IMPROVING THE BENCHMARKING OF ESG IN REAL ESTATE INVESTMENT

ABSTRACT

Purpose- ESG (Environment, Social, Governance) has taken on increased importance in real estate investment in recent years, with benchmarking ESG being critically important for more informed real estate investment decision-making. Using 60 stakeholder interviews with senior real estate executives, this paper examines the strategic issues regarding benchmarking ESG in real estate investment; specifically identifying areas going forward where ESG benchmarks need to be improved. This includes the issues of granularity, climate resilience and climate risk, as well as an increased focus on outcomes and performance, and using best practice procedures in delivering ESG in real estate investment.

Design/methodology/approach- 60 stakeholder interviews were conducted with key real estate players globally to assess the use of ESG benchmarking in real estate investment at various levels (asset/fund-level, listed real estate, delivery, reporting and internal benchmarking), across regions and across different types of real estate investment players (real estate fund manager, REIT, institutional investor, real estate advisor). This enabled key strategic insights to be identified for improved ESG benchmarking practices in real estate investment going forward.

Findings- There was clear evidence of the need for improved benchmarks for ESG in real estate investment. More focus was needed on performance, outcomes and impacts, with a stronger focus on granularity around the issues of climate resilience and climate risk. Improvements in GRESB, as well as increased attention to TCFD were seen as important initiatives. Clear differences were also seen in the use of these ESG benchmarks on a regional basis; with Australia and Europe seen as the world leaders. These strategic stakeholder insights regarding ESG saw the development of best practice guidelines for the more effective delivery of ESG benchmarks for more informed real estate investment decision-making, as well as a series of recommendations for improving ESG benchmarking in real estate investment.

Practical implications- ESG benchmarking is a critical area of real estate investment decision-making today. By utilising stakeholder interviews, the strategic insights from key players in the real estate investment space are identified. In particular, this paper identifies how the current ESG benchmarks used in real estate investment need to be improved for a more critical assessment of climate resilience and climate risk issues at a more granular level. This enables the identification and delivery of more effective ESG best practice procedures and recommendations for improving ESG benchmarking in real estate investment going forward. These issues have clear impacts on ongoing capital raisings by investors, where benchmarking ESG is an increasingly important factor for real estate investors, tenants and real estate asset managers.

Originality/value- Based on the stakeholder interview responses, this paper has identified key areas for improvement in the current benchmarks for ESG in real estate investment. It is anticipated that an increased focus on technology and the availability of more granular data, coupled with user demand, will see more focus on assessing performance, outcomes and impacts at a real estate asset-specific level and produce a fuller range of ESG metrics, more focused on climate resilience and climate risk.

This will see a more effective range of ESG benchmarks for more informed real estate investment decision-making.

Keywords- ESG benchmarks, Real estate investment, Granularity, GRESB, Climate resilience and climate risk, TCFD

Paper type Research paper

INTRODUCTION

ESG (Environment, Social, Governance) has taken on increased global importance and awareness in recent years for all stakeholders; consumers, community, industry, investors and governments. This is also reflected in the high level of risk attached to environmental issues in the fuller global risk perspective (WEF, 2021).

Initiatives such as the UN Finance Initiative Principles for Responsible Investment (PRI) have clearly articulated how ESG creates value for investors and companies. With over US$ 23 trillion expended on sustainable investment strategies globally to date (Eurosif, 2017[1]), incorporating various ESG factors and supporting the UN's Sustainable Development Goals, this sees a better alignment for investors and the broader objectives of society, acting in the long-term interests of all stakeholders. This has seen many investors move from "whether to" to "how to" to implement ESG investment strategies. Organisations such as the Institutional Investors Group on Climate Change (IIGCC) have been active in promoting the benefits of ESG. The introduction of the Task Force for Climate-Related Financial Disclosures (TCFD) guidelines has also had considerable recent impact.

This increased focus on ESG is driven by a combination of regulatory requirements and market demands. The need to integrate ESG factors into investment portfolio strategies has seen the development of ESG rating metrics, frameworks and benchmarks from major providers (e.g.: MSCI, S&P DJ, Global Reporting Initiative, Carbon Disclosure Project, TCFD), as well as from specialist groups (e.g. Sustainalytics). These metrics, frameworks and benchmarks reflect an increased global focus on ESG, highlighting the importance of effective corporate stewardship and community engagement around this key issue. This particularly applies in the real estate investment sector.

The real estate sector is a key contributor to global greenhouse gas emissions, waste, and water and energy consumption. Importantly, this has seen the real estate sector embrace the challenges of ESG in delivering a more environmentally sustainable real estate sector going forward, with the real estate sector being one of the industry sectors that has the opportunity to make a deep impression in the ESG space. At the real estate asset owner level, the real estate sector has embraced the many aspects of ESG, with companies and funds producing separate bespoke reports on their ESG performance, in addition to the standard regulatory financial performance metrics. Many real estate players are now world leaders in ESG, principally in Europe and Australia. Leading global players in the real estate investment space concerning ESG in the various regions include: Europe (e.g.: Hammerson, Land Securities, PGGM, M&G), Australia (e.g.: GPT, Stockland, Mirvac), US (e.g.: Boston Properties, Kilroy, Nuveen, LaSalle) and Asia (e.g.: CapitaLand, CDL, Mitsubishi Estate). Green building standards (e.g.: LEED, BREEAM, Energy Star, NABERS) have also facilitated this process, as have the various Green Building Councils and the International Initiative for a Sustainable Built Environment. Major ESG initiatives in the real estate area, such as GRESB, European Public Real Estate Association's (EPRA) Sustainability Best Practice Awards, European Association for Investors in Non-listed Real Estate Vehicles' (INREV) Due Diligence Questionnaire and Global Property Research's (GPR) sustainable real estate indices, have embedded the importance of ESG issues more fully in the real estate industry at a global level. This has seen the language of ESG also become a key feature of the language of the real estate industry today, as evidenced by the increasing importance of ESG in global real estate markets (Newell and Marzuki, 2022).

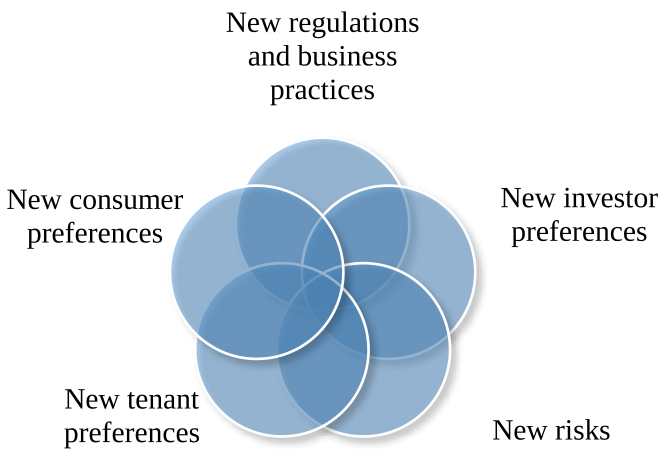
Importantly, these ESG factors are increasingly integrated into real estate investors' decision-making processes, around key issues such as climate risk management, climate resilience, zero carbon targets, and water, energy and waste management. While considerable progress appears to have been made in recent years, anecdotally, there are still substantial differences between organisations and across

[1] Eurosif (2017) European SRI Study 2016.

regions in the use of ESG metrics and benchmarks, and the integration of ESG factors into real estate investors' decision-making and investor requirements. For the real estate investment market to work efficiently in filtering out assets that perform poorly in terms of ESG metrics, a robust benchmarking framework is necessary. Since there are many facets to the ESG metrics, the benchmarking process can be quite challenging. Crucially, benchmarks need to be robust in order to accommodate a variety of factors, investment motives and provide quantifiable measures to facilitate comparisons. A key question for return-chasing real estate investors is: can buildings with superior ESG performance provide better short-term and long-term returns? This question can only be addressed if the ESG benchmarks are able to capture the granularity of the factors and provide clear ranking tools. This paper seeks to determine whether the current ESG benchmarks in real estate investment are fit-for-purpose in this rapidly evolving and dynamic environment, as well as recommendations for future ESG benchmarks: see Figure 1 below.

The scope and requirements of benchmarks has increased and given the take-up and adoption of ESG policies by the real estate industry, the question is no longer "are you doing ESG" but "are you doing ESG **well**?" Therefore, this paper assesses the current thinking in the real estate investment sector concerning ESG and examines the issues surrounding the use and application of current ESG benchmarks in real estate investment and what improvements are needed to see them as fit-for-purpose, as well as the changing style of ESG benchmarks, and the opportunities and challenges for developing relevant and effective ESG benchmarks and best practice procedures in real estate investment going forward.

Figure 1: The changing ESG space



Source: Authors' compilation

LITERATURE REVIEW

The real estate literature has expanded considerably over the last 15 years regarding the importance of ESG and real estate investment. This has also seen a considerable shift in the depth at which critical ESG issues can now be assessed; this particularly includes issues such as climate change risk, climate resilience, zero carbon strategies and climate risk mitigation.

Within the real estate literature, there is a body of early works investigating the increasing importance of ESG and SRI (Socially Responsible Investment) issues for the performance of listed real estate (e.g.: Cajias *et al*., 2014; Hebb *et al.*, 2010; Newell, 2008, 2009; Rapson *et al.,* 2007). Other areas considered in this earlier research included general ESG issues (e.g.: DeFrancesco and Levy, 2008; Lutzkendorf and Lorenz, 2007; Pivo, 2008) and ESG drivers (e.g.: Falkenbach *et al*., 2010).

Specifically, at an individual property level, several important studies have also shown the link between green office buildings and their financial performance across a range of real estate performance metrics (e.g.: sales price, values, rent, vacancies, yield); further supporting the importance of ESG in real estate financial performance. This includes Eichholtz *et al.* (2010, 2012), Fuerst and McAllister (2011 a, b, c), Gabe and Rehm (2014) and Newell *et al.* (2014) in assessing the performance of green office buildings in the US, Europe and Australia.

While the earlier academic research into ESG and real estate has been important in terms of validating ESG and real estate performance, it has been at a very broad level and has not assessed critical real estate issues in depth. More recent ESG and real estate research has added significantly to the depth of this research around critical issues such as climate change risk issues in real estate/valuation (eg: Cradduck *et al*., 2020; French, 2020; Le and Warren-Myers, 2019; Sayce *et al*., 2022; Warren-Myers, 2022; Warren-Myers and Cradduck, 2021; Warren-Myers *et al*., 2020 a, b), energy efficiency and the effectiveness of Energy Performance Certificates (eg: Fuerst *et al*., 2011 a, b, c; Mehdizadeh, *et al*., 2013), decarbonisation frameworks/strategies (eg: Hirsch *et al*., 2019; Spanner and Wein, 2020), separate asset class considerations (Geiger *et al*., 2016), ESG strategies by large real estate players (eg: Op't Veld and Vlasveld, 2014; Read and Sanderford, 2016), climate change leaders in real estate (eg: Warren-Myers *et al*., 2021), government responses to climate change events (eg: Cradduck and Warren-Myers, 2022), climate risk and real estate pricing (Clayton *et al*., 2021 b; Fuerst and Warren-Myers, 2021; Sayce *et al.*, 2022), the increasing importance of ESG in international real estate markets (Newell and Marzuki, 2022) and ESG and real estate in a post-COVID environment (Pike, 2020). A full assessment of the international literature regarding hazard exposure to specific climate change events (eg: flood, hurricane, sea level rises and wildfires) and the impact on commercial property value issues (eg: lending behaviour, insurability, valuations) is provided by Clayton *et al.* (2021 a); providing a better understanding for the management of these physical risks from climate change events for real estate. Importantly, this recent ESG research is at a global real estate market level, covering the US, Europe and Australia; further reinforcing the international relevance of ESG. The coverage of journals sees these ESG papers in real estate, investment, sustainability, ecology, business and economics journals, reflecting the importance of ESG in real estate at both a micro and macro level.

This academic research has been supplemented by high-quality industry reports by leading real estate players into the practical delivery of best practice in ESG in real estate (e.g.: APREA, 2022; BNP Paribas, 2019; CBRE, 2022; EPRA, 2022; GPIF, 2020; GRESB, 2019 a, b; INREV, 2022; IPF, 2022; JLL, 2022 a, b; ULI and Heitman, 2019). These studies often included incisive case studies in the real estate space, as well as articulating enabling strategies for achieving net zero carbon emissions and decarbonising cities, measuring current and future environmental resilience and its impact on commercial real estate, and recognising real estate industry leaders in the ESG space. Overall, this more recent research on ESG and real estate has enabled a more in-depth assessment of the critical

ESG issues for real estate in key areas at an individual real estate level, as well as at an overall portfolio level.

This paper adds to this current body of knowledge, with a “deep dive” into key strategic issues around benchmarking ESG in real estate investment; particularly concerning areas where the current ESG benchmarks need to be improved to accommodate developments around climate risk, climate resilience, climate risk mitigation strategies and granularity. The development of best practice guidelines in ESG and recommendations for ESG benchmarking going forward are key practical contributions from this research.

ESG BENCHMARKING IN REAL ESTATE

With ESG issues becoming more prominent in real estate investment, there is a growing need for capturing, measuring and quantifying various ESG attributes at both the asset and the fund/company levels. This is important for evaluating performance and identifying areas of weaknesses and strengths. Several benchmarks have been developed over the last decade or so. These benchmarks, while still evolving, are providing crucial metrics for the stakeholders in ESG and real estate investment. However, as an increasing number of issues are emerging and new regulations are being put forward, concerns over being fit-for-purpose for various ESG issues are deepening, and the ESG benchmarks need to evolve. Moreover, an increasing volume of data (both real estate and environmental) on various ESG issues is being generated, providing a catalyst for a new generation of ESG benchmarks in real estate investment.

There is a consensus across the stakeholders interviewed as part of this research that while some benchmarks are better than others, none of the current benchmarks are 'perfect' and there is a clear need for improvements across the board. An important consideration for benchmarking is whether these need to be external or internal benchmarks. While external benchmarking provides a much-needed independence in terms of performance evaluation, these benchmarks are often standardised, offering less flexibility to a company's needs and type of business. As a result, several companies focus on developing internal ESG benchmarks. Regardless, external benchmarks are viewed as more robust and are favoured, as they can provide very crucial comparisons across real estate sectors and competitors. These issues will be expanded on in subsequent sections of this paper.

Key ESG issues include climate change (e.g.: carbon emissions, carbon footprint, financing environmental impact, climate change resilience, climate change risk), natural resources (e.g.: water stress, biodiversity and land use, raw material sourcing), pollution and waste (e.g.: toxic emissions and waste, packaging materials and waste, electronic waste) and environmental opportunities (e.g.: clean technology, green buildings, renewable energy). Many of these issues need to be effectively accommodated within the ESG benchmarks for real estate investment.

There are also several motivations and uses of benchmarks in the ESG space. These benchmarks can be used for addressing property-level and the broader investor-level aspects regarding strategic, performance and communication issues, including tracking performance at the portfolio and individual property level, setting ESG improvement goals, identifying ESG best practice, assessing asset enhancement and energy efficiency, communicating the ESG message to investors (particularly the flow-on effect to raising capital and informing investors), and assessing peer performance.

In particular, the relationship between ESG benchmarks and real estate investment performance incorporates aspects of being a combination of a financial relationship, a risk management relationship and a PR relationship. This has important implications for an organisation's reputational risk and the capital raising ability of the asset owner; this issue is explored more fully in the stakeholder interview results section of this paper.

There are broadly four styles of ESG benchmarks and reporting standards, capturing information at various levels as follows: real estate fund/asset level : e.g.: GRESB (Global Real Estate Sustainability Benchmark), Geophy/427; listed real estate level : e.g.: S&P DJ, MSCI, Fitch, GPR; delivery level : e.g.: LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method), EnergyStar; WELL Building Institute, Fitwel Standard; and the reporting level :e.g.: PRI (Principles of Responsible Investment), CDP (Carbon Disclosure Project), GRI (Global Reporting Initiative), TCFD (Taskforce for Climate-Related Financial Disclosures). These different types of levels of benchmarks are discussed in detail below.

At the real estate fund/asset level, GRESB assesses and benchmarks the ESG performance of real assets, providing standardised and validated data to the capital markets. It was established in 2009 by a group of large pension funds to have access to comparable and reliable data on the ESG performance of their investments. Since 2009, it has now grown into a leading ESG benchmark for real estate and infrastructure investments across the world.

GRESB's ESG data covers over $ 4.5 trillion in real estate and infrastructure value and is used by more than 100 institutional and financial investors to make decisions on ESG practices in real estate. The GRESB assessments are based on the issues recognised by the industry and conform to international reporting frameworks. The participants receive information on their performance, performance of peers, a roadmap for improving their ESG performance and also, a communication platform to engage with investors. For details on the assessment report format and associated information, see GRESB (2019 a, b), with the GRESB website being https://gresb.com/benchmark-report/.

GRESB has been a key player in shaping ESG in real estate. It has had a major impact at all levels in transforming the way that the real estate sector looks at ESG from both the investor and investment management sides, covering both the listed and non-listed real estate spaces. It continues to evolve and make improvements; this includes the introduction of the "Health and Well-Being" module and "Climate Resilience" component, and increasing the focus around the TCFD issues of governance, risk management, business and strategy, and metrics. This sees points allocated for Management and Policy (27%) and Implementation and Measurement (73%) in determining the overall ESG score; seeing both sides of principles adopted and execution addressed.

For Geophy/427, it sees a combination of a market intelligence provider on the impacts of climate change for financial markets (427), with a technology company specialised in "big data" in the real estate sector (Geophy). Geophy's data fusion technology combines disparate data sources into one comprehensive data overview that puts buildings into context, providing standardised information on quality, value, and risk. This combination provides granular projections of the impacts of climate change on real estate investment trusts (REITs) at an individual real estate asset level. Scoring models of asset-level climate risk exposure are linked to a major database of listed Real Estate Investment Trusts' (REITs) holdings, to create a global, scientific assessment of REITs' exposure to climate risk. It includes detailed, contextualised projections of climate impacts from floods due to extreme precipitation and sea level rise, exposure to hurricane-force winds, water stress and heat stress for over 73,500 properties owned by 321 listed REITs globally. Geophy is an important recent development in the ESG benchmarking space, as it provides granular projections on the impact of climate change on REITs, being the first global scientific assessment of REIT exposure to climate risk at an individual property level. This sees a strong level of analysis, by combining the features of a real estate service provider with a fintech at the environment level. A scoring model of asset-level exposure to climate risk is used, with this combination of both aspects being a powerful development in enhanced granularity for ESG benchmarking in the global REIT space. This sees risk thresholds developed for exposed properties as well as high risk (or red flag) properties identified. Climate risk is assessed as average portfolio exposure for each hazard, as well as an average climate risk score; thus enabling a more granular assessment of the impact of climate risk on the real estate portfolio. Results are presented using enhanced graphics, scorecards and the ability to do interactive analyses for scenario analysis and risk analysis.

Listed real estate ESG benchmarks are provided by the major index providers, such as MSCI and S&P DJ. For example, MSCI rate 7,500 companies and more than 650,000 equity and fixed income securities globally. They collect information on ESG performance parameters using 3 pillars (E, S, G), 10 themes (eg: climate change, natural resources, pollution and waste, environmental opportunities, human capital) and 37 ESG key issues. Real estate companies form part of this MSCI database for ESG benchmarking of the listed real estate sector. Comparable ESG indices are provided by other index providers such as S&P DJ, Fitch and GPR.

While these listed real estate ESG benchmarks are useful in the listed real estate space, they are often seen as being very blunt, mainly using website collection procedures to extract the relevant information. This often raises accuracy issues.

At the delivery level, there are various international benchmarks available for measuring ESG concerns for water, waste, CO2 and energy. These include LEED, BREEAM and EnergyStar, which enjoy well-established international reputations in reporting performance in the real estate space. These delivery level benchmarks have been used in various studies to link green office building performance and financial performance; eg: Eichholtz *et al.*, 2010; Newell *et al.*, 2014.

At the reporting level, several reporting frameworks are available; this includes PRI, CDP, GRI and TCFD. PRI is the world's leading proponent of responsible investment. It works to understand the investment implications of ESG factors and to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions.

CDP is a global disclosure system for investors and companies to manage their environmental impacts. By scoring companies, CDP guide these players towards becoming a leader in environmental transparency, with over 8,400 companies disclosing their impacts through CDP.

GRI is an independent international organisation that has pioneered sustainability reporting since 1997. The GRI Sustainability Reporting Standards are the first and most widely adopted global standards for sustainability reporting. GRI has grown from a niche practice to one adopted by a growing majority of organisations, with 93% of the world's largest 250 corporations reporting on their sustainability performance.

The Taskforce on Climate-related Financial Disclosures (TCFD) aims to develop voluntary, consistent climate-related financial risk disclosures for use by companies. Members include both users and preparers of disclosures from across the G20 constituent countries covering a broad range of economic sectors and financial markets, including real estate. TCFD considers the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosure across industries. TCFD is expected to play an increasingly important international role in the near future, with its focus on governance, strategy, risk management, metrics and targets seeing TCFD as being the framework for effective climate-related financial disclosure. This is further reinforced by TCFD being mandated in the UK government policy for all listed companies and asset owners by 2022.

It should be noted that PRI, CDP, GPI and TCFD can be more suitably classified as reporting level frameworks rather than ESG benchmarks, but they still have a key role in the ESG space for real estate investment.

While several companies rely on the various external benchmarks as listed above, there are a number of organisations who prefer to create their own benchmarks and have the necessary resources to do so. One of the main challenges with the external benchmarks is inflexibility in reporting formats. The standardised nature of the external benchmarks does not allow certain uniqueness of the companies to be taken into account in assessing their performance on ESG. This is especially useful for large, diversified companies such as companies operating across a number of real estate sectors, and managers with various sector-specific and strategy-specific funds. However, building an internal company-specific benchmark requires a significant resource commitment and possibly, restructuring and realignment of business operations within the company. Larger companies with complex operations would require much more resources to do so. Despite this challenge, the ability to compile and process proprietary information and identify gaps in the data collection and independence in implementation of recommendations are clearly attractive for developing internal benchmarks for ESG. Given there are now several external ESG benchmarks providing a consistent and robust methodology, developing an internal benchmark is easier as the external frameworks can provide a template which can be customised to a company's specific needs. This sees a stronger focus on "in-house" ESG issues, rather than at the broader generic level.

METHODOLOGY

A key component of this paper is real estate industry stakeholder engagement to assess their views on ESG benchmarking in the real estate investment space. 60 stakeholder interviews were conducted globally between May and September 2019; resulting in over 45 hours of recorded stakeholder interviews to be critically assessed. These stakeholders were in senior executive roles in their organisations, with a deep knowledge and understanding of the role of ESG practices within their organisation and the real estate sector overall. This enabled a "deep-dive" into the specific issues of ESG benchmarking in real estate investment. A standard set of ESG "theme" questions were assessed within each stakeholder group (4) to ensure consistent coverage of the key issues by each stakeholder. Appendix 1 provides details of the questions asked to the real estate fund managers. These questions were varied slightly for the other three types of stakeholders (REIT (Real Estate Investment Trust), institutional investor, real estate advisor) to reflect the specific focus of their real estate activities.

The questions asked of these stakeholders were informed by the authors' in-depth knowledge of the ESG agenda, as well as being validated by the IPF (Investment Property Forum) Project Steering Group) who oversaw this research project. This IPF Project Steering Group comprised 5 real estate investment leaders in ESG from a range of real estate areas including leading real estate investors/investment managers and real estate advisory groups.

A qualitative approach in these stakeholder interviews was adopted in the research interview design. This saw the questions used in these 60 stakeholder interviews comprising both structured questions and semi-structured questions (see Appendix 1). Sufficient scope was also provided for these stakeholders to provide extra details or elaboration if considered appropriate, with many of the stakeholders choosing to provide this extra detail. To assess the stakeholders' views on the importance of ESG today and in the future, a 10-point importance scale was used, ranging from 1= low importance to 10 = critical importance. This enabled a quantitative measure of the changes over this timeframe for the importance of ESG. Average importance scores were used overall and for specific player types. The size of these groups was considered to be sufficient for the average importance scores to be a reliable measure of importance.

Priority was given to interviewing leaders in the ESG space to understand fully their use and understanding of ESG benchmarking, as well as providing exemplars for ESG best practice. Interviews were also held with some organisations less advanced in the ESG space in order to identify guidelines for improvements in best practice, and for those real estate organisations only just starting their ESG journey. No comments are directly attributed to players or individuals in this paper for reasons of confidentiality. Selected industry stakeholders were identified based on the researchers' deep knowledge of the ESG players at a global level, as well as stakeholder participant recommendations from members of the IPF Project Steering Group via their extensive ESG networks. These networks were both domestic and international, and reflective of the major real estate investor players globally.

Stakeholders were selected from a range of organisations, including real estate fund managers, REITs, institutional investors and real estate advisory groups. Interviews were conducted with these major players across Europe, North America, Australia, Asia and the Middle East. Total real estate assets under management from these parties totalled over US$ 1.4 trillion, further reinforcing the stature of these stakeholders in the real estate investment space. Table I provides a summary of the stakeholder interview coverage by type, region and region*type; reflecting a strong international dimension to these ESG benchmarking issues, as well as diversity by stakeholder type across the various regions. Stakeholders actively participated in these interviews; based on the reputation of the researchers, as well as by personal contacts via the IPF Project Steering Group. This ensured a high-quality and representative cohort of stakeholders (by type and region) to inform this discussion regarding ESG benchmarking. The regional splits were largely based on the scale of real estate investment markets;

this ensured no over-representation in lesser regions in the recruitment of the stakeholders to be interviewed. This recruitment strategy ensured the results from the stakeholder interviews were sufficiently rigorous to enable the generalisation of the findings from the stakeholders to the broader real estate investment sector.

Analysis of these stakeholder interviews were done via listening to the recording of interviews several times and critically discerning out the trends and real estate player differences regarding ESG benchmarking. This was considered a more suitable analysis strategy, rather than using percentages, as it enabled the richness and depth of the stakeholder commentary to be more fully appreciated.

Table I: Stakeholder interview profile for 60 respondents

	Number	Percentage
Type:		
Real estate fund managers (REFM)	25	42%
REITs (REIT)	15	25%
Institutional investors (II)	8	13%
Real estate advisors (REA)	12	20%
Region:		
Europe	29	49%
North America	14	23%
Australia	10	17%
Asia	5	8%
Middle East	2	3%
Region*Type:		
Europe (29)	REFM (11), REIT (7), II (4), REA (7)	
North America (14)	REFM (8), REIT (3), II (0), REA (3)	
Australia (10)	REFM (3), REIT (4), II (2), REA (1)	
Asia (5)	REFM (3), REIT (1), II (0), REA (1)	
Middle East (2)	REFM (0), REIT (0), II (2), REA (0)	

STAKEHOLDER INTERVIEW RESULTS AND ANALYSIS

The key insights from the stakeholder interviews are structured around the following selected ESG sub-themes (11) and provide major insights into how the leading real estate players see the importance of ESG to their activities, as well as the changes needed in the stature of the current ESG benchmarks. The results below provide an analysis of these views expressed by the stakeholders during these interviews, and do not reflect the authors' views unless expansion was required. This sees these stakeholder views as representing the current state of play for ESG benchmarking from a real estate industry perspective.

Importance of ESG in real estate

There was clear recognition across all stakeholders interviewed of the increasing importance of ESG in real estate, with the average score for importance increasing from 6.7 (score out of 10) now to 8.7 in the next 3-5 years.

While stakeholder quotes can often be seen as emotive and possibly difficult to validate, the authors strongly believe that the quotes in this paper add real richness and depth in capturing the strong mood and sentiment regarding ESG benchmarks in real estate investment. Hence, stakeholder quotes are used widely throughout this paper, reflecting the views of a range of stakeholders, both across the four stakeholder types and regions. These stakeholder quotes, whilst being anonymous, are identified by type of player and region.

Incisive quotes from stakeholders around this issue of ESG in general included:

> *"ESG factors will have more importance going forward"* - Advisory group: US
>
> *"We look closely at managers' ESG credentials; we encourage them to improve"* - Pension fund: Australia
>
> *"ESG is a key part of our investment decision-making processes"* - Fund manager: Europe.

From the stakeholder interview responses, Europe and Australia were identified as leaders in recognising the importance of ESG benchmarking now and in the future. The biggest improvements were expected in Asia, North America and Middle East, albeit from a low base. Within the real estate investment sector, institutional investors (eg: pension funds), real estate fund managers and REITs were identified as the leaders in recognising the importance of ESG.

Critical ESG factors in real estate investment today

A wide range of ESG factors are considered as important currently, including climate change risk, climate resilience, water and waste management, biodiversity and zero-carbon. The issues of climate change risk and climate resilience were most evident across the stakeholders.

Incisive quotes from stakeholders regarding critical ESG factors today included:

> *"Climate resilience and zero carbon are big issues for us currently"* - Fund manager: US
>
> *"We are focused on our communities; employees, tenants, investors and broader public"* – REIT: Australia
>
> *"Our board is right across our ESG strategies"* - REIT; Australia.

Critical ESG factors in real estate investment going forward

Several ESG factors were seen as taking on much more importance going forward, with a stronger focus on specific key factors, including climate resilience, climate change risk, the need to model climate change scenarios, waste disposal and zero carbon.

Compared to the current important ESG factors mentioned previously, the earlier focus on the important factors remains evident, but the stakeholder interviews revealed more attention has to be given to climate resilience, climate change risk and zero carbon, and the need to more fully measure performance and impact in the ESG space.

Incisive quotes from stakeholders that capture this changing mood and sentiment regarding ESG factors in the future included:

> *"Climate change is a global imperative"* - Fund manager: Europe

> *"There has been a positive impact on investment through institutional owners via social investing"* - Fund manager: Europe.

This evolving stakeholder sentiment for the critical ESG factors has implications for ESG benchmarking in real estate investment; in particular, whether current ESG benchmarks are adequate and if they will keep pace with changing levels of importance of these critical factors in ESG. This is the focus of subsequent sections of this paper.

Use of ESG benchmarks in real estate investment

The key ESG benchmarks in real estate were assessed at various levels, particularly focusing on their use, limitations and how they can be improved to meet these increasing and changing priorities. A wide range of ESG benchmarks were cited by respondents, including both external and internal benchmarks, depending on the type of organisation involved. The views also highlighted differences between benchmarking ESG policy and approach today to the need for the fuller benchmarking of ESG performance and outcomes in the future.

For real estate fund/asset benchmarking, GRESB (Global Real Estate Sustainability Benchmark) (GRESB, 2019a) was often mentioned as the most relevant benchmark by stakeholder respondents.

Incisive quotes from stakeholders regarding the importance of GRESB included:

> *"GRESB is now part of our day-to-day language of how we are reporting"* - Fund manager: Europe

> *"GRESB has forced some sections of the business to be exposed to ESG"* - Fund manager: Australia

> *"GRESB is the best platform to engage investors in ESG"* - Fund manager: Asia.

There was also recognition that GRESB had evolved in more recent iterations, with the introduction of the Health and Well-being and Resilience modules, as well as accommodating TCFD (Task Force on Climate-Related Financial Disclosures) issues around governance, risk management, business and strategy, and metrics regarding climate issues.

However, while recognising its relevance, it is important to put GRESB in perspective; particularly in terms of an organisation's overall ESG strategy, as evidenced by one stakeholder quote:

> *"We do not use GRESB to drive our strategy…we drive our strategy"* – REIT: Australia.

This quote, mentioned above, highlights a very important concept; namely that benchmarks themselves should not be allowed to drive or determine an ESG strategy, and that they are only one way of measuring performance. Asset owners themselves should determine, and indeed own, their ESG strategy. Importantly, many stakeholder respondents were fully aware of the limitations of GRESB and the need for further improvements. Some of the stakeholders who were most advanced in their ESG strategy had used GRESB as a starting point on their ESG journey to structuring their individual corporate approach to ESG. In particular, stakeholders felt there was a need to move beyond the current focus of GRESB on implementation of policies and data coverage to more fully include the ESG performance of the real estate portfolio. This would see the agenda evolve from “doing ESG” to “doing ESG **well**”. Some stakeholders mentioned the risk of respondents “gaming” the GRESB process to achieve a higher score without a direct positive impact on their ESG strategy. The BBP (Better Buildings Partnership) in the UK has made specific recommendations for improvements, as part of their recommendations regarding transparency, materiality and the future development of GRESB (BBP, 2018).

In the light of this awareness of the need for improvements in GRESB, and as just one example, several participants (particularly US stakeholders) mentioned Geophy/427 as a new development in ESG, with its focus on granular projections of the impact of climate change at the individual property level. This sees Geophy as assessing over 73,500 individual properties owned by REITs globally for a range of environmental risks; see earlier section for details of Geophy. Geophy is an important recent development in the ESG benchmarking space, as it provides granular projections on the impact of climate change on individual properties in REIT portfolios. This is a “granular” style of ESG benchmark in real estate investment that will evolve over the next few years. This will involve a real estate service provider and a fintech at the environmental level utilising specific real estate and environmental/scientific information/data regarding climate change to assess the impact of climate change at an individual property and portfolio level for a fuller assessment of climate risk and climate resilience. Other technology groups that are linking real estate and climate risk to enable a deeper and more rigorous analysis of ESG issues and real estate are Carbon Delta, Jupiter Intelligence and Verisk Maplecroft. These more granular climate risk analysis opportunities are expected to expand considerably over the next few years, building on improved big data capabilities.

For listed real estate level benchmarking, a range of ESG benchmarks in the listed real estate space were utilised by the interviewees, largely from the major index providers, but to a lesser degree to GRESB, with the MSCI ESG indices being the most frequently mentioned; as well as Sustainalytics. These ESG benchmarks covered the largest listed real estate companies globally (REIT, real estate operating company) by market capitalisation. However, these ESG benchmarks are regarded by some stakeholders as being too blunt via their website data collection procedures and thus the need for more granularity and validation of their accuracy.

Importantly, listed real estate level indices are also evolving in their ESG coverage, including S&P’s introduction of the ESG Evaluation module in June 2019 to enable the assessment of how ESG factors will affect companies’ long-term sustainability. Similarly, with MSCI’s acquisition of Carbon Delta in September 2019, this provides MSCI with expanded capabilities to undertake environmental fintech and data analysis. This will see the MSCI Climate Value-at-Risk module developed, enabling climate change scenario analysis and risk analysis to be carried out in the listed real estate space, which is a positive step for the fuller analysis of climate risk in the listed real estate space.

For delivery level benchmarking, other ESG benchmarks were widely used at the delivery level (e.g.: water, waste, energy, CO2) via LEED, EnergyStar, BREEAM etc. These are global certification schemes seen by the stakeholders as having well-established reputations in reporting ESG performance. Several local delivery benchmarks were also mentioned, being local variations on these global delivery benchmarks; e.g.: GreenMark in Singapore. However, it is important to note that some of these delivery-level benchmarks do not provide performance-in-use benchmarks. They are asset-level benchmarks, so they are assessing how a building is designed, and not necessarily assessing how a building performs while in use; ie: its actual operational impact.

For reporting level frameworks, all of the standard reporting level initiatives were regularly mentioned in the stakeholder interviews, being strongly endorsed as global frameworks by the global players at an institutional level. These include PRI, CDP and GRI. Whilst not being benchmarks, they have an important role as reporting initiatives and frameworks. Specific mention was made by many interviewees of the ongoing impact and increased role of TCFD (Task Force on Climate-Related Financial Disclosures) (TCFD, 2019) in providing an effective framework for climate-related financial disclosure. Whilst currently a voluntary disclosure platform (introduced in 2017), it will be mandatory for all PRI signatories from 2020 and for UK listed companies and large asset owners from 2022. It details governance, strategy, risk management, metrics and targets around climate change and is clearly seen by stakeholders as a key initiative for ESG and real estate investment.

One stakeholder indicated that:

> *"TCFD will be a key framework factor shortly"* - Advisory group: US.

Whilst much focus was given to the use of external benchmarks, the research also assessed whether interviewees used internal benchmarks for ESG. It was found that the use of internal benchmarks was far less advanced, with the main users being REITs, and the larger real estate fund managers and pension funds. Typically, these were a combination of certain metrics used in external benchmarks and some specific calculations related to the user's business. The general sentiment was that external benchmarks were used for the benefit of investors, whilst internal benchmarks were used to run the business.

One REIT used internal benchmarks to determine both the long-term impact of its investment decisions, as well as to shape its internal corporate culture. Elsewhere, one real estate fund manager ran a survey to determine the optimal internal benchmark, but found that reducing answers to a simple numerical score did not produce a useful tool, as it required a far more holistic approach. Another real estate fund manager used energy efficiency to rank assets and funds into relative performance quartiles and determine those in most need of improvement. A US real estate fund manager used internal benchmarks as a screening process in sustainable listed real estate stock selection.

Some of the larger pension funds are developing proprietary composite benchmarks using their own data to measure physical impact as well as the volume of their impact investments. Physical data is being built into models they are developing with real estate investment managers in collaboration with a number of universities.

Views on ESG benchmarking

Beyond answering the interview questions (see Appendix 1), stakeholders also expanded on other issues relating to ESG benchmarking in an open-ended format. As such, mention was also made by numerous stakeholders of specific important issues regarding ESG benchmarking in real estate investment. Key elements that figured prominently in these discussions are given below.

Firstly, a diversity of views regarding the use of ESG benchmarking was evident. Some stakeholders fully supported the use of GRESB as having a key role. Others did not favour benchmarks, seeing a single number as incapable of capturing the nuances of their wider picture strategy/agenda in ESG. In particular, a "one size fits all" approach did not capture fund style differences.

Secondly, there were increasing reporting demands by many pension funds around ESG. Often this went well beyond standard GRESB formats and required considerable effort in producing specific

ESG details. This was seen as time consuming and placed more focus on ESG reporting than ESG delivery. Concerns were also raised over data collection processes, data quality and transparency of various benchmarks, being seen as an area requiring improvement in several benchmarks.

There was also a desire to more fully assess ESG impact and performance. This was seen as going beyond just ESG policy and procedures. Similarly, there was a need to go beyond just metrics, with a fuller narrative required to explain the stakeholder's ESG strategy and delivery. In terms of the stakeholder's ESG journey, ESG benchmarks (e.g.: GRESB) were seen as the starting point not the end point in the ESG agenda. While an organisation's ESG profile was seen as important for capital raising (i.e. external view), the bigger issue was ESG risk management (i.e. internal view), going well beyond just capital raising issues.

Strategically, ESG benchmarking was seen as a productive exercise in the longer-term, although in the short-term, it may be more challenging due to a holistic approach being required by real estate asset owners and investors, compared to the single figure metrics produced by benchmark providers. At the broader strategic level, whilst ESG benchmarking did not reduce climate change risk in itself, it was identified as a key element of an overall ESG strategy to reduce climate risk.

Finally, in terms of ESG teams in the organisation, whilst the ESG teams were typically small (between 2 and 6 staff), it was generally accepted they should have an integrated role with the real estate and management teams, working closely in developing ESG targets, strategy and agenda at an organisational level. Importantly, at an executive level, ESG support at a CEO and board level was deemed to be crucial.

Incisive quotes by stakeholders regarding their views on ESG benchmarking included:

> *"The ESG strategy we develop is strongly supported at the board level"* – REIT: US
>
> *"Our ESG team is small, but actively involved at all levels"* – REIT: US
>
> *"We use ESG as a trigger for the conversation, rather than the final investment decision"*
>
> - Pension fund: Australia.

Use of ESG benchmarks

Main uses for the ESG benchmarks by the stakeholders included tracking performance at the individual asset and portfolio levels (particularly against peers' performance); setting ESG improvement goals; identifying best practice in ESG; effectively communicating the company's ESG credentials to investors; and asset enhancement and improved energy efficiency.

It can be seen that ESG benchmarking is used at both a property and broader investor level, with strategic, performance and communication functions. For example, effectively communicating the 'ESG message' to investors has a 'flow-on' effect to raising future capital. Clearly, the longer-term agenda goes beyond just getting a high score on the benchmark (eg: GRESB) to setting the fuller ESG goals.

Stakeholders posed the following questions (and comment) regarding benchmarks:

> *"Does it make a difference, what is its impact, how is it measured?"* - Fund manager: Europe

"How do we compare to our peers; are we improving?" - Fund manager: Europe

"Our scale sees us address ESG in project delivery at a holistic level" - Fund manager: Australia.

Differences in ESG benchmarking across real estate players, sectors and regions

In terms of differences in approach to ESG benchmarks between different types of stakeholder participants and regions, the following differences were observed.

The first fundamental difference and amount of importance placed on ESG factors lay in the investment time horizon and the requirement to allocate or raise capital.

The second fundamental difference lay in the size of the participant and their ability to devote human and financial resources to an area that in the short-term is not income-producing.

The third fundamental difference lay in real estate type, with developers of new CBD offices being most aware of current trends and developments in the ESG area, as this is the area of great concern for their new customers (tenants seeking pre-lets), whilst owners of multi-tenanted, mature, industrial estates were least affected in the short-term at the asset level, but were cognisant of ESG issues at the corporate level.

Participants in these stakeholder interviews included real estate fund managers, REITs, institutional investors and real estate advisors. These institutional investors included pension funds and sovereign wealth funds, while the real estate fund managers included real estate asset managers running perpetual life or finite life funds and sell-side analysts. The breadth of these stakeholder types (eg: real estate fund managers accounted for 25 stakeholders (42%)) enabled the consideration of some of these specific sub-groups, which are discussed in this section.

The participants who have thought most about integrating all the ESG issues into a holistic framework for evaluating performance are the pension funds (particularly the Dutch pension funds), looking to service/match a long-term liability stream with sustainable income. The extent to which the income streams they invest in (via direct ownership of assets, JVs, funds or REITs) are likely to suffer from identifiable ESG issues over time is of paramount importance. Therefore, they allocate capital to areas where they are confident that the relevant ESG factors are being considered, and do not allocate capital where they are not. The criteria used to determine this was typically a combination of internal and external benchmarks. This last point is extremely important, because this form of capital rationing is likely to have a very positive impact upon the willingness of real estate funds/REITs/real estate asset owners to ensure that their ESG performance is of the very highest level, otherwise they will not be able to attract capital. Therefore, it is of paramount importance that any external benchmarks used to determine capital allocation have a high level of transparency and understanding by users. The higher profile given to ESG benchmarking by these pension funds also reflects the high level of pension fund member activism seem recently regarding the exclusion of non-ESG aligned assets in their portfolios and an expanding focus on assets linked more strongly with ESG priorities such as renewable energy and the transition to a greener economy.

For finite life funds, interest in the long-term sustainability of a real estate asset is currently limited to the ability to sell the asset within a specific timeframe. This was particularly evident in several of the Asian player interviews, with their focus on opportunity real estate funds in developing real estate markets which see shorter holding periods for real estate investments. This is in contrast to the developed markets which focus on core real estate assets being held for longer holding periods.

The group with the shortest time horizon was the sell-side analysts. These sell-side analysts issue recommendations (eg: buy, neutral, sell), with the recommendations assisting clients in making decisions to buy, hold or sell real estate stocks. Investment recommendations are based on target prices. Once these are met, recommendations need to be reviewed. Because the impact of ESG factors is felt over the longer-term, its specific impact on short-term price movements and equity market valuations can be disguised and difficult to isolate. In addition, in the current market, there is often a significant disconnect between direct market values and equity market values. However, it should also be noted, that the sell-side analysts are now devoting greater resources to this area of ESG, in response to client demand, and this trend is expected to continue. This ranges from developing both positive and negative screening tools for the sector specifically (i.e. which companies score best/worst), as well as incorporating sectoral analysis within an analysis of the other equity sectors (i.e. how does Real Estate score relative to Utilities, Financials etc.). Typically, this involves sector analysts working with equity strategy and dedicated ESG teams.

There was a noticeable difference in responses between perpetual and finite life capital participants. Historically, the size of an asset owner has been a factor in determining ESG responses, but this is now less the case. The largest listed real estate companies were at the forefront of best ESG practice, but it is noticeable how this has now permeated across to companies of all sizes, who regard best ESG practice as a sign of management capability and, therefore, leading to better equity valuations long-term and a greater support for capital raising activities. In this regard, it is important to note that several real estate companies have raised significant (>£450 M) debt capital facilities with improved rates linked to achieving environmental targets.

In terms of regional variation, it is clear that the Dutch players are the most advanced and keenest proponents of a rigorous ESG policy. The Australian players were also seen to be world leaders in the ESG space over recent years. Asia provided an interesting regional difference in that Asia had several global ESG leaders in Japan and Singapore, but with many others yet to embrace ESG fully due to their developing real estate market status. It was also evident in the considerable progress in ESG seen with the US real estate players in recent years, going beyond just reporting for regulatory purposes to a fuller ESG agenda. This reflects the maturity and ESG experience of many organisations in these developed real estate markets, and the focus on emerging real estate markets in Asia which are yet to fully embrace ESG. The key regional differences between the stakeholder respondents are shown in Table II. Overall, it was clearly evident that Australia and Europe were the leading regions in ESG benchmarking, with the US improving considerably in recent years. Asia was generally behind the game, with the Middle East lagging well behind.

Table II: Regional variation in ESG benchmarking practices

Australia:

- Most advanced in all areas of ESG; often seen as global leaders.
- Strong delivery of ESG at all levels and players.
- Strong awareness of limitations of current benchmarks and areas of improvement.
- Strong awareness and focus on issues of increasing importance; e.g.: climate resilience, zero carbon.
- High level of delivery of best practice in ESG.
- Strong awareness of increasing importance of TCFD.
- Clear understanding that they drive their ESG mandate, not GRESB.
- Strong awareness of importance of ESG in future capital raisings and winning projects.

Asia:

- Generally, behind in ESG at all levels.
- Some outstanding examples of ESG delivery and leadership; e.g.: some Singapore and Japan players; eg: CDL, CapitaLand, Keppel, Mitsubishi Estate.
- Often just starting their ESG journey, but well aware of importance and need to improve.
- Strong awareness of ESG from real estate advisory players with an international presence.
- Lack of depth in specific strategies in many cases.

Europe:

- Advanced in all areas of ESG; several global leaders.
- Strong delivery of ESG at all levels, though it varies across players.
- Strong awareness of limitations of current benchmarks and areas of improvement.
- Strong awareness and focus on issues of increasing importance; e.g.: climate risk, climate resilience, zero carbon.
- High level of delivery of best practice.

USA:

- Major improvement recently; definitely catching up to Australia and Europe.
- Some excellent examples of global leadership in ESG; e.g.: several REITs.
- Strong awareness of limitations of current ESG benchmarks.
- Strong awareness of increasing need for granularity in benchmarks; Geophy specifically mentioned.
- Clear mention made of increasing importance of climate resilience and zero carbon.
- Strongest awareness of technology and big data directions.
- Clear understanding of importance of climate resilience and zero carbon.
- Numerous instances of high quality in reporting ESG performance to investors.

Middle East:

- Well behind at all levels.
- Still largely thinking about ESG issues, rather than implementing ESG.
- Lack of specific details in ESG delivery.

Source: Authors' compilation

Incisive quotes from stakeholders regarding real estate sector and regional differences included:

> *"All real estate sectors are moving in the right direction"* - Pension fund: Australia
>
> *"Industrial is lagging office and retail; tenants have key roles here"* - Fund manager: Australia
>
> *"There are enormous differences across various regions"* - Fund manager: US
>
> *"US players have made significant progress in recent years in ESG"* - Advisory group: US
>
> *"Asia is still behind the game"* - Advisory group: Asia.

One important aspect that will further facilitate the improvements in ESG globally is the increasing role of real estate players in the international space. The expectations that they have in their local markets for ESG will be effectively taken up in less developed markets, as they seek to apply comparable benchmarks to their international real estate portfolios across countries. This applies to real estate investors as well as to real estate advisory players (eg: JLL, CBRE) as they expand their international influences at the real estate investment and corporate real estate services levels.

Relationship between ESG and investment performance

Generally, it was felt that the correlation between ESG compliance/best practice and the delivery of satisfactory financial performance over the medium-term has been well-established. However, it was also noted that elements of ESG, particularly the impact of climate change were seen as risk-based factors that required a risk mitigation strategy, rather than a performance enhancement strategy. Similarly, the PR side of ESG was seen more as being a threat to reputation risk rather than spin or "greenwash".

Incisive quotes by stakeholders regarding this link included:

> *"Capital does not need to have this financial risk conversation today"* - Fund manager: Australia
>
> *"Reputational risk is important for investors"* - Pension fund: Europe.

Overall, ESG and longer-term investment performance were regarded as inseparable, with ESG compliance no longer regarded purely as a financial cost, reducing short-term performance.

ESG performance and remuneration

Regarding ESG performance and remuneration, there were widely-varying views. It was seen as a slow-moving area, but with increasing frequency of conversations, driven by GRESB. Some stakeholders saw ESG as an increasing part of everyone's role and reflected in the ESG discussions that now occur in many annual reviews for staff; although it was not seen as explicit (e.g.: by percentage). In several cases, ESG was fundamentally seen as part of the company culture.

Incisive quotes by stakeholders regarding ESG and remuneration included:

> *"ESG KPIs for employees are part of our corporate scorecard"* – REIT: Australia
>
> *"All employees now have mandated KPIs in the ESG space"* – REIT: Australia.

Informing investors about ESG in real estate investment

ESG was discussed with investors in a wide range of ways by the stakeholders, providing opportunities to communicate the ESG agenda in a transparent and timely manner. This included:

- Quarterly report to investors, with an ESG section
- Regular investor meetings and presentations; both group and one-on-one
- Extensive ESG section on website
- Provide investors with details of GRESB scores and other metrics
- ESG annual report; including materiality assessment and including external validation
- Representation and presentations in broader real estate industry forums and groups
- Newsletters.

Communicating their ESG message to investors was seen as crucial, with some stakeholders indicating that ESG was integrated into all of their corporate information in various reporting formats, including their websites and regular investor reports.

A constant issue that arose in interviews was increased demands by institutional investors (e.g.: pension funds) for real estate funds to complete questionnaires on ESG in a specific format beyond the standard ESG reporting metrics. This was seen as time-consuming, and putting a focus on reporting ESG rather than delivering ESG.

Incisive quotes by stakeholders regarding communication of their ESG messages included:

> *"15% of the time in investor meetings is on ESG"* - Fund manager: Australia
>
> *"We meet regularly with boards and senior managers about ESG"* - Pension fund: Europe
>
> *"ESG is a key presentation element in our investor days"* - Fund manager: Europe.

Communicating the message of ESG in real estate investment

Stakeholders had a very clear picture of ESG being a key part of how their organisation did business today, with ESG integrated into their business and investment decisions. Again, the added-value from this external communication is potential future capital raisings.

Strong statements were made around what matters is what one does in the ESG space, not how one presents/explains it. Some players were seen as better at presenting/explaining ESG versus doing/delivering ESG.

Incisive quotes by stakeholders included:

> *"ESG adds value to our investment decisions; it is integrated into the investment process"*
>
> -Pension fund: Australia
>
> *"We desire to achieve ESG outcomes with investment outcomes; it is win-win"* - Fund manager: Europe.

Overall, there is a diversity in how different players and different regions have embraced the ESG agenda and ESG benchmarking. Whilst the stakeholders interviewed in this research largely focused on the international leaders in the ESG benchmarking space, it did also include players who recognised the importance of ESG benchmarking, but who were only now starting their ESG journey.

On balance, this saw a very supportive picture in terms of the stakeholders' increasing recognition of the importance of ESG, with a high level of awareness and understanding of the critical issues to be addressed for improving benchmarking in the ESG space in real estate. These aspects are highlighted in the following "big picture" quotes from the stakeholders:

"ESG is a big part of how projects are won today; we use a holistic approach to place which includes ESG aspects" - Fund manager: Australia

"We use ESG as a trigger for the conversation, rather than the final investment decision" - *P*ension fund: Australia.

BENCHMARKING ESG IN REAL ESTATE INVESTMENT: BEST PRACTICE CONTEXT

Based on the authors' insights and discussions with stakeholders, nine key elements of ESG best practice in real estate were identified, and summarised in Table III. Embedded within these nine key elements are various additional enabling strategies such as proactive ESG leadership, board level and CEO endorsement, materiality assessment and staff buy-in for ESG, which can be used to deliver these key elements of ESG.

Table III: Best practice elements in ESG

1. Clear ESG strategy
2. Embed ESG in company culture and decision-making
3. Effective use of ESG benchmarks: external or internal
4. Effective communication with investors and communities
5. Dedicated ESG team: integrated role
6. Effective presentation of the organisation's ESG 'journey': metrics and narrative
7. Deeper level of analysis: model climate risk, impact assessment etc
8. Strong and effective board governance around ESG issues
9. Informative ESG reporting

Source: Authors' compilation

It is these key best practice factors (9) that typically characterise the world leaders in the real estate sector in terms of their outstanding ESG leadership. These nine key elements of best practice in ESG are not given in a priority order, but highlight the need for a clear ESG strategy and delivery procedures at all levels of the organisation. In delivering this best practice, it is important that ESG is supported at every level within the organisation; from senior executive down, with this commitment being explicit. Importantly, effective ESG benchmarking in real estate investment is seen as a key element of this best practice in ESG for real estate.

This identification of these best practice factors is crucial for real estate players seeking to be in the top tiers of ESG performance, as well as for real estate players just starting their ESG journey and seeking guidance on international best practice. These real estate players just starting their ESG journey are typically in the emerging markets and seeking guidance on how to commence or further develop their ESG activities in real estate; often where governments have not been as active in promoting the local ESG agenda. The various professional real estate associations are playing a key role in this regard.

ESG BENCHMARKS: RECOMMENDATIONS GOING FORWARD

The ESG space in real estate investment is dynamic, with benchmarks needing to keep up-to-date with emerging priorities around issues such as climate risk, zero carbon and climate resilience etc. This was clearly emphasised across the stakeholder interviews. So, where does this leave ESG benchmarking in real estate investment going forward? What improvements in ESG practices are needed? This section identifies 10 recommendations that came out of the stakeholder interviews that are needed to move ESG benchmarking forward in the future; as well as recognising the broader challenges, risks and opportunities for the real estate sector.

Opportunities

Whilst strongly accepted ESG benchmarks are currently available (e.g.: GRESB), more needs to be done as the ESG critical factors evolve in the next few years. This will see opportunities emerge for additional new benchmarks that focus on these changes, as well as existing benchmarks addressing these issues. These changes are crucial to see ESG assessed at a deeper and more incisive level.

Key factors identified by the stakeholders around these new ESG benchmarks are: granularity; linking climate change risk analysis in with real estate via new real estate/environmental databases; increased focus on ESG performance; enhanced scenario analysis capabilities for a deeper level of analysis; robustness and verification; and fuller delivery of TCFD implementation. While recent initiatives (e.g.: Geophy/427) are clearly moving in the right direction in addressing these gaps in the ESG benchmarking space for real estate investment, more is expected in this space as real estate groups link with environmental players in developing new products for a richer analysis of critical ESG issues such as climate risk and climate resilience.

Challenges/risks

Along with opportunities come challenges and risks in the ESG benchmarking space. Key challenges include the need for improved data quality and transparency; balancing of time and money needed for reporting ESG versus delivering ESG; fuller acceptance of the importance of ESG across the real estate industry and relevant communities; development of "big data" capabilities to enable in-depth scenario analysis around climate change and climate resilience issues at an individual property level. All of these aspects carry risks that need to be overcome to move the ESG agenda to the next level for the real estate sector. Fortunately, the level of commitment within the real estate sector is such that sufficient resources will be allocated to meet these challenges; particularly where these changes are driven at a deeper level than just the real estate industry; eg: government policy, investor demand.

Recommendations

Based on the significant real estate industry insights of the authors and the views of the leading stakeholders interviewed for this paper, the following ten (10) recommendations can be made regarding improvements in ESG benchmarking in real estate. All of these recommendations will see real estate keeping pace with the other industry sectors; particularly where real estate is such a major contributor to greenhouse gas emissions, waste, water and energy consumption.

Firstly, the current ESG benchmarks should place more emphasis on more fully assessing ESG performance, outcomes and impact, in addition to just implementing ESG policy and approach. This is seen as a key factor for GRESB and retaining its high level of ongoing real estate industry support.

Secondly, at present, there are several asset-level benchmarks which assess how a building is designed. These benchmarks should have more emphasis on assessing how a building performs while in use; i.e.

its actual operational impact. This would see these benchmarks going beyond just design issues to the critically important performance issues.

Thirdly, any ESG benchmark being relied upon by a significant number of investors must be giving correct information and signals to the real estate market, and this information and signals must be fully understood by any investor relying on them. Issues such as data transparency and consistency are critical aspects in delivering the broader acceptance of these ESG benchmarks; particularly as real estate investors become more international in their real estate investment strategies and seek to use their local ESG strategies at an international level.

Also, an increased focus on a higher level of granularity in ESG benchmarks in assessing climate change risk and climate resilience at an individual property level is essential. This goes beyond the overall portfolio level to identify environmental risks attached to individual real estate investments. Geophy/427 is an important first step in this direction for increased granularity to assess the micro risk dimensions of specific environmental issues (eg: extreme weather events) at an individual asset level. Other players are expected to move into this important space to reflect this increasing investor focus on granularity and individual real estate asset risk analyses.

It is also important to make greater use of big data/technology advances for a deeper and more rigorous/granular analysis via detailed risk analytics and scenario analysis. Fuller "big data" analysis supported by the use of enhanced environmental databases will be a key element in articulating the fuller risk analytics in ESG; particularly around issues involved in climate risk mitigation and delivering zero-carbon strategies.

This previous recommendation will be supported by the higher order integration of real estate and environmental information into ESG decision-making. As these powerful environmental databases evolve, richer scenario analyses will be available to support the ESG decision-making processes from a data-driven perspective.

Expanding the attention given to TCFD will take on increased importance; particularly with its use being mandated in several markets. TCFD will be an important ESG reporting framework for climate-related financial reporting, adding to the already gold-standard ESG reporting frameworks of PRI, CDP and GRI. GRESB already includes TCFD in its rating processes, but this will expand considerably across all ESG metrics.

It will also be important to increase the depth of implementation of ESG beyond just the major players to more fully embrace all levels in the real estate industry. This sees two aspects. Firstly, it is important to be applying ESG benchmarks to older buildings as well as new buildings to reflect the fuller profile of commercial real estate markets. Secondly, even in the developed markets, many players are just commencing their ESG journey and need support and guidelines for their effective delivery of ESG.

Expanding the level of ESG benchmarking into less developed real estate markets will also be important. Global asset owners should be encouraged to apply best practices in ESG from developed real estate markets to assets in other less developed regions. This is important from an investment consistency perspective and is being increasingly required by pension funds as they seek consistency in performance metrics in their international real estate exposure. The role of the professional real estate associations such as INREV, EPRA, ANREV (Asian Association for Investors in Non-listed Real Estate Vehicles) and APREA (Asia Pacific Real Assets Association) is also crucial here, as they develop roadmaps for the effective delivery of ESG in these markets. Many of these professional associations already have extensive online resource materials available to their members to assist them in the early stages of their ESG journey.

Finally, it is essential to go beyond just the E dimension in ESG benchmarking. This will see an increase in the level of fuller ESG benchmarking in the social (S) dimension, in addition to the more established environment (E) dimension. This reflects the expanding focus by investors on the fuller ESG issues, particularly those relating to the wellness and mental health of staff, and issues involved in supply chain management. The recent inclusion of a health and well-being module in GRESB is an important development. The lack of metrics in the S space is an impediment at present, but these metrics will evolve as the S dimension takes on increased importance following COVID-19. Several real estate fund managers (particularly in Australia) are already active in this S space, developing supplier codes of conduct, customer engagement policy, tenant satisfaction surveys and equity internship programs into their S activities, as reported in their ESG reports, as well as tracking their performance in the S space for issues such as diversity, inclusion and equity. Similarly, EPRA now includes the S dimension of ESG as contributing 20% to company scores in their annual ESG awards; with E contributing 70% and G contributing 10% (EPRA, 2022). These are important developments, but clearly more needs to be done in this S space, as new S metrics emerge and equity, diversity and inclusion take on a higher profile in the real estate industry.

One comment to come through strongly in these stakeholder interviews concerned who was responsible for delivering these various recommendations and who needed to take ownership of these recommendations. It was seen that ESG needed to be owned at all levels in the organisation from the executive board and CEO to the day-to-day workers implementing the delivery of these real estate assets in an ESG-compliant manner. This often saw the stakeholders seeing ESG as a key element of their company culture.

These recommendations are made concerning the future direction of ESG benchmarking and real estate investment, with clear strategies for what is required for expanding the ESG agenda more fully across the real estate investment space.

One stakeholder quote that captured the overall intent of these ESG recommendations was:

"We need to lift all of the boats together to improve the significance of ESG in the real estate space" - REIT: Australia.

This quote clearly highlights the fact that ESG is an industry-wide issue that all players need to embrace and own to the benefit of the real estate industry, the broader communities and the overall environment. It goes beyond the individual real estate players to the improvements that are needed for the entire real estate investment sector; particularly as ESG takes on increased global significance.

One important recent development includes the ongoing operation of GRESB as a foundation, with strong institutional investor representation on the GRESB board. The authors see this as a real game-changer, as it will see the focus of GRESB move from reporting ESG to measuring the impact of ESG. This will see the strategic change from doing ESG to doing ESG well.

Fortunately, COVID-19 has not reduced the importance of ESG. In fact, it has increased the importance of ESG with a refined focus around wellness and health issues in a real estate context (e.g.: green offices and office building protocols in a post-COVID environment). This will see an increased priority on ESG issues in real estate moving forward; both from an investment perspective and operational perspective.

Similarly, in the future, ESG will be captured in the fuller ESG picture for real estate investment. This will see considerable progress, with new metrics developed in the increasingly important Social (S) dimension of ESG; particularly flowing on from the increased focus on staff well-being and mental health in a post-COVID environment, and supply chain issues.

CONCLUSION

ESG will take on increased importance going forward, as the real estate sector addresses the climate change challenges in developing strategies to mitigate climate change risk and enhance climate resilience in the real estate investment space. Given the significance of the real estate sector, this is an important challenge at all levels, going well beyond the real estate sector to the broader environmental, government and community elements of society today.

Why is this paper important, with strong practical implications? Developing suitable ESG benchmarks will be an important piece of this ESG puzzle, particularly given the stature of the commercial real estate portfolios of many real estate investment managers and institutional investors today. This often sees multi-billion dollar real estate portfolios at an international level for many of these real estate players. Providing insights concerning the future requirements for improvements in ESG benchmarking will provide a roadmap and greatly assist all players in the real estate investment sector gain a fuller appreciation of what in needed in the future for the real estate investment sector to fully integrate ESG into their decision-making processes. Given the global importance of ESG, this is a whole-of-industry issue, not just for individual players.

This paper has assessed the current thinking in the real estate investment sector concerning ESG and the suitability-for-purpose of the current ESG benchmarks in real estate investment at a global level. Using 60 stakeholder interviews with senior real estate executives, the areas where the current ESG benchmarks need to be improved are clearly identified. This particularly related to the issues of climate resilience and climate risk, zero carbon and the need for more granularity at the individual property level. A range of new ESG benchmarks are now being developed (eg: Geophy), as well as existing benchmarks being updated (eg: GRESB). These benchmarks will take on increased importance going forward as the real estate sector addresses the climate change challenges in developing strategies to mitigate climate change risk and enhance climate resilience in the real estate investment space. These benchmarks will take on increased importance globally, as real estate investors expand their international real estate portfolios and expect the ESG benchmarks used locally to be also applied across their portfolios in many countries at both a macro and micro level. This will further facilitate the development of best practice ESG procedures globally; particularly in those real estate markets where ESG is still in the early phases.

Importantly, best practice procedures have been developed in this paper to facilitate the ESG strategies by players just beginning their ESG journey, as well as for those players seeking to move their ESG agenda to the level of the ESG leaders in the real estate sector. This will see the development of effective climate risk mitigation strategies across the fuller real estate investment space. Similarly, the recommendations regarding ESG in this paper will provide an effective roadmap for all players to move their ESG agenda forward; to the clear benefit of the real estate sector. These aspects provide important practical implications for the ESG agenda for both real estate and real estate investment.

Another important development will be in expanding ESG more fully, taking ESG beyond the current focus of the E dimension. This will see the S dimension of ESG take on more importance, as the real estate industry focuses on increased equity, inclusion and diversity in the industry, as well as addressing issues relating to current work practices such as supply chain management, and the mental health and wellness of staff in a post-COVID environment. This will require new metrics to be developed in the S dimension, which is currently lagging the E dimension of ESG. Several of the stakeholders indicated this strongly, emphasising that “if you can measure it, you can manage it”. They also saw what they did in the E and S spaces as being done in an effective G (governance) framework; seeing the fuller dimensions of ESG being delivered.

Within the real estate sector, this paper has shown that there is strong commitment to delivering ESG at all levels. This sees ESG fully embraced at all levels of the real estate industry, ranging from individuals delivering real estate outcomes at a day-to-day level to the strong commitment at the CEO and executive board level of players in the sector. The strong leadership role of the professional real estate associations such as INREV, EPRA, APREA, INREV, IPF, NAREIT (National Association of Real Estate Investment Trusts) and ULI (Urban Land Institute) in the ESG space is ensuring that this is effectively delivered at a broad level across Europe, Asia-Pacific and the US amongst their members; eg: APREA, 2022; EPRA, 2022; INREV, 2022. The continued role of the real estate sector making a real impact in the ESG space will take on increased importance going forward, given the significant impact that the real estate sector has on many of the elements of climate change risk management, zero carbon and climate resilience. Clearly, the results of this paper demonstrate the strong commitment by the real estate sector to delivering this ESG agenda, as well as their awareness that much more progress still needs to be made to delivering this ESG agenda in an effective manner at a global level.

Also from an academic research perspective, there was seen to be a strong consistent link between several of these recommendations for ESG benchmarking and the extant literature in ESG in real estate. This includes the need for increased granularity and assessing climate risk from major weather events (eg: Clayton *et al.*, 2021 b; Fuerst and Warren-Myers, 2021; Sayce *et al.*, 2022), need for increased transparency (Newell and Marzuki, 2022) and increasing the ESG focus in the emerging markets (Newell, 2021). For several of these recommendations, there are also clearly future research opportunities for a deeper assessment of these ESG issues; this includes issues regarding TCFD, and the increasing importance of the S dimension in ESG.

ESG will continue to be a high priority in the fuller context of ESG benchmarking in the future in real estate investment across all markets. The end result will see more informed real estate investment decision-making, both locally and internationally, with ESG being a critical factor in these real estate investment decisions. This is in addition to the significant added-value benefits to the broader community and environment of a more environmentally sustainable real estate industry, both locally and globally. As such, this paper has strong practical implications for the ongoing improvement of the real estate sector regarding the delivery of this increasingly important area of ESG benchmarks.

REFERENCES

APREA (2022), *APREA ESG Guidebook for Real Assets in Asia Pacific*, APREA, Singapore.

BNP Paribas Real Estate (2019), *How Sustainable Investment Improves Real Estate Performance*, BNP Paribas Real Estate, Paris.

Better Buildings Partnership (2018), *2018 GRESB Survey Consultation Response,* BBP, London.

Cajias, M., Fuerst, F., McAllister, P. and Nanda, A. (2014), "Do responsible real estate companies outperform their peers?", *International Journal of Strategic Property Management*, Vol. 18 No. 1, pp. 11-27.

CBRE (2022), *Asia Pacific Sustainable City Ranking*, CBRE, Hong Kong.

Clayton, J., Devaney, S., Sayce, S. and van de Wetering, J. (2021a), *Climate Change and Commercial Property Values: A Review and Analysis of the Literature.* UNEP FI: New York.

Clayton, J., Devaney, S., Sayce, S. and van de Wetering, J. (2021b), "Climate risk and real estate prices: what do we know", *Journal of Portfolio Management*, Vol. 47 No. 10, pp. 75-90.

Cradduck, L. and Warren-Myers, G. (2022), "Development in a state of climate change: an Australian case study of government response", *Journal of Property Investment and Finance*, Vol. 40 No. 4, pp. 362-380.

Cradduck, L., Warren-Myers, G. and Stringer, B. (2020), "Courts' views on climate change inundation risks for developments: Australian perspectives and considerations", *Journal of European Real Estate Research,* Vol. 13 No. 3, pp. 435- 453.

De Francesco, A. and Levy, D. (2008), "The impact of sustainability on the investment environment", *Journal of European Real Estate Research,* Vol. 1 No. 1, pp. 72-87.

Eichholtz, P., Kok, N. and Quigley, J. (2010), "Doing well by doing good? Green office buildings", *American Economic Review,* Vol. 100 No. 5, pp. 2492-2509.

Eichholtz, P., Kok, N. and Yonder, E. (2012), "Portfolio greenness and the financial performance of REITs", *Journal of International Money and Finance*, Vol. 31 No. 7, pp. 1911-1929.

EPRA (2022), *2022 EPRA Annual Report Survey: Sustainability Best Practices Recommendations*, EPRA, Brussels.

Falkenbach, H., Lindholm, A. and Schleich, H. (2010), "Environmental sustainability: Drivers for the real estate investor", *Journal of Real Estate Literature*, Vol. 18 No. 2, pp. 203-223.

French, N. (2020), "Property valuation in UK: climate change targets and the value of UK investment properties - a change in sea level", *Journal of Property Investment and Finance*, Vol. 38 No. 5, pp. 471-482.

Fuerst, F. and McAllister, P. (2011a), "Eco-labelling in commercial office markets: Do LEED and Energy Star offices obtain multiple premiums?", *Ecological Economics*, Vol. 70 No. 6, pp. 1220-1230.

Fuerst, F. and McAllister, P. (2011b), "Green noise or green value? Measuring the effects of environmental certification on office values", *Real Estate Economics,* Vol. 39 No. 1, pp. 45-69.

Fuerst, F. and McAllister, P. (2011c), “The impact of Energy Performance Certificates on the rental and capital values of commercial property assets”, *Energy Policy*, Vol. 39 No. 10, pp. 6608-6614.

Fuerst, F. and Warren-Myers, G. (2021). “Pricing climate risk: are flooding and sea level rise risk capitalised in Australian residential property”, *Climate Risk Management*, Vol. 34.

Gabe, J. and Rehm, M. (2014), “Do tenants pay energy efficiency rent premiums?”, *Journal of Property Investment and Finance*, Vol. 32 No. 4, pp. 333-351.

Gieger, P., Cajias, M. and Fuerst, F. (2016), “A class of its own: the role of sustainable real estate in a multi-asset portfolio”, *Journal of Sustainable Real Estate*, Vol. 8 No. 1, pp. 190-218.

GPIF (2020), *2020 GPIF Portfolio Climate Change Risk and Opportunity Analysis*, GPIF. Tokyo.

GRESB (2019a), *2019 GRESB Real Estate Results*, GRESB, Amsterdam.

GRESB (2019b), *Resilience and Real Estate*, GRESB, Amsterdam.

Hebb, T., Hamilton, A. and Hachigian, H. (2010), "Responsible property investing in Canada: factoring both environmental and social impacts in the Canadian real estate market", J*ournal of Business Ethics*, Vol. 92 No. 1, pp. 99-115.

Hirsch, J., Spanner, M. and Bienert, S. (2019), “The Carbon Risk Real Estate Monitor- developing a framework for science-based decarbonising and reducing stranding risks within the commercial real estate sector”, *Journal of Sustainable Real Estate*, Vol. 11 No. 1, pp. 174-190.

INREV (2022), *Building a Foundation for Diversity, Equity and Inclusion in the Real Estate Industry*, INREV, Netherlands.

Investment Property Forum (2022), *Pathways to Net Zero Carbon Emissions in International Real Estate Investment*, IPF, London.

JLL (2022a), *Moving the Property Carbon Needle*, JLL, Sydney.

JLL (2022b), *Decarbonizing Cities and Real Estate*, JLL, London.

Le, T. and Warren-Myers, G. (2019), “An examination of sustainability reporting in valuation practice: a case study of Melbourne, Australia”, *Property Management*, Vol. 37 No. 1, pp. 136-153.

Lutzkendorf, T. and Lorenz, D. (2007), “Integrating sustainability into property risk assessments for market transformation”, *Building Research and Information*, Vol. 35 No. 6, pp. 644-661.

Mehdizadeh, R., Fischer, A. and Celoza, A. (2013), “LEED and energy efficiency: do owners game the system?”, *Journal of Sustainable Real Estate*, Vol. 5 No. 1, pp. 23-34.

Newell, G. (2008), "The strategic significance of environmental sustainability by Australian-listed property trusts", *Journal of Property Investment and Finance*, Vol. 26 No. 6, pp. 522–540.

Newell, G. (2009), "Developing a socially responsible property investment index for UK property companies", *Journal of Property Investment and Finance*, Vol. 27 No. 5, pp. 511–521.

Newell, G. (2021), “The need for more research on the Asian real estate markets”, *Journal of Property Investment and Finance*, Vol. 39 No. 1, pp. 3-8.

Newell, G., MacFarlane, J. and Walker, R. (2014), "Assessing energy rating premiums in the performance of green office buildings in Australia", *Journal of Property Investment and Finance,* Vol. 32 No. 4, pp. 352-370.

Newell, G. and Marzuki, J. (2022), "The increasing importance of environmental sustainability in global real estate investment markets", *Journal of Property Investment and Finance,* Vol. 40 No. 4, pp. 411- 429.

Op't Veld, H. and Vlasveld, M. (2014), "The effect of sustainability on retail values, rents and investment performance: European evidence", *Journal of Sustainable Real Estate*, Vol. 6 No. 1, pp. 163-185.

Pension & Investments (2022), *Annual Real Estate Money Manager Survey 2022,* P&I, New York.

Pike, J. (2020), "The future of sustainable real estate investments in a post-COVID-19 world", *Journal of European Real Estate Research,* Vol. 13 No. 3, pp. 455-460.

Pivo, G. (2008), "Responsible property investing: What the leaders are doing", *Journal of Property Investment and Finance,* Vol. 26 No. 6, pp. 562-576.

Rapson, D., Shiers, D., Roberts, C. and Keeping, M. (2007), "Socially responsible property investment (SRPI): An analysis of the relationship between equities SRI and UK property investment activities", *Journal of Property Investment and Finance,* Vol. 25 No. 4, pp. 342–358.

Read, D. and Sanderford, A. (2018), "Sustaining sustainability in large real estate investment management firms", *Journal of Real Estate Portfolio Management,* Vol. 24 No. 1, pp. 15-33.

Sayce, S., Clayton, J., Devaney, S. and Van der Wetering, J. (2022), "Climate risks and their implications for commercial property valuations", *Journal of Property Investment and Finance,* Vol. 40 No. 4, pp. 430-443.

Spanner, M. and Wein, J. (2020), "Carbon risk real estate monitor: making decarbonisation in the real estate sector measurable", J*ournal of European Real Estate Research,* Vol. 13 No. 3, pp. 277-299.

TCFD (2019), *Taskforce on Climate-Related Financial Disclosures: 2019 Status Report*. TFCD, New York.

Urban Land Institute and Heitman (2019), *Climate Risk and Real Estate Investment Decision-Making,* ULI and Heitman, Washington.

Warren-Myers, G. (2013), "Is the valuer the barrier to identifying the value of sustainability", *Journal of Property Investment and Finance,* Vol. 31 No. 4, pp. 345-359.

Warren-Myers, G. (2022), "Valuing sustainability part 1: a review of sustainability considerations in valuation practice", *Journal of Property Investment and Finance,* Vol. 40 No. 4, pp. 398-410.

Warren-Myers, G. and Cradduck, L. (2021), "Physical and climate change-related risk identification in valuation practice: an Australian perspective", *Journal of Property Investment and Finance* (in press).

Warren-Myers, G, Hurlimann, A. and Bush, J. (2020a), “Barriers to climate change adaption in the Australian property industry”, *Journal of Property Investment and Finance*, Vol. 38 No. 5, pp. 449-462.

Warren-Myers, G., Hurlimann, A. and Bush, J. (2020b), “Advancing capacity to adapt to climate change: addressing information needs in the Australian property market”, *Journal of European Real Estate Research*, Vol. 13 No. 3, pp. 321-335.

Warren-Myers, G., Hurlimann, A. and Bush, J. (2021), “Climate change frontrunners in the Australian property sector”, *Climate Risk Management*, Vol. 33.

World Economic Forum (2021), *The Global Risks Report 2021*, WEF, Geneva.

ACKNOWLEDGMENT

The authors acknowledge Investment Property Forum (IPF) for their support of this research project.

APPENDIX 1: Stakeholder interview questions: real estate fund managers

Q1: On a scale of 1-10 (low importance to critical importance), how do you rate the importance of ESG (a) now and (b) over the next 3-5 years?

Q2: Do you use internal and/or external benchmarks/rating metrics for ESG performance? Provide details.

Q3: Are you aware of the full range of ESG benchmarking services now available, both in real estate and generally? Which ones are most useful to you?

Q4: How do you use these ESG benchmarks?

Q5: What are the critical ESG factors today that you prioritise? Provide details for each of the E, S and G areas.

Q6: How do you see the relationship between ESG factors and real estate investment performance; a financial relationship?: a risk relationship?; a PR relationship?

Q7: Do you see specific ESG factors taking on more importance going forward? Specify which ESG factors.

Q8: How do you think these ESG issues vary over the different real estate sectors and geographic regions?

Q9: Should remuneration of investment managers be linked to ESG performance? Is there any evidence of this currently occurring?

Q10: Internally:

i: do you use peer group benchmarking for ESG performance?

ii: do you have a dedicated ESG team?

iii: who determines your future ESG targets?

iv: who sets the ESG agenda?. Are you proactive or reactive?

v: who delivers this ESG agenda?

Q11: Do you discuss ESG performance with your investors?; eg: how often; in what forum?

Q12: Compared to your competitors, how do you see yourself performing on these ESG metrics?

Q13: How would you like to communicate your ESG agenda and performance to the outside world?

Q14: Any other issues relating to ESG factors and real estate investment performance benchmarking you would like to discuss.

Note: Similar questions were also used with the other three stakeholder groups of REITs, institutional investors and real estate advisors; slight variations were used to reflect their specific roles regarding ESG