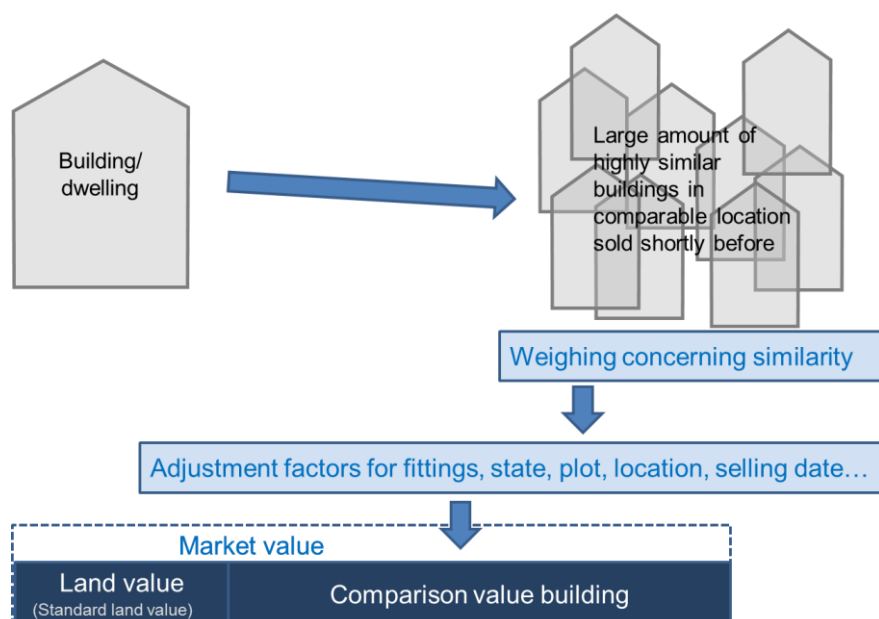
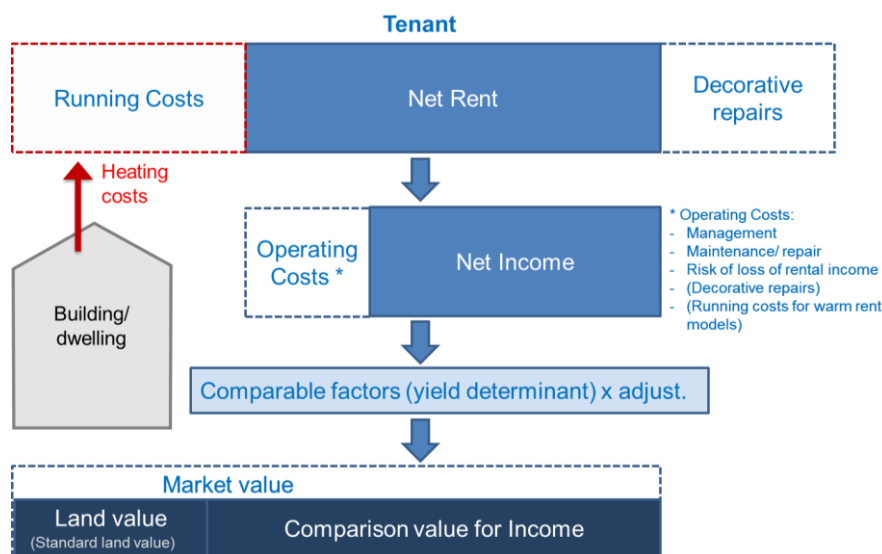
3.5.1 Sales Comparison/Market Approach

The sales comparison/market approach is the most common and direct approach to valuation in most countries. The subject to be valued is compared to properties with similar characteristics (as similar as is possible) that have been sold recently. Professional judgement is used to adjust the valuation to reflect any differences between the subject property and the comparable used. This method of valuation is commonly used for residential secured lending valuations for owner occupation.¹⁵

¹³ RICS

¹⁴ RICS

¹⁵ RICS

Figure 4: Direct Comparison Approach**Figure 5: Direct Comparison Approach based on Revenues¹⁶**

A variant of this approach is not comparing the sales of similar buildings/ dwellings but is calculating a comparison value for income.¹⁷

United Kingdom

In the United Kingdom, the comparison method as outlined in Figure 4 is the most common approach. The quality of the valuation is dependent on detailed local knowledge and access to data detailing recent transactions. Whilst many valuers have their own detailed transaction records, there are several large data providers, which enable the wider sharing of transaction information, helping to improve the accuracy of the outcome.

¹⁶ LUWOG consult

¹⁷ cf. (Kleiber, et al., 2010, p. 1266)

Valuation for social housing providers should use an Existing Use Valuation (EUV), assuming vacant possession and continued residential use. EUV's should be produced by the comparative method and not by a discounted cash flow method. Existing Use Value (EUV) - an opinion of the best price at which the sale of an interest in the property would have been completed unconditionally for cash consideration on the date of valuation, assuming:

- willing seller
- that, prior to the date of valuation, there had been a reasonable period (having regard to the nature of the property and the state of the market) for the proper marketing of the interest, for the agreement of the price and terms and for the completion of the sale
- that the state of the market, level of values and other circumstances were, on any earlier assumed date of exchange of contracts, the same as on the date of valuation
- that no account is taken of any additional bid by a prospective purchaser with a special interest
- that both parties to the transaction had acted knowledgeably, prudently and without compulsion
- the property can be used for the foreseeable future only for the existing use
- that vacant possession is provided on completion of the sale of all parts of the property occupied by the business

Germany

The sales comparison approach (SCA) or market approach has long been the acknowledged method in Germany.¹⁸ Here the SCA is primarily used for land value determination¹⁹. According to German valuation literature, the use of the SCA for valuation of sites²⁰ present difficulties when analysing comparable evidence from the second hand market, as the availability of comparable transactions is critical for the use of SCA. The accuracy of the method decreases as a greater number of necessary adjustments becomes required.

According to Germany judicature, deviations up to 10% are acceptable and considered as normal.²¹ In case of valuation for tax occasions, the SCA approach is the preferable method.

For the SCA approach, it can be distinguished between two methods:

1. direct and
2. indirect price comparison

For the direct price comparison, the price is derived directly from the comparable price. Prerequisite for this are identical or comparable characteristics for the ground and building.

For indirect price comparison, the price is derived from adjusted property transactions of less similar properties. Local appraisal committees provide standard ground values, building comparables and adjustment factors for building types relevant for the comparison approach. Depending on the local appraisal committee, different comprehensive adjustment data is provided. Specific adjustment factors for consideration of building EE are not provided. In Germany, due to legislation and standard practice, the direct comparison approach is not the common approach for existing buildings. The approach of Figure 5 is used more often, however most in combination with the income and/ or cost approach.

Poland

According to the Polish Law, the sales comparison approach is possible for application when prices and features of comparable properties are known (art. 153.1 of the Property Management Act and Ordinance). Definition of comparable property is included in the Property Management Act and Ordinance. In some cases the application of the sales comparison approach is mandatory, according to Polish law e.g. in tax purpose valuations.

¹⁸ (Kleiber, et al., 2010), p. 1232

¹⁹ BR-Drucks. 265/72, p. 32

²⁰ (Kleiber, et al., 2010), p. 1233

²¹ (Kleiber, et al., 2010)

The approach recognizes three different valuation methods. These are “comparison in pairs” method, “average price adjustment” method and “statistical analysis” method (§4.2 of the Ordinance).

- “Comparison in pairs” is based on an individual comparison of the valued property with each comparable property that was the subject of a transaction (§4.3 of the Ordinance).
- “Average price adjustment” method is based on a sample of at least eleven transactions of comparable properties. The value is derived from an adjustment of an average price from the sample of transactions by an application of relevant corrections (§4.4 of the Ordinance).
- “Statistical analysis” valuation method is based on statistical methods (§4.5 of the Ordinance). The number of comparable transactions has to be known.²²

Sweden

In Sweden, the Sales Comparison method is referred to as the market approach. Where the valuation is of land, single-family houses and properties that do not produce any income, the market approach is usually the most suitable method.

For rental and public housing, following established Swedish practice, in order to undertake analyses, the prices paid are related to some factors that affect the value, e.g. to the property’s net operating income, rent, leasable area, land area or planning permission. Using the market approach requires the analysis of several comparable acquisitions. The value is adjusted to take into account the deviations of the valuation object compared with the comparison objects for differences in vacancies, over-rent or under-rent, etc.²³

3.5.2 Income Approach

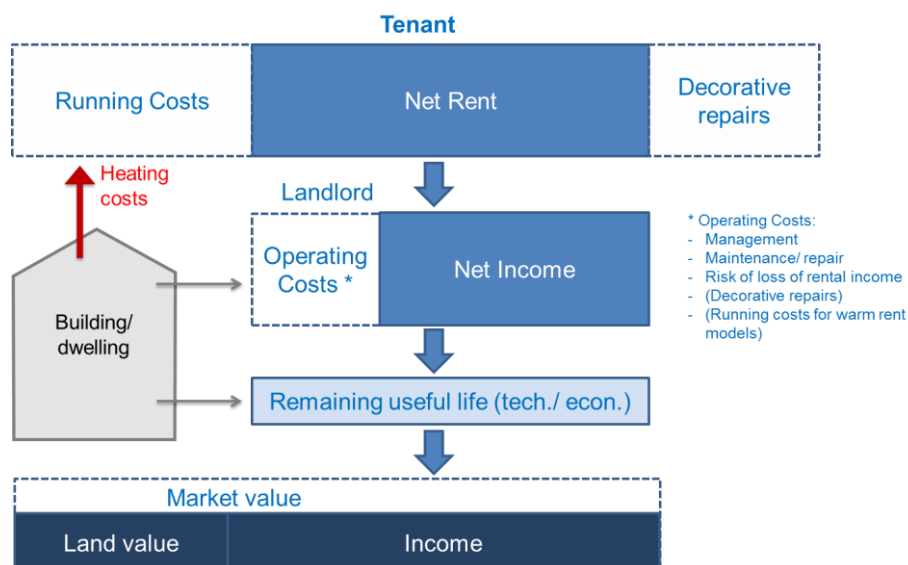
The income approach is often used where ownership and occupation are separate²⁴ and the probability predominates that a property is sold for investment and not for occupation. There exist a few sub methods, which are:

- The Direct capitalization method
- The Income multiplier method and,
- The DCF method.

²² RICS

²³ (Application of the RICS Valuation – Professional Standards in Sweden, RICS, 2016)

²⁴ (Petersen, et al., 2013, p. 115)

Figure 6: Income approach²⁵

The principle is that the owner has forgone the right of occupation for a consideration (rent). The valuation is based on the rent that is payable and the rate of return on that rent i.e. by converting future cash flows into a single current value.

The Valuer will assess the income that can be produced from the property by reviewing comparable lettings of similar properties and adjusting for the level of return that an investor in this property would expect (yield). This income is capitalised using the yield (years purchase) to produce a valuation.

United Kingdom

The income approach is generally only adopted in the valuation of portfolios of properties and properties being purchased as an investment. The value is determined by capitalising the rental income at a yield that reflects the risks posed by the investment. Properties transacted on the open market for owner occupation are usually valued using the comparable approach. Where a residential property is let, and this is approximately one-third of the stock, if it is let in the private rented sector on an industry standard short lease, the comparison method is normally used with an assumption that vacant possession can be obtained within a short period. However, where a property is subject to a lease providing security of tenure, as is the case for RSLs then an investment approach is more appropriate. For RSL properties, the prescribed basis is EUV-SH.

When the investment method is used, the valuer will need to establish the rent passing, the maximum rent that could be charged and the level of landlord outgoings. Within the UK it is common for the tenant to be responsible for all energy costs so the landlord will not hold energy data. In the case of multi-let properties, the occupiers will normally reimburse the landlord for outgoings, such as energy, through a service charge.

The rental flow is then capitalised, normally with a single cap rate (the yield) with such yield being taken from evidence of other transactions. In the case of a company owned portfolio, for some purposes (such as investment monitoring) a DCF approach is used. This is normally regarded as a worth – or investment value – figure not a market value. The discount rate may be based on an adjusted cost of capital or on the required return of the investor (IRR).

Germany

The standardized income approach in Germany (German: Ertragswertverfahren, short: EWV) is used in Germany for valuing for rented cash flow properties. The most important regulations for Germany are the

²⁵ LUWOG CONSULT

ImmoWertV from 2010 and the WertR from 2006, the new ErtragswertR is not yet active. The most important input variables²⁶ are:

- Net income (annual)
- Remaining useful life span
- Yield / all over capitalization rate (Liegenschaftszins)
- Land value
- Repair backlog

The net income is calculated based on the market-based gross income²⁷. The major problem of any EWV is the determination of the future income²⁸. However, due to discounting of the future cash flows the impact of uncertainties is reduced. According to § 18 ImmoWertV the net income is defined as followed:

$$\text{Net income} = \text{Gross income}^{29} - \text{Operational costs}$$

The remaining useful life span: According to German regulations, residential buildings have useful lifespan of approximately 80 years. It has to be distinguished between economic and physical lifespan. Thereby the physical life span is normally longer than the economic life span. According to German regulation, maintenance does not increase the remaining economical life span, but lack of maintenance does reduce the remaining life span. Only refurbishment can increase the remaining life span of a building. Nearly all buildings are refurbished/ upgraded during their lifetime and this needs to be considered for the determination of the building specific remaining life span. To determine the impact of refurbishment measures there exists a scoring approach to assess the increase of lifespan. With this approach, the building with the following components is assessed:

- Roof, inclusive of roof insulation
- Windows and doors
- Distribution systems (pipes, ducts, etc.)
- Heating supply and heat production
- External walls (insulated, not insulated, etc.)
- Bathrooms
- Other

A scoring between 0 up to 20 modernization points is possible. The suggested list also contains EE-related items and the significance of different components, which can be adopted. The increase of lifespan is calculated in relation to the maximum lifespan of the building type and the remaining lifespan of the building without refurbishment or modernization. Implemented EE-interventions influence the remaining life span of the building.

The discounting has to be based on a overall Capitalization Rate (Liegenschaftszins), which has to be object specific and up-to-date. The location, use, possible degree of coverage, current situation of the property market and other aspects has to be reflected in the chosen capitalization rate. Capitalization rates are often provided³⁰ by the local appraisal committees³¹. However, there exists no common methodology for all appraisal committees for the derivation of all-over capitalization rate.³²

²⁶ (Petersen, et al., 2013), p. 115

²⁷ Net rent (Kaltmiete)

²⁸ (Kleiber, et al., 2010), p. 1536

²⁹ Net cold rent

³⁰ Section 11 WertV

³¹ Gutachterausschuss für Grundstückswerte

³² (Kleiber, et al., 2010), p.1192

For determination of the all over capitalization rate, real transaction prices (aggregated according to type, use, location, site, etc.) are taken into account.³³

The land value will be determined usually based on the standard ground value³⁴ provided by the local appraisal committee in land value guide maps. These maps order values according value zones with similar usages that also reflect the possible degree of utilisation.

Repair Backlog: For income approach valuations, repair backlog is often neglected. A consideration of repair backlog is essential, especially in case of existing deficiencies (for instance rising damp, mould, technical defects, etc.). Obsolescence (technical or economical) is not considered a repair backlog. Compensation costs for repair backlog need only to include actual maintenance costs and have to be separated from refurbishment costs. Refurbishment is mostly a combination of maintenance and modernization.

Sweden

Finding transfers of directly comparable properties and obtaining necessary information on these is often the most difficult for commercial and residential properties held for investment. In such situations, cash flow calculations are recommended. The income approach with the DCF calculation is most often used in Sweden for property indexes and financial reports. Even when the income approaches are applied, the Valuer must base his assessments on market information through both analyses of the sales that are available and information from the rental market. The majority of the valuations that take place for property indexes and financial reports are based on DCF calculations. There is therefore, justification for the Client Guidelines to provide instructions for the handling and assessment of essential value-contributing factors as documentation for the calculation.³⁵

Poland

Valuation of income producing properties: According to the Polish Law (Property Management Act and Ordinance), income producing properties should be valued using an income approach. Income approach is based on the assumption that a buyer will pay the price, which relates to the expected income from the property. The law recognizes two valuation methods: “Investment” and “Profit”(§7 Ordinance).

“Investment” method should be used for the valuation of properties that can generate rental income. “Profit” method is for valuing properties, which can produce income different to rent. Such income is based on profit share in the business that can be performed on the property.

For each method of valuation, “capitalization” or “Discounted Cash Flow (DCF) techniques” can be used. “Capitalization” technique used is for the valuation of properties that generate stable income and “DCF” for those with variable income.

³³ (Petersen, et al., 2013), p.133

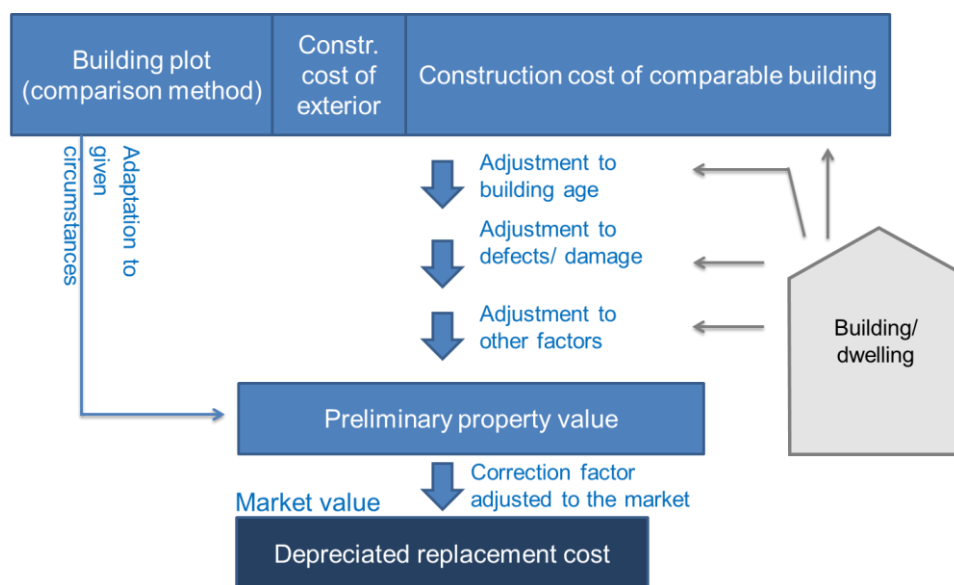
³⁴ Bodenrichtwert

³⁵ RICS

3.5.3 Cost approach

This method is mainly used for buildings, where no comparable sold buildings are available and whose main purpose is not to generate income. The approach may be also applicable for buildings that need to be refurbished to a greater extent or that need to be developed.³⁶ In the case of the cost approach, it can be distinguished between two sub-methods; the ‘Depreciated Replacement Cost Method’ and the ‘Residual Method’. The latter of the both is a method of a development appraisal or an integrated part of other methods.

Figure 7: (Depreciated replacement) Cost Approach³⁷



The ‘Depreciated Replacement Cost Method’ is normally used in valuing non-profit (usually public) properties e.g. village halls, schools. There is no sales comparable evidence for such properties, as they are not traded on the open market. Valuation is based on the cost of providing a similar/ equivalent alternative. The value of the site is assessed using the comparable method. Building costs are added to this and are adjusted to reflect age, condition and obsolescence. The rent that will be achievable from the completed development is used to assess the value of the finished development.³⁸

In the United Kingdom, Sweden and The Netherlands the cost approach may be used for buildings where there is not enough evidence of sales available (non-profit making properties e.g. village halls, schools). It is rarely, if ever used for residential units. Even for non-profit making properties, it may not be used, unless there is clear evidence that no other method applies. It is, in effect, a method of last resort. In contrast to the previous countries, in Germany the cost approach is widely used for user occupied single-family buildings or 2-family buildings for which no direct comparable building sales are existing.

In Poland, according to the Polish Law (Property Management Act and Ordinance) for cost valuations, cost approach should be used. Cost approach is based on the assumption that the value of the property is equal to the replacement cost of the property less the amount of depreciation. The law recognizes two valuation methods:

- Replacement Cost and Reinstatement Cost (§20 Ordinance). “Replacement” Cost evaluation includes market value of land and replacement cost of buildings and structures less depreciation.
- “Reinstatement” Cost estimation is based on cost which is required to reinstate the buildings and structures using current technology and materials and allows for depreciation.

³⁶ (Kleiber, et al., 2010)

³⁷ LUWOG CONSULT

³⁸ RICS

For each method, three techniques can be used: detailed technique, aggregated elements technique and indicator technique.

- “Detailed” technique is based on the amount of construction work to be completed and cost of each work.
- “Aggregated elements” technique uses aggregate construction works and the prices of such works.
- “Indicator” technique is based on indicator price multiplied by the number of units.

In order to remain compliant with the Polish law and the RICS requirements, RICS members who perform cost valuations are recommended to use the Depreciated Replacement Cost (DRC) method of valuation only, unless instructed otherwise by the client.

3.5.4 Mortgage Lending Value

The European Banking Authority (EBA) is, towards the end of 2015, to consult on draft Regulatory Technical Standards to underpin the definition of Mortgage Lending Value (‘MLV’) that was originally contained in the Capital Requirements Directive, but which can now be found under article 4 (74) of EU regulation 575/2013. (Regulation (EU) No 575/2013, article 4 (74) 'mortgage lending value' means the value of immovable property as determined by a prudent assessment of the future marketability of the property taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property.).

RICS has provided some preliminary observations to inform the EBA’s thinking and will be responding formally to the consultation once issued. In the interim, this alert is issued to clarify the situation for members. Further guidance will be issued in due course.

Although either may be used as reference points for lending decisions, there are significant differences between Market Value (MV) and MLV which, though well appreciated by members, also need to be understood by clients. MV is internationally recognised as the assessment of the value of a property at a given moment in time and is used in some jurisdictions as a reference point for “loan to value” (LTV) lending decisions. In contrast, MLV is a figure designed to be robust against market fluctuations and thus theoretically realisable in a sale at any point in time throughout the term of a loan.³⁹

United Kingdom

Mortgage lending value is not yet a concept adopted in the UK.

Germany

Mortgage lending value (Beleihungswert) is a basis of value in accordance with section 16 (2) of the Pfandbriefgesetz (Mortgage Bonds Act). It may not exceed the value resulting from a cautious valuation of a property’s future saleability, while considering the long-term, sustainable characteristics of the property, normal regional market conditions and the property’s current purpose of use and other possible types of use. This may not include speculative aspects. The mortgage lending value may not exceed a market value (Verkehrswert) that has been determined transparently in accordance with a recognised valuation procedure.

The mortgage lending value is defined in line with the provisions of the regulation on the determination of the mortgage lending values of properties in accordance with section 16 paragraphs 1 and 2 of the Pfandbriefgesetz (BelWertV). Unlike a market value (Verkehrswert) – which is calculated as of a specific date – the mortgage lending value is intended to ensure stability over an extended period (this is normally the lending period). Throughout this period, temporary fluctuations in value and speculative aspects are excluded, so as to guarantee permanent debt servicing capacity for the property and permanent realisation of the collateral securities, without the credit institution suffering any losses of capital. Cautious valuations and safety margins are intended to protect the owners of mortgage bonds against defaults and market fluctuations. The valuation date and the quality date may differ for certain types of assignment.

³⁹ RICS

Sweden

Finansinspektionen (FI) monitors the mortgage market and household indebtedness closely, and the mortgage survey is an important part of that process. The survey for 2014 shows that the average loan-to-value ratio and debt-to-income ratio was unchanged between 2013 and 2014, despite rapidly increasing house prices. The average loan-to-value ratio is approximately 67 per cent and the average debt-to-income ratio is 366%. The mortgage cap has dampened household indebtedness and unsecured loans have become less common since 2013. Out of the new loans in the survey, unsecured loans account for less than 1 %.

In recent years, loan amortisation has become increasingly common and all households with unsecured loans amortise. In 2014, 68 per cent of all households with new loans amortised them, which is a clear increase from 2011, when only 42 per cent did so. 9 out of 10 households with loan-to-value ratios above 70 per cent amortise while it is only 4 out of 10 households with loan-to-value ratios of 50–70 per cent that amortise. Since households with loan-to-value ratios above 50 per cent might react more strongly to economic shocks, FI has proposed an amortisation requirement in order to assure that these households decrease their leverage over time. FI's proposed amortisation requirement, which encompasses households with new loans and loan-to-value ratios above 50 per cent, will entail a further increase in amortisation. FI's stress tests show that the households generally have sound margins in their finances, both today and under worse conditions. The stress tests show household resilience towards both an increase in interest rates and towards a loss of income following unemployment. Resilience has improved considerably compared with 2013, even if the effect of lower interest rates are disregarded.⁴⁰

Poland

In Poland the mortgage from banks are determined by the household incomes of families. Like other countries, a multiplier of 4 to 5 is common. In Poland, banks often ask for a down payment of approximately 20% of the market value of the asset.

The Netherlands

Availability of financing is not an issue in the Dutch system of public guarantees and not-for-profit financing. Less than 5% of financing originates from outside this system. The key characteristics of the Dutch residential mortgage market includes; products, under writing, code of conduct, NHG (a public mortgage loan guarantee scheme supporting home ownership), and a basic overall framework.

Throughout the Netherlands, residential mortgages are predominantly prime, owner occupied. There are virtually no buy-to-let, non-conforming or sub-prime mortgages. There are mainly fixed rates, long-term mortgage loans. Mortgage loans are provided predominantly based on income. Underwriting must have full documentation; there is no self-certification of income. Across the industry, data base BKR and the fraud register, SFR are used. The code of conduct standards aims lenders to compete on service and price rather than aggressive lending practices. The nationwide affordability calculation assumes a 30-year amortizing loan regardless of the product or interest rate.⁴¹ All people in the Netherlands can obtain a guarantee from the Dutch State guaranteed non-profit organization (Stichting WEW) subject to the applicable terms and conditions. Lenders maintain the right to repossess and sell properties by public auction without a court order, however there is full recourse to the borrower. After a foreclosure, any remaining debt remains enforceable until discharged in full. There is a strong social support and pension system in the Netherlands. Although Energy Efficiency is not a key characteristic of the lending process, since January 2016 the extra amount given for lending that relates to EE measures are:

- For dwellings with energy label A++: € 9.000
- For dwellings with “Nul-op-de-meter” (“zero on the meter”): € 27.000
- For dwellings with an EI (Energy Index) or EPC of 0.6 (or lower): € 9.000

⁴⁰ (The Swedish Mortgage Market 2015, FINANSINSPEKTIONEN, 2015)

⁴¹ (Dutch-Residential-Mortgage-Market, AGEON, 2015)

3.5.5 Profits Approach

The profits approach is used for properties for which the value is based on the profit they produce and for which there is no comparable evidence. In the case of the profits approach, the value is determined by the business that is achievable from the property. The profits approach is not a typical approach for valuation of residential properties. Comparable evidence of similar trading types is still required to establish the ratio of rent to capital. Valuation to this method requires an understanding of the business that the subject property is in and an understanding of accounts.⁴²

⁴² RICS

Chapter 4 Valuation according to IFRS

4.1 Introduction

IFRS (International Financial Reporting Standards) is the collection of financial reporting standards developed by the International Accounting Standards Board (IASB). The purpose of IFRS is to provide a single set of high quality, global accounting standards that require transparent and comparable information in general purpose financial statements. IFRS standards have been implemented or permitted in almost 100 countries worldwide. Listed and unlisted companies are required to use the standards in their financial statements in those countries that have adopted them. The EU regulation 1606/2002 on the application of these standards made this a requirement for listed companies in the European Union.

REVALUE aims to lead the development of appraisal norms and standards that recognise Energy Efficiency (EE) value in social and private residential real estate. There is a strong need for guidance in the form of new valuation standards that lay out clear and credible valuation standards for the inclusion of EE in buildings. REVALUE has the objective to promote a set of new valuation Norms and Standards based on a thorough understanding of the current standards, an analysis of barriers, gaps and interactions, and practical experience in the application of valuation standards and methods to pilot test buildings. Essential is that the project will operate in line with the existing IFRS since all the values will be reflected on the balance sheets of the investing organisations.

This report aims to describe the standards within IFRS with regard to the valuation of property, so it can be determined if the proposed set of net valuation Norms and Standards are not incompatible with IFRS.

4.2 Findings

With respect to the REVALUE project, the most relevant standards within IFRS are the conceptual framework, IAS 40 and IFRS 13.

4.3 Conceptual Framework

Purpose and Status of the Framework

The IFRS Framework describes the basic concepts that underlie the preparation and presentation of financial statements for external users. The IFRS Framework serves as a guide to the Board in developing future IFRS standards and as a guide to resolving accounting issues that are not addressed directly in an International Accounting Standard or International Financial Reporting Standard or Interpretation.

In the absence of a Standard or an Interpretation that specifically applies to a transaction, management must use its judgement in developing and applying an accounting policy that results in information that is relevant and reliable. In making that judgement, IFRS requires management to consider the definitions, recognition criteria, and measurement concepts for assets, liabilities, income, and expenses in the IFRS Framework.

The Objective of General Purpose Financial Reporting

The primary users of general purpose financial reporting are present and potential investors, lenders and other creditors, who use that information to make decisions about buying, selling or holding equity or debt instruments and providing or settling loans or other forms of credit.

The primary users need information about the resources of the entity not only to assess an entity's prospects for future net cash inflows but also how effectively and efficiently management has discharged their responsibilities to use the entity's existing resources.

The IFRS Framework notes that general-purpose financial reports cannot provide all the information that users may need to make economic decisions. They will need to consider pertinent information from other sources as well.

Qualitative Characteristics of Useful Financial Information

The qualitative characteristics of useful financial reporting identify the types of information that are likely to be most useful to users in making decisions about the reporting entity on the basis of information in its financial report. Relevance and faithful representation are the fundamental qualitative characteristics of useful financial information. Financial information is useful when it is relevant and represents faithfully what it purports to represent.

Relevant financial information is capable of making a difference in the decisions made by users. Financial information is capable of making a difference in decisions if it has predictive value, confirmatory value, or both. The predictive value and confirmatory value of financial information are interrelated.

General purpose financial reports represent economic phenomena in words and numbers. To be useful, financial information must not only be relevant, it must also represent faithfully the phenomena it purports to represent. This fundamental characteristic seeks to maximise the underlying characteristics of completeness, neutrality and freedom from error. Information must be both relevant and faithfully represented if it is to be useful.

Comparability, verifiability, timeliness and understand ability are qualitative characteristics that enhance the usefulness of information that is relevant and faithfully represented.

Information about a reporting entity is more useful if it can be compared with a similar information about other entities and with similar information about the same entity for another period or another date. Comparability enables users to identify and understand similarities in, and differences among, items.

Verifiability helps to assure users that information represents faithfully the economic phenomena it purports to represent. Verifiability means that different knowledgeable and independent observers could reach consensus, although not necessarily complete agreement, that a particular depiction is a faithful representation.

Timeliness means that information is available to decision-makers in time to be capable of influencing their decisions.

Classifying, characterising and presenting information clearly and concisely makes it understandable. While some phenomena are inherently complex and cannot be made easy to understand, to exclude such information would make financial reports incomplete and potentially misleading. Financial reports are prepared for users who have a reasonable knowledge of business and economic activities and who review and analyse the information with diligence.

Underlying Assumption

The IFRS Framework states that the going concern assumption is an underlying assumption. Thus, the financial statements presume that an entity will continue in operation indefinitely or, if that presumption is not valid, disclosure and a different basis of reporting are required.

The Elements of Financial Statements

In the conceptual framework definitions are given of assets, liabilities, equity, income and expenses.

Asset. An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

Liability. A liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

Equity. Equity is the residual interest in the assets of the entity after deducting all its liabilities.

Income. Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants.

Expense. Expenses are decreases in economic benefits during the accounting period in the form of outflows or

depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

The definition of income encompasses both revenue and gains. Revenue arises in the course of the ordinary activities of an entity and is referred to by a variety of different names including sales, fees, interest, dividends, royalties and rent. Gains represent other items that meet the definition of income and may, or may not, arise in the course of the ordinary activities of an entity. Gains represent increases in economic benefits and as such are no different in nature from revenue. Hence, they are not regarded as constituting a separate element in the IFRS Framework.

The definition of expenses encompasses losses as well as those expenses that arise in the course of the ordinary activities of the entity. Expenses that arise in the course of the ordinary activities of the entity include, for example, cost of sales, wages and depreciation. They usually take the form of an outflow or depletion of assets such as cash and cash equivalents, inventory, property, plant and equipment. Losses represent other items that meet the definition of expenses and may, or may not, arise in the course of the ordinary activities of the entity. Losses represent decreases in economic benefits and as such they are no different in nature from other expenses. Hence, they are not regarded as a separate element in this Framework.

Recognition of the Elements of Financial Statements

Recognition is the process of incorporating in the balance sheet or income statement an item that meets the definition of an element and satisfies the following criteria for recognition:

It is probable that any future economic benefit associated with the item will flow to or from the entity; and the item's cost or value can be measured with reliability.

Based on these general criteria:

- **An asset** is recognised in the balance sheet when it is probable that the future economic benefits will flow to the entity and the asset has a cost or value that can be measured reliably.
- **A liability** is recognised in the balance sheet when it is probable that an outflow of resources embodying economic benefits will result from the settlement of a present obligation and the amount at which the settlement will take place can be measured reliably.
- **Income** is recognised in the income statement when an increase in future economic benefit related to an increase in an asset or a decrease of a liability has arisen that can be measured reliably. This means, in effect, that recognition of income occurs simultaneously with the recognition of increases in assets or decreases in liabilities (for example, the net increase in assets arising on a sale of goods or services or the decrease in liabilities arising from the waiver of a debt payable).
- **Expenses** are recognised when a decrease in future economic benefit related to a decrease in an asset or an increase of a liability has arisen that can be measured reliably. This means, in effect, that recognition of expenses occurs simultaneously with the recognition of an increase in liabilities or a decrease in assets (for example, the accrual of employee entitlements or the depreciation of equipment).

Measurement of the Elements of Financial Statements

Measurement involves assigning monetary amounts at which the elements of the financial statements are to be recognised and reported.

The IFRS Framework acknowledges that a variety of measurement bases are used today to different degrees and in varying combinations in financial statements, including:

- Historical cost
- Current cost
- Net realisable (settlement) value
- Present value (discounted)

Historical cost is the measurement basis most commonly used today, but it is usually combined with other measurement bases. The IFRS Framework does not include concepts or principles for selecting which measurement basis should be used for particular elements of financial statements or in particular circumstances. Individual standards and interpretations do however provide this guidance.

4.3.1 IAS 40

General

IAS 40 *Investment Property* applies to the accounting for property (land and/or buildings) held to earn rentals or for capital appreciation (or both). Investment properties are initially measured at cost and, with some exceptions may be subsequently measured using a cost model or fair value model, with changes in the fair value under the fair value model being recognised in profit or loss.

Investment property is property (land or a building or part of a building or both) held (by the owner or by the lessee under a finance lease) to earn rentals or for capital appreciation or both.

Examples of investment property:

- land held for long-term capital appreciation
- land held for a currently undetermined future use
- building leased out under an operating lease
- vacant building held to be leased out under an operating lease
- property that is being constructed or developed for future use as investment property
- The following are not investment property and, therefore, are outside the scope of IAS 40:
- property held for use in the production or supply of goods or services or for administrative purposes
- property held for sale in the ordinary course of business or in the process of construction of development for such sale ([IAS 2 Inventories](#))
- property being constructed or developed on behalf of third parties ([IAS 11 Construction Contracts](#))
- owner-occupied property ([IAS 16 Property, Plant and Equipment](#)), including property held for future use as owner-occupied property, property held for future development and subsequent use as owner-occupied property, property occupied by employees and owner-occupied property awaiting disposal
- property leased to another entity under a finance lease

Recognition

Investment property should be recognised as an asset when it is probable that the future economic benefits that are associated with the property will flow to the entity, and the cost of the property can be reliably measured.

Initial Measurement

Investment property is initially measured at cost, including transaction costs. Such cost should not include start-up costs, abnormal waste, or initial operating losses incurred before the investment property achieves the planned level of occupancy.

Measurement Subsequent to Initial Recognition

IAS 40 permits entities to choose between:

a fair value model, and
a cost model.

One method must be adopted for all of an entity's investment property. Change is permitted only if this results in a more appropriate presentation. IAS 40 notes that this is highly unlikely for a change from a fair value model to a cost model.

Fair Value Model

Investment property is re-measured at fair value, which is the amount for which the property can be exchanged between knowledgeable, willing parties in an arm's length transaction. Gains or losses arising from changes in the fair value of investment property must be included in net profit or loss for the period in which it arises.

Fair value should reflect the actual market state and circumstances as of the balance sheet date. The best

evidence of fair value is normally given by current prices on an active market for similar property in the same location and condition and subject to similar lease and other contracts. In the absence of such information, the entity may consider current prices for properties of a different nature or subject to different conditions, recent prices on less active markets with adjustments to reflect changes in economic conditions, and discounted cash flow projections based on reliable estimates of future cash flows. There is a rebuttable presumption that the entity will be able to determine the fair value of an investment property reliably on a continuing basis.

However:

If an entity determines that the fair value of an investment property under construction is not reliably determinable but expects the fair value of the property to be reliably determinable when construction is complete, it measures that investment property under construction at cost until either its fair value becomes reliably determinable or construction is completed.

If an entity determines that the fair value of an investment property (other than an investment property under construction) is not reliably determinable on a continuing basis, the entity shall measure that investment property using the cost model in IAS 16. The residual value of the investment property shall be assumed to be zero. The entity shall apply IAS 16 until disposal of the investment property. Where a property has previously been measured at fair value, it should continue to be measured at fair value until disposal, even if comparable market transactions become less frequent or market prices become less readily available.

4.3.2 IFRS 13

General

IFRS 13 *Fair Value Measurement* applies to IFRSs that require or permit fair value measurements or disclosures and provides a single IFRS framework for measuring fair value and requires disclosures about fair value measurement. The Standard defines fair value on the basis of an 'exit price' notion and uses a 'fair value hierarchy', which results in a market-based, rather than entity-specific, measurement.

Objective

IFRS 13:

- defines fair value
- sets out in a single IFRS a framework for measuring fair value
- requires disclosures about fair value measurements.
- IFRS 13 applies when another IFRS requires or permits fair value measurements or disclosures about fair value measurements (and measurements, such as fair value less costs to sell, based on fair value or disclosures about those measurements),

Except when 'Field Code Changed':

- share-based payment transactions within the scope of [IFRS 2 Share-based Payment](#)
- leasing transactions within the scope of [IAS 17 Leases](#)
- measurements that have some similarities to fair value but that are not fair value, such as net realisable value in [IAS 2 Inventories](#) or value in use in [IAS 36 Impairment of Assets](#).

Key definitions

IFRS 13 defines **fair value** as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The IVSB is proposing changes to this definition, however at time of publication, they were not yet available.

Fair value hierarchy

IFRS 13 seeks to increase consistency and comparability in [fair value measurements](#) and related [disclosures](#) through a 'fair value hierarchy'. The hierarchy categorises the inputs used in valuation [techniques](#) into three

levels. The hierarchy gives the highest priority to (unadjusted) quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. If the inputs used to measure fair value are categorised into different levels of the fair value hierarchy, the fair value measurement is categorised in its entirety in the level of the lowest level input that is significant to the entire measurement (based on the application of judgement).

Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date. A quoted market price in an active market provides the most reliable evidence of fair value and is used without adjustment to measure fair value whenever available, with limited exceptions. If an entity holds a position in a single asset or liability and the asset or liability is traded in an active market, the fair value of the asset or liability is measured within Level 1 as the product of the quoted price for the individual asset or liability and the quantity held by the entity, even if the market's normal daily trading volume is not sufficient to absorb the quantity held and placing orders to sell the position in a single transaction might affect the quoted price.

Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

Level 2 inputs include:

- quoted prices for similar assets or liabilities in active markets
- quoted prices for identical or similar assets or liabilities in markets that are not active
- inputs other than quoted prices that are observable for the asset or liability, for example
- interest rates and yield curves observable at commonly quoted intervals
- implied volatilities
- credit spreads
- inputs that are derived principally from or corroborated by observable market data by correlation or other means ('market-corroborated inputs').

Level 3 inputs are unobservable inputs for the asset or liability. Unobservable inputs are used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. An entity develops unobservable inputs using the best information available in the circumstances, which might include the entity's own data, taking into account all information about market participant assumptions that is reasonably available.

Measurement of fair value

Overview of fair value measurement approach

The objective of a fair value measurement is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. A fair value measurement requires an entity to determine all of the following:

- the particular asset or liability that is the subject of the measurement (consistently with its unit of account)
- for a non-financial asset, the valuation premise that is appropriate for the measurement (consistently with its highest and best use)
- the principal (or most advantageous) market for the asset or liability the valuation technique(s) appropriate for the measurement, considering the availability of data with which to develop inputs that represent the assumptions that market participants would use when pricing the asset or liability and the level of the [fair value hierarchy](#) within which the inputs are categorised.

Guidance on Measurement

IFRS 13 provides the guidance on the measurement of fair value, including the following:

- An entity takes into account the characteristics of the asset or liability being measured that a market

participant would take into account when pricing the asset or liability at measurement date (e.g. the condition and location of the asset and any restrictions on the sale and use of the asset)

- Fair value measurement assumes an orderly transaction between market participants at the measurement date under current market conditions
- Fair value measurement assumes a transaction taking place in the principal market for the asset or liability, or in the absence of a principal market, the most advantageous market for the asset or liability
- A fair value measurement of a non-financial asset takes into account its highest and best use
- A fair value measurement of a financial or non-financial liability or an entity's own equity instruments assumes it is transferred to a market participant at the measurement date, without settlement, extinguishment, or cancellation at the measurement date
- The fair value of a liability reflects non-performance risk (the risk the entity will not fulfil an obligation), including an entity's own credit risk and assuming the same non-performance risk before and after the transfer of the liability
- An optional exception applies for certain financial assets and financial liabilities with offsetting positions in market risks or counterparty credit risk, provided conditions are met (additional disclosure is required).

Valuation Techniques

An entity uses valuation techniques appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

The objective of using a valuation technique is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants and the measurement date under current market conditions. Three widely used valuation techniques are:

- **market approach** – uses prices and other relevant information generated by market transactions involving identical or comparable (similar) assets, liabilities, or a group of assets and liabilities (e.g. a business)
- **cost approach** – reflects the amount that would be required currently to replace the service capacity of an asset (current replacement cost)
- **income approach** – converts future amounts (cash flows or income and expenses) to a single current (discounted) amount, reflecting current market expectations about those future amounts.

In some cases, a single valuation technique will be appropriate, whereas in others multiple valuation techniques will be appropriate.

Chapter 5 Relevant Regulatory Aspects

5.1 Tenancy Law and EE-refurbishment

For rented properties with the separation between ownership and occupation, respective tenancy law impacts the profitability and the desired reflection of building EE in higher property values. In consideration of the objectives of the REVALUE project, the most relevant aspects, per country, are described hereinafter. These objectives include connecting building EE to three principal subject fields:

- Handling of energy costs as operational or running costs
- Regulations in terms of rent determination and rent increase together with EE-refurbishment
- Deficiencies, comfort and risk for health

Figure 8: Overview of EE-relevant Rent Regulations

	GB	DE	NL	PL	SE
Energy Costs for heating and DHW production of the rented properties and related payment methods	To be paid by the tenant (as running costs), based on actual consumption	Predominantly paid by the tenant (as running costs), based on actual consumption	Both situations possible; paid by the tenant (as running costs according actual consumption) or by the landlord as operational costs (fixed amount)	Predominantly by the landlord as operational costs (based on fixed amount)	Predominantly by the landlord as operational costs (based on fixed amount)
Rent Regulations for rent increase related to EE-refurbishment	Varies depending on type of tenancies	Predominantly determined with consideration of the comparable market rent system and rent increase up to 11% of the modernization cost	Rent level with consideration of the situation of respective tenant	<4%	None

Typically, tenants are charged for energy costs based on the actual consumption and benefit from EE-investments but owners needs to bare EE related investment costs. Currently there exists no specific regulation, which would allocate the savings a tenant earns from the amount of rent he is paying to the owner. This split incentive makes landlords' considerations about refurbishments and EE interventions more difficult, as they could not claim back the savings by their tenants.

5.1.1 United Kingdom

In the United Kingdom, each tenant is legally entitled to minimum standard living facilities. This means they must be able to enjoy suitable living conditions and working appliances in their property.⁴³ In addition, the topic of "fitness for human habitation" is now considered. Items are covered under this topic are; freedom from damp, natural lighting and ventilation, water supply and drainage and sanitary conveniences. The most important obligations falling on the landlord are set out in S.7-11 of the Landlord and Tenant Act, 1985.⁴⁴

⁴³ (Landlords and Tenants Rights, inbrief, 2016)

⁴⁴ (Landlord and Tenant Act 1985, legislation.gov.uk, 2016)

It is within these considerations that the opportunity for investors and landlords to consider EE upgrades. However, for properties within the private rented sector, many units do not have an space heating so there is no obligation to maintain or upgrade. This means that old stock may effectively be heated purely by tenant owned portable devices such as electrical convactor heaters. Over such arrangements the landlords has no control and, since they do not pay for, or see the bills, are not incentivized to take improvement action, unless the property becomes hard to let. However, under the Energy Act 2011, the tenant can, where the property has an F or G EPC ask the Landlord to upgrade. There had been a program called 'Green Deal' (it is now defunct). Under the Green Deal, landlords (PR and RP) could make energy efficiency improvements without having to pay all the costs upfront. The tenants were supposed to repay the cost of the measures through their energy bill savings whilst enjoying a more energy efficient home. This could work with market-derived rents, but not with old-style social rents, which were capped. Currently in the Rent Standard Guidance 2015 document, there is no mention on energy savings, capital & revenue funding or any indication of how to value such topics.

In the UK energy, the tenant generally pays costs. Where there is communal heating, the Heat Network Metering & Billing Regulations seek to bring scrutiny to the sector.

The main requirements of the Regulations are:

- Report all Communal/ District heating schemes to government (via the National Measurements and Records Office – NMRO) by 31/12/2015. This is the responsibility of the network owner, which could be a social or public sector landlord.
- Install individual and bulk level meters on qualifying schemes
- Provide transparent and accurate billing information to customers on heat networks

For properties with an Energy Performance Certificate (EPC) rating of F or G are to be classified as "sub-standard", landlords must not grant a lease of sub-standard property after 1 April 2018. From 1 April 2020, residential landlords must not continue to let out sub-standard property. There are a couple of documented exceptions to this rule, such as where properties are 'listed' as important historically or architecturally.⁴⁵

Subsidised rental tenancies fall into two types:

- Social rent: old –style pre 2011 ATs; set by formula, formerly rent capped by unit size subject to a formula, with regulations on what of the service charge is eligible for Housing Benefit. Now subject to the 1% p. a. rent cut (to 2020), and is no longer offered.
- Affordable Rent: meant to replace social rents, and applicable on all subsidised rent new builds. This has replaced social rent in the HCA's product range, generally let on ASTs, usually 5-Year. Rent level is market-derived, usually at 80% of market rent. This rent is in effect capped for those tenants on HB because of Local Housing Allowance levels.

The formula for setting social rent enabled registered providers to set rents at a level that allowed them to meet their obligations to their tenants, maintain their stock (to at least Decent Homes Standard) and continue to function as financially viable organisations, including meeting their commitments to lenders.

The basis for the calculation of formula rents is:

- 30% of a property's rent should be based on relative property values compared to the national average
- 70% of a property's rent should be based on relative local earnings compared to the national average
- a bedroom factor should be applied so that, other things being equal smaller properties have lower rents

Once formula rents have been calculated, registered providers have flexibility to set rents at up to +5% of the formula rent. The rent cap level for each property size was set in 2002/03 and was inflated annually by RPI+1%, but will increase by CPI+1.5% each year from 1 April 2015.

There is an annual limit, a Guideline Limit, for rent increases in social housing for any single year. That limit is the Consumer Price Index (CPI) +1.0%. The Guideline Limit for increases in rents is applicable to social rent

⁴⁵ Private Rented Property, England and Wales, Regulations 2015, under the Minimum Energy Efficiency Standards Regime (MEES)

and Affordable Rent. However, this formula was changed in 2015, under the Welfare Reform and Work Act 2016. Under this Act, RSL must now implement a 1% reduction in rent year-on-year for the next 4 years. There are some exemptions including where the “regulator considers that complying with the rent reduction requirements would jeopardise the provider’s financial viability or where exempted stock owned by providers in financial difficulties is sold or transferred to another private registered provider.”⁴⁶ This does not appear to protect the RSL in the case where they wish to invest in the property.

Rent after modernisation or improvement

Where a landlord in the PRS makes improvements to a property, any rent increase resulting is purely a matter as between the landlord and the tenant. It is subject to market forces. Normally upgrades will be carried out when there is a change in tenant and the property is unlikely to let easily without an upgrade.

It should be noted that, in the UK the preferred heating system is normally gas fired central heating; however, there are still significant parts of the country where gas is not available.

5.1.2 Germany

For Germany, the most important regulations are anchored in the civil code of Germany under section 535 - section 580a BGB⁴⁷. In consideration of the objectives of the REVALUE project, the most relevant aspects are described hereinafter. In connection with building EE, three principal subject fields have to be described:

- a. Handling of energy costs as running or operational costs
- b. Regulations for rent determination and rent increase in connection with EE-refurbishment
- c. Deficiencies, comfort and risk for health

a) Handling of Energy Costs for Heating and DHW Production

Tenancy agreements with ‘flat rates’ for energy costs for heating and DHW have an extremely minor significance, but are not excluded from the legislator. In accordance with section 556 BGB, contracting parties may decide that the tenant bears running costs including costs for heating and DHW production. This is the most common case and tenants are largely charged based on their real annual energy consumptions. For residential buildings, the gross income is normally the net cold rent. Payments for rented residential properties have to be paid on a monthly basis. The so-called “Warmmiete” (rent including running costs which includes costs for heating and DHW) is the sum of the net cold rent including a prepayment for running costs. Together with the annual closure, relevant costs are balanced according actual consumption⁴⁸ with the annual utilities statement. The German utility costs act⁴⁹ defines which costs can be considered as running costs (e. g. public charges, land tax, costs for water supply and sewage disposal, costs for heating and DHW production including costs for maintenance, metering, energy, specific cleaning costs, garden upkeep, insurances, other).

As mentioned before, nearly all rental contracts in Germany comprise a net cold rent and costs for heating and water are charged based on the actual consumption. An agreement to an operating cost allowance is expressly permitted⁵⁰. In this case, other regulations, for instance the German heating cost legislation⁵¹ must not contradict with the chosen valuation method. The obligation for measurement of the energy consumption and associated cost allocation rules are defined in the heating cost regulation⁵².

⁴⁶ (GOV.UK, Welfare Reform and Work Act 2016 - social rent reduction , 2016)

⁴⁷ Bürgerliches Gesetzbuch (BGB)

⁴⁸ Section 556 BGB

⁴⁹ Betriebskostenverordnung – BetrKV

⁵⁰ Section 556 Abs. 2 Satz 1 BGB

⁵¹ Verordnung über die verbrauchsabhängige Abrechnung der Heiz- und Warmwasserkosten

⁵² Verordnung über die verbrauchsabhängige Abrechnung der Heiz- und Warmwasserkosten (Verordnung über Heizkostenabrechnung - HeizkostenV)

b) Regulations for rent determination and rent increase in connection with EE-refurbishment

Because tenants normally benefit from lower energy bills for heating and DHW production, landlords have to have a possibility to increase rents after EE refurbishments⁵³. For this purpose, two legal possibilities:

- I. Rent increases according section 558 ff. BGB based on the comparative rent system with consideration of improvements after EE-modernizations (energetic and exceeding improvements) which improve the classification or position within the comparative rent system
- II. Rent increases based on section 559 ff. BGB after EE-modernizations according section 555b number 1, 3, 4, 5 or 6⁵⁴

I.) Landlords can claim for a rent increase up to the local reference rent in case the rent was not increased during the last 15 month according section 558 BGB (rent increases according section 559 or section 560 BGB do not have to be considered in this context). The local reference rent bases on a common rent to be paid in a comparable -area, -living space, -facilities, EE and quality. A rent increase⁵⁵ of more than 20% within the last three years is not allowed (cap limit). As justification of the rent increase comparison with the reference rent⁵⁶ have to be provided to the tenant. Sources for the comparable reference rent can be a rental index (according section 558c or according 558d), a rental database (section 558e), an expert assessment or a documentation of the rents of three comparable apartments. The most common basis to obtain the comparable rent is a rental index, which is usually available in cities and in smaller towns. It exist two types of rental indexes; a 'general' rental index⁵⁷ and a 'qualified' rental index⁵⁸. Involved in the elaboration process are stakeholders of different interest groups and the process comprises of the appropriate interpretation of current market data to derive the correct reference rent for the existing different quality levels of renting spaces. Price setting factors can be⁵⁹:

- Building type (apartment block, multifamily house, etc.), Apartment size
- Amenities (heating system, bathroom fittings, floor coverings, attic or basement rooms, etc.)
- Building characteristics (EE, comfort, building age, state of modernization)
- Location (categorization for areas: z. B. poor, medium, good)

II.) Rent increases based on section 559 ff. BGB after modernization unilateral rent increase law improved residential value or lower ancillary costs with three different facts of the case:

- general living conditions improve the long term
- lasting savings of energy or water

Pure maintenance cannot be considered as modernization and does not allow rent increase according section 559 ff. BGB. Examples for EE interventions considerable as modernization can be:

- significant improvement in the thermal insulation of windows, exterior doors, exterior walls, roofs, basement ceiling and the top floor ceiling,
- significant reduction of the energy loss and the power consumption of central heating and Warm water system,
- change of central heating and hot water systems within the building for connection to district heating,

⁵³ But these rent increases are not based on saved costs

⁵⁴ Modernization measures according section 555b BGB are:

- Measures which reduce the final energy demand
- Measures to reduce the non-renewable primary energy demand
- Measures to reduce the water demand
- Measures which increase the value in use of the rental item
- Measures which increase the housing conditions
- Measures which increase the living area of the rental item

⁵⁵ Regardless rent increases based on section 559 or section 560 BGB

⁵⁶ „ortsübliche Vergleichsmiete“

⁵⁷ Section 558c BGB

⁵⁸ Section 558d BGB

⁵⁹ qtd. in **Invalid source specified.** p.16, 17

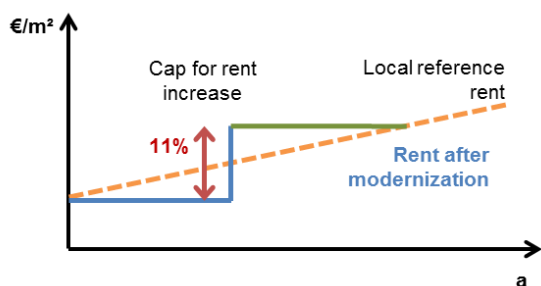
- the use of energy through heat pumps and solar systems,
- Individual measures, e. g. installation of thermostatic valves, installation of thermal insulation glass, conversion of a heating system from oil heating to gas heating, brick facing a wall / attaching a thermal barrier coating.

For Germany building owners can increase the rent by up to **11% of the modernisation costs**⁶⁰ however, this does include all modernizations and is not linked to energy savings or EE measures.

Rent Increase Mechanism and Rental Index with Consideration EE

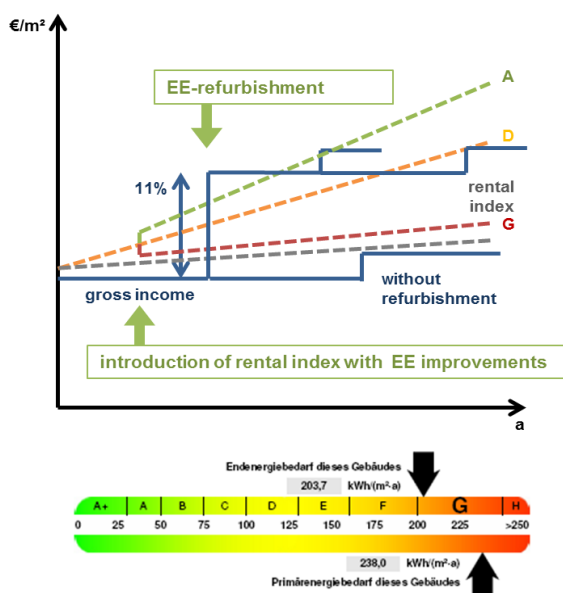
Rent increases based on modernization costs (11% rule) with the result of a rent higher than the comparable rent hinder further increases in the future until the level of the comparable rent until a convergence with the comparable rent which reduces the vantage for landlords.

Figure 9: Rent Increase according Modernization Costs and Comparable Rent System



Due consideration of building EE in a comparable rent system a long term benefit for investors can be achieved.

Figure 10: '11% Increase' based on refurbishment costs together with the Comparable Rent System and consideration of EE characteristic⁶¹



⁶⁰ Section 559 I BGB aF

⁶¹ LUWOG consult

c) Deficiencies, Comfort and Risk for Health

The rented object has to be free from defects, which hinder the tenant from proper use. If not the tenant has the right to request a reduction in the rent.

5.1.3 Sweden

In Sweden, rental tenures with and without a public task are not distinguished. Sweden has by definition no social housing.⁶² Municipally owned housing companies, whose goal is to provide housing for all, regardless of gender, age, origin or incomes, own about half of the rental sector. After time on a waiting list, the dwellings are allocated. There is no upper income limit for potential tenants to avoid stigmatisation, and as long as tenants afford the rent, no lower income limit. Some tenants will need a housing allowance to be able to pay the rent.

Costs and Utility Charges⁶³

In Sweden the amount of rent shall be determined in the tenancy agreement, or if the agreement contains a bargaining clause, in the bargaining agreement. This tenancy agreement does not apply to compensation for expenses relating to the supply of heat, hot water or electric current or charges for water and sewerage. If the tenancy agreement includes a bargaining clause and the basis of payment computation has been established through a bargained agreement or through a decision from the rent tribunal, then it may be included. If the unit is situated in a single-or two-family dwelling, or if the cost of the utility is charged to the tenant by individual metering, then it is paid for in this manner.

Usually, regarding apartments in an apartment building, most tenancy agreements have a total rent where the heat and water supply are included in the rent, as well as waste collection. The household electricity is usually charged separately by a separate contract between an electricity supplier and the tenant. You have the right to demand that the indoor temperature is maintained at a comfortable level. The minimum temperature should be at least 18°C in the room and 16°C on the floor. The maximum heat should be 24°C indoors.⁶⁴ In cold winters, you have to accept lower temperatures temporarily. During the summer, for example during a heat wave, you will have to accept that it might temporarily become warmer indoors. For owned property, (bostadsrätter, ägarätter and houses) rent charges can cover operating costs and capital costs. Operating costs can include monthly fees paid to the cooperative housing association (bostadsrättsförening), utilities, as well as a premium for wear and tear. While the law does not mention mortgages specifically, property owners are allowed to charge for the "cost of capital", which is at this time considered to be around 4 % of the market value of the home.

If your home is a "hyresrätt", you can sublet for what you pay in rent yourself +10%-15% if the property is furnished. The associates that handle sublets at Residensportalen are all registered rental brokers and are governed by the property brokerage laws of Sweden. By law, it is not allowed to give guidance or suggest rental levels.⁶⁵

5.1.4 Poland

In co-operatives and condominiums, owners of buildings are in fact independent in setting up the structure of dwelling costs, based on decisions of general assemblies. The energy efficiency investments are subject of renovation plans and each dwelling owner pays monthly charge for renovation fund⁶⁶. The level of this charge may be increased, if the owner of the building takes the loan subsidized (or not) by the state to cover the cost of EE measures.

If the property is owned by a housing cooperative then the amount of rent is determined by the Board in accordance with the principles laid down in the statutes of the cooperative.

If the property is owned by the Social Housing Association the amount of rent is determined by a meeting of shareholders or the shareholders' meeting, however, the rent cannot be higher than 4% of the replacement value

⁶² (Olivia Bååth, TENLAW: Tenancy Law and Housing Policy in Multi-level Europe, 2014)

⁶³ ibid

⁶⁴ <http://bostad.karservice.se/student-tenant-association/tenancy-law/tenancy-rights/>>

⁶⁵ <http://www.residensportalen.com/swedish-rental-law.aspx>>

⁶⁶ Approximately 0,5 €/m² in average in Poland

of the premises. Detailed provisions are contained in the Act of 26 October 1995 on certain forms of support for housing construction (OJ 1995 No 133, pos. 654).

If the property is owned by a municipality then the amount of rent is determined by the competent authority of municipalities, specific provisions are contained in the Act of 21 June 2001 (on the protection of the rights of tenants, housing resources of municipalities and on the amendment of the Civil Code⁶⁷). If the property is owned by another person or company not being a cooperative housing or housing association then the amount of rent is freely determined.

5.1.5 The Netherlands

Tenancy law, especially rent control, is not organized based on dwelling ownership (social versus private), but on dwelling rent level. Therefore, the rent levels of 92% of the rental sector – dwellings with a monthly rent up to € 631.73 between 1 July 2008 and 1 July 2009 – are regulated (Section 3.2,3.6 and 4.1).⁶⁸ Dwellings with a rent level higher than the € 631.73 at the start of the rental contract have a so-called deregulated or liberalized rent level. Rent control is concerned with rent levels at the start of the rental contract (rent setting) and with annual rent, increases (rent adjustment). The rent level is dependent on the quality of a dwelling that is expressed in number of quality points. Officially, social landlords have a public task, while private landlords do not. Having a public task or not is therefore irrelevant for tenancy law.

Utilities costs

Utilities costs in the Netherlands are costs and expenses associated with a service or performance of which the tenant takes advantage, mainly heating, electricity and gas. Common practice is that the tenant engages a contract of supply with a utility company. It does also happen that the landlord engages a contract with the utility companies and charges these costs to the tenant. In apartment buildings that have a central heating system for the whole block, the tenant is deprived of the option to choose his own provider.

The costs for utilities are covered in the civil code. The section refers to the Decision on Service costs of the Minister of Housing. This lists ten categories of service costs that can be charged from the tenant:⁶⁹

- heating, electricity, gas and water;
- movables (including furniture, heating installations, kitchen appliances);
- small repairs that fall under the responsibility of the tenant but are being carried out by the landlord;
- costs related to garbage collection and transport;
- costs for the caretakers; administration costs for the specific services;
- signal delivery for internet, radio and television;
- electronic appliances (e.g. alarm; intercom);
- insurances;
- costs for the services for the common spaces such as a common rooms or staircases.

The strategic approach for many owners is opportunistic, financing renovation up to levels perceived to be acceptable levels of loss. Limitations are the dwelling-level rent increases, which are very limited when a unit is occupied, but allows for significant increases when changing tenants. A recent policy limiting an association' portfolio-wide rent increases to inflation + 1% further limits the number of renovations that can be carried out, as well as highly ambitious renovations.

More ambitious renovations, such as the “EnergieSprong approach”, are not widely regarded as viable or desirable for the social market segment. The additional fee for NZEB buildings could improve the cash flow, but is contrary to the social objectives of the housing providers. Explicit governmental support through changed regulation (minimum quality standards or increasing rent caps) is deemed necessary.

⁶⁷ Journal of Laws of 2005 No. 31, pos. 266

⁶⁸ http://www.tenlaw.uni-bremen.de/Brochures/NetherlandsBrochure_09052014.pdf

⁶⁹ http://www.tenlaw.uni-bremen.de/Brochures/NetherlandsBrochure_09052014.pdf

5.2 EPCs and Sustainability

Energy Performance Certificates (EPCs) are mandatory for renting or selling buildings in all European countries. They should show a building's energy performance and make it comparable to other buildings. However, there are many different practices around in Europe; EPCs are often not fully comparable from one country to another. Even within countries, different systems of EPC labels with different assessment methods. For example, in Germany are three types of EPCs existent.

There exist two kinds of EPCs – one the actual energy consumption of buildings, the other is calculating a theoretical energy demand of it. Both methods have advantages and disadvantages.

Figure 11: Comparison EPCs based and Consumption and Demand

	Advantages	Disadvantages
Actual energy consumption	<ul style="list-style-type: none"> Realistic because consumption in use In big buildings, the various users level out 	<ul style="list-style-type: none"> Especially for small buildings very much dependent on user behaviour Not very liable if the building was empty for some while
Theoretical demand	<ul style="list-style-type: none"> Comparability of buildings with similar use Not dependent on user behaviour 	<ul style="list-style-type: none"> Theoretical assumptions can be far from reality Complicated to calculate Higher cost for EPCs

Additionally to the way an EPC is produced, there are many other factors relevant to its acceptance both for experts and for non-professionals. For comparison, it may be easier if there is an open access register where valuers can find data about comparable buildings. For the demonstrator building's countries there are following EPC aspects to be considered (as of 2014).

Figure 12: System of EPCs for targeted Countries⁷⁰

	Consumption or calculation?	Register of accredited experts	Site visit mandatory	Type of EPC register	Public access possible?
United Kingdom	Calculated rating (SAP) ⁷¹	Mandatory	Yes	National database ⁷²	Yes
Germany	Both; calculated and measured rating possible (ENEV)	Voluntary	No	Central	No
Sweden	Both; calculated and measured rating possible (ENEV)	Mandatory	Yes	Central	Yes, with protected privacy
Poland	Calculated rating	Mandatory	No	Planned	-

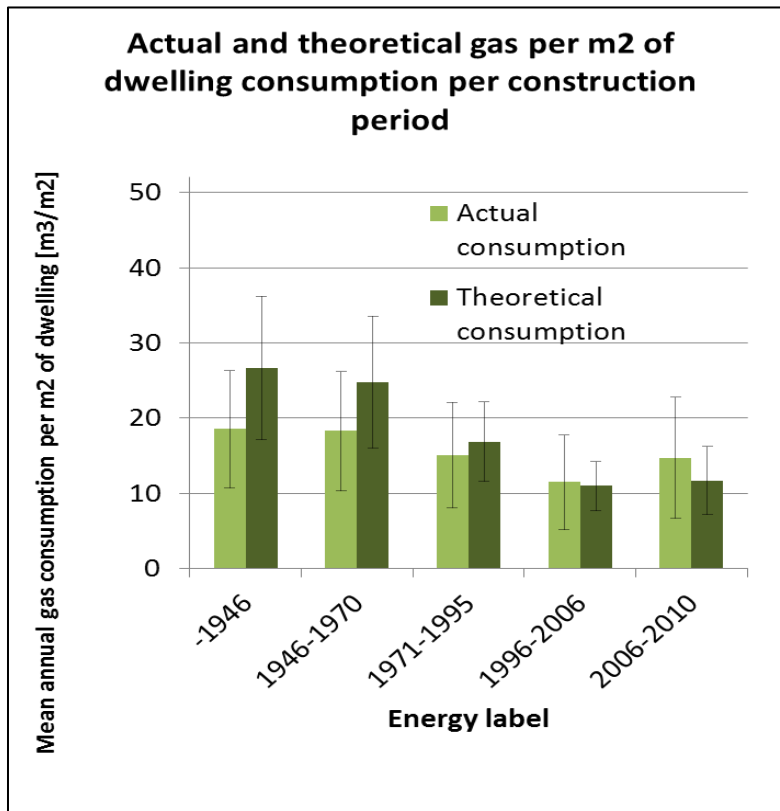
⁷⁰ Energy Performance Certificates across Europe, p. 25

⁷¹ SAP stands for 'Standard Assessment Procedure' is the methodology to compare the energy and environmental performance of dwellings

⁷² <https://www.epcregister.com>

As energy consumptions can vary significantly for different inhabitants of equal dwellings, it is very difficult to predict actual energy savings of EE measures. Additionally, the rebound effect can have a massive impact on energy consumption after refurbishments. Sometimes equal or even higher consumptions can be monitored after renovations, especially if former energy-conscious tenants are enjoying higher comfort levels due to living in an energy-efficient building.

Figure 13: Study result about theoretically calculated and actual energy consumption⁷³



⁷³ Source: Majcen, OTB Research Institute

5.3 Global Requirements for Valuation

PS2 (Mandatory Standards)

- The valuer must be appropriately qualified and be a member of a professional body with a commitment to ethical standards
- Must have the appropriate (current) local knowledge, knowledge of the asset type
- Comply with national legislation
- Certified, registered or licensed (where required)
- Independent and objective (conflicts of interest check)
- Terms of engagement must be agreed and documented prior to the issue of the report

VPS2 Inspections and Investigations

- Inspection must take place to the extent necessary to produce a professional valuation
- Items that may impact on value must be drawn to the client's attention
- Any assumptions, or special assumptions (those that would not realistically be made by a prospective purchaser) must be detailed in the report (or prior to reporting)
- Where inspection is/ will be limited this must be detailed in the terms of engagement and report
- The following matters must be considered (and verified):
 - Improvements to leasehold properties (what is to be valued?)
 - Planning controls and permissions/ the need for licences
 - Local or state property taxes
 - Information on substantial outgoings and running costs and the level of recovery from the occupier
 - Quotas or trading restrictions that are applied
 - Information that is revealed during enquiries

VPS3 Valuation Reports

The report must clearly and unambiguously set out the conclusions. The report requirements are as follows:

- Identification and status of the valuer
- Identification of the client and other intended users
- Purpose of the valuation
- Identification of the asset to be valued
- Basis of value
- Valuation date
- Extent of investigation
- Nature and source of the information relied upon
- Assumptions and special assumptions
- Restrictions on use, distribution or publication
- Confirmation that the assignment has been undertaken in line with international valuation standards (IVs)
- Valuation approach and reasoning
- Amount of valuation or valuations
- Date of the valuation report

VPS4 Bases of Value and Special Assumptions

A basis of value is a statement of the fundamental measurement assumptions of a valuation. These are detailed in

IVS paragraphs 26-28. Where a defined basis of value is not used, this must be detailed and an explanation of why these bases are not suitable given in the report.

The Red Book requires that all assumptions and special assumptions be detailed in the report and terms of engagement. For this project it should be noted that since 2014 there is, under VPS4, a requirement for valuers to consider collecting appropriate and sufficient sustainability data, as and when it becomes available, for future comparability, even if it does not currently impact on value. However, only where market evidence would support this, should sustainability characteristics be built into a report on value.

Chapter 6 Current Practice for Valuation in Respect to Sustainability

The Red Book specifically refers to assumptions for sustainability as follows:

While not a defined term, sustainability encompasses a wide range of physical, social, environmental and economic factors that can influence value and of which valuers should be aware. The range of issues includes, but is not limited to, key environmental risks, such as flooding, energy efficiency and climate, as well as matters of design, configuration, accessibility, legislation, management and fiscal considerations. As commercial markets become more sensitised to sustainability matters, they may begin to complement traditional value drivers, both in terms of occupier preferences and in terms of purchaser behaviour.

The pace at which sustainability may feed into value will vary depending on the property type and the geographic market/submarket in which the asset is situated. In order to respond appropriately, as markets change, valuers should continuously seek to enhance their knowledge of sustainability. The role of valuers is to assess value in the light of evidence normally obtained through analysis of comparable transactions. While valuers should reflect markets, not lead them, they should be aware of sustainability features and the implications these could have on property values in the short, medium and longer term.

In summary:

- Valuers are advised to collect appropriate and sufficient sustainability data, as and when it becomes available, for future comparability, even if it does not currently affect value.
- Only where market evidence would support this, should sustainability characteristics be built into a report on value.
- Valuers are often asked to provide additional comment and strategic advice. In these cases, valuers will need to consult with the client as to the use and applicability of sustainability metrics and benchmarks that are applicable in each case. For example, when preparing investment values (commonly known as 'worth'), sustainability factors that could influence investment decision-making may properly be incorporated, even though they are not directly evidenced through transactions.

Where appropriate, in order to comply with best practice in reporting, valuers are recommended to:

- assess the extent to which the subject property currently meets sustainability criteria and arrive at an informed view on the likelihood of these impacting on value, i.e. how a well-informed purchaser would take account of them in making a decision as to offer price
- provide a clear description of the sustainability-related property characteristics and attributes that have been collected, which may, where appropriate, include items not directly reflected in the final advice as to value • provide a statement of their opinion on the relationship between sustainability factors and the resultant valuation, including a VPS 4 Bases of value, assumptions and special assumptions comment on the current benefits/risks that are associated with these sustainability characteristics, or the lack of risks and provide a statement of the valuer's opinion on the potential impact of these benefits and/or risks to relative property values over time.⁷⁴

Due to the labour intensiveness and the costs generated to achieve various certifications such as LEED, DGNB or BREAM the market penetration is still low. The measurable significates of the sustainability rating systems for residential buildings currently has not been evaluated regardless of country.

⁷⁴ (RICS Red Book global Guidance, 2014, p. 59)

Chapter 7 Expert Interviews and Feedback Groups

7.1 Summary of Findings

In the context of providing experienced-based guidelines for Valuers of residential housing, both in the private and the social sectors, a series of expert interviews have been executed. During the London committee meetings, experts from the public housing sector; housing trusts and housing committees, contributed their insights regarding the impact of sustainability and building EE within the residential housing market.

How does and how do these experts predict these topics to affect housing demands, customer demands and rent levels? In the roles of financial advisor, risk management, taxes, and related services, experts contributed knowledge regarding financial elements connected to refurbishments and home ownership.

In the Amsterdam committee meeting, experts from the social housing sector and the banking/ lending sector from the Netherlands added insights regarding how landlords determine their expected ROI and value for money of EE renovations. Addressed were also the relationship between Capex and Market Value and the financing of EE-refurbishment and retrofitting.

LUWOG consult conducted a series of more qualitative interviews with specialist involved in the valuations, brokering, financing and procurement of housing projects throughout Germany. Questions regarding tenant behaviour, current regulations and the results of EE upgrades in Rhineland Pfalz and Germany were the focus. Throughout all of the expert sessions and interviews, data accessibility and reliability, the role of professional guidance and reporting and the lender requirements brought the subject full circle. The conclusions from these expert interviews reflect “a need for regulations, education of EE-intervention and a more transparent system of identifying the benefits of EE renovations both financially and socially.”

Our research found that although each county handles appraisals slightly differently, it was concluded the current guidance is contained in the RICS ‘Red Book’ standards. This prescribes a level of due diligence to be undertaken by Valuers which includes a duty to consider EE and other sustainability data ‘where available’. Due to a lack of information, most valuation reports simply mention sustainability via a standard set of wording and contain a number of caveats. It was confirmed that valuation report users simply check that part of the report and its inclusion does not lead to action.

Among tenant requirements, there were many consistencies. Tenants throughout the countries studied appear to recognise that EE of systems is favourable; however rarely seek out residences with this as the primary goal. More market transparency and education on energy efficiency and sustainability, regarding the benefits, both financially and comfort/ wellness wise needs to be provided to both the tenants and the owners.

The Challenge of securing funds can be addressed on several levels; beginning with the financial strength and desire of the client. Without the initial motivation and financial capability of an owner, energy efficient upgrades typically do not advance beyond government regulations. It is the support through government grants, tax incentives and regulations, which have the greatest impact. Strong political guidance as well as evidence of both short and long-term financial gains is essential to pave the way for private investors.

In the Netherlands, Germany and the UK, location is the key factor above all other requirements in selecting a residence.⁷⁵ Second are the net rent costs. Typically tenants pay the heating, water and electric bills independently of the rent, therefore tenant behaviour has a large impact and the landlord has little incentive (or ability) to monitor or modify these consumptions. In the valuation systems, there is a lack of distinction between efficient and inefficient buildings, thus lowering the motivation of the landlord to invest in EE renovations.⁷⁶ This appears consistent regardless of demographics or country, the exception being Sweden where, typically, the heat is included in the rent price. Energy efficiency of a unit is a subordinate contributor to rental value, which is still driven by conventional factors such as location and accommodation. Similar challenges across borders were

⁷⁵ Repeated in expert sessions in London, Amsterdam and by Mr. Klinger-Volt, Valuation Expert, Broker: ‘Rhineland Pfalz and Ms. Mittmann, Climate Protection Manager, City of Speyer

⁷⁶ Expert session Amsterdam

found. Typically, improvements are meeting the minimum standards set by regulation. There was a consensus that “refurbishment for energy efficiency does not necessarily increase market value“.

It was clear that better knowledge and information of the “perceived risks and perceived benefits” to the investor, owner and the tenant would prove beneficial in the support and execution of energy efficient renovations. Energy Performance Certificates (EPC) could be among the most important drivers of energy performance of the European building stock. However, most Member States are struggling with public acceptance and market-uptake.* However, EPC’s currently are used only as a qualitative measure as there is no monetary figure associated with it.

7.2 Germany Conclusions

The qualitative expert interviews conducted by Luwoge consult gave a more detailed view of the situation in Germany. Throughout the country, there are fairly consistent and stringent regulations that govern the overall state systems. In the German rent system in there is the ‘Mietspiegel’⁷⁷. The rent mirror is an overview of the local-customary comparable rent (section 558 Civil Code) in a freely financed residential building. It serves as an explanatory means for rent rises and is put up by towns (seldom also from bigger municipalities) in cooperation with appropriate interest groups (i. e. tenant and renter associations). The rent mirror refers to the property, respective within the town or municipality. There is no obligation to use a rent mirror; therefore, there is not one for every municipality.⁷⁸ Typically, rents cannot be raised above 11% without the owner making an improvement to the property. If the landlord does make improvements, EE improvements or otherwise, then the rent can be raised up to 20%. Within the individual states, there exist local regulations; therefore, the ‘Mietspiegel’ can be adjusted per the legislations of a particular town or area.

Currently, depending on the local market in Germany, building EE is often considered a "luxury topic". There is a basic knowledge of Energy Performance Certificates (EPC), however no lasting understanding among tenants and investors. This is said to contribute to EE strategies being low on the list of priorities for buyer's and rental tenants⁷⁹. Overall energy efficient housing/systems were not a relative consideration and hold a subordinated role for tenants when looking for or choosing a place to live⁸⁰.

Another obstacle in the conversation of EE modernizations is the risk of existing hazardous materials. Asbestos and lead within existing buildings needs to be encapsulated or abated.⁸¹ In doing this, the building becomes a much healthier environment, however, this additional work can add significantly to the costs of renovations. Architectural Modifications take on importance when buildings have historic significance or significant period characteristics. In these cases, system upgrades are usually preferred over envelope insulation. In buildings without historic significance, the most common and visible interventions include replacing single glazed windows with double glazing, insulating the building envelope, the addition of roof insulation and in the case of a cellar, cellar ceiling insulation.

Demographics often play a major role in how EE measures are perceived as well as to justify the financial incentives to preform them. Ownership of the building and owner's organizations also play a role. Often a consensus is needed as to what should be done as well as the percentage to be paid by the involved members who have a financial stake in the building. The financial stability of the individual members also plays a role regarding the extent of the EE renovations.

For non-modernized buildings, the cost to do the work for the EE modernizations can, at times, be negotiated in order to reduce the sales price. This then can reduce the overall local market house values and can have the following effect: When the costs are credited / factored in during a "buyer's" market against future necessary modernizations to 100% of the retail price, then in a "seller's market" this factor amounts to approx. 70%.⁸²

⁷⁷ translated as a “rent mirror

⁷⁸ <https://de.wikipedia.org/wiki/Mietspiegel>

⁷⁹ Mr. KlausTheuer: Valuation expert, Rhineland Pfalz, Germany

⁸⁰ Mr. Theuer and Mr. Klinger-Vogt: Valuation experts, Rhineland Pfalz, Germany

⁸¹ Mr. Klinger-Vogt: Valuation experts, Rhineland Pfalz, Germany

⁸² Mr. KlausTheuer: Valuation expert, Rhineland Pfalz, Germany

7.3 United Kingdom Conclusions

In the United Kingdom primarily health and wellbeing issues and the desire to take people out of fuel poverty drive the rationale and motivation for social landlords to upgrade. Whilst most owners have no specific targets other than to achieve compliance as and when they can, the most ambitious housing associations budget a renovation of the full stock to EPC quality C by 2020. It was noted by all that within the UK, the introduction of minimum energy efficiency standards (MEES) due to come into effect from 2018 for new lettings (2023 for continuing lettings) and currently set at an E rating is adding to the rationale for investment as more buildings will have to be upgraded to meet compliance and be lettable.

It was noted that cash flow analysis may provide a case for added 'worth' but the split incentive of tenants benefiting from landlord expenditure still exists. The unreliability and availability of data are still major issues therefore making meaningful cash flow predictions difficult.

Current UK policy changes like the extension of right to buy for social housing tenants and a four-year on year 1% p.a. rent cut for social housing are expected to have a negative impact on the ability to make any investment, including that on energy efficiency. For most landlords, the right to buy and forced discounts reduces willingness to invest; although the counter-argument was put forward that it allows finance capture. The rent cut however has a clear result that organisation's financial surpluses will be reduced, with some participants considering this could be as much as a 25% reduction. This significantly influences capacity to undertake anything that goes beyond essential maintenance and repair.

Lenders do not yet incorporate information on energy data within their standard lending criteria, but there was a view that this will come. Since the London Round Table, a project has been launched seeking to understand how this can be achieved⁸³ with which this project will interface where possible. Now the critical loan factors are revenue stream projections, cash flow risks and the borrower profile. These may be more important than the attributes of the asset.

Some major banks are exploring the possibility of incorporating environmental risks into their commercial real estate lending framework. Whilst this may not immediately impact on the level of lending, the research outcomes of the US Green Building Council and other academic studies, which point to value differentials (up to possibly 20%) between certificated 'green buildings' and others increases the long-term risk to the asset value offered as security for the loan. Where buildings are 'at-risk' due to non-compliance with MEES, future required CAPEX is analysed from a security point of view.

7.4 Netherlands Conclusions⁸⁴

In the Netherlands, there is a relative large percentage of social/regulated real estate (about 80% of the total rental sector). Financing of the social/regulated real estate is mainly guaranteed by WSW⁸⁵ (about € 85 billion). The vast majority of Dutch social housing providers are part of a national guarantee fund backed by the state; financing is provided mostly by non-commercial banks and is heavily regulated.

The governments determines the maximum percentage for the increase of rents, expect for liberalised rental contracts. The maximum percentage depends on the income of the tenant. The rent may be increased once a year. There is a "point system" (like square meters, sanitary) which also determines what the maximum rent of a dwelling is and energy efficiency has a minor role. The rent can also be increased after improvement/renovation of the dwelling (after prior permission of the tenant). Normally the tenants pay the energy bill.

In the Dutch system, EPC's are more clearly recognized. In an agreement/pact of 2012, between the social housing sector and the government, retrofits for energy efficiency improvements are targeted at bringing average stock quality up towards an average of EPC 1,25 (comparable to label B/C, from current C/D) by 2030.

⁸³ Note this project: World Green Building Council, 2013 the Business Case for Green Buildings (http://www.worldgbc.org/files/1513/6608/0674/Business_Case_For_Green_Building_Report_WEB_2013-04-11.pdf) had a primarily commercial orientation

⁸⁴ As provided from the expert sessions, Amstelveen, Feb.11, 2016 and consortium partner feedback

⁸⁵ In 1983, the Social House-building Guarantee Fund (WSW) Waarborgfonds Sociale Woningbouw was set up as a private law institute to enable the financing needs of associations to be covered

Aedes (association of housing corporations) monitors this agreement. Several housing associations experiment at a small scale with approaches like EnergieSprong (EnergyLeap) that aim at reaching zero energy. Fuel poverty is not a major issue.

Cash flow analysis may provide a case for added 'worth', reduce the split incentive and provide possible additional income streams. In this tightly controlled market, data availability and reliability make cash flow predictions straightforward. While financing is not an issue, the strict limitation on rents means market mechanisms and market value will have limited relevance. For social housing providers, there is a clear inability to witness a market-determined increase in value due to a rent cap and other social objectives; this means that limited value can be captured after an investment, based on rent increase – the case must be on other societal benefits. Bringing stock up to date, comfort/health objectives and sustainability objectives are frequently mentioned as main drivers for capital expenditure.

Up until 2016, social housing, because it was not bought and sold on the open market, was not motivated to undertake work to gain additional capital value, rather to drive improved comfort and well-being of tenants and to contribute to overall societal sustainability objectives. Generally, the sector followed government regulation or incentives in determining its approach to energy efficiency. Very few housing associations had planned and budgeted for renovating full stock to the 2012 pact objectives, or integrated the energy objectives into a long-term investment strategy. Most improvements are based on individual assessment and short-term renovation plans.

Beginning in 2016 social housing will begin to be valued at comparative market value. As there are only a very limited number of transactions to either individuals or institutional investors, or other social housing providers, that appraised value is considered highly indicative. It is unclear how the comparative market value, which is based on privately owned homes, will influence valuation and investment decisions.

Availability of financing is not an issue in the Dutch system of public guarantees and not-for-profit financing. Less than 5% of financing originates from outside this system. Major lenders to the private sector track energy data (the energy label) for all dwellings in their portfolio. While the information is not incorporated fully in risk analysis models, it is however taken into account when providing loans. Various banks provide minor discounts on their rates for 'energy efficient homes'. A correlation with reduced risk of borrower default is seen, and a less risky position in case of default. No change in loan-to-value is mentioned.

The strategic approach for many owners is opportunistic, financing renovation up to levels perceived to be acceptable levels of loss. Limitations are the dwelling-level rent increases, which are very limited when a unit is occupied, but allows for significant increases when changing tenants. A recent policy limiting an association's portfolio-wide rent increases to inflation + 1% further limits the number of renovations that can be carried out, as well as highly ambitious renovations.

Valuers typically have a background in finance, but not in technology or energy. Actual understanding of component's contribution to energy efficiency or the cost involved in improving efficiency to certain levels is limited. Valuing a building therefore takes place mostly on 'gut feeling' for added value in comparison with building with lower energy quality.

7.5 Poland Conclusions⁸⁶

In co-operatives and condominiums, owners of buildings are in fact independent in setting up the structure of dwelling costs, based on decisions of general assemblies. The energy efficiency investments are subject of renovation plans and each dwelling owner pays monthly charge for renovation fund (approx. 0,5 €/m² in average in Poland). The level of this charge may be increased, if the owner of the building takes the loan subsidized (or not) by the state to cover the cost of EE measures.

If the property is owned by a housing cooperative then the amount of rent is determined by the Board in accordance with the principles laid down in the statutes of the cooperative. If the property is owned by the Social Housing Association the amount of rent is determined by a meeting of shareholders or the shareholders' meeting, however, the rent cannot be higher than 4% of the replacement value of the premises. Detailed provisions are

⁸⁶ Feedback as provided by consortium members

contained in the Act of 26 October 1995 on certain forms of support for housing construction (OJ 1995 No 133, pos. 654). If the property is owned by a municipality then the amount of rent is determined by the competent authority of municipalities, specific provisions are contained in the Act of 21 June 2001. On the protection of the rights of tenants housing resources of municipalities and on the amendment of the Civil Code (Journal of Laws of 2005 No. 31, pos. 266).

If another person or company not being a cooperative housing or housing association owns the property then the amount of rent is freely determined. There is a state supported program for residential buildings, acting since 1998 and this is only state instrument to support the residential housing stockowners in undertaking the renovation of the building. Partial EE measures (like thermostatic valves, heat cost allocators) have been imposed in the 1990's by their suppliers.

Valuers in Poland usually employ the comparable sales method when executing their appraisals.

7.6 Sweden Conclusions⁸⁷

In Sweden, rents are normally determined by negotiations between landlords and tenants organisations. Rents can be increased if the standard of the property is raised (also visible for the tenants), like a renovation (mostly not only Energy Efficiency investments but also (part of) a larger package). In Sweden, heating is included in the rents however; tenants do pay for the electricity of their dwelling. Therefore, there is a big incentive to invest in Energy Efficiency.

The relevance of the different valuation approaches and methods varies from country to country and depends on the respective occasion for the property valuation. In terms of use, KPIs in general, are similar. Therefore, there is no need to consider all country specific KPI particularities within this investigation.

⁸⁷ Feedback as provided by consortium members

Chapter 8 Appendix

8.1 RICS definitions and additional information

Definitions of Values (RICS)

Market Value – VPS4 extract

Market value is the basis of value that is most commonly required, being an internationally recognised definition. It describes an exchange between parties that are unconnected and are operating freely in the marketplace and represents the figure that would appear in a hypothetical contract of sale, or equivalent legal document, at the valuation date, reflecting all those factors that would be taken into account in framing their bids by market participants at large and reflecting the highest and best use of the asset. The highest and best use of an asset is the use of an asset that maximises its productivity and that is possible, legally permissible and financially feasible – see IVS Framework paragraphs 32–34 Market Value. It ignores any price distortions caused by special value or synergistic value. It represents the price that would most likely be achievable for an asset across a wide range of circumstances. Market rent applies similar criteria for estimating a recurring payment rather than a capital sum.

In applying market value, regards to the conceptual framework set out in IVS Framework paragraphs 30–34 Market Values, which includes the requirement that the valuation amount reflects the actual market state and circumstances as of the effective valuation date. Valuers must ensure in all cases that the basis is reproduced or clearly identified in both the instructions and the report. There is no mandatory requirement to refer to the IVS conceptual framework (IVS Framework paragraphs 30–34) in the valuer's report but, in appropriate cases, it may be useful to do so if it is considered likely to assist the client. However, a valuer may be legitimately instructed to provide valuation advice based on other criteria, and therefore other bases of value may be appropriate. In such cases, the definition adopted must be set out in full and explained. Where such a basis differs significantly from market value it is recommended that a brief comment is made indicating the differences.

Notwithstanding the disregard of special value (see definition in IVS Framework paragraphs 43–46 Special Value), where the price offered by prospective buyers generally in the market would reflect an expectation of a change in the circumstances of the asset in the future, the impact of that expectation is reflected in market value. Examples of where the expectation of additional value being created or obtained in the future may have an impact on the market value include:

- the prospect of development where there is no current permission for that development and
- the prospect of synergistic value (see definition in IVS Framework paragraph 47) arising from merger with another property or asset, or interests within the same property or asset, at a future date.

The impact on value arising by use of an assumption or special assumption should not be confused with the additional value that might be attributed to an asset by a special purchaser.

Note that in some jurisdictions a basis of value known as 'highest and best use' is adopted and this may either be defined by statute or established by common practice in individual countries or states.

Market Rent – VPS4 extract

The definition of market rent is a modified definition of market value; IVS 230 Real Property Interests paragraphs C8–C11 provide additional commentary. Market rent will vary significantly according to the terms of the assumed lease contract. The appropriate lease terms will normally reflect current practice in the market in which the property is situated, although purposes unusual terms may need to be stipulated. Matters such as the duration of the lease, the frequency of rent reviews and the responsibilities of the parties for maintenance and outgoings will all influence the market rent. In certain countries or states, statutory factors may either restrict the terms that may be agreed, or influence the impact of terms in the contract. These need to be taken into account where appropriate.

Market rent will normally be used to indicate the amount for which a vacant property may be let, or for which a let property may re-let when the existing lease terminates. Market rent is not a suitable basis for settling the amount of rent payable under a rent review provision in a lease, where the actual definitions and assumptions have to be used.

Valuers must therefore take care to set out clearly the principal lease terms that are assumed when providing an opinion of market rent. If it is the market norm for lettings to include a payment or concession by one party to the other as an incentive to enter into a lease, and this is reflected in the general level of rents agreed, the market rent should also be expressed on this basis. The valuer, along with the assumed lease terms, must state the nature of the incentive assumed.

Investment Value – IVS Framework para 37 extract

This is an entity-specific basis of value. Although the value of an asset to the owner may be the same as the amount that could be realised from its sale to another party, this basis of value reflects the benefits received by an entity from holding the asset and, therefore, does not necessarily involve a hypothetical exchange.

Investment value reflects the circumstances and financial objectives of the entity for which the valuation is being produced. It is often used for measuring investment performance. Differences between the investment value of an asset and its market value provide the motivation for buyers or sellers to enter the marketplace.

Fair Value – Extract from IFRS 13

The objective of a fair value measurement is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. A fair value measurement requires an entity to determine all of the following:

- the particular asset or liability that is the subject of the measurement (consistently with its unit of account)
- for a non-financial asset, the valuation premise that is appropriate for the measurement (consistently with its highest and best use)
- the principal (or most advantageous) market for the asset or liability
- the valuation technique(s) appropriate for the measurement, considering the availability of data with which to develop inputs that represent the assumptions that market participants would use when pricing the asset or liability and the level of the fair value hierarchy within which the inputs are categorised.

Fair Value – Extract from IVS Framework 38-42

Fair value is the estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties.

The definition of fair value in IFRS is different from the above. The IVSB considers that the definitions of fair value in IFRS are generally consistent with market value. The definition and application of fair value under IFRS are discussed in IVS 300 Valuations for Financial Reporting.

For purposes other than use in financial statements, fair value can be distinguished from market value. Fair value requires the assessment of the price that is fair between two identified parties taking into account the respective advantages or disadvantages that each will gain from the transaction. It is commonly applied in judicial contexts. In contrast, market value requires any advantages that would not be available to market participants generally to be disregarded.

Fair value is a broader concept to market value. In many cases, the price that is fair between two parties will equate to that obtainable in the market. There will be cases where the assessment of fair value will involve taking into account matters that have to be disregarded in the assessment of market value, such as any element of special value arising because of the combination of the interests.

Examples of the use of fair value include:

- (a) Determination of a price that is fair for a shareholding in a non-quoted business, where the holdings of two specific parties may mean that the price that is fair between them is different from the price that might be obtainable in the market,
- (b) Determination of a price that would be fair between a lessor and a lessee for either the permanent transfer of the leased asset or the cancellation of the lease liability.

Special assumptions related to projected values:

By their nature, projected values rely wholly on special assumptions. For example, the valuer may make various assumptions about the state of the market in the future – yields, rental growth, interest rates, etc.

Great care is required to ensure that the special assumptions made are:

- in accordance with any applicable national or jurisdictional standard
- realistic and credible
- clearly and comprehensively set out in the report

Any special assumptions relating to projected values should be agreed with the client prior to reporting an opinion of value. The valuation report should refer to the higher degree of uncertainty that is likely to be implicit with a projected value, where by definition comparable evidence will not be available.

VPGA 2 Valuations for Secured Lending

Section 5.1 states that Market Value is the appropriate basis of value for all valuations or appraisals undertaken for secured lending purposes

Section 5.2: Special assumptions for arriving at Market Value must be agreed in writing in advance and referred to in the report. Special assumptions may qualify the application of Market value; any special assumptions made must be accompanied by a comment on any material difference between the Market Value with and without the special assumption

Section 6.1: Any circumstances that could affect the price must be drawn to the attention of the lender, along with an indication of their effect.

Where a property is subject to re development or refurbishment the residual valuation method may be used. In this event, the sensitivity of the valuation to any assumptions made must be indicated.

Where works are to be undertaken, a special assumption may be made that the works have been completed in a good and competent manner and in accordance with all statutory requirements.

VPGA 9 Valuation in Markets Susceptible to Change: Certainty and Uncertainty

A valuation is not a fact – it is an opinion. The degree of subjectivity and certainty involved will vary from case to case.

Ensuring user understanding and confidence requires transparency in the valuation approach and adequate explanation of all factors that materially affect the valuation.

Matters that affect valuation certainty:

- Status of the valuer
- Inherent uncertainty
- Restrictions on enquiries or information provided
- Liquidity and market activity and
- Market volatility.
- With regard to sustainability matters, uncertainty may stem from:
 - the skill and experience of the valuer making the judgement
 - property characteristics (unusual design, unattractive attachments etc.)
 - lack of comparable evidence to support the valuation (high level of subjectivity employed)
 - Market disruption (political interference, natural events, economic factors)

The valuer must comment on any areas of uncertainty. If appropriate, a sensitivity analysis should be completed; to illustrate the effect changes to variables may have on the reported valuation.

United Kingdom

UKVS 3: Valuations of Residential Property

Projected Market Value (PMV): The estimated amount for which an asset is expected to exchange at a date, after the valuation date and specified by the valuer, between a willing buyer and a willing seller, in an arm's length transaction after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

The purpose of PMV is simply to illustrate the valuer's opinion on what is likely to change with the market over the specified period (usually the time it is anticipated it will take to complete the sale). This figure may be different from MV.

Secured lending valuations for registered social landlords: These valuations will be for lenders considering the provision of finance to registered social housing providers for the development, or acquisition and retention, of an equity stake in residential property that would be let as shared ownership. Valuations for this purpose are

based on either Market Value or existing use value (UK Appendix 13).

Rental valuations provided for registered social housing providers in connection with the assessment of affordable rent shall be at Market rent.

UK Appendix 11: Valuation for Buy to Let Properties:

The main Buy to Let (BTL) categories are:

- Category 1: a single individual residential unit let to a single household on a single assured shorthold tenancy (AST) where it neither forms, nor is intended to form, part of a portfolio
- Category 2: a single residential unit let on a single AST, but to individuals on a sharing basis up to a maximum of four individuals and
- Category 3: licensable houses in multiple occupations (HMOs) and multiple units held on a single title. They will include categories of properties not capable of being valued on an assumption of owner occupation and/or by adopting a traditional comparable methodology. These will be valued only after confirmation of direct terms of engagement with the instructing lender and referring to the lender's specific guidance.

The following comments apply to all categories:

(a) The valuer must be sufficiently experienced in the residential investment market and have a sound knowledge of the rentals in the locality.

(b) The valuer should be aware of the impact of rental incentives in respect of properties suitable for buy-to-let investment. Guaranteed rents that are above market rent and cashbacks in lieu of rental income for a number of years may have an effect on price.

(c) The lender may use either or both the market rent and the market value to determine the size and type of loan to be extended to the borrower. The market rent figure may therefore be critical in the underwriting of the loan and should not be viewed just as a guide or confirmation of the current or future rent passing.

(d) The valuer should fully research, document and retain comparable rental evidence and either decline to provide a market rent figure or clearly state limitations as to accuracy if there is insufficient or limited evidence.

(e) If the property is likely to incur higher than average maintenance costs due to its age/type, existing condition or intensity of occupation, this should be identified within the report, as the proportion of rent required for reinvestment will exceed normal levels and reduce net income accordingly. Excessive service charges and/or ground rents should also be considered in this regard, as they will similarly affect net income.

(f) Where the lender advises the valuer that the borrower intends to let a vacant property for residential purposes, the lender should also instruct on whether the valuer is to value the property:

(i) with vacant possession

(ii) subject to an AST at market rent or

(iii) subject to such other terms as the lender advises.

Where market rent is to be provided it shall comply with VPS 4 paragraph 1.3, Market rent, on the special assumption that it is an unfurnished, six-month AST. This should be a sustainable rent and not one distorted by temporary factors of high demand, such as seasonal workers, holiday lets, asylum seekers or other special cases. A simple adoption of the current rent passing (if known) will not be appropriate where market conditions have changed since commencement of the existing tenancy.

The following paragraphs provide comments that apply to the specified categories:

Category 1: Single Assured Shorthold Tenancy

As the security offered is essentially a property that would be in the residential owner-occupier market, it is appropriate that the valuation is in accordance with that market.

The valuer should be aware of the impact of incentives in respect of properties suitable for buy-to-let investment. Guaranteed rents that are above market rent and cashbacks in lieu of rental income for a number of years may affect the price. The valuer should consider these impacts and report accordingly. In some cases the lender may specifically request the valuer to give an opinion of the market rent on an AST under item f(ii) above.

In the event that the property is already let and is to be conveyed subject to the letting, the lender may request

that a special assumption be made that the property is vacant. The current rent passing should not necessarily be confirmed as the current market rent. The current market rent should be the figure that the valuer considers is the true value irrespective of whether the current rent passing is higher or lower.

Category 2: Shared Houses

Where a property has been let to a group of tenants, typically a shared student house or as individual rooms, the market value may be assessed on a comparable basis. However, these properties may be located in areas comprising a high concentration of similar rented accommodation and limited owner occupation. In this situation, the comparable used to determine the valuation might come principally from transactions of other similar investment property (rather than owner-occupied property) in the locality.

The rental value assessment should only be provided at a 'higher' shared occupancy rate, where there is a proven sustainable demand in the area for this type of letting arrangement and the property is suitable for this form of letting.

Category 3: Houses in Multiple Occupation/Multi-Unit Properties

For this specialist area of valuation, the valuer must have knowledge of, and experience in, the valuation of the more complex residential investment property in the particular locality.

Houses in multiple occupations (HMOs) comprise individual units that cannot be sold separately and have at least some shared facilities. If the property appears to be compliant with legislation/safety requirements having regard to the provisions of the Housing Act 2004, then it is reasonable to adopt the income approach method of valuation, assuming there is a continuing rental demand for this type of accommodation in the area. The valuation obtained should be logic checked against the tone of values for similar investment property in the vicinity.

The valuer should identify whether the property is subject to mandatory HMO licensing and if a copy of the licence has been recorded.

The additional considerations for the category 3 scenarios include:

- (a) Management regulations for HMO
- (b) Potential mandatory or discretionary licensing schemes
- (c) Condition/fitness requirements, that is, Housing Health and Safety Rating System (HHSRS) and
- (d) Possibility that planning consent will be required for the HMO usage, in addition to the usual local authority consents for the current property form and layout.

UK Appendix 13: Valuation of Registered Social Housing providers' Stock for Secured Lending Purposes

These properties will be valued based on market value, subject to existing tenancies.

A valuation based on market value should reflect any intention that the valuer considers a prospective purchaser would have to raise the rents. If the valuer expects to make this assumption, the potential impact of this on the value of the security should be drawn to the client's attention.

Existing use value for social housing (EUV-SH) is defined in UKVS 1.13, valuations for registered social housing providers. Its use is appropriate in secured lending valuations, as it assumes that the properties will continue to be let as social housing and that any vacant dwellings will be re-let to tenants in the registered social housing provider's target group.

The client may also require the valuer to provide a calculation of worth on the assumption that the lender was in control of the security, following default by the borrower. In this case the client's potential rights (for example, if they are entitled to sell vacant dwellings or if there exists tenants' rights to buy), along with its willingness and ability to raise rents and sell dwellings that become vacant, will be relevant.

The client may also be interested in receiving, and hence will specify, a return that is to be adopted through the discount rate used in the calculation of worth. Special assumptions such as this must be stated in the report.

Where a calculation of worth is provided, an opinion of value on market value or EUV-SH should be provided concurrently.

Germany

In Germany, the standards for valuation are relatively strict by comparison with other countries.

Verkehrswert

Verkehrswert is the equivalent to market value, and is defined by law. The valuation methods are laid down in the German ordinance on the principles for determination of the market value of land, Real Estate Valuation Regulation - Immobilienwertermittlungsverordnung (ImmoWertV) as well as the Regulation on the Determination of the Mortgage Lending Values under § 16 (1) and (2) of the Mortgage Bonds Act (Pfandbriefgesetz), Beleihungswertermittlungsverordnung (BelWertV) and related directives.

Verkehrswert is a basis of value defined in § 194 of the German Building Code (Baugesetzbuch, BauGB) as follows:

‘Verkehrswert is determined by the price which would be realisable at the time of the valuation through normal business operations in accordance with the legal circumstances and the actual characteristics, other qualities and the location of the land or any other valuation object, irrespective of unusual or personal circumstances.’

While the wording is not the same as the international definition of market value in VPS 4 paragraph 1.2 and IVS Framework paragraph 29, the intention behind it is identical. Thus in practice, the valuation amount to be reported as Verkehrswert in accordance with § 194 of BauGB will normally be the same as that which would be reported in accordance with the IVS definition of market value. It is also the case that market value in accordance with the IVS definition may normally be reported as the Verkehrswert, even though a valuation method may have been used that is not recognised or prescribed in the BauGB code.

ImmoWertV

ImmoWertV, the quality date is the date on which the condition of the land is determined that provides the basis for the valuation. This corresponds to the valuation date, unless the condition of the land as of a different date is key on legal or other grounds.

Secured Lending Valuation

As well as the bases of value indicated in VPS 4 paragraph 1 (market value, market rent, investment value and fair value according to the IFRS or IVS definition), in Germany the Beleihungswert value is recognised as the basis of value for valuation in case of secured lending transactions. The statutory framework for this is laid down in the Mortgage Bonds Act and the Banking Act.

Normal valuation practice in Germany for assignments granted by a credit institution is to determine a market value (Verkehrswert) and a mortgage lending value (Beleihungswert) and to report both of these values in a joint report. This practice is unobjectionable, if the market value (Verkehrswert) and the mortgage lending value (Beleihungswert) are determined separately from one another and the report avoids mixing up these two bases of value. Reports should be structured so that the calculations themselves and the underlying assumptions for the market value (Verkehrswert) and the mortgage lending value (Beleihungswert) are presented and explained in separate sections of the report.

In accordance with the valuation purpose, the mortgage lending value (Beleihungswert) is generally reported free from encumbrances, i.e. excluding any encumbrances entered in the land register. For assignments whose purpose is the determination of a market value or a mortgage lending value (Beleihungswert), for the sake of comparison a market value free from encumbrances – i.e. a market value prior to deduction of the value of encumbrances secured in rem (against the property) – should be reported. The basis of value in all cases must be made explicit, including all assumptions or special assumptions made.

Due to statutory regulations in Germany, for many valuation purposes the value (Verkehrswert) must be determined in accordance with § 194 BauGB. Where a valuer determines the value in line with § 194 BauGB, the basis of value Verkehrswert is to be taken as equivalent to the market value in accordance with VPS 4 paragraph 1.2.

Through the German Regulation on the principles for determination of market values (ImmoWertV) the state has issued detailed regulations for the determination of market values in accordance with § 194 BauGB, which have been supplemented by the guidance notes for individual valuation methods. Since these regulations are not

generally binding, valuers may determine market value in accordance with VPS 4 paragraph 1.2 and also report this as a market value in accordance with § 194 BauGB, without full application of the provisions of ImmoWertV. In particular, market value may be derived from methods other than the valuation methods indicated in ImmoWertV. Nonetheless, in Germany ImmoWertV covers almost all aspects of the determination of market values under § 194 BauGB. In a large number of rulings, German case law has also recognised the general principles laid down in ImmoWertV as binding for the determination of market values in accordance with § 194 BauGB.

Where the preparation of a market value report is commissioned in a German jurisdiction, both the principles of the assignment and the valuation report should clarify whether this valuation has been produced in line with the principles and rules of procedure specified in ImmoWertV.

Market Rent

The basis of value for the market rent (VPS 4 paragraph 1.3) corresponds to the rent that is realisable in case of new letting of the leasing property, subject to appropriate terms in the tenancy agreement. This differs from the local reference rent in accordance with § 558 (2) of the German Civil Code (Bürgerliches Gesetzbuch, BGB), which is determined on the basis of new agreements and past rent adjustments and, by law, has a critical impact on residential rent increases. Where valuers are commissioned with the preparation of rent value reports to determine the local reference rent, the report should expressly refer to the fact that the basis of value differs from the market rent.

In regard to the further bases of value outlined in VPS 4 paragraphs 1.4 and 1.5 – the investment value and the fair value as defined by the IFRS or the IVS – no specific issues result from German legislation.

All of the issues covered in VPS 4 paragraph 2 (Assumptions) and VPS 4 paragraph 3 (Special assumptions) apply for valuations in German jurisdictions. Accordingly, all assumptions and special assumptions that are relevant for the valuation must be agreed with the customer, included in the terms of engagement and fully set out in the valuation report.

Where a special assumption has been adopted for the valuation, it should be clearly stated.

Sweden

Basis of Value

There are four recognised bases of value: market value, market rent, investment value and fair value.

Market value

Market Value is the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

Market rent

Market rent is the estimated amount for which an interest in the real property should be leased at the valuation date between a willing lessor and a willing lessee on appropriate lease terms in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

Therefore, this rent would probably be received when signing a new lease contract for the premises at the valuation date. The market rent will assume the appropriate lease terms that reflect the current market practice in the market in which the property is situated. In Sweden, the market rent would assume that the tenant in addition pays the property tax. The practice that is developed in Sweden is responsible for interior maintenance for the duration of the contract.

Investment Value

Investment value (worth)' is the value of an asset to the owner or a prospective owner for individual investment or operational objectives.'

Fair value:

There are two recognised definitions of fair value:

IFRS 13

The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

IVS 2013

The estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties.

However, the only two bases of value that are relevant in these Guidelines are market value and market rent. The basis of market value must be used in valuations for the IPD Sweden Annual Property Index. In accordance with Swedish practice, the valuer normally should report the market value also for financial reporting. The valuations must relate to the market value of each individual asset (property), and not the value of a portfolio. Market rent must normally be assessed since it constitutes one of the important value-contributing parameters.

Net operating Income

The concept of net operating income is essential when assessing the value and production capacity of properties. This means that a uniform definition of the net operating income is necessary.

The net operating income for the property constitutes the annual residual surplus once outgoing operation and maintenance payments, including property tax and ground rent have been deducted from the gross incoming payments. The net operating income does not include any other activity for which the property owner uses the property, such as running a business service centre or another business service that is offered to lessees. Investments are not included in the net operating income at the time of the valuation. The relevant net operating income is calculated based on the outgoing rent, including all supplements (although not VAT charged) and takes into account rental discounts. Market-related net operating income is based on market rent with supplements for property tax and deductions for assessed market-related vacancies. The outgoing payments that are related to the operation and maintenance of the property are shown in Appendix 2.

Sustainability and Environmental Matters

For the valuer, it is important to be aware of sustainability factors and take into account the way in which environmental matters affect the market value of the property in the short and the long term. RICS Professional Guidance includes Global, Sustainability and Commercial property valuation, with associated Checklist, can serve as guidelines.

To the extent that the valuer is given information stating that a building is classified in accordance with LEED, BREEAM, Green Building, Environmental Building, the valuer must observe this to the extent that the valuer believes that the market players observe this and that the classification thus affects the market value.

The valuer must take into account the impact on the property's value of contamination, environmentally hazardous material and other environmental risks if advised of such matters by the client, or if the valuer has received such knowledge in some other way.

Rounding off the Market Value

Given the nature of property market information and the individuality of every property, there is no expectation that a particular property interest will actually sell for its valuation. This valuation uncertainty is set out in IVS/Red Book guidance and identifies various sources of this uncertainty.

It is almost impossible to establish the level of the market value with 100% accuracy. This means that when carrying out the final value assessment, the valuer must round off the value. In the context of an index it is not just the absolute value level that is important. For this purposes, the value change during the period is the most important. For this reason, for valuation for index it is recommended that the market value of each property be rounded off to an accuracy of three digits.

Content in the Valuation Report

In accordance with established Swedish practice additional details that are required for property index and financial report valuations are as follows. The following compilation refers to requirements regarding value statements for annual valuations. Where there is a more frequent valuation, six-monthly or quarterly, the requirements regarding the content of the statement might be less strict.

- Inspection day
- Name of the person who carried out the inspection
- Notes from the inspection on factors affecting the value
- Areas, residential areas and premises floor areas
- Outgoing rent and rental terms in accordance with the lease contract
- Other incomes
- Market rent for each premises and in total for the property
- Estimations of operation and maintenance costs
- Long-term vacancies
- Needs for investments/reinvestments and needs for tenant improvements that will not be reported as maintenance costs and thus do not are included in the net operating income.
- Regarding estimated investments that will increase the net operating income it must also be stated which impact on the future net operating income they will have, e.g. through increasing rental income, lower vacancy or decreasing costs.

If a DCF method has formed the basis for the value assessment, the following must also be reported

- DCF calculation including calculation of net present value
- Estimations and assumptions and assessments regarding inflation, market rent trend, cost trend
- Discount rate and exit yield
- Market information regarding rental market and investment market as justification of essential parameters such as market rent assessment, discount rate and exit yield

If a market approach/direct yield calculation is used report:

- Sales comparable
- Net operating income and direct yield requirement if applicable
- Analysis of transactions and conclusion

Operation and Maintenance

The outgoing payments that are related to the operation and maintenance of the property follow ordinary definitions. The following items are divided up during the companies' reporting in connection with the property index. However, the company's central administration is not included (see definition below).

1. Property up-keep, etc. - This item includes supervision and guarding of the property, clearing of common areas, operation monitoring, cleaning, snow clearance, waste handling, inspection costs, chimney sweeping, repairs (acute maintenance), excesses, security contracts, emergency call-outs and service contracts. Apart from wage expenses for own personnel, it also includes car expenses, local expenses and the purchase of consumables and fees to external suppliers.
2. Provision of media - heating.
3. Provision of media - miscellaneous. This item includes cooling, electricity (for the property but not businesses) and water.
4. Planned maintenance - Refers to both exterior and interior maintenance which takes place at certain intervals with intermediate periods of more than one year and which aims to restore the function of a structural part. This also includes obligatory ventilation control (OVK) inspections and measures in connection herewith.
5. Tenant improvements - For measures in the property that take place following agreement with lessees or in connection with a new lease or the renegotiation of a contract.
6. Administration - This item includes management, continuous financial administration, financial control, leasing, contact with lessees, handling of databases and contracts, technical planning and follow-up and personnel administration.
7. Insurances for the property
8. VAT that cannot be offset
9. Property tax
10. Ground rent and leaseholds

Central expenses for the company, which can be attributed to portfolio management, are not included among investment expenses that must be observed when calculating the net operating income of the properties. Central administration expenses include expenses at overall Group level for the board, the MD and personnel in other

management positions such as Head of Finance, Head of Personnel, Information Manager and expenses for the finance function.

Estimations and Conditions, DCF Calculation

The DCF calculation is based on market-related data and is performed as an investment calculation for the investor who seems the most likely. The results obtained from the DCF calculation must always be checked against different types of key ratios from the market such as direct yield and value per square metre to ensure that they are reasonable.

The DCF calculation is based on estimations of incoming and outgoing payments during the calculation period. A residual value is attributed to the property at the end of the calculation period. A present value of the anticipated future cash flow is calculated in the same way as in an investment calculation. This calculation is made without consideration of funding.

The calculation is based on terms in existing lease contracts and assessments of market rent, vacancy level and operation and maintenance expense level based on a likely investor's point of view. Discount rate and exit yield, which are assumed in the calculation, must be market-adapted. This means that analyses must also take place of market material and the turnover on the relevant submarket as well as the prevailing situation on the rental market in the location as regards vacancies and rent levels.

- The DCF calculation is performed in the nominal monetary terms.
- The calculation period should be long enough to allow the important value-bearing factors to be adapted to the market. The calculation period should normally be at least five years. A longer calculation period is applied if a larger premises lease contract runs for longer than five years, ground rent is adjusted later or if other major analysed changes or investments are expected after the five-year period.
- The commercial rent contracts are taken into account on an individual basis in the calculation. The duration is stated as monthly. Current lease terms are assumed to apply until the rent contract expires unless another development is more likely following an assessment of the lessee. After the contract has expired, it can be assumed that it will be extended on unchanged terms, premises will be leased once again to the current lessee, leased to a new lessee or will become vacant for a certain period. The most likely development forms the basis of the value assessment. The actual outgoing rent is related to the market rent.
- The concept of market rent is defined in section 3.1. If it is assumed that the contract will be extended or leased once again to the current lessee, the rent level achieved then can be expected to increase or drop compared to the rent achieved by leasing to a new lessee, depending on the market situation. If the contract has already been cancelled or if the lessee has moved early, particular attention must be paid to this when assessing future leasing and rent level.
- Assumptions regarding the rent development for each individual object (residential and commercial premises) are based on existing and expected contracts. Fundamental to future rents is the market position of each individual property and the development of the economic base at the location. The concept of market position includes an assessment of the individual object's vacancy situation in relation to that of the submarket
- The rent supplements paid by the lessee are included in the calculation even if these are based on consumption, e.g. fuel supplement, and are observed when assessing the property owner's operation and maintenance expenses. The property tax supplement is also included in the calculation and the whole of the property tax is included in the property owner's expenses.
- The same principle for gross reporting should also be applied to shopping centre facilities where rent supplements are common, e.g. for centre managers, the clearing of common areas, surveillance, advertising, etc.; on the other hand, when valuing the property, other types of servicing operation offered by the property owner, such as income and expenses for mail services and reception services for office lessees, must not be taken into account.
- Residential rent contract plus parking and garage spaces can be calculated and reported collectively.
- The vacancies for residential units and commercial premises, which indicate at the valuation date, both vacant area and economic vacancy.
- The items that are included in the property's operation and maintenance expenses are shown by Appendix 2. The payments for operation and maintenance must include VAT in cases where the VAT

cannot be offset.

- Operation and maintenance expenses must not be assessed too routinely but must be adapted to the object in terms of its age and condition. The assumptions regarding operation and maintenance expenses are made on an individual basis and must be based on an analysis of historical expenses. The maintenance expenses can vary considerably in historical terms from year to year and should reflect an average long-term level in the valuation.
- Payments for tenant improvements must regularly be taken into account in the calculation for both vacant premises and for premises that will probably become empty during the calculation period. Re-investment needs and deferred maintenance ascertained at the time of the inspection must be reflected in the calculation.
- The cash flow for property tax/municipal charges for homes and ground rent is specified in the calculation. The valuation is based on valid rules on property tax for commercial premises and industrial properties, municipal charges for homes and the attributed tax assessment values. Future change of the tax assessment values should be consistent with the assumed value development. For leasehold, a new rent must be assessed following readjustment. This rent should also be consistent with the assumed value development. If the rent is not thought to be market-related, the calculation period should be set so that it is long enough for the readjustment to take place within the calculation period.
- The present value of annual net operating income and investments and a residual value at the end of the calculation period must be calculated. This residual value is based on the net operating income year following the last calculation year.
- The discount rate on the total capital for an individual asset can be justified on the basis of a relevant, long-term bond rate with supplements for property-related risk. However, when assessing the market value, the discount rate and direct yield requirements must refer to transactions on the relevant submarket. The discount rate is assessed with regard to the property's market position. For properties with commercial premises, the risk is partly linked to the terms for the existing contracts and types of lessee. There may therefore be grounds for applying different discount rate when calculating the present value of net operating income during the current contract period and for calculating the present value of residual value.

Poland

Polish law and regulations affect the obligations of a valuer when providing a valuation service under Polish jurisdiction.

Polish law on valuation requires compliance with the following regulations in particular:

- Ordinance of the Council of Ministers of 21 September 2004 on property valuation and preparing valuation reports (Rozporządzenie w sprawie wyceny nieruchomości i sporządzania operatu szacunkowego) (Dz.U. No. 207, item 2109 of 2004 with further amendments) - hereinafter referred to as the "Ordinance";
- Professional Standard for Property Valuers: Valuation for Loan Security Purposes (Standard zawodowy rzeczoznawców majątkowych: Wycena dla zabezpieczenia wierzytelności) prepared by Polish Federation of Valuers Association (PFVA) and approved by the Ministry of Infrastructure - hereinafter referred to as the "Loan Security Standard".
- PS 1 Compliance with standards and practice statements where a written valuation is provided in the Red Book refers to RICS national association valuation standards in paragraph 5. In Poland there are local standards known as General National Valuation Principles (Krajowe Zasady Wyceny) set up by the Polish Federation of Valuers Association (PFVA) and generally adopted - hereinafter referred to as the "Local Standards". Currently the Local Standards are not approved by the regulator (The Ministry of Infrastructure) with the exception of the Loan Security Standard, which is obligatory and in principle is not in conflict with RICS standards and guidance.

RICS members must take care to ensure compliance with Polish law and approved or generally adopted Polish Local Standards when providing valuation services under Polish jurisdiction. This is recognized in the Red Book

in PS 1 paragraph 4, Compliance with other valuation standards. In short, RICS members may use Local Standards, which are not required by law provided they do not conflict with RICS standards and guidance.

The following specific guidance is given to aid RICS members when providing valuation services in Polish jurisdiction when the RICS member is obligated to comply with both the RICS Professional Standards and Polish law. In general, compliance with the Red Book will meet or exceed the requirements of Polish law. Only in the few instances noted will compliance with Polish law involve a modification of the type recognised in Red Book PS 1 paragraph 4. However, Polish law and Polish Local Standards are more specific in relation to the valuation methodology to be adopted in various circumstances or for particular asset types.

PS 1: Compliance with standards and practice statements where a written valuation is provided

The property valuation profession is regulated by Polish law as described above. Therefore, in accordance with the Property Management Act section V, article 174, point 6, and article 175 point 6, only Polish Licensed Valuers (LV) can provide valuation services and produce valuation reports in a certain format called “operat szacunkowy”.

LV are obliged to comply with all Polish regulations relating to valuation business in Poland; whereas RICS regulations (including Red Book) are obligatory for RICS members only, or those who agree to carry out valuation reports in accordance with RICS standards.

IVSC International Valuation Standards (IVS): While RICS recognises IVSC as the body responsible for International Valuation Standards, Polish law does not refer to the IVS.

Local RICS valuation standards PS 1 of Red Book refers at paragraph 5 to RICS national association valuation standards in some countries or states. In Poland, there are no such local RICS standards, although there are local standards set up by PFVA, as described above.

Value of the property should be expressed in PLN, which, if it does not give a false impression, can be rounded to the nearest thousands of PLN (Ordinance).

VPS 4: Bases of value, assumptions and special assumptions

As at February 2015, the only bases of value recognized under Polish law are as follows (Property Management Act):

- Market Value
- Depreciated Replacement Cost (Wartość Odtworzeniowa) - equating to the costs necessary to be born to reinstate or replace the property reflecting amortization/depreciation
- Cadastral Value for real estate tax purposes - value estimated in the public taxation process (powszechnej taksacji nieruchomości) outlined in the Property Management Act
- Other values if defined by other legislation

Market Value

Market Value is defined in the Property Management Act (PMA) as: “the most probable price which can be obtained on the market, estimated having regard to transaction prices based on the following assumptions: the parties to the transaction were independent, did not act under pressure and had a firm intention of concluding an agreement, the time before the transaction was sufficient for the property to be exposed on the market and for the parties to negotiate the conditions of the agreement”.

Whilst the PMA and red Book definitions are not identical, both refer to the same Market Value concept. RICS members are advised to include the two definitions in their valuation reports, with a comment that they both describe the same valuation basis (Market Value).

Market rent

Not referred to in Polish law or Local Standards

Investment value (worth)

In the Property Management Act and Ordinance estimating value for individual investors needs is mentioned, but not clearly defined. According to the law, when valuing a property for an individual investor's needs, the valuer should take into account the investor requirements and plans for further development of the property. Such estimated value can only be used as an assessment of potential use or investment in the property, and an appropriate clause should be included in the report.

In regards to the above information, estimation of individual value should be treated as Investment value (worth) according to the Red Book definition.

Fair Value

Fair Value is not defined in the Polish valuation regulations.

Valuations for inclusion in financial statements must comply with financial reporting standards adopted by the entity. If the entity follows the Accounting Act (Ustawa o rachunkowości) the basis of value will be Fair Value defined in the Accounting Act as follows:

The amount for which a given asset could be exchanged, and a liability settled in an arm's length transaction, between willing, well-informed and non-related parties.

If the entity has adopted IFRS, the basis of value will be Fair Value defined in IFRS 13:

“The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.”

It is important to recognize that the two definitions of Fair Value, although not identical, refer to the same Fair Value concept as presented in IFRS 13. Moreover, for most practical purposes the concept of Fair Value is consistent with that of Market Value as defined in RICS and IVS. Nevertheless, the valuers are advised to establish the correct definition and set it out in full in the terms of engagement and the valuation report.

Assumptions

When not referred to in Polish law and Local Standards. The valuer, as a rule, is required to check the state of the property covering the following areas (as per the Property Management Act):

- improvements and developments
- legal title
- use and condition
- existing technical infrastructure
- neighbourhood

In practice, valuers make assumptions and caveats in the reports covering issues that are usually beyond the valuation instructions (e.g. environmental issues, soil bearing capacity, restitution claims, etc.).

The Ordinance advises that in the report special caveats should be included reflecting the special conditions and circumstances. As an appendix to the report, there should be included all the relevant documents underlying the report (Ordinance).

Special Assumptions

Special assumptions are not explicitly described in the Polish law. In Loan Security Standard, however, it is mentioned that a valuer may estimate Market Value of a development project as if completed, reflecting current legal state and pricing, but assuming the condition of the property upon completion. Some guidance as to completed project value has also been presented in description of Residual method in the Ordinance (see 4.4.4). RICS members are advised to give a clear explanation if instructed by the client to provide Market Value under Special Assumptions, as it is not clearly defined by Polish law.

Mixed Approach

“Mixed” approach contains elements of comparison, income and/or cost approach (art. 152.2 of the Property Management Act and Ordinance). It recognizes three different valuation methods i.e. “residual” method, “liquidation cost” method and “estimated land indicators” method (§15 of the Ordinance).

“Residual” valuation method is applied to report the market value when the property is to be a subject of development, re-development, extension, modernization, etc. (§16.1 of the Ordinance). The value in that method is calculated as a difference between a value on completion and average development costs and developer's profit (§16.2 of the Ordinance). The method can be adopted only if the following items are met: comparison and income approaches cannot be applied due to existing circumstances, the type and scope of development is known as well as the adopted valuation elements correspond to market conditions (§16.3 of the Ordinance). The reason for an application of “residual” method requires appropriate commentary in the valuation report (§16.4 of the Ordinance).

“Liquidation cost” method is applicable when on-site constructions are designated for demolition (§17.4 of the Ordinance). The method is based on a deduction of appropriate demolition costs corresponding to on-site constructions from the land value (§17.1 of the Ordinance). Any potential benefits from the value of demolition's rubble is added on top of the value (§17.3 of the Ordinance). The reason for an application of “liquidation cost” method requires appropriate commentary in the valuation report (§17.5 of the Ordinance).

“Estimated land indicators” method is applicable to valuation of rural or forestland where comparable sales transactions are not available (§18.1 of the Ordinance). The method is based on relevant indicators presented in the Ordinance as well as the prices of rye or timber.

When adopting the residual method for valuations for secured lending “an illustration of the sensitivity of the valuation to any assumption made” has to be presented. - More detail can be found in the International Valuation Standards. However, general understating of the residual method principles based on the internationally recognized practice is in line with the Polish law guidance.

Valuation for specific purposes

Valuation for specific purposes such as right of perpetual usufruct payments, master plan changes, church properties etc. are defined by Polish law (Ordinance), but not recognized by the Red Book.

RICS members are required to follow Polish law regulations if instructed to value properties for such purposes in Poland.

VPGA 2: Valuation for secured lending

In the case of valuations for secured lending, the valuer is obliged to comply with the Loan Security Standard.

In particular, the RICS member should apply and include in the report the following:

- Market Value as the basis of value. In cases where different values to Market Value are presented in the valuation report (operat szacunkowy), they should be clearly defined and highlighted to avoid any misinterpretation – and identified as a departure from the Red Book (unless a basis of value recognised by the Red Book, or mandatory in the Polish jurisdiction).
- A valuation report, which was prepared for financial reporting, cannot be used for secured lending.
- Valuers preparing valuations should apply the guidelines for the valuation of the particular lending institution, in addition to the requirements of the Red Book. In cases where the lending institution’s guidelines are not applied, valuer should highlight this in the valuation report and explain the reasons.
- For commercial properties, the valuer should comment on the suitability of the property as security for mortgage purposes, in addition to any other circumstances of which the valuer is aware that could adversely affect the possibility of obtaining mortgage collateral on the property.
- The valuer should comment on risk areas, which are identified and anticipated in a particular, market, as well as with the property, and evaluate their effect on the property price in the foreseeable future. These must also be drawn to the attention of the lender in the form of an Appendix to the valuation report.
- Where appropriate, the valuer should provide additional evaluation of the lending risk – for example, sensitivity analysis can be prepared as an additional assignment to the valuation report and presented in the attachment.
- The following particular requirements are to be regarded:
- Valuation of Investment property in the portfolio. Each property in the portfolio should be valued as a single asset. In addition, the valuer can be asked to provide his or her opinion under the assumption that property is transacted as part of a portfolio.
- Vacant possession valuations should be prepared in the case of owner-occupied properties, and all other profits of the current property owner connected with the particular business activity that is being run by the property owner should be disregarded.
- Valuation of properties under construction and development:
 - Existing or potential and possible planning and building consents should be regarded;
 - Special assumptions concerning possible future development (HBU) should be agreed with the lender prior to the valuation;
 - The property should be valued as at the valuation date, in the current market conditions and stage of development. Where the property is to be valued under the special assumption that construction and development of the property is completed, the current market conditions should be adopted. [NOTE: Hope this helps!]
 - Upon request of the lender, the valuer should present his opinion concerning required development budget for completion of the development, based on underlying documentation provided by the lender or investor. [NOTE: The valuation report must clearly set out all the assumptions that the valuer has made – including the development costs. This paragraph needs re-wording, to make this clear]

8.2 Minutes Expert Meetings: Reference Deliverable1.1 Appendix Folder

- Expert Session: London, October 8, 2015
- DE Expert Interview: BASF Wohnen + Bauen, December 18, 2015
- DE Expert Interview: Rhineland Pfalz Region, February 8, 2016
- Expert Session: Amstelveen, The Netherlands, February 11, 2016
- DE Expert Interview: City of Speyer, February 17, 2016
- DE Expert Interview: Volksbank Speyer, February 17, 2016
- DE Expert Interview: Ludwigshafen, February 18, 2016
- DE Expert Interview: City of Ludwigshafen, March 3, 2016

REVALUE: UK Expert session, London, October 8, 2015

To : ReValue Consortium partners
From : Bax & Willems Consulting Venturing
Date : 2015-10-08
Code : REV009RB
Status : For review (after OK, formatting & publication)

Meeting Notes Summary

Attendees

Name	Organisation
James Ginley	Legal & General Surveyors
P. Parnell	Deloitte
Andrew Savage	Broadland Group
Elanor Warwick	Affinity Sutton
Jessica Pilz	Royal Bank of Scotland
Alexandra Willey	Affinity Sutton
Clive Rowland	Rickaby Thompson
Gordon Callaway	Callaway Energy Consulting
Peter Rickaby	Rickaby Thompson
Derek Watters	Places For People
Jeff Driscoll	Newlon Housing Trust
Adrian Spellman	Catalyst Housing Group
Nichola Hughes	Greater London Council
Karen Klomp	Greater London Council

Background

The central aim of the REVALUE project is to lead evidence-based development of appraisal guidelines for energy efficiency in social and private residential real estate. This would allow landlords to make value-driven investments both within buildings as well as within the building stock.

To goal of the UK, expert session is for practitioners to reflect on the approach, discuss practical issues and explore solutions for bottlenecks.

Sarah Sayce

Assumptions

- Retrofit to improve EE faces barriers and sometimes difficult to identify
- Not necessarily into 'reportable' value change

- 3rd
- Assumptions agreed with

Topic 1: How do investor landlords determine their expected ROI and value for money?

- Is Energy Efficiency a need to have, for which a different 'hurdle rate' is imposed?
- How do landlords decide which type of technology will provide best 'value for money'?
- What are the financial barriers to investment?
- What strategies (if any) do they employ to justify investment?

Summary: Energy renovation in the social housing sector is targeted at bringing stock up to compliance. The strategic approach to bring own funds and opportunistically improve dwellings, which the aspiration to reach level C. Added capital value is less or not relevant then wellbeing and reducing fuel poverty – which helps in getting rent paid. There is however limited evidence for that.

The main justification for energy efficiency upgrading existing housing is to provide a 'decent home', which is mostly based on meeting minimum standards set by regulation. The London RENEW programme surveyed 140 organisations, of which 70% confirm fuel poverty and health are main drivers to renovate. The most ambitious housing associations have budgeted a renovation of the full stock to EPC quality C by 2020, most however have no specific targets.

The typical interventions are double glazing and external wall insulation. This leads to quality close to 'decent home' standards, possibly label C. Investments in renewables are assessed differently, mostly for example by looking at the long-term viability of a community. Landlords in the private sector do recognise that some physical attributes add more value to users, especially the windows and boiler. Still, this should not be overweight as location remains key.

Value of a refurbished home does may not necessarily increase; in some cases it erodes value of stock that has not been refurbished. For existing housing, renovation has no impact on arrears (there does seem to be data showing a correlation for new building in the north of England).

Because of the rent cap in England, almost no value can be captured after an investment. Renovations, especially major renovations, are therefore financed mostly through an organisation's surpluses or by selling stock. Renovation programmes are mostly opportunistic; piece-by-piece renovation when a home is vacant, or when subsidy is available. Scaling up is difficult. In some cases service charges could be applied for minor improvements like LED lighting, but the impact is limited.

Current policy changes like the right to buy and the proposed 1% rent cut for social housing are expected to have a mostly negative impact on investments in energy efficiency. For most landlords, the right to buy and forced discounts reduces willingness to invest, while others argue it is a way to capture value. The rent cut however has a clear result that organisation's financial surpluses will be reduced, for some by up to 25%. This significantly impacts capacity to go beyond typical maintenance. Other ways to recover investments are limited.

Topic 2: Would a revision of appraisal norms require more explicitly Energy efficiency?

- Is valuation guidance sufficient to ensure energy efficiency is picked up through due diligence?
- Are clients asking sufficiently probing questions to ensure this is happening?
- Is the data there and available?
- Any other barriers to energy efficiency being included in the report?
- What are valuers actually doing?

Summary: It is difficult to appraise energy efficiency and inform investment decisions as data is generally not available and there is to date little evidence on impact to investors. Better guidance could support due diligence. In social and private housing, non-financial reporting and financial reporting are getting closer, allowing assessing worth rather than value.

In most valuation reports, sustainability is mentioned, usually in a very standard set of wording, usually a number of caveats. Users confirm not to check that segment of the report.

This however is mostly seen as a consequence of the fact that investors have not yet behaved as if there is value in energy efficiency. An investor or lender would change guidance and clearly define what to value if energy performance would have an impact on cash flow. This could be driven by properties not meeting standards, or the expectation that for certain qualities there will be no market some years from now. Then energy efficiency would become part of due diligence.

The current global guidance is seen as too much a compromise, a more qualitative view would be helpful for valuers. The key information used is EPC, but it has no monetary value associated to it. It would require a different skills set and more effort to go beyond face value. For investor or lenders purpose it could be formatted differently, for example to show financial impact, and to show figures over a property's lifetime instead of a yearly basis.

The availability of information however is poor, and there are many uncertainties. For individual technologies, some figures are available of financial returns. Sources of data need to be trusted and readily available. There is no easy way of assessing a building from that perspective. In addition, there now is a big performance gap between designed energy performance and actual energy consumption. In addition, the behaviour of tenants and external factors such as future energy prices make impact assessment hard to do.

Getting data on energy consumption for social housing is a difficult task. Associations do not get data and need to ask tenants individually. Privacy concerns mean that current schemes are small, limited to a few dozen homes, and often linked to specific projects where smart meters are installed. And it often requires offering tenants discounts on their bill.

Topic 3: Lending criteria

- Are lenders asking specifically for energy data when giving loans? If so how are they feeding this into their loan criteria?
- If not: are they aware of RICS Red Book requirements?
- Do lenders see any link between energy efficiency and the ability to repay loans?
- Do lenders see a link between energy efficiency and value? If so how is this manifesting?

Summary: Lenders do not yet incorporate energy data in lending criteria, but change is going to come. In the commercial real estate sector having EPC data and energy management plans is seen in combination with reduced risk of default; is perceived be linked with good asset management.

Some major banks are exploring to set up frameworks for incorporating environmental risk into lending framework. This however mostly focuses on commercial real estate. The US Green building council starts to recognise a market differential in defaults, between 20-30%. But while green buildings used to be premium, they now become best practice, with F-G labelled buildings left behind.

Use of energy data is used in assessments based on the size of the loan. Currently, EPC data need to be disclosed. It could be an option to require energy compliance plans. This, the driver is often the borrower rather than object. The revenue streams and cash flow risk is most relevant, CAPEX is analysed from a security point of view.

This is also true for housing organisations. When transferring stock between them, availability of EPC data is seen as an indicator of good asset management. A recent deal in the private rented sector however got through partially because of energy efficiency aspects. Market uptake is going to come.

REVALUE: DE Expert Session, Rhineland Pfalz Region, February 8, 2016

To : ReValue Consortium Partners
From : LUWOGÉ consult
Date : 2016-02-08
Status : For Deliverable 1.1

Chapter 9

For REVALUE project partners

This final document will be part of the appendix of WP1.1. It is also part of the summary of expert interviews with in WP1.1.

Attendees

Name	Organisation
Mr. Klaus Theuer	The Rhineland Pfalz
Mr. Peter Hildenbrand	LUWOGÉ consult
Mr. Friedrich Reuter	LUWOGÉ consult
Ms. Jill Spaeh	LUWOGÉ consult

Background

LUWOGÉ consult is conducting a series of interviews with specialist involved in the valuations, brokering, financing and procurement of housing projects throughout the Rhineland Pfalz.

Mr. Klaus Theuer is a Valuation Expert overseeing the valuations performed throughout the Rhineland Pfalz region.

The goal of the interviews is to learn from and use this information in forming the ReValue strategies.

Q 1. Currently, consideration is given to energy efficiency strategies in the preliminary valuation proceedings. Does one assume that this is enough?

A 1. Energy Efficient strategies and measures holds a rather subordinated role, background role in relationship to the other assessment subjects.

Q 2. How can the aspect of the energy efficiency and building longevity be made more important to the consumer/renter when they are considering renting an apartment?

A 1. The topic rarely comes up with the consumer, there is a basic knowledge regarding the topic of EE, but no lasting understanding.

Q 3. How does one regard the effect of an ecological rent price?

A 1. Rent prices are not free from political influence or control. They presently often fall behind the actual rise in development. There are continued juridical discussions regarding the clarification of the legality of the local-customary comparable rent setting procedures and it is observed with strong interest.
 A 2. The obligation to implement the 'set rent limits' lies with the responsibility of the local authority district; the smaller local authority districts often do not have any rent limits.
 A 3. By the installation of a 'set rent limit' good market data is often absent, because rents are not raised systematically.

Q 4. How is the rate of the typical set rent price estimated?



A 1. The present cost situation is 6€/m² on most existing buildings in our area. The possibility to raise rents with a new building or if EE modernizations are done is very limited because tenants cannot often afford the higher rents necessary with the new and renovated buildings (at least on the present living space per user).

Q 5. Do you think there is enough market transparency regarding EE information to the consumer?

A 1. Energy Performance Certificate (EPC) and energy efficient strategies are low on the list of priorities for buyer's (and is also the same for rental tenants). Location is usually the top priority. If there is positive information regarding the EPCs and/or the energy efficiency of a building, then buyers/renters are in agreement that this information should not be delivered by the seller, rather a 3rd party should provide the information.

Q 6. Are there particular EE measures which are supported financially by the market?

A 1. Modern heating systems are supported by the market. Nevertheless, insulation to improve an existing or even a new heating system is often still "suspicious", due to the lack of knowledge of the users.

Q 7. How is the local property market positioned in regard to current mechanical equipment and EE of buildings?

A 1. There still exist buildings with very poor EE, e.g., residential buildings with single glaze windows. For many of these very inefficient buildings, there is still demand because demand exceeds supply. There are also areas, (e.g., in the Westpfalz) where many buildings are unoccupied.

A2. Preservation of historic buildings is very important and often deemed more important than EE upgrades. EE upgrades cannot jeopardize the historical character of the building.

A3. Renovation work often is put off until the latest possible time, and then only the absolutely necessary improvements are done.

Q 8. Which possibilities are seen within the scope of the earning power procedure (i.e., rise of the yields, rental incomes)

A 1. Tenants orientate themselves by the whole rent (cold rent plus additional costs including power demand) nevertheless, energy efficiency is considered a "luxury topic".

A 2. Older people often live in flats which are too large and cannot bear the costs of high-quality energy efficient modernizations. Smaller flats, are hard to find and expensive. Also the people would rather be able to remain in the same social sphere, therefore, technical and aesthetic aging of the flat is accepted even if comfort is compromised.

Q 9. Is there a consideration of EE in properties, regarding the increased financial risk for non-efficient buildings and the possibility of a risk reduction for efficient and lasting buildings?

A1. The calculated interest is an empiric value. EE is illustrated in it accordingly to regulatory regulations, therefore these types of topics are not considered.

Q 10. The present juridical possibilities for the rise of rent refer to a modernization reallocation of 11% (with disregard to other restrictions). Would it make sense, to consider the possibility of including the heating costs in the base rent price as another way to encourage energy efficient modernizations?

A1. No probably not because the market participants often still lack enough understanding of the benefits of energy efficient upgrades.

A2. Furthermore; energy costs have less impact, because one can save on energy cost simply by restricting consumption. With a cold rent model there are no savings possibilities, with the exception of changing to a smaller flat.

Q11. Which possibilities are seen within the scope of a comparative value procedure?

-Earning power factors and the consideration of Energy Efficiency?

-Regulation of Multi-regression analyses and surcharge factors for certain energy efficiency levels?

A1. Often the inquiry of comparative factors for relatively similar freehold flats has problems. In the retail price, special aspects are reflected (situation factors, such as the availability of parking places, construction age, equipment). „Comparative value procedure fails even with freehold flats. “

A2. When additional factors are added to get a better look at EE, it is difficult or statistically not supported.

A3. For non-modernized buildings the cost to do the work for the EE modernizations can, at times, be negotiated in order to reduce the sales price. This then can reduce the overall local market house values and can have the following effect: When the costs are credited/factored in in a "down" market against future necessary modernizations to 100% of the retail price, then in a "good" market this factor amounts to approx. 70%.

Expert session the Netherlands Amstelveen, February 11th, 2016



Background

The aim of the REVALUE project is to lead evidence-based development of valuation guidelines for reflecting energy efficiency in social and private residential real estate. This would allow landlords to make value-driven investments both within individual properties as well as within their entire portfolio.

The purpose of the expert session was for practitioners to reflect on their approach to investment decisions, to discuss practical issues and to explore solutions to barriers to investment in energy efficient solutions in the field of residential properties, in particular the social housing sector.

Attendees

Name	Organisation
Waarborgfonds Sociale Woningbouw	Joeki Brons
Waarborgfonds Sociale Woningbouw	Martijn Kumeling
De Alliantie	Grietje Doevendans
Mitros	Walter de Vette
GRESB	Sara Kelly Anzinger
Savills Amsterdam	Ingrid Schipper - Griekspoor
Haagwonen	Ria Koppen
FGH Bank	Pieter Zwart
W/E adviseurs	Geurt Donze
Energiesprong	Ivo Opstelten
ABN Amro	Olaf Rutten

Introduction

Facilitator Sarah Sayce set the scene in terms of the topics for discussion, based on the following underlying assumptions:

- Retrofit to improve energy efficiency is difficult to justify and faces barriers in the absence of grant aid
- Where energy efficiency retrofits are undertaken it does not necessarily link through to positive reportable value change
- Even with new stock, (lack of) value differentiation may be a barrier to enhanced energy efficient design

▪ Topic 1: How do investor landlords determine their expected ROI and value for money?

Participants were asked a series of sub-questions to stimulate a discussion on how and on what grounds landlords currently make decisions to undertake energy efficiency upgrade works. These were

- Is Energy Efficiency a need to have, for which a different 'hurdle rate' is imposed?
- How do landlords decide which type of technology will provide best 'value for money'?
- What are the financial barriers to investment?
- What strategies (if any) do they employ to justify investment?

The discussion focused on the following key areas and can be summarised as:

▪ **Rationale and Ambition:**

The social housing sector in the Netherlands is very large – covering about 35% of the total residential building stock – and heavily regulated. The vast majority of Dutch social housing providers is part of a national guarantee fund backed by the state, financing is provided mostly by non-commercial banks. Rents are capped through a points-based system in which energy efficiency has a minor weight. New regulation would allow charging additional fees for near-zero energy buildings.

Based on agreements between the social housing sector and the government, retrofits for energy efficiency improvements are targeted at bringing average stock quality up towards an average of EPC

1,25 (comparable to label B/C, from current C/D) by 2030.

The principal motivation to undertake work is not any potential additional capital value, but to drive improved comfort and well-being of tenants and to contribute to overall societal sustainability objectives. Generally, the sector follows government regulation or incentives in determining its approach to energy efficiency.

Very few housing associations have planned and budgeted for renovating full stock to those objectives, or integrated the energy objectives into a long-term investment strategy. Most investments are based on individual assessment of possibilities of those housing complexes included in short-term renovation plans.

In absence of strict minimum quality requirements, investments are determined balancing regulatory requirements and own sustainability aspirations. The investments are usually higher than the amounts they are expected to be recoverable through increased rents, increases of which are capped at dwelling level, but as well as organisational level. Additional investments are considered loss-giving.

Most housing associations aim reaching energy label B in typical renovations, while several housing associations experiment at a small scale with approaches like EnergieSprong (EnergyLeap) that aim at reaching zero energy.

▪ **Types of Intervention**

The typical interventions include double glazing, external wall insulation, change of heating system, and often change of roof insulation. This normally is sufficient to upgrade a label C or B. Typically, interventions are not only determined from an energetic perspective, but from a more holistic approach taking comfort and health into account.

▪ **Current Perceptions of Relationship between Capex and Market Value**

Homes are valued at 'occupied state' and, since 2016, at market value. As there are only a very limited number of transactions to either individuals or institutional investors, or other social housing providers, that appraised value is considered to be highly indicative.

It is unclear how the comparative market value – which thus is based on privately owned homes will influence valuation and investment decisions.

For social housing providers, there is a clear *inability* to witness a market-determined increase in value due to a rent cap and other social objectives; this means that limited value can be captured after an investment, based on rent increase – the case must be on other societal benefits. Bringing stock up to date, comfort/health objectives and sustainability objectives are frequently mentioned as main drivers for capital expenditure.

▪ **Financing Retrofit**

Availability of financing is not an issue in the Dutch system of public guarantees and not-for-profit financing. Less than 5% of financing originates from outside this system.

The strategic approach for many owners is opportunistic, financing renovation up to levels perceived to be acceptable levels of loss. Limitations are the dwelling-level rent increases, which are very limited when a unit is occupied, but allows for significant increases when changing tenants. A recent policy limiting an association's portfolio-wide rent increases to inflation + 1% further limits the number of renovations that can be carried out, as well as highly ambitious renovations.

More ambitious renovations, such as the EnergieSprong approach, are not widely regarded as viable or desirable for the social market segment. The additional fee for NZEB buildings could improve the cash flow, but is contrary to the social objectives of the housing providers. More explicit governmental support through changed regulation (minimum quality standards or increasing rent caps) is seen as necessary.

▪ **Topic 2: Would a revision of appraisal norms require more explicitly Energy Efficiency?**

Participants were then asked a series of sub-questions to stimulate a discussion on the role of valuation standards and the value in supporting investment in energy efficiency, by explicitly recognising this in the valuation process. These were

- Is valuation guidance sufficient to ensure energy efficiency is picked up through due diligence?
- Are clients asking sufficiently probing questions to ensure this is happening?
- Are data in existence and available?
- Any other barriers to energy efficiency being included in the report?
- What are valuers actually doing?
- Does energy efficiency reflect in values and if so how?

The discussion focused on the following key areas and can be summarised as:

▪ ***Data accessibility and reliability***

Energy labels are widely implemented, and asset databases typically have a reasonably good description of components within a dwelling. Energy consumption data are generally not available. It is therefore relatively easy to assess the calculated quality of a building, but difficult to assess the actual levels. These were viewed as significant barriers to assess value change and to inform investment decisions.

One reason why obtaining data on energy consumption for housing is a difficult task is because the tenant is the bill payer. Associations do not automatically have access to billing and consumption data and need to ask tenants individually. Privacy concerns mean that currently housing schemes where landlords have access to this data are very limited and are normally linked to specific projects where smart meters are installed.

▪ ***The Role of Professional Guidance and Reporting***

The current guidance is contained in the RICS 'Red Book' standards. This prescribes a level of due diligence to be undertaken by valuers which includes a duty to consider energy efficiency and other sustainability data 'where available'.

The group indicated training was provided, but acknowledged that valuers typically have a background in finance, but not in technology or energy. Actual understanding of component's contribution to energy efficiency or the cost involved in improving efficiency to certain levels is limited. Valuing a building therefore takes place mostly on 'gut feeling' for added value in comparison with building with lower energy quality.

Currently the key metric used is the energy label, but no monetary figure is associated with it: it is simply used as a qualitative measure. In the absence of increased professionally imposed duties, investor or lender instruction would be the trigger to better quantify energy efficiency.

▪ **Topic 3: Lending criteria**

Finally participants were asked a series of sub-questions to stimulate a discussion on the role of valuation standards and the value in supporting investment in energy efficiency, by explicitly recognising this in the valuation process.

- Are lenders asking specifically for energy data when giving loans? If so how are they feeding this into their loan criteria?
- If not: are they aware of the RICS Red Book requirements?
- Do lenders see any link between energy efficiency and the ability to repay loans?
- Do lenders see a link between energy efficiency and value? If so how is this manifesting?

The discussion focused on the following key areas and can be summarised as:

▪ ***Lender Requirements***

Lending to social housing providers is based on backing by through the guarantee fund system and does not take into account energy data. Current financing request typically do not reach limits set by the system and more ambitious energy investment would typically be guaranteed.

Major lenders to the private sector track energy data (the energy label) for all dwellings in their portfolio. While the information is not incorporated fully in risk analysis models, it is however taken into account when providing loans. Various banks provide minor discounts on their rates for 'energy efficient homes'. A correlation with reduced risk of borrower default is seen, and a less risky position in case of default. No change in loan-to-value is mentioned.

▪ Overall Summary

1. Social housing owners normally undertake energy efficiency upgrades where there is a natural moment in the maintenance cycle to do so. Vanguard organisations have strategic upgrade plans, most determine investments on a case-by-case basis. Capital is readily available through the government-backed guarantee and financing system.
2. The rationale and motivation for social landlords to upgrade is driven primarily by a need to maintain an 'up to date' stock, the desire to contribute to comfort/wellbeing of tenants and a sustainable society. Fuel poverty is not a major issue.
3. An increase in Market Value as a result of investment works is not yet a driver. A recently introduced requirement to value at market prices has not yet lead to a change in investment strategies. The presence of rent caps in the social sector makes translation from CAPEX to added MV virtually impossible.
4. Cash flow analysis may provide a case for added 'worth', and novel rules reducing the split incentive provide possible additional income streams.
5. In a tightly controlled market, data availability and reliability make cashflow predictions fairly straightforward.
6. The role of the professional body in providing guidance and education to valuers could be strengthened, particularly in the area of due diligence and this might help to accelerate change.
7. In this controlled market, the role of regulators is critical in setting investment policies. While financing is not an issue, the strict limitation on rents means market mechanisms and market value will have limited relevance.

REVALUE: DE Expert Interview: Speyer, February 17, 2016

To : ReValue Consortium Partners
From : LUWOG CONSULT
Date : 2016-02-17
Status : For Deliverable 1.1

Chapter 10

For REVALUE project partners

This final document will be part of the appendix of WP1.1. It is also part of the summary of expert interviews within WP1.1.

Attendees

Name	Organisation
Ms. Mittmann	Climate Protection Manager, City of Speyer
Mr. Peter Hildenbrand	LUWOG CONSULT
Mr. Friedrich Reuter	LUWOG CONSULT

Background

LUWOG CONSULT is conducting a series of interviews with specialist involved in the valuations, brokering, financing and procurement of housing projects throughout The Rhineland Pfalz.

Ms. Mittmann is the Climate Protection Manager for the City of Speyer. The general topic of questions is regarding the energy efficiency of buildings.

The goal of the interviews is to learn from and use this information in forming the ReValue strategies⁸⁸.

Q1. Which topics regarding energy efficiency and balanced CO₂ in buildings come from the municipal climate protection politics of the city of Speyer?

A1. This subject is, in general, of great importance. The four main areas are industry, education, private households, and building life span. These were defined and the associated packages of measures were developed.

Q2. How are EE modernizations regarded within the local building life spans?

A 1. Concerning the worthiness of the EE improvements, in Speyer there are two different age groups, historical and non-historical buildings.

A2. With the non-historical buildings there are less concerns regarding the EE improvements. With historical buildings one must concentrate on the priority of the preservation of the buildings.

Q3. Within the scope of the climate protection politics, how is renewable energy evaluated?

A1. From the municipal side renewable energy is distinguished between off site heating sources and on site heating sources. In order to offset the relatively high removal costs and high connection rates, using renewable energy is often coupled with other infrastructural measures to help hold costs down. Furthermore, it is aimed that to use the district renewable energy, new building area plans are planned to have the connection as part of the infrastructure, with both off and on site renewable energy use as 100% of the heating.

⁸⁸ One clarification within the scope of the interview is that the projects focus is on a residential building's life span. The use of the concepts real estate or buildings refers to the essentials of the building with a kind of utilisation "Living" and to existing buildings.

A2. The main power station in Mannheim⁸⁹ has risen in importance in the course of the "energy turn"⁹⁰ giving more prominence to district heating from KWK .

Q4. Which other measures for the improvements of the energy efficiency are pursued within the scope of the municipal politics?

A1. To enact specific standards for area land-use plays an essential role. In addition, the energy efficiency and the building life expectancy should be increased by these measures. This includes among other things, aspects like the building upgrades, the connection with energy systems, rainwater use as well as measures of the flood control.

Q5. How important is the topic of EE within the scope of looking for real estate?

A1. The value is strongly dependent on respective clientele, for upscale real estate the topic of EE and longevity of the building is of greater importance.

Q6. How is the effect of an ecological set rent limit estimated? Does enough high market transparency exist to create an inquiry into the differentiation between real estate with EE strategies and those that do not have any?

A1. The set rent limit of the city of Speyer is a strong element. The rent cap considers the EE of the respective building. Also, considered in the criterion is equipment.

A2. The logic that the EE measures will be financed by higher cold rent in connection with lower additional costs for the purposes of a third-party calculated warm rent is understood. In addition, a higher comfort is often also achieved after the conversion to EE measures.

A3. The widely compulsory energy performance certificate (EPC) is not always properly understood by the tenant. In particular a better linking with the rent-conditioned additional costs seems sensible. The quality of the EPC is not guaranteed, because there is no official control over this.

Q7. Which obstacles do the municipal find when EE measures are being undertaken?

A1. Some of the obstacles are inherent in the respective proprietary structure. In particular, older home owners have an interest EE. However, on account of the present amortisation duration and the high costs to do a comprehensive EE upgrade, most live with the way things are. Nevertheless, new acquirers of real estate show a bigger readiness for the realisation of comprehensive EE modernisations..

A2. Older tenants often live in large flats and have a strong social network. An improvement of the EE, and also making the residence barrier free can be reached by means of compression and high-end improvement of the living space, rather than by moving to smaller flats. To add a bonus, the town does not dispose immediately of the inexpensive smaller old-appropriate flats.

Q.8 How are EE improvements tracked? How can EE improvements of the building be continually reached and monitored?

A1. The modernisation rate is estimated as rather good. For social housing, phased modernisations of the building are continually prescribed. The subject of the EE-Modernisierungs can be promoted by an improved financier who makes affordability stronger.

⁸⁹ Ordered around a very highly competitive district heating history.

⁹⁰ Stands for a turning away from non-lasting energy use (i.e. in Germany, nuclear)

REVALUE: DE Expert Interview: Volksbank Speyer, February 17, 2016

To : ReValue Consortium Partners
From : LUWOG CONSULT
Date : 2016-02-17
Status : For Deliverable 1.1

Chapter 11

For REVALUE project partners

This final document will be part of the appendix of WP1.1. It is also part of the summary of expert interviews within WP1.1.

Attendees

Name	Organisation
Mr. Andreas Kabs	Volksbank Speyer
Mr. Heribert Hofmann	Volksbank Speyer
Ms. Andrea Straube	Volksbank Speyer
Mr. Peter Hildenbrand	LUWOG CONSULT
Mr. Friedrich Reuter	LUWOG CONSULT
Ms. Jill Spaeh	LUWOG CONSULT

Background

LUWOG CONSULT is conducting a series of interviews with specialist involved in the valuations, brokering, financing and procurement of housing projects throughout The Rhineland Pfalz.

Mr. Kabs is the Regional Director of Volksbank. Mr. Hofmann is Senior Director and the Head of Real Estate Sales for Volksbank. Ms. Straube is a Real Estate Advisor.

The goal of the interviews is to learn from and use this information in forming the ReValue strategies.

Q1. How is the meaning of building energy efficiency estimated in the financing process?

A1. The building energy efficiency is rather important for tenants, because improvements are carried out, with no financial investment of their own.

A2. For the owners own use, real estate is bought/sold due to economic measures. These measures also work to increase the property value; however, a delta exists between the capital costs of the measures (material value) and the market value. This difference is dependent on the respective local market, the situation, etc.

A3. For different types of buildings and sites, the market view has expectations that an adequate level of EE strategies exists.

A4. Förderprogramme⁹¹ of the KfW⁹² are attached to suitable demands for the energy efficiency goals. These improvements are enough to reach a suitable level of the energy efficiency.

Q2. How are Energy Performance Certificates (EPC)⁹³ estimated?

⁹¹ Aid programmes for EE of the KfW are granted among other things as direct capital cost subsidies or as interest-improved advances of the KfW which are made available by private banks

⁹² German reconstruction loan corporation

A1. EPC's as a rule, are normally asked about and enclosed in the final estimate of the property.

A2. Customers understand that the EPC is related to the building's energy efficiency, and possibly what the correlating color of the EPC means. However, whether this color is has an effect on the appraisal or value of the building is unclear and seldom asked about.

Q3. Can an order of rank be given to the various value drivers?

A1. The location of the real estate is the biggest value driver. Further down on the list is where the EE state of the building comes up.

Q4. Which roles does the topic of the buildings-EE play within the granting of financial credit?

A1. EPC's are considered in the scope of financing, and vary according to the other criteria which are also being considered. The other criteria such as the assessment of the capital service ability and regulation of the extent of the building's useful life (in regards to surcharges and reductions). One assumes from the fact that future energy prices will increase again, they are included in the additional costs in the calculations of the load-carrying capacity of the financing expenses.

A2. Variations of market energy prices unnerve and shift the incentive. Presently, the trend towards the sales of oil heating is again on the rise.

A3. KfW advances: The lower political interests stem from falling application figures, presumably on account of high EE standards. This is also linked to high capital and bureaucracy costs.

Q5. Real estate assessment: Comparative value or earning power procedures: Which possibilities are seen to improve the picture of EE within the scope of the appraisal procedure? (e. g. , comparative factors for EE, lengthening of the building life span, stronger transparency with regard to energy efficiency)

A1. The different sides of the financing establishments would compare factors for EE, determining what is sensible. However, location and building scale would be dominating factors in conjunction with the current market trends.

A2. Lengthening the duration of the remaining service life of the building by modernisations and link it to EE modernisations are judged as sensible and already occurs, nevertheless, is still expandable

REVALUE: DE Expert Interview: Ludwigshafen, February 18, 2016

To : ReValue Consortium Partners
From : LUWOG CONSULT
Date : 2016-02-18
Status : For Deliverable 1.1

Chapter 12

For REVALUE project partners

This final document will be part of the appendix of WP1.1. It is also part of the summary of expert interviews within WP1.1.

Attendees

Name	Organisation
Mr. Klinger-Vogt	Valuation Expert, Broker: Rhineland Pfalz
Mr. Peter Hildenbrand	LUWOG CONSULT
Mr. Friedrich Reuter	LUWOG CONSULT
Ms. Jill Spaeh	LUWOG CONSULT

Background

LUWOG CONSULT is conducting a series of interviews with specialist involved in the valuations, brokering, financing and procurement of housing projects throughout the Rhineland Pfalz.

Mr. Klinger-Vogt is a real estate agent and expert for real estate assessment in Ludwigshafen, Germany. He also provides the regional rent index for commercial properties.

The goal of the interviews is to learn from and use this information in forming the ReValue strategies.

Q 1. What goals are set for energy efficient modernizations and what challenges exist?

A 1. Demography:

Among other things there are demographic obstacles. Older owners ask themselves how quickly they will be able to recoup on their investment. If they needed to sell, would the EE modernizations become obsolete on account of the age of the building and would further renovations need to be done. In this scenario, they feel the costs for the modernizations would not be reflected in the selling price. The younger generation, which is the larger group of buyers, is typically looking for new design ideas and more modern layouts as well as larger living spaces.

A 2. Hazardous Materials:

Another obstacle for the conversion of EE modernizations is the risk of existing hazardous materials (e. g. , asbestos, PCB, lead, etc.). Particularly in buildings from 1960 to 1970. Abatement and/or encapsulation must be done along with the EE modernizations, leaving the building healthier and safer to live in than previously, however adding additional expenses to the modernizations.

A 3. Ownership of the building and owner's organizations: Energy efficiency measures can be blocked because of split ownership of connected structures and in larger apartment complexes, single owners. Depending on the situation even windows in the communal property cannot be upgraded without a majority decision. Sometimes financial constraints of individual owners prevent sustainable measures from being carried out.

A 4. Capital strength and occupants:

The realization of EE measures is strongly dependent on the financial strength of the owners. If there is no secure financing, then rarely will EE measures be realized,

particularly measures with longer pay-off periods.

A 5. Architectural Modifications:

The architectural modifications linked with EE modernizations are limited if the work is to be done while the building is inhabited. Therefore, it is often aimed, to do the modernization measures only when the building is unoccupied. When this is not possible EE modernizations are often delayed.

Q 2. How is the topic of energy efficient buildings defined by the local property owners?

A1. There exist very different perceptions, investors look at EE as an additional value, or added quality. This real estate often generates a higher rent level and serves as a long-term investment.

However, typical owners of smaller MFH reduce refurbishments to the most necessary and avoid investments with long amortization duration.

Q 3. How are EE components, in rental properties perceived by tenants? By owners?

A 1. Tenants will typically calculate the total gross costs of the apartment they are renting. However, uncertainties and lack of clarity often exist regarding the additional costs and benefits between the landlord and the tenant. In this regard, it can often lead to civil disputes between landlords and tenants. The energy performance certificate could possibly help provide clarifications in these situations.

Q4. Is there enough transparency in the real-estate market to differentiate between the benefits of properties with energy-efficient measures verses those without?

A1. No, not really as it is not typically requested. There are many factors which the majority of tenants consider, before considering EE. In order of rank, they are as follows:

1. Location (City/town, location within the city/town)
2. Architecture and interior plan
3. Surroundings
4. Access to parking
5. State of the area in general
6. Energy Efficiency

Q5. Comparative Value Procedures:

What possibilities are seen within the scope of a comparative value procedure?

* regulation of multinational-regression analyses and surcharge factors for certain energy efficiency levels?

A 1. A committee of experts receive copies of all bills for the sale of accredited real estate transactions. In the process of a real estate transaction an energy performance certificate(EPC) is theoretically included. However, what happens more regularly is that buyers renounce in the agreement, the acknowledgement of the EPC. The bill of sale contains no detailed information for the building, except the purchase price, location, plot area and size. There would have to be an additional questionnaire and database, that theoretically, could compare factors for energy efficient improvements or components.

REVALUE: DE Expert Interview, City of Ludwigshafen, March 3, 2016

To : ReValue Consortium Partners
From : LUWOG CONSULT
Date : 2016-03-03
Status : For Deliverable 1.1

For REVALUE project partners

This final document will be part of the appendix of WP1.1. It is also part of the summary of expert interviews within WP1.1.

Attendees

Name	Organisation
Prof. Alexander	City of Ludwigshafen
Mr. Adam	City of Ludwigshafen
Mr. Weirk	City of Ludwigshafen
Mr. Peter Hildenbrand	LUWOG CONSULT
Ms. Jill Spaeh	LUWOG CONSULT

Background

LUWOG CONSULT is conducting a series of interviews with specialist involved in the valuations, brokering, financing and procurement of housing projects throughout the Rhineland Pfalz.

Prof. Alexander is a Professor of Valuation Studies and energy consultant for the city of Ludwigshafen. Mr. Adam is the Director of City Development and a Valuer for the city of Ludwigshafen. Mr. Weirk is the Head of the Set Rent Limits and a Valuer for the city of Ludwigshafen.

The goal of the interviews is to learn from and use this information in forming the ReValue strategies.

Q 8. Is there a general meaning attached to the topic of building and energy efficiency in the local property market?

A 1. The city of Ludwigshafen was a co-founder of the energy agency E2A (a program for property owners and investors to learn how to reduce energy costs and increase energy efficiency in operation) hence, we are actively supporting the role of EE in residential building. There had been a Zero Energy community planned about 10 years ago. It failed, we feel, due to the lower social-economic status of most of the residence of Ludwigshafen.

Q 9. How much weight does the aspect of EE have within the scope of real estate valuations?

A 1. In our hearts it is at the top of our thoughts; however it is the wallet (financial matters) which is what directs the renovations and modernizations. Regarding civil surveys on the subject of residential quality, up to now, EE aspects were not considered. Because of the market rent cap, there is little interest or inquiries from the citizens or market participants regarding the level of EE of their residence.

Q 10. Does there exist enough transparency in the real estate market to see if energy efficiency has or can have an impact on the real estate market?

A 1. The state would have to do tax incentives along with EE investments. There needs to be a value added tax, trade tax generated and some sort of payback to the state. We do not have any measures currently in place to track what the impact of EE measures are on the market.

Q 11. What advantages do you think will be seen with the improvement of the EE in buildings?

A 1. Oil heating is increasing on account of the present low oil prices. Unfortunately, the view is focused too much on the present situation. People are not focused on the long term goals or thinking about when oil prices will go up. For most of this demographic, I doubt that they have much concern about co2 levels or global warming.

Q 12. Are certain EE measures weighted higher than others? If so, which EE measures are considered the most important and the least important?

A 1. EE criteria in the regulated rent prices would only be able to be shown where it is clearly implemented. The influence and the effect from single energy efficient criteria would have to be proved. Currently, this data base is absent. Hence, in the regulated rent prices in the town of Ludwigshafen, only the value of the comparability of EPCs (kWh / m² WF and year) as well as triple glazed windows and their sound insulation properties are seen as positive improvements.

A 2. "Ecological" rent limits (Mietspiegel) are only one concept which is not exactly defined. The town of Ludwigshafen can use and uses the term "ecological" Mietspiegel, because it does contain ecological factors when considering the rent prices.

Q 6. Do you think that EE strategies are currently given enough value in Ludwigshafen's rental building stock?

A 1. N/A

Q 7. Do you feel that as the building stock is evaluated, it is enough that EE is considered, even though it may be at a very preliminary level?

A 1. N/A

Q 8. What roles do Energy Performance Certificates (EPC), which show the energy efficiency levels of certain products, play in the rental market?

A1. Very little because the consumer does not have more than a very basic understanding of what they mean or if there is truly a financial advantage.

Q 9. Can a higher net cold rent be achieved by a consideration of energy efficiency in the rent cap (e.g., as additional criteria)?

A1. In Theory I suppose so.

Q 10. Which possibilities are seen within the scope of a comparative value procedure?

* Earning power factors, the EE consideration

* Multi-regressions analyses for the regulation of surcharge factors for certain energy efficiency levels?

A1. A market regression analysis was carried out to evaluate the influence of the energy efficiency improvements on the regulated rent index.

This helps to understand how the typical value of the dependent variables changes when any one of the independent variables is varied, while the other independent variables are held fixed.

References

- [1.] Application of the RICS Valuation – Professional Standards in Sweden, RICS, 2016. *Application of the RICS Valuation – Professional Standards in Sweden*. 1 ed. London: RICS.
- [2.] Brounen, D. & Kok, N., 2010. *On the Economics of EU Energy Labels in the Housing Market*, London: RICS.
- [3.] Dutch-Residential-Mortgage-Market, AGEON, 2015. *The Residential Mortgage Business*. s.l., AGEON.
- [4.] Ellabban, O., Abu-Rub, H. & Blaabjerg, F., 2014. *Renewable energy resources: Current status, future prospects and their enabling technology*, s.l.: Elsevier Ltd..
- [5.] EPISCOPE [<http://episcopes.eu/>], 2012-2016. *EPISCOPE and TABULA Website*. [Online]
Available at: <http://episcopes.eu/building-typology>
[Accessed 20 09 2016].
- [6.] Eurostat, 2015. *European statistics*. [Online]
Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Housing_statistics#Publications
[Accessed 29 08 2016].
- [7.] Franz Fuerst*, P. M. A. N. P. W., 2015. *Does energy efficiency matter to home-buyers? An investigation of EPC ratings and transaction prices in England*, s.l.: Elsevier.
- [8.] GOV.UK, Welfare Reform and Work Act 2016 - social rent reduction , 2016. *Welfare Reform and Work Act 2016 - social rent reduction*. [Online]
Available at: www.gov.uk/guidance/welfare-reform-and-work-act-2016-social-rent-reduction#exemptions-from-rent-reduction
[Accessed 19 09 2016].
- [9.] IEA-International Energy Agency - Energy efficiency, n.d. *IEA-International Energy Agency*. [Online]
Available at: <http://www.iea.org/topics/energyefficiency/>
[Accessed 19 09 2016].
- [10.] IHMM, What Are Hazardous Materials, 2015. *About IHMM*. [Online]
Available at: <http://www.ihmm.org/about-ihmm/what-are-hazardous-materials>
[Accessed 20 09 2016].
- [11.] International Valuation Standards Council (IVSC) - GLOBAL REGULATORY CONVERGENCE AND THE VALUATION PROFESSION, 2014, 2014. *GLOBAL REGULATORY CONVERGENCE AND THE VALUATION PROFESSION*, s.l.: s.n.
- [12.] Investopedia, n.d. *Investopedia*. [Online]
Available at: <http://www.investopedia.com/terms/a/asymmetricinformation.asp>
[Accessed 20 09 2016].
- [13.] Kleiber, W., Fischer, R. & Werling, U., 2010. *Verkehrswertermittlung von Grundstücken zur Ermittlung von Marktwerten (Verkehrswerten), Versicherungs- und Beleihungswerten unter Berücksichtigung der ImmoWertV*. Köln: Bundesanzeiger Verlagsges. mbH.
- [14.] Landlord and Tenant Act 1985, legislation.gov.uk, 2016. *Landlord and Tenant Act 1985*. [Online]
Available at: <http://www.legislation.gov.uk/ukpga/1985/70>
[Accessed 2016 09 20].

- [15.] Landlords and Tenants Rights, inbrief, 2016. *Landlords and Tenants Rights*. [Online]
Available at: <http://www.inbrief.co.uk/property-law/landlord-and-tenant-rights.htm>
[Accessed 2016 09 19].
- [16.] Maier, G. & Herath, S., 2015. *Immobilienbewertung mit hedonischen Preismodellen*. Wien: Springer Gabler.
- [17.] Mallinson Report (1994), Commercial Property Valuations, RICS, 1994. *Mallinson Report (1994), Commercial Property Valuations, RICS*, s.l.: s.n.
- [18.] Neitzel, M., Dylewski, C. & Pelz, C., 2011. *Wege aus dem Vermieter-Mieter-Dilemma*. Bochum: InWIS Forschung & Beratung GmbH.
- [19.] Olivia Bååth, TENLAW: Tenancy Law and Housing Policy in Multi-level Europe, 2014. *TENLAW: Tenancy Law and Housing Policy in Multi-level Europe*. s.l.:s.n.
- [20.] Petersen, Schnoor, Seitz & Vogel, 2013. *Verkehrswertermittlung von Immobilien*. Stuttgart: s.n.
- [21.] RICS guidance note - Discounted cash flow for commercial property investment, 2010. *Discounted cash flow for commercial property investment*, Coventry, UK: RICS.
- [22.] RICS information paper, England and Wales, Valuing residential property purpose built for renting, 2014. *RICS information paper, England and Wales Valuing residential property purpose built for renting*, London, UK: RICS.
- [23.] RICS Red Book global Guidance, 2014. *RICS Valuation – Professional Standards*. London: RICS.
- [24.] RICS, Glossary and acronyms of PropTech terms, 2016. *RICS, Glossary and acronyms of PropTech terms*. [Online]
Available at: <http://www.rics.org/de/knowledge/glossary/glossary-and-acronyms-of-proptech/>
[Accessed 20 09 2016].
- [25.] RICS, Professional guidance, 2015. *RICS, Professional guidance*. [Online]
Available at: <http://www.rics.org/de/knowledge/glossary/comparable-evidence/>
[Accessed 20 09 2016].
- [26.] RICS, Sustainability and residential property valuation, 2011. *Sustainability and residential property valuation*. 1st edition ed. Coventry, UK: RICS.
- [27.] RICS-UK valuation standards, 2014. *RICS UK valuation standards, appendices and guidance notes*. London: RICS.
- [28.] Rosen, S., 1974. Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition. In: T. U. o. C. Press, ed. *Journal of Political Economy*. Chicago: Journal of Political Economy, pp. pp. 34-55.
- [29.] Royal Institution of Chartered Surveyors - RICS, 2014. *Valuing residential property purpose built for renting*, London: Royal Institution of Chartered Surveyors (RICS).
- [30.] Shapiro, E., Mackmin, D. & Sams, G., 2013. *Modern Methods of Valuation*. 11 ed. Oxon: Routledge.
- [31.] Stanley, S. L. R. a. L. S., 2015. *The price effect of building energy ratings in the Dublin residential market*. s.l.:s.n.
- [32.] Statista, Wohneigentumsquoten in ausgewählten europäischen Ländern im Jahr 2014, 2014. *Wohneigentumsquoten in ausgewählten europäischen Ländern im Jahr 2014*. [Online]
Available at: <http://de.statista.com/statistik/daten/studie/155734/umfrage/wohneigentumsquoten-in-europa/>
[Accessed 08 06 2016].

- [33.] The Calculation of Worth: an information paper, RICS, 1997. s.l.: RICS.
- [34.] The Swedish Mortgage Market 2015, FINANSINSPEKTIONEN, 2015. *The Swedish Mortgage Market 2015*. s.l.:s.n.
- [35.] The Valuation and Sale of Residential Property Routledge, M. D., 2008. *The Valuation and Sale of Residential Property Routledge*, s.l.: s.n.

Glossary

(Achievable) Market rent	The estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and willing lessee on appropriate lease terms in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. ⁹⁴
Asymmetry of information, information asymmetry	Asymmetric information, sometimes referred to as information failure, is present whenever one party to an economic transaction possesses greater material knowledge than the other party. ⁹⁵
Building characteristics	Elements about a building for example; function, size, age and construction characteristics. Quality of the building, building standard, building EE, efficiency of building equipment and systems, etc.
Building Information Modelling (BIM) and Building Lifecycle Management (BLM)	The process involving the creation, collation and exchange of shared 3D models and intelligent, structured data attached to them; BIM is the generation and management of digital representations of physical and functional characteristics of an asset's entire life cycle. ⁹⁶
Building standard	Another way in which to describe the quality of a building, within its relevant local market and by its use. Aspects that influence the building standard are the quality of building materials, type of construction, quality of windows, doors. Type of heating system (simple coal or oil fired stoves or automatically operating systems), other technical equipment, etc.
Building sustainability	Covers a range of social, environmental and economic matters, the three-pronged approach to sustainability is referred to as triple bottom line (TBL) ⁹⁷
Building typology	A classification for existing residential buildings according to age, size and construction parameters. ⁹⁸
Cold rent contracts	Describes a housing rental contract that only includes the amount, which is paid to the property owner for the living accommodation. All other costs are in addition to this and paid by the renter. The tenant's energy costs are based on actual consumption. Tenants are motivated to save energy through own behaviour and by having energy efficient homes.
Comfort	Comfort stands in this document for thermal comfort including surface temperatures, draft and temperature asymmetries (for winter- and summer) and aspects like sound protection, acoustic comfort and visual comfort (daylight factor and daylight quality influenced through shading and glazing). EE refurbishment influence the building comfort of the building, insulation increases surface temperatures, improved air-tidiness reduces draft, better windows improve the sound protection

⁹⁴ (RICS Red Book global Guidance, 2014, p. 8)

⁹⁵ (Investopedia, n.d.)

⁹⁶ (RICS, Glossary and acronyms of PropTech terms, 2016)

⁹⁷ (RICS, Sustainability and residential property valuation, 2011, p. 4)

⁹⁸ (EPISCOPE [<http://episcopes.eu/>], 2012-2016)

Comparables, Comparable evidence	Comparable evidence comprises a set of similarities or differences when looking at local properties that are used in support of the valuation. A comparable is used during the valuation process as evidence in support of the valuation of different items of the same general type. ⁹⁹
DCF valuation, Discounted cash flow valuation	DCF valuation involves projecting estimated cash flows over an assumed investment-holding period, plus an exit value at the end of that period, usually arrived at on a conventional all risk yield basis. The cash flow is then discounted back to the present day at a discount rate. ¹⁰⁰
Delayed maintenance	Is used to describe real estate that has not been maintained to current codes or standard maintenance. Delayed maintenance can reduce the economic lifespan and value of a property.
Direct capitalization method, Capitalisation method	Converting income into a capital sum based on the net income or gross income divided through the capitalization rate for this type of property of the area.
Domestic hot water, DHW	Is potable hot water (temperature between 40 and 60°C) used for domestic purposes like sanitation and personal hygiene, food preparation, etc.
EE, Energy Efficiency, Building EE	Energy Efficiency is a way of managing and restraining the growth in energy consumption. Something is more energy efficient if it delivers more services for the same energy input, or the same services for less energy input. ¹⁰¹
EE improvements, EE measures, EE-interventions	EE measures, interventions or improvements stands for the techniques to improve the EE-performance of buildings such as insulation of the thermal envelope, installation of efficient technical systems like HVAC components or ventilation systems, ICT systems and the use of renewable energy.
Energy Performance Certificate (EPC)	The EPC is a measure introduced across EU member states under the European Energy Performance of Buildings Directive (EPBD, Directive 2002/91/EC) to help improve the energy efficiency of buildings. It measures the asset rating of a building in terms of its energy performance. It is produced the first time that a building is let or sold from the date of implementation of the directive. The EPC is accompanied by an advisory report that sets out recommendations for improving the building's energy rating. The assessment methods to appoint EPC rating differ from country to country. ¹⁰²
Exit value	The exit value reflect anticipated rental growth, the reversionary nature and unexpired terms of the leases at the exit date, and the application of an appropriate all risk yield. Depending on the holding period, this may be forecast or based on equilibrium market conditions. ¹⁰³
Gross rents	The total income received prior to any deductions for operating costs. ¹⁰⁴
Hazardous material	Is any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. ¹⁰⁵

⁹⁹ (RICS, Professional guidance, 2015)

¹⁰⁰ cf. (RICS guidance note - Discounted cash flow for commercial property investment, 2010, p. 3)

¹⁰¹ (IEA-International Energy Agency - Energy efficiency, n.d.)

¹⁰² cf. (RICS, Sustainability and residential property valuation, 2011, p. 21)

¹⁰³ (RICS guidance note - Discounted cash flow for commercial property investment, 2010, p. 3)

¹⁰⁴ (RICS information paper, England and Wales, Valuing residential property purpose built for renting, 2014, p. 21)

¹⁰⁵ (IHMM, What Are Hazardous Materials, 2015)

1.1 Overview of the National and European Valuation Techniques

Income approach	An approach that provides an indication of value by converting future cash flows to a single current capital value. ¹⁰⁶
Investment value, or worth	The value of an asset to the owner or a prospective owner for individual investment or operational objectives. (May also be known as worth.) ¹⁰⁷
Maintenance improvements, building maintenance, maintenance status	Measurements / improvements to a building that are required to maintain a safe, healthy and useable building. The maintenance status assesses the quality of the building maintenance.
Market approach	An approach that provides an indication of value by comparing the subject asset with identical or similar assets for which price information is available. ¹⁰⁸
Market value (MV)	The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. ¹⁰⁹
Net operating income (NOI)	The total rental income after deducting operating expenses, but before deducting capital expenditure, tax and interest. ¹¹⁰
Obsolescence	The process of becoming obsolete or falling into disuse, or becoming out of date. Most obsolescence is curable through capital expenditure. Some obsolescence, where resulting from something outside the property, such as a new road, may be permanent. ¹¹¹
Renewable energy, Alternate sources of energy, RES	Renewable energy is generally defined as energy that is collected from resources that are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat. ¹¹²
Renovation packages	Sets of suggested interventions to implement with specific costs, targets, and goals. Upgrades of building-EE, maintenance status and building standard are usually in the package.
Running costs for the tenant	The amount of money that is regularly spent, by the tenant, on things such as utilities; heating, lighting, water, and rent
Tenancy turnover	The rate at which properties are re-let or tenants renew their tenancies (can also affect the rental income). As a result of the units being empty between lettings (void periods), rental income is reduced. Where tenants vacate, a property may be refreshed for letting purposes and costs incurred as a result. ¹¹³
Useful economic life, economic and technical lifetime	To be quantified by the valuer and determined by the shortest of the following: the physical life, the functional life, technological life, economic life and the legal life ¹¹⁴

¹⁰⁶ (RICS Red Book global Guidance, 2014, p. 7)

¹⁰⁷ (RICS-UK valuation standards, 2014, p. 8)

¹⁰⁸ (RICS Red Book global Guidance, 2014, p. 8)

¹⁰⁹ (RICS Red Book global Guidance, 2014, p. 9)

¹¹⁰ (RICS information paper, England and Wales, Valuing residential property purpose built for renting, 2014, p. 22)

¹¹¹ (RICS information paper, England and Wales, Valuing residential property purpose built for renting, 2014, p. 22)

¹¹² (Ellabban, et al., 2014, p. 748–764)

¹¹³ cf. (RICS information paper, England and Wales, Valuing residential property purpose built for renting, 2014, p. 12)

¹¹⁴ (RICS Red Book global Guidance, 2014, p. 103)