International Valuation Standards Council

PERSPECTIVES PAPER

ESG AND REAL ESTATE VALUATION

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ESG and Real Estate Valuation

The IVSC issues Perspectives Papers from time to time, which focus on pertinent valuation topics and emerging issues. Perspectives Papers serve a number of purposes: they initiate and foster debate on valuation topics as they relate to the International Valuation Standards (IVS); they provide contextual information on a topic from the perspective of the standard setter; and they support the valuation community in their application of IVS through guidance and case studies.

Perspectives Papers are complementary to the IVS and do not replace or supersede the standards. Valuers have a responsibility to read and follow the standards when carrying out valuations.

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The IVSC has issued this Perspectives Paper as the third in a series designed to initiate discussion and debate on the topic of ESG. Specifically, this paper will focus on Environmental factors that relate to real estate valuations, an example of which is sustainability which is one of many subcomponents of the E in ESG. More specifically, this paper will focus on valuations of existing real estate. Share your thoughts and perspectives with us through LinkedIn

ESG Overview

Environmental, Social, and Governance (ESG) are criteria increasingly used to assess the impact of the environmental, social and ethical practices of companies on their operations, financial performance and attractiveness to investors. The three components; Environmental, Social and Governance which are metrics considered to evidence effective performance, reach beyond the individual organization out to the wider markets, society and world as a whole.

While it is very frequent to have ESG criteria assessed and measured from a company's perspective, they should also be considered from a tangible asset's perspective as the ESG principles affect not only the behaviour of owners and operators of assets, but also other matters related to the physical properties themselves, such as energy efficiency.

Whilst the two prior perspectives papers considered ESG from a business and intangible perspective, this third Perspective Paper explores how ESG can be quantified within valuations of real estate assets. The relationship of ESG to proposed/under construction real estate is a distinct topic and is not discussed in detail in this perspectives paper.

This perspective paper will not, in the main refer to the Social and Governance aspects of ESG as these, whilst still relevant to a range of tangible assets, are less developed considerations in real estate valuation. The IVSC TAB consider ESG to be a fluid, developing topic and future perspective papers may consider these elements further.

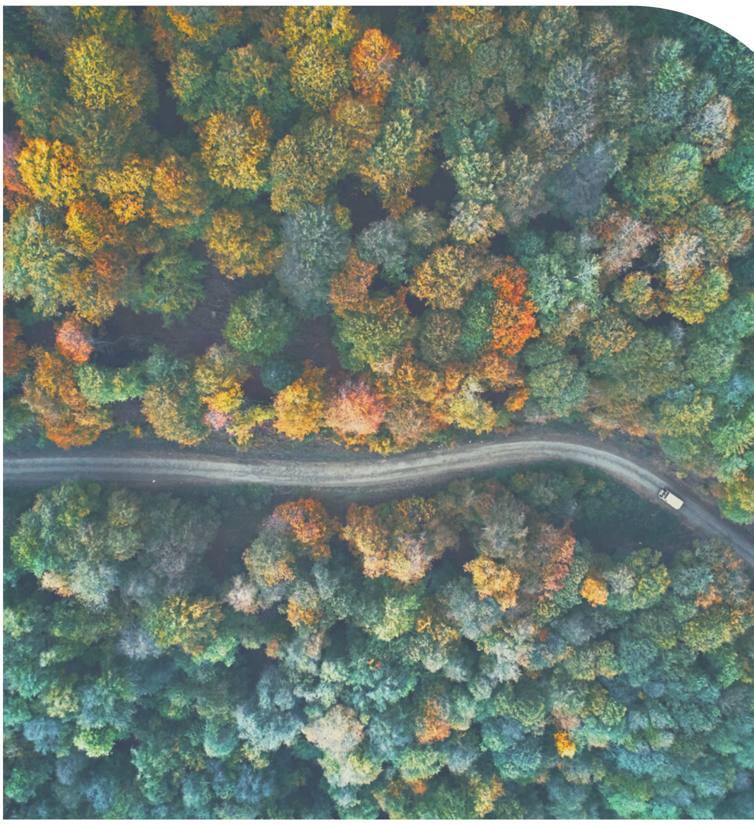
Consequently, capital flows will be increasingly channeled into sustainable economic activities in the future meaning ESG will play an important role in corporate decisions.

In a recent report issued by Morgan Stanley Capital International (MSCI) on Investment Insights 2021 a global survey was taken amongst sovereign wealth funds, insurers, endowments / foundations and pension funds on ESG considerations. Over 73 percent of those surveyed planned to significantly or moderately increase their investment allocation in ESG-friendly assets by the end of 2021 with a further 36 percent seeing the "social" aspect as a larger proportion of the mix by the end of 2021.

ESG and Real Estate Assets

Some background is in order. The Paris Climate Agreement in 2015 and the UN Climate Targets laid the foundation for a comprehensive consideration of ESG.

Capital markets are increasingly recognizing ESG in their decisions, *"with the rapid expansion of Environmental Social Governance (ESG) criteria for investment and the number of ESG funds, 'doing nothing' means the value of your asset – no matter where it is or what type – will likely be impacted by long-term sustainability challenges,"*[1]



1. JLL Valuation Insights – Valuing Net Zero and ESG for Offices April 2021

For insights on how ESG may impact the enterprise value of companies, PricewaterhouseCoopers (PwC) capital markets experts conducted a broad, internal analysis of more than 2,000 companies, to see whether there is a measurable relationship or correlation between a company's ESG rating and its market capitalisation, growth expectation and risk assessment by financial markets[2]. More granular analysis undertaken by PwC as part of this study found that across all sectors, all else equal, companies with a better ESG rating received higher valuations than companies with average ESG ratings. Also, valuation discounts were found (up to -10%) for companies with a comparatively poorer ESG rating relative to a company with an average ESG rating.

To dig into the specific impact on real estate assets, we turn to further research in the RICS Sustainability Report published in Q2 2021 showed, as illustrated by the diagram below that "Globally, around half of respondents believe that green/sustainable buildings achieve a rent and a price premium over comparable non-green/sustainable buildings. More than one-third believe that the rent and price premium stands at up to 10%; around 15% judge it to be higher still. Furthermore, over 30% of respondents suggest that, even if there is no rent or price premium, buildings not classed as green or sustainable are subject to a brown discount[3]."

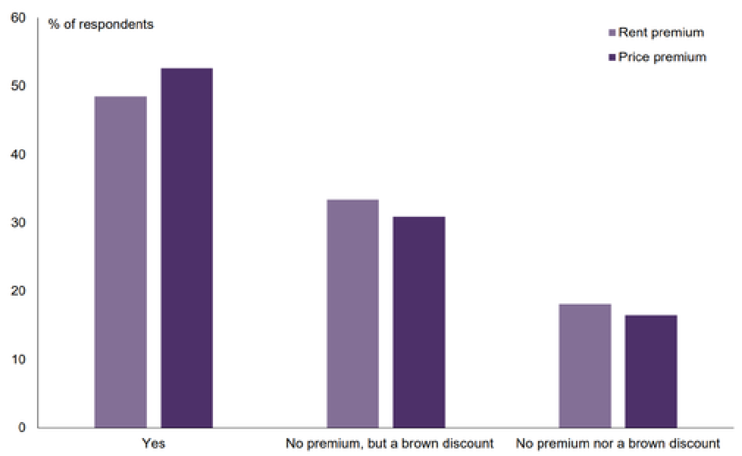


Figure 4 Rent and price premium for green buildings

RICS World Built Environment Forum Sustainability Report Q2 2021

2. https://pwcplus.de/de/article/223424/esg-in-der-immobilienbewertung/

3 RICS World Built Environment Forum Sustainability Report Q2 2021

As the impact of ESG on companies continues to become clearer, the question has evolved from whether ESG factors impact real estate markets to how we can measure ESG impacts in real estate valuations.

ESG and IVS

At this time, the obligation to consider ESG within the tangible asset valuation process is implicit in IVS. More specifically, under IVS 101 20.1 "all valuation advice and the work undertaken in its preparation must be appropriate for the intended purpose." This is further referenced in IVS 102 20.1 where it states that "investigations made during the course of a valuation assignment must be appropriate for the purpose of the valuation assignment and the basis(es) of value".

Moreover, within IVS 105 50.36 through 50.4, the adjustments for additional risks within the cash flow projection require detailed consideration and this will include ESG elements. Furthermore, IVS 410 Development Property section 100 provides the following requirements in relation to the Asset: -

> *"(c) whether there are other non-financial obligations that need to be considered (political or social criteria),*
>
> *(k) sustainability and any client requirements in relation to green buildings,"*

As part of the valuation process the valuer needs to understand trends and developing issues. The real estate industry will have to make a significant contribution to the implementation of ESG and as a result will face major challenges around both incorporation and providing transparency as part of the valuation reporting process.

ESG and the Global Real Estate industry

From a real estate perspective, Environmental issues are especially important as the built environment contributes approximately 39% of the world's carbon dioxide emissions[4] and 40% of the energy consumption[5] An increasing number of occupiers, both in the residential and commercial environment, are seeking to occupy buildings with green credentials.

Responsible valuers need to be aware of steps taken by governments which will affect real estate. Several examples follow.

- ·**Australia** - there is the National Australian Built Environment Rating System (NABERS), which provides comparable sustainability measurements across building sectors (e.g. hotels, shopping centers, apartments, offices, data centers).

- **China** – environmental requirements are gradually increasing and although there is a long way to go, positive change is taking place, especially for the "E" constituent. The Chinese government has prioritized improving attaining environment goals and achieving ecologically more sustainable economic growth with a target to have CO_2 emissions peak before 2030 and achieve carbon neutrality before 2060.[6]

- ·**Europe** – In non-EU countries environmental requirements are still in the early stages of development but as environmental requirements develop within the EU other European countries will face increasing pressure from potential investors and occupiers to meet EU requirements.

- ·**European Union** - European Union - the EU has committed itself to ESG's and "the 2050 vision is for all buildings (new and existing) to be net zero carbon across the whole lifecycle. As an interim ambition, all new buildings should be able to achieve zero carbon in operations and aim to reduce carbon emissions by 40% in 2030.[7]

  Similarly, many other governments as well as global corporations are seeking to achieve a net zero position by 2030 through measures such as reducing energy, resource optimisation and switching to renewables with any residual emission being neutralized through carbon offsetting.

4. https://www.worldgbc.org/news-media/WorldGBC-embodied-carbon-report-published
5. http://www.euenergycentre.org/images/unep%20info%20sheet%20-%20ee%20buildings.pdf
6. https://www.rics.org/globalassets/wbef-website/reports-and-research/q2-2021-rics-sustainability-report.pdf
7. https://www.jll.co.uk/en/views/valuing-net-zero-esg-for-officest

- **Hong Kong** – Hong. Kong Stock Exchange has issued mandatory requirement of ESG reporting for listed companies with a guidance on subject areas, aspects, disclosures and KPI to address in the report.

- **India** – environmental requirements are increasing and there are new mandatory reporting requirements from 2022 that promote transparent, standardized disclosures on ESG parameters and sustainability-related risks and opportunities among listed companies in India. Even though the decline in operational and embodied carbon is a leading industry priority the market is more concerned with resolving local environmental matters such as: water consumption, materials resilience and waste.[8]

- **South America** – environmental requirements are usually contained within urban master or development plans (e.g., Brazil, Colombia, Mexico) with some South American countries having potential property tax benefits for sustainable buildings. In South America there is already a considerable stock of commercial properties that are adherent to LEED and similar certifications, in main markets and many development companies that went public have incorporated ESG practices in their everyday business.[9]

- ·**United Kingdom** – the precise nature and scope of ESG and related regulation in the UK continues to develop and as per the EU the UK is also committed to meeting net zero requirements. In the UK Energy Performance Certificates (EPCs) are required whenever a property is built, sold, or rented and the government has consulted on further changes and proposed administration. Moreover, UK businesses which maintain access to the EU may opt to comply with the more rigorous governmental expectation should the UK and EU frameworks diverge.

- ·**United States** - In the U.S. there is the C-Pace Alliance which enables private capital to finance energy efficiency and renewable in existing commercial and residential buildings which may need retrofitting to meet future ESG requirements.

8. https://www.griclub.org/news/real-estate/the-role-of-esg-in-indian-real-estate_1466
9. For example https://www.tegraincorporadora.com.br/esg/

It is a reasonable expectation that governments in other markets will also adopt measures pertaining to ESG regarding real estate. While it would clearly be optimal for governments to provide consistent ESG measures following a global standard this likely won't happen in the near term and consequently valuers must remain alert for such measures in the specific property's market and gauge the market reaction to them.

ESG and Real Estate Valuation

When it comes to valuing real estate, the impact of ESG is not to be found in any white paper or think tank study; it is to be measured from the market and is to reflect the actions of market participants, buyers, sellers, tenants and landlords, developers and lenders. The impact of ESG will evolve over time as both it becomes increasingly more evident in a world-built market and is better understood by those active in the market.

Valuers may use one or more of three accepted approaches to consider the impacts of ESG in the valuation of real estate.

Cost Approach

In the Cost Approach, the valuer considers the cost to construct the improvements, accrued depreciation and obsolescence and adds in the estimated value of the land. However, cost does not always equal value and while the Cost Approach could be used for part of the valuation to calculate the retrofitting costs to make buildings more ESG compliant, it would not be recommended as the main approach for quantifying ESG considerations within a valuation.

Sales Comparison Approach

The Sales Comparison Approach considers prices achieved for transactions of similar properties. At this early stage of market recognition and adoption of ESG practices, there is not yet full transparency regarding ESG characteristics for buildings making it very challenging to find comparable market transactions reflecting full ESG adoption, or to objectively know and compare the level of ESG adoption of the comparables used. This factor makes the Sales Comparison Approach more difficult to apply for the time being.

Nonetheless, it is for the valuer make inquiries to better understand the level of ESG adoption of any comparables used and try to assess the impact of these characteristics in market prices.

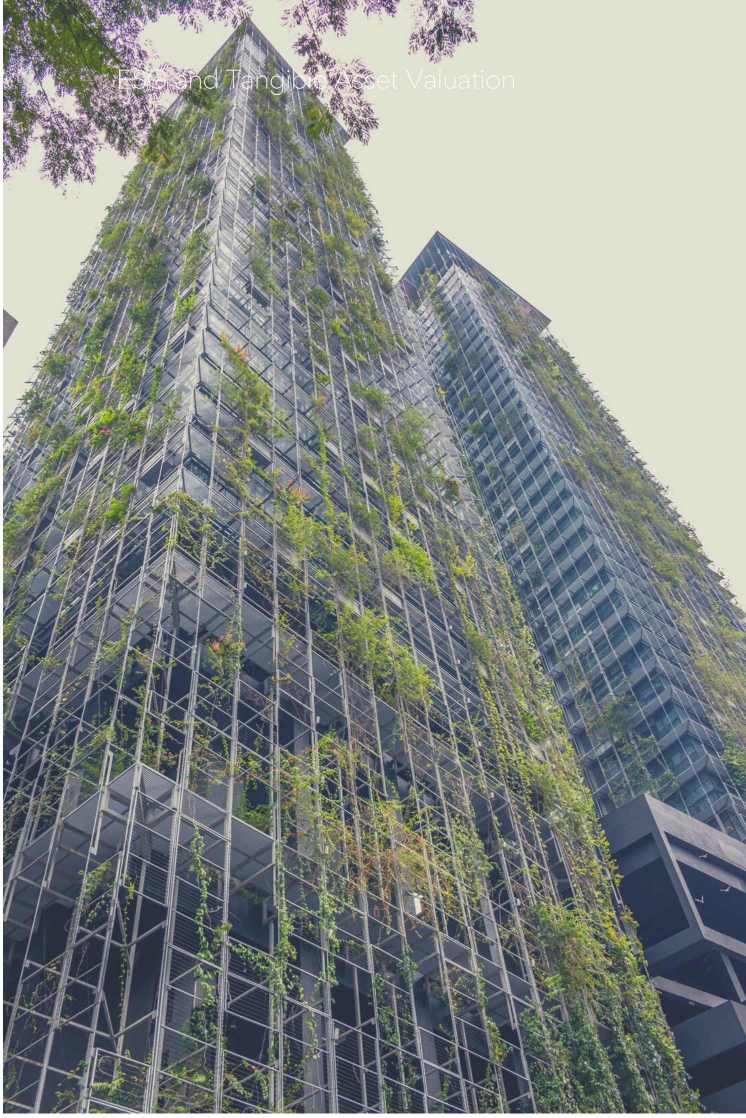
Income Approach

In the Income Approach, the valuer estimates the rental income the building can generate, the extent it will be vacant, expenses the landlord will pay for and then the relationship observed in the market between the generation of net income and what price buyers are willing to pay.

As both tenants and investors are increasingly sensitive to ESG, they will be increasingly attracted to occupy space in buildings or invest in buildings with higher ESG ratings to improve their own overall ESG rating. It has been further noted that in some instances companies and investors will only consider buildings with sufficient energy performance ratings.

For buildings with better ESG ratings, this may result in higher rents, lower vacancies, and shorter void periods between tenants. To the extent this occurs, this increases the price investors would pay to acquire such real estate.

As decreased energy consumption is a primary goal of ESG, buildings with higher ESG ratings should have lower operating expenses. In markets where



energy expenses are paid by tenants, this will further enhance the building's attractiveness. In markets where energy expenses are paid by the building owner, lower energy consumption will enhance the net cash flow. Another important part of ESG is resilience. To the extent that successful implementation of ESG considerations makes the building more resilient, this will give potential buyers higher confidence in the future cash flow to be expected from the building which would increase the amount a buyer is willing to pay for the asset.

As mentioned above, the Income Approach includes consideration of rental income, vacancy, operating expenses and the relationship between the resulting net income and a sales price. These components can be analyzed as a single year in an Income Capitalization Analysis, or over a multiyear forecasted holding period using a Discounted Cash Flow Analysis.

Discounted Cash Flow Analysis is very well suited to quantifying ESG factors within a real estate valuation because a DCF can explicitly reflect specific assumptions which relate to income, expense, capital expenditures and exit yields and vacancies over a period of years. This method allows the valuer to transparently project expected trends and changes in income and expenses.

Another benefit is that this analysis can be conducted either excluding financing or fully considering financing. This is important as lenders have already become sensitive to ESG and further differences in financing may emerge such as energy efficient mortgages.

In addition, if the valuer already knows the purchase price of the real estate, it would be possible for the valuer to run the cash flow for different scenarios or levels of ESG compliance and solve for the internal rate of return (IRR) which can then be compared against anticipated IRR of other potential investments.

ESG and DCF's

When using a DCF analysis, the forecasted cash flow is discounted back to the valuation date, resulting in a present value.

As stated in IVS 105 Valuation Approaches and Methods the key steps in the DCF Method are as follow:

(a) choose the most appropriate type of cash flow for the nature of the subject asset and the assignment (i.e., pre-tax or post-tax, total cash flows or cash flows to equity, real or nominal, etc.),

(b) determine the most appropriate explicit period, if any, over which the cash flow will be forecast,

(c) prepare cash flow forecasts for that period,

(d) determine whether a terminal value is appropriate for the subject asset at the end of the explicit forecast period (if any) and then determine the appropriate terminal value for the nature of the asset,

(e) determine the appropriate discount rate, and

(f) apply the discount rate to the forecasted future cash flow, including the terminal value, if any.

For a visual example of this approach refer to the JLL Valuation Insight on "Valuing Net Zero and ESG for Offices[10]."

DCF Inputs

It is believed that the impact of ESG will be observable in several inputs commonly used in real estate valuation.

Income - The influence of ESG on the rent a building can generate can be significant. Many markets, such as the UK have seen that there is a limited supply of appropriately specified ESG buildings, and they are receiving increasing demand from occupiers with ESG requirements. In contrast, buildings which are not seen as ESG compliant and have low, for example, BREEAM, GRESB or LEED ratings are achieving lower rents in many markets. Recent studies from JLL[11] and Knight Frank[12] have directly correlated rental premium to higher BREEAM ratings.

The valuer needs to have a keen understanding of the market for the real estate asset and understand the extent to which ESG plays into building selection criteria used by occupiers. Buildings with higher ESG ratings may well receive both higher rent and/or higher occupancy levels compared with buildings with poor or no ESG ratings. Valuers must understand the selection criteria used by tenants for the type of building they are valuing and based on those criteria, analyse comparables carefully and make adjustments as needed for the presence or absence of ESG factors.

10. https://www.jll.co.uk/en/views/valuing-net-zero-esg-for-offices
11. https://www.jll.co.uk/en/trends-and-insights/research/the-impact-of-sustainability-on-value
12. https://content.knightfrank.com/research/2311/documents/en/the-sustainability-series-september-2021-8395.pdf

Non-recoverable operating expenses - In respect of non-recoverable management costs borne by the property owner, these costs should not be significantly different for sustainable buildings. In relation to maintenance costs, several studies suggest that buildings with modern building technology and control systems induce partially higher maintenance costs.[13] On the other hand, more efficient systems will generate savings in operation, therefore for the moment it could be assumed that the overall effect on non-recoverable operating costs is not material. However, in future it could be argued that user behavior in increasingly complex controlled buildings will influence management costs.

Vacancies - In some markets it appears that in some instances buildings that meet sustainable and ESG criteria may receive higher demand from occupiers and rent more quickly than similar class alternatives that do not meet this criterion. As a result, the valuer will need to carefully consider the vacancy and downtime projections within the cash flows based on the building's competitive position to probable tenants.

Capitalisation Rate - The capitalisation rate reflects the risk-return profile of the underlying property, and numerous aspects must be taken into account (location, type of use, occupancy rate, year of construction, tenant-mix, etc.) including the most probable buyer.

13. Cf. studies by M&GReal Estate (2018), p. 4; Szumilo / Fuerst (2012), SSRN Electronic Journal.

As returns are earned in the future, active buyers are forced to be future facing. In some markets investor groups are already targeting ESG compliant buildings as they see these assets as having lower risks in generating income streams, through a higher market rent and a greater occupancy rate as well as higher prices from a potential sale. Therefore, the influence of ESG on the capitalisation rate can be significant. Valuer knowledge of investor preferences is critical.

Discount Rate - As stated in IVS 104 Valuation Approaches and Methods the rate at which the forecast cash flow is discounted should reflect not only the time value of money, but also the risks associated with the type of cash flow and the future operations of the asset. Real estate is frequently valued using discounted cash flows with projections five to ten years or more, so investors active in this space are forced to make forward looking projections. Less sustainable buildings may inherently have a higher discount rate reflecting the risks outlined in relation to potential increased capital expenditure over time, potential additional taxation, longer voids, rental decline and higher exit yields. These associated risks could result in a higher discount in pricing to reflect the increased risk of obsolescence whereas lower discount rates could be applied to more sustainable assets to reflect the increased demand and cheaper debt through preferential financing. The potential difference in discount rates can be shown through scenario testing.[14]

Terminal Capitalisation Rate - A DCF forecasts cash flows during a holding period and then forecasts the sale of the building to another buyer using a terminal capitalisation rate to estimate the future price of the building in the last year of the cash flow. The terminal capitalisation rate selected reflects the forecasted investment appeal of the building at the end of the forecast period, which is often 10 years. As a result, when performing a DCF, one needs to think both of how a current investor will evaluate the building in the current market, but also how the next buyer will evaluate the building in a future market. Given the increasing importance of ESG, less sustainable buildings may have a higher terminal capitalisation rate resulting in a lower forecasted residual value which in turn lowers the current value.

Beyond these typical DCF inputs there are other aspects of real property valuation to consider.

Capital Expenditure - Refurbishment and retrofitting of buildings are usually conducted after careful analysis

14. JLL Valuation Insights: Valuing Net Zero & ESG for Offices

because such actions are capital intensive with a return on the expenditure only occurring over several years in the future. Consequently, owners considering such capital expenditures must be forward looking and consider evolving regulatory requirements and forecast future rental incomes based on amenities that could be offered to occupiers. Given the increasing role of ESG considerations, many may decide that it would be financially advantageous to upgrade existing buildings to improve energy efficiencies thereby improving ESG ratings.

There is a potential risk that delaying such a capital expenditure could lead to lost revenue if the building is less attractive to ESG sensitive occupiers and higher operating expenses as energy efficiencies are not realised. There is the potential for future taxation penalising excessive carbon emissions or operational inefficiency within a building.

Therefore, in terms of the cash flow, the question is whether to commit additional costs at the start of a retrofit process to take advantage of the short-term dearth of high rated ESG buildings in certain markets, or lower upfront costs, with the anticipation of further significant refurbishment costs over the forecast period, as ESG legislation and market demand becomes more evident in the market.

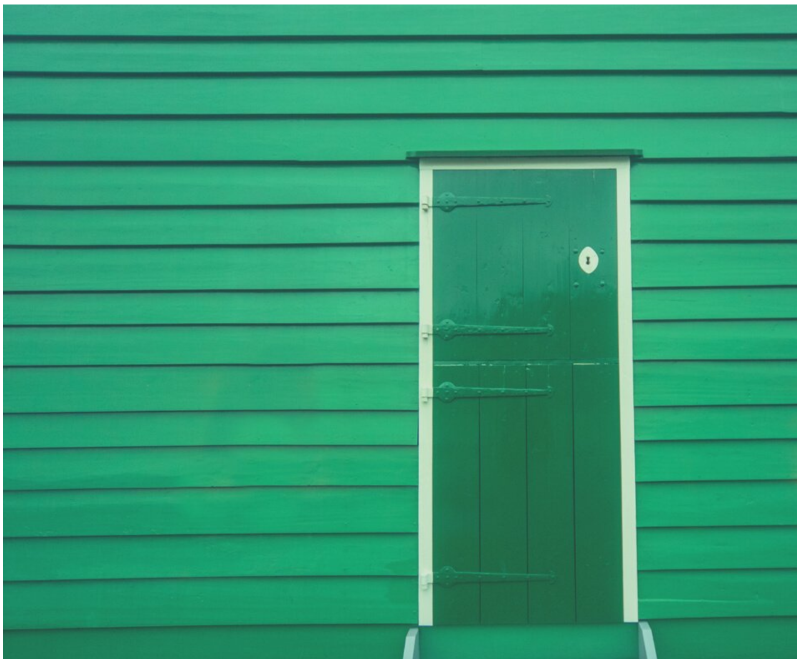
Other Inputs

Finance

While many valuations of real estate assets are performed before consideration of financing, there are an increasing number of green loans available within markets where lower finance costs are offered to buildings where sustainability Key Performance Indicators are achieved. This results in lower costs of debt and enhanced equity returns to the property owner.

Useful Life

In some markets such as the Netherlands, there is a legal restriction on the useful life of buildings that don't meet certain ESG compliant criteria. The valuer must be aware of this and consider the relevant legislation in the locality and when appropriate. In doing so, they must restrict the forecast cash flows to the remaining useful life of the building, or until the building is made more ESG compliant.



ESG and Valuer Requirements

The most important skill for a valuer is to recognise market changes and to do that, one must be in close touch with their particular market. There is risk in relying on older data and as the pace of change continues to accelerate, a valuer who is aware of ESG changes and keeps up with new technical skills will be in high demand.

In order to account for ESG factors within the valuation process the IVSC anticipate that the valuer will need to;

- Monitor the continued evolution of ESG and what building aspects result in higher or lower ESG ratings.
- When evaluating a building in its market, be aware of applicable governmental ESG measures.
- Maintain a keen understanding of leasing and other market requirements to accurately reflect supply and demand considering ESG.
- Liaise with construction and build cost professionals to understand components that enhance ESG factors and their cost.
- Understand ESG features of comparables used and determine how much emphasis market participants place on such features.
- Understand whether favourable financing is available for buildings with a higher ESG rating.

Conclusion

The Tangible Assets Board believes that investor and occupier ESG requirements will accelerate the number of new and refurbished buildings, and current demand and supply imbalances will potentially result in green premiums for well specified buildings and increased obsolescence for buildings that do not meet these criteria. The Tangible Assets Board expect the regulatory and policy environment to continue the focus on climate change and targets towards net zero.

Valuation necessarily involves comparison. As the impact of ESG is at early stages consequently, there is less market data. Nonetheless valuers need to stay abreast of their markets to accurately consider ESG within the valuation process as this is a rapidly evolving issue.

Valuation methodologies have been well developed and tested over years and are capable of beginning to reflect market participant attitudes toward ESG factors – as long as valuers are knowledgeable of what those market participant preferences are. Currently, market behaviors can best be measured using the Income Approach. As ESG recognition in the market matures and there are more transactions of buildings with varying and transparent levels of ESG involvement, the Market Approach may become more applicable.

In future the valuer will need to adopt more of a consultancy role and in addition to providing a valuation service, positioning themselves to provide detailed strategic advice with scenario testing. In order to meet these challenges valuers will need to continually develop their skills to meet developing market needs.

Next Steps

The IVSC Trustees and the IVSC Standards Review Boards and its Technical Asset Boards (Business Valuation Board, Financial Instruments Board and Tangible Assets Board) have prioritised the quantification of ESG's within the valuation process to meet increasing market expectations and global public interest. In the immediate future, the IVSC will continue to work with key stakeholders and issue Perspectives Papers such as the recently published perspectives papers on "A framework to Assess ESG Value Creation" and on "ESG and Business Valuation" to fully explore and understand the issues in relation to the quantification across all specialisms. In addition to the publication of these papers and the market feedback received around the quantification of ESG's, the IVSC is planning to more clearly delineate ESG valuation requirements within future editions of IVS.

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