REVALUE

Report identifying existing bottlenecks and scope for improvements in benchmark investment programmes

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Executive summary

The aim of this task is to **understand the drivers for retrofit investment projects by affordable housing providers**, and to explore options to increase the scale and impact of possible improvements. Four case studies were carried out, in the Netherlands, the United Kingdom, Germany and Sweden. In addition, two country-level focus group meetings, in the Netherlands and in the United Kingdom – (involving representatives from the social housing sector, lenders and valuers) were organised to understand the bottlenecks which would influence the funding and uptake of energy efficiency (EE) investment programmes.

Key insights

- Energy efficiency is part of the corporate social responsibilities of housing providers. Investments in energy efficiency are mainly driven by compliance with regulation or customer care rather than by value; absence of evidence that energy efficiency improvements increase market value do not influence decisions.
- Increase in sustainability investments would require either stricter regulation or a change in housing providers' view to provide affordable living instead of housing, i.e. including cost of heating and cooling – and thus overcome the split incentive issue.
- While sustainability is often an abstract organisational objective, in practice, it is only taken into account at an operational level. The disconnection leads to a lack of understanding of real requirements and realistic pathways to reach goals. By designing data-driven investment pathways with policy objectives in mind, confidence increases in more ambitious refurbishment programmes than business as usual.

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Chapter 1 Introduction

There is a very high awareness of energy efficiency in the affordable housing sector, linked to an appreciation of wider societal objectives of reducing greenhouse gas emissions, and to the potential of reducing energy expenses for tenants. However, housing providers have a limited understanding of energy efficiency, the direct costs and benefits of upgrading assets, and the instruments at their disposal to maximise energy efficiency within current regulatory, financial and operational framework conditions. Most organisations treat energy efficiency from a perspective of compliance, and at operational level. Front-runners have integrated energy efficiency as an objective at a strategic level, have long-term planning built on more ambitious pathways, while deploying more sophisticated toolboxes to demonstrate - both internally and to tenants - the value and benefits of energy efficiency.

The aim of this task is to **understand the practical drivers for retrofit investment projects by affordable housing providers**, and to explore options to increase the scale and impact of possible improvements. The value of energy efficiency is a driver of REVALUE work carried out, however this activity explicitly aims to understand broader decision-making criteria and processes so that value and energy efficiency are approached in a realistic and holistic way, rather than in isolation.

The objective was to carry out 4 in-depth case studies with social housing providers and reflect on the main findings related to barriers and opportunities with a broad group of experts, including assets managers, financiers and valuers.

The results lead to practical recommendations and case studies on how (affordable) housing providers could optimise the energy efficiency component in investment plans.

Chapter 2 Methodology to understanding investment decision-making

2.1. Overall approach

This qualitative aspect of the REVALUE project aims to shed light on the internal decision-making processes and criteria with regards to (energy efficiency) investments, as presented by the managers and decision-makers of (affordable) housing provider organisations.

Four data driven case studies were carried out in the Netherlands, the United Kingdom, Germany and Sweden (D2.6). The findings of each "Data-driven analysis and strategies for asset energy renovation" (D2.6) were presented and discussed with each individual organisation. In addition, two country-level focus group meetings, in the Netherlands and the United Kingdom - involving representatives from the social housing sector, lenders and valuers - were organised to understand the bottlenecks which would influence the funding and uptake of EE investment programmes. General conclusions and insights are derived from these meetings.

2.1.1. Case study process

The main objective of Work Package 2 is to understand decision-making on EE investments at both project and organisational level through detailed case studies, with a focus on the relation between energy efficiency, value, funding and valuation process. The final aim is to identify opportunities to stimulate investments in EE in residential buildings. The work stream contributes to understanding current EE valuation practices, identifying how enhanced practices could be implemented at an operational level.

The approach consists of four detailed qualitative and quantitative analysis of investment policies, programmes and practices, and reflects on the impact of energy efficiency, value, funding and the valuation process. The qualitative aspect consisted of one or more meetings with senior management from each organisation, including finance, asset management and sustainability – and broader expert roundtables that included participation of valuers, energy consultants, housing providers and financiers. The quantitative part consisted of long-term investment planning pathways, linking objectives with building-level real options and portfolio level impacts on investments, energy savings and CO2 impacts and potential assets values (D2.6).

The four case studies were conducted at affordable housing providers; in Germany; in the United Kingdom; in the Netherlands and in Sweden[1]. The housing associations for the case studies were selected from the organisations that also provided data for the regression analysis in WP3 and based on their availability to collaborate.

Two expert round-tables have been organised; in the Netherlands and the UK. Each session had representatives from the (affordable) housing sector, valuers and lenders. A neutral facilitator engaged through RICS´ chaired the meetings, in a semi-structured approach.

Inputs used for this work stream include the REVALUE building energy efficiency valuation framework (WP1) and concepts for enhanced EE valuation guidance (WP4). The logic of the WP2 work stream and individual reports is as follows; Based on the energy efficiency analysis and valuation framework developed in WP1, asset, finance and other data from case study participants are collected and characterised (D2.1). The investment policies and decision-making factors are explored with the key decision-makers from the case study organisations (D2.4). The combination of these tasks is used for the quantification of long-term alternative investment programmes (D2.6). The joint outcomes of these tasks are reported as practical insights

[1] As individual NDA's have been signed with each housing provider the full names of the housing providers will not be used in order to protect any sensitive data that might have been shared in the process.

to housing providers and other stakeholders on EE investment planning (D2.5) and feed into work on enhancing RICS guidance (WP4).

Chapter 3 Exploring the case studies

The exploration of the case studies took place in two phases. In the initial phase, REVALUE partners explored the organisation's current decision-making process regarding asset energy renovations. In the follow-up phase, the REVALUE results and approach were presented to understand how REVALUE findings and approach could help the organisations in overcoming the traditional barriers for stimulating investments in EE in residential buildings. The section called "case description" describes the organisational set-up of the housing association; its current business as usual approach; and main drivers for investing in its stock. The second section called "discussing REVALUE results" is based on the outcomes of presenting the REVALUE work streams to the housing associations, such as the results of the regression analysis on relation of energy efficiency and value (D3.3); "data-driven analysis and strategies for asset energy renovation" (D2.6) and other findings from REVALUE's work.

3.1. United Kingdom

The UK housing provider is a provider of social and affordable housing – and in the future of private rental housing as well – concentrated in Manchester. It manages over 12,500 dwellings. Participating in the roundtable discussions were managers and directors responsible for Assets and Growth, and Finance. The case study ran from September 2016 to August 2018.

3.1.1. Case description

Policies and Impact

The driver for asset development and management is to reach modern standards for its stock - meeting legal requirements - and to reduce energy poverty. In the United Kingdom, the social housing sector is directly influenced by two UK policies: 1) Health and Safety; and 2) the Decent Homes standard for social housing assets established in 2006 by the Department for Communities and Local Government. A key policy impacting financial capacity is the 2016 Welfare and Reform Bill that requires a real per-dwelling (inflation minus 1%) rent reduction for four consecutive years, reducing the financial capacity of housing providers.

Environmental sustainability was not a primary aim for any of the seven corporate strategies launched in early 2016. Sustainability is understood in terms of the EPC label and CO2 emissions. The Energy Performance ambition is to meet the minimum EPC of C (set this case by the organisation), SAP band 69-80. No specific targets and tracking method has been set up to relate energy efficiency with energy poverty and tenants' comfort and health.

Due to its social objective in reducing energy poverty, energy impact of renovations is assessed and compared against investment options. Building on a current average SAP score of 73, a target minimum for its stock is being considered for the long term.

Financial

At group level, investment capacity is set depending on a range of criteria. The organisation has invested significantly in quality upgrades of the managed buildings and foresees further investments of around £30M annually in maintenance and upgrades, of which £10M is specifically dedicated to energy performance. Individual renovations need to meet basic returns for in-use value. Due to limitations on rent increases, regardless of building quality, energy efficiency is not seen as a value driver.

Property is assessed on the comparison of Net Present Value (NPV) and sustainability among other criteria. The category sustainability mostly includes social aspects such as crime, health, education, employment. The housing provider is moving towards an approach based on option appraisals for assets scoring low on both NPV as sustainability; based on the scores they decide to either invest or sell these assets. In investment

decision-making, however, a much broader view of place-making at a neighbourhood level is used. Value and valuation are linked neither to asset management, nor with sustainability investment planning.

Organisation

Internal policies and programmes are being developed at an asset management level, reviewed by the board, and supported by operational decision-making tools.

Knowledge and expertise on energy efficiency is mostly concentrated on an operational level (estate managers and subcontractors). The 2016 asset performance evaluation model does not take energy ratings into account.

The asset management system includes SAP data on 84% of the dwellings, with 60-100% of information available for main energy-related dwelling components.

3.1.2. Discussing REVALUE results

Investment planning

The absence of clear evidence that value improvements are connected to energy efficiency did not, in essence, influence the investment planning approach of the organisation, as the organisation bases its renovation programmes on building quality and tenant satisfaction.

For the organisation, the presentation of the back-casting insights on pathways to reach target SAP scores and reducing energy bills through better planning of renovations triggered the exploration of more ambitious refurbishment options and programmes. For example, new renovation options include nearly zero-energy building (NZEB) and on an organisational level increasing the investment programme budget has been discussed by the board. Valuation of stock at current market prices, and the foreseen (energy) renovation ambitions could be of benefit for conversations with funders. To better appraise refurbishment options and plans, they are actively exploring options to fund capacity-building through grants.

Data, data quality, and data analysis

The organisation foresees completing the dataset on SAP scores within 2 years. Including analysis on energy and sustainability as a more explicit component of renovation planning. An analytical model comparing long-term investment options is not considered given capacity constraints.

Valuation

Valuations are mostly carried out for financing purposes. The organisation will explore with valuers current practices to assess energy elements, and more explicit reporting on energy-related elements. A stronger focus on data will be discussed.

3.2. The Netherlands

The housing provider is a social housing provider in the Netherlands with over 60,000 dwellings under management. Participating in the roundtable discussions were the CEO, asset managers and directors responsible for Sustainability, Asset Management, and Finance. The case study ran from September 2016 to June 2017.

3.2.1. Case description

Policies and Impact

Sustainability is, along with affordability, a driving factor for the Dutch social housing sector. The policy framework for energy efficiency of the housing sector in the Netherlands, the Energy savings in the rental sector Covenant of 2012 (Energiebesparing huursector), defines the aim of social housing associations to

achieve an average energy label B (Energy Index 1,4) for the totality of their stock by 2023 – with an overall target of becoming energy neutral by 2050. As part of that goal, natural gas will be abandoned as a source for heating and cooling.

An ambitious sustainability programme is being developed and deployed by the organisation to comply with the commitments made in the Covenant. Their goal is to have the average energy index value of 1.25 by 2021, and to be energy neutral by 2050. A modular work plan towards energy neutrality is under development, based on a stepwise implementation of robust, no-regret renovation actions. In line with Dutch policy, sustainability is mainly seen from a CO2 perspective, while embedded CO2 and circularity are considered as future objectives.

Financial

Over the next five years, The organisation is investing €346 million in its existing portfolio (26% of total investments), €701 million in new build rental production and €281 million in new build owner-occupied production. By 2020, the share of the stock with an A/B energy label will increase from 30% to 60% and 75% of the whole stock will be energy label C or better. Dutch regulation allows certain rent increases for energy efficiency improvements, especially for reaching the ´zero energy´ status (Nul op de Meter). Investments are partially cross-subsidized by benefits sold properties.

The impact of value and valuation is not yet part of the organisation's business model, but the CEO indicates a wish to move in that direction. This covers activities in controlled rent markets, as well as liberalised markets and initiatives of sales of stock. The organisation currently carries out appraisals, with external valuers checking assumptions, possibly a site visit (external only), validating the case through analysis of comparables. Sustainability / energy efficiency is not specifically included or recognised.

Organisation

Internal plans and programmes are being developed at an asset management level, reviewed by the board, and supported by operational decision-making tools.

Knowledge and expertise on energy efficiency is mostly concentrated at an operational level (building estate managers) and with subcontractors. The creation of group level capacity and comprehensive strategy development is foreseen for 2017

Using integrated asset management software, available data include 87% for energy labels, and 65% for energy index - with 80-100% of information available for main technical, financial and energy related components.

3.2.2. Discussing REVALUE results

Investment planning

The evidence from regression analysis showing both green premiums and brown discounts in certain market segments lead to further exploration of the integration of value and valuation as an investment driver. This includes discussions of policy adjustments where sustainability objectives inform investment strategy (instead of the other way around), decision making frameworks for assessing options to renovate or sell, and business case development in tenant relations (the trade-off between post-retrofit rent increases and the pre-retrofit process costs of obtaining tenant consent).

The back-casting exercise on sustainability investment planning was the first of such an exercise carried out within the organisation led to a better definition and alignment of KPIs on housing quality across the organisation - in particular EI and reduced energy costs for tenants – and further exploration of options for sharing costs and benefits between the housing provider and its tenants.

Data, data quality, and data analysis

The organisation foresees to complete datasets with the addition of energy consumption estimations to explore the tenant benefits of energy efficiency.

Valuation

Sensitivity to and knowledge of sustainability is recognised as a factor in selecting valuers for the housing provider. It has initiated a process with its pool of three external valuers to better define assumptions related to sustainability. Intended potential use includes developing a building passport, automated valuation, and access to finance.

3.3. Germany

The housing provider is a Berlin-based, state-owned provider of affordable housing. It manages nearly 70,000 dwellings. Participating in the roundtable discussions were responsible staff for Valuation, Asset Management, and Finance. The case study ran from September 2017 to September 2018.

3.3.1. Case descriptions

Policies and Impact

The goal for asset development and management is to reach modern standards for its stock - meeting legal requirements, plus an extensive new building and purchasing programme. In practice, this means that renovation and improvement projects target lowest-quality stock first, aiming for energy label D. The city of Berlin might well announce its objective of climate-neutrality by 2050, which would be a significant long-term driver for sustainability. Currently, The organisation uses a component-based approach, covering roof-mounted photovoltaic (PV) panels, district heating, and energy demand-reducing measures that can be included in regular maintenance or during estate improvements.

In line with German policy, sustainability is mainly seen from a CO2 perspective, expressed in kWh/m2, while embedded CO2 and circularity are not yet considered.

Financial

At a group level, the renovation budget is around €10 million per year, renovating about 700 units per year.

Local rent regulations (based on the Mietspiegel) provide a limited rent mainly based on location and size of dwellings. After renovations, rent increases are capped at 6%. Tenants could make a case for reduced rent increases based on financial capacity. A significant number of renovations lead to rent increases in the 3-4% range.

Due to the influence of tenants' ability to pay rent, option appraisals are mostly done at a building level. Market valuation is not used, but rather the Discounted Cash Flow (DCF) method. Unused loan to value (LTV) capacity does allow for a large purchasing and new-build programme. The EIB supports the programme with a €100 billion loan. The building stock's energetic quality is not taken into account when obtaining financing for the organisation.

Organisation

Knowledge and expertise on energy efficiency is mostly concentrated at the operational level (building estate managers), and with subcontractors. Some coordination at group level exists, focusing on experimenting with novel components and scaling up good practices. Beyond the maintenance-based approach, there are no established policies or programmes linking sustainability with investment planning and/or tenant satisfaction. This is expected to change when political debates on feasibility of the 2050 targets intensify.

Option appraisal for highly energy-efficient renovations are not yet available, as current policies focus on meeting minimum standards. The relation with affordability and total cost of living (rents and heating costs) is not yet explored.

On an operational level, EPC ratings are available for nearly 100% of dwellings, with technical descriptions of key components being available for 70-100% of dwellings. The comparatively low diversity of dwelling types makes forecasting of sustainability improvements relatively easy.

3.3.2. Discussing REVALUE results

Investment planning

The absence of clear evidence that dwelling value improvements are connected to energy efficiency did not, in essence influence organisation's investment planning approach, as it bases its renovation programme on compliance with current regional and national regulations. The recently approved municipal sustainability targets have not yet been aligned with, nor checked for feasibility with housing providers. Long-term option appraisal for investments will become a key exercise in determining financial, technical and operational approach to meeting requirements. The housing provider will explore with its financers the option of obtaining more favourable loan conditions based on achieving certain sustainability outcomes.

The back-casting exercise has provided a first indication of requirements and pathways to reach tentative municipal sustainability objectives. The organisation now explores more detailed investment scenarios based on this methodology with the purpose to inform discussions with the city of Berlin on a long term feasible sustainability programme.

Data, data quality, and data analysis

Data quality is high; relatively complete and recent – covering a building stock with low complexity. Forecasting is limited to budget cycles and selected estates. Option appraisal is not yet done at stock level or on long-term basis.

Valuation

Valuations are mostly carried out for rent cap assessments. Energy efficiency data is registered, but not seen as a value driver. There are currently no plans for changing that. There are no plans to engage with valuers to deepen insight in the relation between value and energy efficiency.

3.4. Sweden

The housing provider is a Stockholm-based housing cooperative with over 89,000 members. It manages nearly 8,000 dwellings. Participating in the initial discussions were the managers responsible for Valuation, Asset management, and Finance. The case study took place between June 2017- March 2018.

3.4.1. Case Description

Policies and Impact

The organisation follows a renovation strategy based on their own energy/sustainability goals and green bond financing framework. It has ambitious quantitative targets for energy efficiency and use of electricity for the year 2019 in which all electricity should come from renewable sources. In addition, it is aiming to produce a passive house in the near future. The housing provider has been deeply involved in responsible actions both within environmental and social areas. This organisation jointly discussed environmental matters with other real estate companies in the development of new residential beighbourhoods. Moreover, it is part of the Skåneinitiativet, an initiative launched at the SABO (Swedish housing federation) Energy Conference of 2008

with the aim of reducing energy consumption by 20% over a 10-year period. Currently, it´s 5-year goal is to reach average energy consumption of 135 kWh per square meter a year. This is based on an internal five-year environmental plan that defines goals and ambitions.

Financial

As part of its own standards and sustainability goals, the housing provider follows a green bond framework, an investment strategy in particularly environmentally oriented projects and/or properties with the aim of contributing to a lower carbon footprint. This is directly influenced by financing completely or in part a selected pool of "Eligible Projects and Assets" that could promote environmental matters in different areas. The financing is exclusively available to projects/assets that comply with categories of eligibility and applicable criteria, and that do comply with the process of project asset evaluation and selection.

Organisation

Knowledge and expertise management not discussed in detail with this housing provider due to language barriers.

On an operational level, EPC ratings are not collected in this market in Sweden. However, the consumption of total energy kWh/m2 were available for nearly 100% of dwellings, with technical descriptions of key components being available for 70-100% of dwellings. The relative low diversity of dwelling types makes forecasting of sustainability improvements relatively easy.

3.4.2. Discussing REVALUE results

Due to language barriers and lack of local partners, the second meeting did not take place with this housing provider.

Chapter 4 Expert group meetings

National expert group meetings were organised with housing providers, energy consultants, investors, lenders and valuers to assess findings from a broader perspective and to obtain more general conclusions reflecting on the situation at a national level.

4.1. United Kingdom

The London Focus Group Meeting was hosted by Savills and facilitated by RICS in February 2018. About 20 participants representing energy consultants, lenders, investors, valuers and housing providers from across the UK participated. Participants were shown main findings from REVALUE project regression analysis, valuer roundtables and case studies.

4.1.1. Reflections and discussion

Investment planning and Drivers of Value

In the controlled rent sector and beyond, regulation is the real driver of change as the common denominator for new buildings and refurbishment is: 'compliance'. As a participant stated; "it must be the stick, as the carrot has not worked". Thus, for energy efficiency to be reflected in the market, governments need to regulate the market or signal regulatory intentions.

A long-term driver of value is the change of market expectations, both in the private and the controlled sector. However, these changes take decades in most market segments. The potential for eroded value (brown discount) is higher than that of a reward (green premium). There is a need to achieve the quality that is expected ('keeping up with the Joneses').

There is a shared concern around issues related to energy efficiency technologies, ranging from incidents (the Grenfell tower disaster) to rising maintenance and administration costs for novel technologies, complex financial structures and competences required by investors to maintain advanced systems.

Value and valuation

Valuers agreed that EE is not reflected in valuations as there are other, more important elements that driver value. Today, EE is a marginal part of valuation practice, and in valuation itself. Investors, lenders and valuers are aware that they need to understand energy efficiency better; more specialism will be required if they want to keep up with emerging market trends. The consensus is that given limited (technical) expertise on the topic, a realistic enhancement of practices will still be relatively rudimentary. In addition, most valuation assignments leave little space for extra inspection or research.

Data, information and quality

The EPC´s have a part to play, however currently they are not seen as a valuable indicator. Building passports could be a solution for the lack of information but they have not been introduced in residential real estate yet. EPC´s remain the best available indicator on energy efficiency of a dwelling so far. Lenders are increasingly incorporating EPC´s in due diligence and some lenders adjust lending rates based on these EPC ratings. Lenders do, however, concentrate on the capacity of its clients to pay back the loans and the annual interest instalments. Investors have started to collect more data on energy efficiency.

Mostly, information from housing providers is not used in the chain between investors, valuers and lenders. Enhanced methods and protocols would benefit inclusion of EE analysis. Common approaches, set by government or by industry, are needed.

Conclusions

While there is a broad recognition that energy efficiency is a topic that will have a long-term impact on the market, there is no clear evidence on current impact.The picture of future consequences is not clear enough yet. For valuers, it is important to be kept informed about the emerging trends, such as the raising sensitivity towards sustinability and regulations. The participants agreed that for improving investability of the projects, updated EPC´´ should be brought to market and data collections and sharing should also be improved.

4.2. The Netherlands

The Dutch focus group meeting was hosted by Savills and facilitated by RICS, in February 2016. Among the 15 participants were housing providers, lenders, energy advisors and valuers.

4.2.1. Reflections and discussion

Participants shared the market sentiments and trends in the day-to-day practice of the sector.

Investment planning and Drivers of Value

The social housing sector in the Netherlands is very large – covering about 35% of the total residential building stock – and heavily regulated. The clear majority of Dutch social housing providers are part of a national guarantee fund backed by the State, and financing is provided mostly by semi-public 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 stock quality up towards an average of energy index 1.25 (comparable to EPC label B, from current C/D) by 2023.

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

The strategic approach for many home 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.

In absence of strict minimum quality requirements, investments are determined balancing regulatory requirements and sustainability aspirations set in individual strategic plans. The investments are usually higher than the amounts that are expected to be recoverable through increased rents (negative Return on Investment), increases of which are capped at dwelling level, but as well as organisational level. Additional investments are considered loss-giving.

More ambitious renovation approaches, such as the EnergieSprong approach – which aims for near-zero energy buildings - are not widely regarded as financially viable or desirable for the social market segment. The additional rental fee for NZEBs could improve the cash flow but is contrary to the social objectives of the housing providers (keeping costs low for its tenants). More explicit governmental support through changed regulation (minimum quality standards or increasing rent caps) is seen as necessary.

Major lenders to the private sector track energy data (the energy label) for all dwellings in their portfolio. While the information is not fully incorporated 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 it is considered a less risky position in case of default. No change in loan-to-value is mentioned.

Value and valuation

The principal motivation to undertake investments in energy efficiency is not any potential additional capital value, but to improve 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. A recently introduced requirement to value at market prices has not yet led to a change in investment strategies.

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 of valuers that we met indicated that training was provided but acknowledged that valuers typically have a background in finance, rather than technology or energy. Actual understanding of a given component's contribution to energy efficiency or the costs involved in improving energy efficiency to certain levels is limited..

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 instructions would be the trigger to better quantify energy efficiency.

Data, information and quality

Energy labels are widely implemented, and asset databases typically have a reasonably good description of components within a dwelling. Energy consumption data is generally not available. It is therefore relatively easy to assess the calculated quality of a building, but difficult to assess the actual energetic qualities levels in terms of energy consumption and thus costs. This was viewed as a significant barrier to assessing value change and informing investment decisions.

One reason why obtaining data on energy consumption for housing is a difficult task is because the tenant is the bill payer. Housing providers 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 these data are very limited and are normally linked to specific projects where smart meters are installed.

Conclusions

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. Social housing owners normally undertake energy efficiency upgrades when there is a natural moment in the maintenance cycle to do so. Vanguard organisations have strategic upgrade plans, but most housing providers determine investments on a case-by-case basis. Capital is readily available through the government-backed financing system. The rationale and motivation for social landlords to upgrade their stock is driven primarily by a need to maintain 'up to date' stock, the desire to contribute to the comfort/wellbeing of tenants and a sustainable society. Fuel poverty and cost of living is recognised as a potential driver of change.

An increase in market value as a result of investments in EE is not yet seen as a driver. The presence of rent caps in the social sector makes it virtually impossible to turn CAPEX into added market value (MV). Cash flow analysis may provide a case for added 'worth', and novel rules reducing the split incentive provide possible additional income streams. 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. Due to the current limited level of expertiseand the lack of detailed data; investors/lenders/valuers are not able to fully take EE into account.

Chapter 5 Overarching insights

The aim of this report is to explore internal decision-making dynamics within housing associations with regards to energy efficiency, and to identify opportunities and barriers for increasing investment renovation programmes. A particular focus is on value, valuation and investment planning.

5.1. Market & investment policies

For new dwellings, clear energy efficiency standards are established, following EU and national rules. For existing stock, such clear requirements have not been set. In most controlled-rent markets, investors do not - or only to a limited extent - benefit financially from any energy efficiency improvements they undertake; this phenomenon is called: the split incentive. There is high awareness of technical developments, but limited experience of applying these new technologies in building stock of individual housing providers. In addition, there is an appreciation that innovation will rapidly improve performance or reduce cost of technologies. Finally, there is an expectation that tighter public policy to reach higher objectives on sustainability should go hand in hand with changed financial conditions (e.g. more flexible rents or grant programmes) in order to meet such objectives.

Therefore, most decision makers favour a 'no regret' approach. Energy efficiency ambitions are described in general terms, but not as a driver of investment programmes. In practice, this means that decisions related to energy efficiency are mostly taken at an operational level, by asset managers. Refurbishments typically consist of improvements with low technical, operational, and financial risks. This involves limited use of novel technologies, the timing of intervention is linked to planned renovation moments and payback periods are in the range of 5-20 years (well before the theoretical end of the technical lifetime of dwelling components). Changes of the asset value is not part of the consideration, but rather a consequence.

5.2. Long-term investment planning

The ´back-casting´ approach used in REVALUE aimed to highlight energy efficiency as a topic for integrated, board-level discussions on investment strategies. This in contrast to the usual approach of agenda-setting and budgeting linked to 3-5 year planning cycles at operational levels. It has proven to be a meaningful method to quantify and assess long-term sustainability (policy) objectives, exploring impacts on key indicators from strategic, but also operational, financial, and client perspectives.

The four case studies and expert sessions indicated that the long-term investment planning approach is most suitable in situations with high organisational complexity and high external complexity. For smaller housing associations, the number of interventions simply did not require scenario planning, and in that case knowledge is less dispersed between departments. With regards to external complexity, in countries with stringent sustainability ambitions and aligned financial structures, or countries with low ambitions and limited financing options – the choices in regard to sustainability were limited, and the pathways clear. Sweden and the UK represent the extremes within the four countries analysed. The Netherlands and Germany both have ambitious policy environments and offer financial support – leaving housing associations with a wide range of pro-active or ambitious programmes, or more careful investment strategies.

In the Swedish market, most dwellings are of the ´miljonhemmet´ (1 million homes, mainly high rise blocks, built in the 1970´s) style and period, with a preference for district heating as a low-impact heating solution. At the same time, public policies and funding instruments stress sustainability and support long-term thinking. The combination of low internal and low external complexity results in relatively straightforward sustainability investment options for housing providers.

The Dutch case has high internal complexity due to the wide range of dwelling types, construction periods and technology solutions available – but has low external complexity given policies to reach energy neutrality. For housing associations, developing expertise on renovation options and renovation strategies becomes a key asset.

The German case, characterised by low dwelling diversity and relatively open sustainability requirements, provided an interesting case for boards to develop and assess alternative future stock profiles.

Finally, the UK market offers medium-level renovation policies, limited financing options and typically varied and dated building stock. This results in limited options for improvement and low complexity from technical and policy perspectives. The country-specific options for public-private collaboration however unlock opportunities for alternative financing of sustainability investments.

Participating organisations have confirmed higher awareness of energy efficiency and need to deal with the subject on a strategic level, and confidence in viability of more ambitious, long-term energy efficiency investment plans. In the UK case, the analysis resulted in serious efforts to obtain additional and lower cost funding for sustainability programmes, covering both investments as well as development of technical expertise. In the Dutch case, board discussions moved to comparing technical solutions fitting higher levels of ambitions.

5.3. Value, Valuation and Guidance

A key insight from the REVALUE project is that energy efficiency currently does not impact value, but, in the long term, the changing standards expected by tenants or regulatory requirements might lead to brown discounts or, potentially and ultimately, stranded assets. For the affordable housing market, which mostly serves clients with limited financial means. the first driver, a higher quality housing standard, is a very long-term process, without major milestones and changes reached over decades only. The second driver, government intervention, is a much more powerful and likely lever over investment plans. However, clear signalling of long-term policy objectives is needed to trigger market responses.

While housing associations in all countries now also assess the market value of dwellings, the typical long-term ownership ambitions make these comparisons less relevant for investment planning. The need to offer accessible rents might lead to an approach based on cost of living. By providing information of expected energy bills, tenants might make decisions based on operational costs - which would partially overcome the split incentive issue. It may also lead to different investment approaches by housing associations.

5.3.1. Guidance

Energy efficiency investments and their relation to value are not fully integrated into decision-making and valuation processes. Valuers do not typically assess energy efficiency components, and housing associations and lenders do not instruct valuers to further examine energy efficiency.

While more detailed reporting of energy efficiency valuation in the short term is not expected to increase values – it is expected to inform lenders, and potentially unlock improved financing conditions.

The enabler for this transition is a better data and data management systems, supported by valuation guidance that builds upon easily recognisable and classifiable building components.

Appendix I – Agendas of the expert round-tables


REVALUE
RECOGNISING ENERGY EFFICIENCY
VALUE IN RESIDENTIAL BUILDINGS

Recognising Energy Efficiency Value in Residential Buildings

Expert Panel the Netherlands

February 11, 15:00 – 17:00

Location: Vanhier Accountants Bankrashof 3, Amstelveen)

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Setting

- There are indications that investing in energy efficiency in residential housing leads to better financial performance, leading to higher rents or resale prices.

- In different EU countries, REVALUE organises panel discussions with housing providers, financers and valuers to discuss root causes for value, valuation and investment decisions, and trends in the market.
  - These sessions are in addition to an international quantitative analysis of realised value in market transactions, to be carried out over 2016-2017

- For panellists, the sessions may lead to new insights how peers and partners approach decision making

- For project partners, the sessions may lead to an update of guidelines for valuing energy efficiency in the RICS framework

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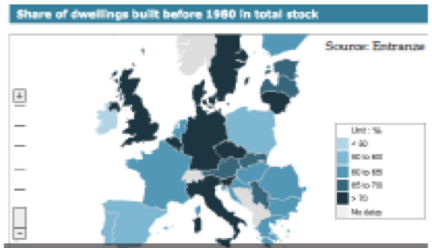
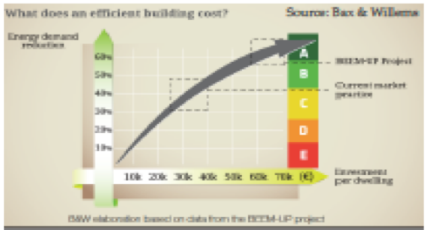
Recognising Energy Efficiency Value in Residential Buildings

Older single family and multi-family dwellings often have poor energy efficiency

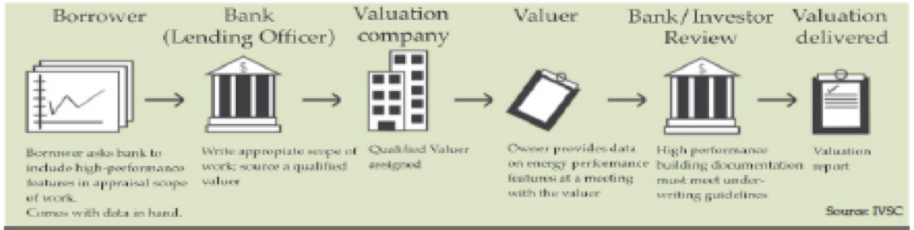


It is estimated that 20-30% of Europe's housing stock will be refurbished in the coming decade

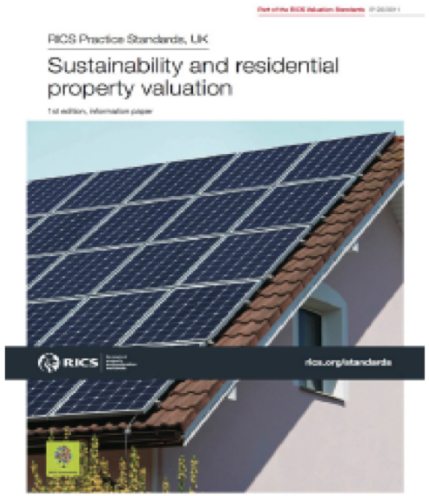
For green homes, price premiums have been demonstrated in various markets



Building renovation to current energy standards could require an up-front investment of 40-60k



Better recognition of energy efficiency savings in valuations could make more investments bankable, unlocking the market



Source: RICS

Updated valuation industry guidance on energy quality aspects enables widespread market

Background

A significant part of Europe's residential building stock is old and has poor energy efficiency. Re-furbishment to upgrade to current standards is estimated to cost 40 – 60k per dwelling, yet evidence suggests that the costs may not be economic over a normal investment period, resulting in many owners finding it hard to create a business case which would support borrowed funds. Further, current valuation methodologies used for secured lending are based on market value rather than investment worth making it difficult for lenders to justify mortgage advances based on refurbishment costs.

Aim

ReValue aims to facilitate potential changes to valuation guidance issued by the RICS, who are the leading professional body regulating real estate valuers world-wide. It will work with RICS to enable the development of more specific guidance to members to help them to strategically support market transformation towards greater recognition of energy efficiency through the value chain.

In order to achieve this it will develop a range of case study examples to stimulate knowledge and understanding of how and why investment in energy efficiency can support investors' returns.

Approach

ReValue brings together a range of stakeholders to collate energy and refurbishment cost data relating to social and private rented sector dwellings, in order to establish the ways in which these can be integrated into valuation methodologies.

The findings will be tested empirically by applying findings to portfolios of existing social and private sector investors in selected European countries.

Results

It is anticipated that the outcomes of the Revalue project will establish clearer evidence of a link between investing in energy efficiency and long-term investment value of residential let estate. Results will be disseminated to RICS valuers, their clients and other stakeholders and supported by accessible explanatory materials.

It is anticipated that the investment case will be built on risk reduction, enhanced long-term value and easier access to capital, both project and long-term, which in turn may establish energy efficiency as a core valuation factor.

Programme	Intelligent Energy Europe
Duration	2015-2017
Coordinator	Bax & Willems

Co-funded by the Intelligent Energy Europe Programme of the European Union

Partners

RICS

savills

Maastricht University

LUWOGE consult

vanhier
MKB accountants | adviseurs

Bax & Willems
Consulting Venturing

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Participants REVALUE project

Name	Organisation
Fiona Haggett	RICS, UK Valuation Director
Sarah Sayce	Kingston University (Emeritus Professor), United Nations Finance Initiative
Corné Koppelaar	Savills, international consultant director
Rogier Holtermans	Maastricht University / MIT CRE
Jill Spaeh	Luwoge consult
Friedrich Reuter	Luwoge consult
Marco Koot	VanHier Accountants
Rolf Bastiaanssen	Bax & Willems Consulting

Invited experts

Name	Organisation
RICS Europe	Maarten Vermeulen
De Alliantie	Grietje Doevendans
Mitros	Walter de Vette
Waarborgfonds Sociale Woningbouw	Joeki Brons
Waarborgfonds Sociale Woningbouw	Martijn Kumeling
GRESB	Sara Kelly Anzinger
Savills Amsterdam	Dave Hendriks
ABN Amro	Olaf Rutten
AEDES	tbc
Haagwonen	Ria Koppen
Energiesprong	tbc

This panel discussion…

- Focus is on energy efficiency in social and private rented housing stock in the Netherlands, and the role of value and valuation in decision-making on investments

- Starting point assumes that:
  - Retrofit to improve energy efficiency is mainly driven by regulation/norms and social objectives, but 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

- This afternoon is about exploring with you – valuers, funders, developers/investors whether these assumptions are right- and what could/is changing the situation

3 Key Questions

A. How do investor landlords determine their expected/required return on investment, and the best value for money?

B. Would a revision to 'appraisal norms and standards' require more explicitly consideration of Energy Efficiency, and help to facilitate in decision-making?

C. What additional (or different) information would give funders greater confidence or/and ability to fund energy efficiency improvements?

Related Questions to A: Return on Investment

- Do landlords consider energy efficiency as a 'need to have' for which a different 'hurdle rate' is imposed than for e.g. purchase?
- 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?

RICS Guidance Note, October 2013/Red Book 2014

- Valuers are "*advised to extend their data collection to include a record of sustainability factors, even if these do not currently impact on value*"
- Valuation reports should (where instruction allows) include:
  - Description of sustainability-related features
  - Statement of opinion of link between these and value - and the risks/benefits associated
  - Statement of opinion of *potential* impact of risks/benefits to relative property values over time

Related Questions to B: Norms/Standards

- Is this guidance – on paper- 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?
- Is it being reflected? How?

Related Questions to C: 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?
- Also – do they see any link between energy efficiency and the ability to repay loans ?
- Generally are they seeing a link between energy efficiency and value? If so how is this manifesting?

Attendees

Name
Waarborgfonds Sociale Woningbouw
Waarborgfonds Sociale Woningbouw
De Alliantie
Mitros
GRESB
Savills Amsterdam
Haagwonen
FGH Bank
W/E adviseurs
Energiesprong
ABN Amro

Location

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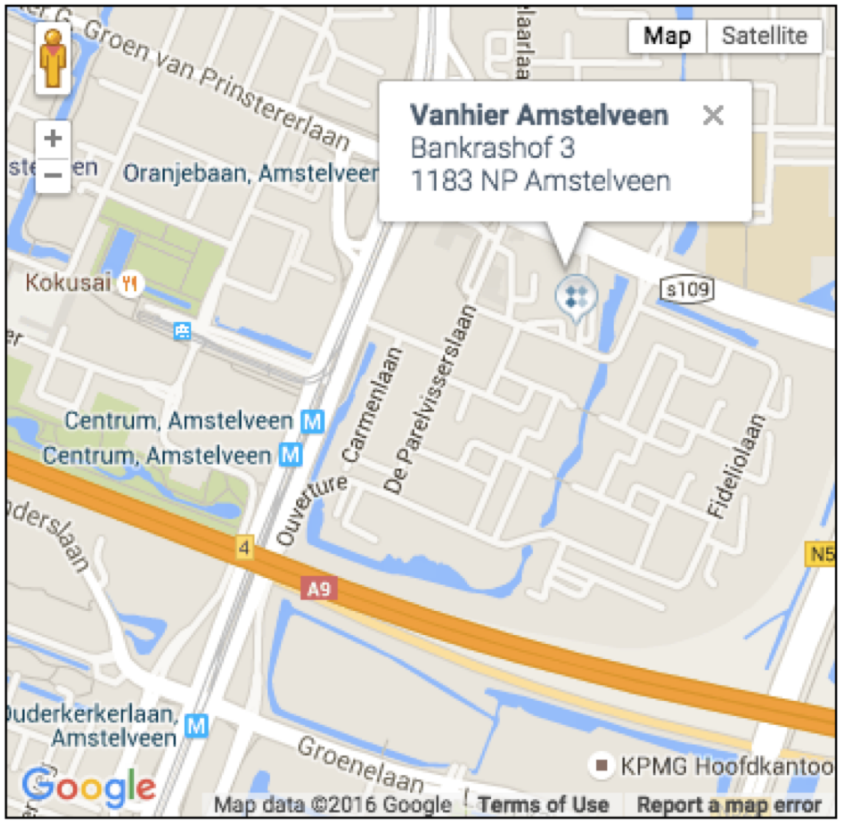
http://www.vanhier.nl/vestigingen/vanhier-amstelveen



REVALUE

REVALUE
Focus Group Meeting
London, 16th of February 2018
9:30-11:30

Venue: Savills London HQ,
33 Margaret Street,
Marylebone, London

Agenda

09:30 – 09:45 Welcome by Sarah Sayce (RICS)

09:45 – 10:15 Presentation of REVALUE results

09:45-09:55 *Financiers approach towards Energy Efficiency in housing,* Corné Koppelaar, (Savills)

09:55-10:10 *Energy Performance and Valuation of Social housing in Europe: a quantitative analysis*, Juan Francisco Palacios Temprano (Maastricht University)

10:10-10:25 *How valuers reflect Energy Efficiency in Europe,* Sarah Sayce (RICS)

10:25-10:35 *Long-term sustainable investment planning,* Rolf Bastiaanssen (Bax&Company)

10:35 – 11:15 Discussion

11:15 – 11:30 Conclusions

Co-funded by the Intelligent Energy Europe Programme of the European Union

REVALUE

REVALUE
Control Group Meeting

London, 16th of February 2018
Venue: Savills London HQ,
33 Margaret Street, Marylebone, London

REVALUE

REVALUE | www.revalue-project.eu

REVALUE has been investigating about the relation between energy efficiency and market value.

REVALUE project has collaborated with housing providers, valuers, financiers and other stakeholders.

In this Control Group …

We would like to share with you our project results and concept guidance on valueing energy efficiency to hear how you think they resonate with your day-to-day reality.

REVALUE

Take Part in Designing the Next Generation of Valuation Guidance for Sustainability in Residential Property

Agenda

09:30 – 09:45	Welcome
09:45 – 10:15	Presentation of REVALUE results
10:15 – 11:00	Discussion
11:00 – 11:30	Conclusions

Co-funded by the Intelligent Energy Europe Programme of the European Union

REVALUE

REVALUE
3 Types of Findings

A. Quantitative study results on the observed links between the energy efficiency of dwellings and their reported values (from 4 countries and 120.000 dwellings);

B. Qualitative results from 25 semi-structured interviews with RHPs, financial institutions and valuers on how EE in buildings is reflected at their work;

C. Qualitative results from discussions with nearly 30 valuers in selected countries on how EE is taken into account;

D. Updated Red Book and Concept guidance

REVALUE

Green buildings and financing
Do you think…

A. … there is a lack of ability of long-term forward planning due to unknown factors like costs of renovation, costs of energy, income/subsidies?

B. … sustainable energy futures may render current concerns less relevant?

C. … regulation is the answer in ensuring financing for green buildings?

REVALUE

Focus Group meeting the UK
London, February 16th, 2018

Background
The aim of the REVALUE to develop international guidance for property appraisers, that will help valuers to reflect the value of energy efficiency, in their valuations of social and private housing stock. By increasing awareness of impact of energy efficiency on value among lenders, investors and valuers, the project aims to promote advanced market practices and support and encourage market transformation.

To purpose of the focus group session was for practitioners to reflect on REVALUE findings and test if the findings reflect their experience.

Attendees[1]

Organisation
Valunation (Technical Director)
Places for People
SDL Surveying (Chief Surveyor & Technical Director)
RBS
RBS (Head of Investment and Development Analysis)
RBS (Director Sustainable Energy)
BlueBox Partnership (Operations Director)
Deloitte (Partner/Real Estate Valuation)
M&G (Head of Social Housing)
E.surv (Surveying Quality Manager)
JLL (Associate Director)
One Manchester
One Manchester (Head of Repairs and Maintenance)
Spalding & Co (Chartered Surveyor)

Introduction
Facilitator Sarah Sayce presentation of the REVALUE most important findings:

- REVALUE has been working together with valuers, lenders and asset owners in order to understand the relation between energy efficiency and value.
- REVALUE has done a series of case studies both qualitative and quantitative nature.
- REVALUE studied the relation of energy efficiency and value in the social housing sector in four European countries.

[1] From REVALUE team:

Sarah Sayce	RICS (Emeritus Professor Kingston University)
Marco Koot	Vanhier Accountants (Partner)
Juan Palacios	Maastricht University (Researcher Phd.)
Maarja Meitern	Bax & Co (Consultant)
Rolf Bastiaansen	Bax & Co (Partner/Senior Consultant)
Corné Koppelaar	Savills (International Consultant Director)