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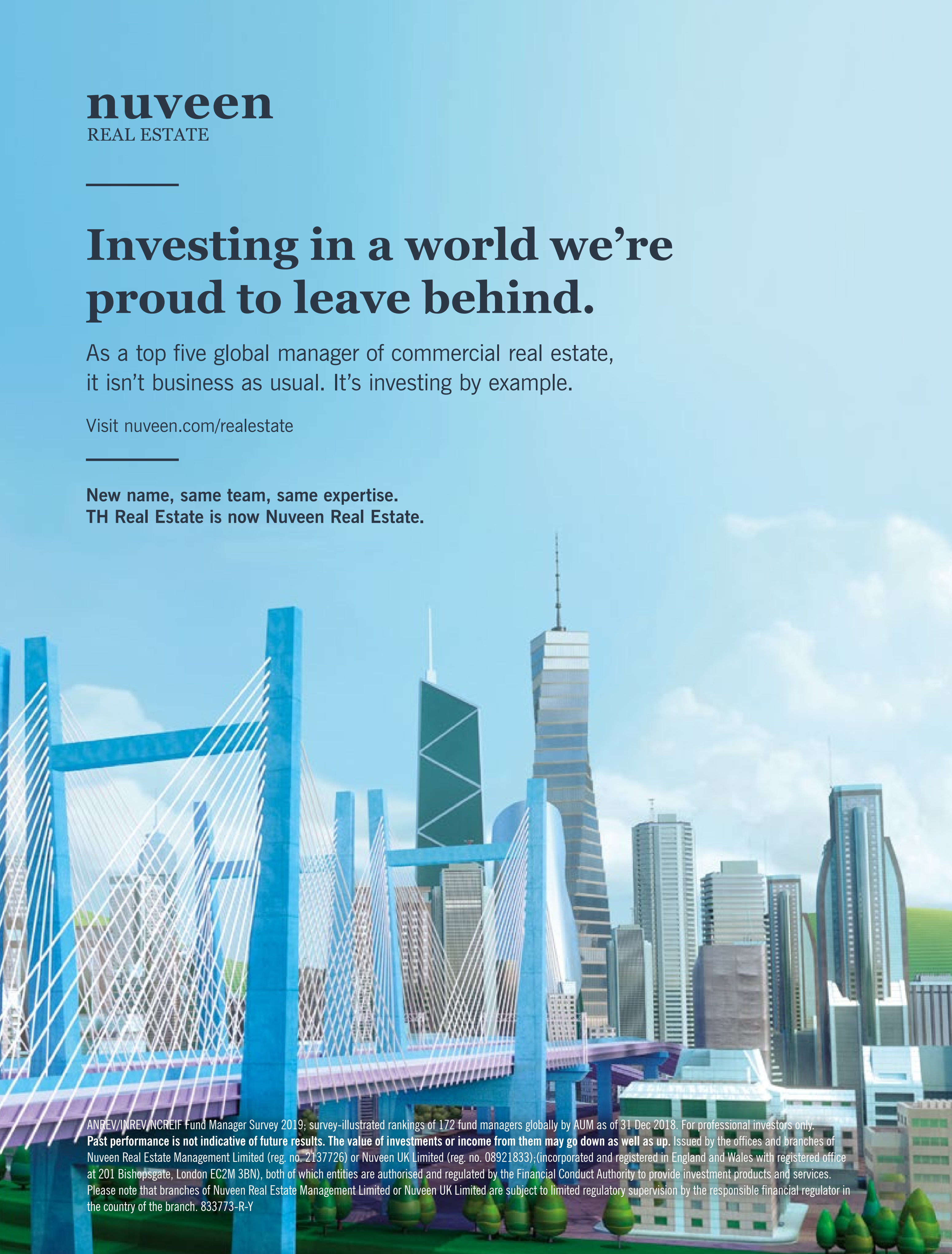
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Sustainable investing

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Insight

Key trends **Sustainability in property is no longer just about saving energy, reducing emissions and climate resilience; the 'S' factors are now on the agenda, too**

94%

Investors that actively reach out to their managers to request participation in the annual GRESB assessment

Source: PERE Investor Perspectives Survey 2019

GRESB 2019 scores

Another year, another step up for the sector. Total participants in the 2019 assessment number 1,005, including both listed and private entities – an 11 percent increase on 2018 – and the total average GRESB score has improved to 72 from 68 last year. Across seven key sustainability indicators, the sector has upped its game, too. Looking regionally, Europe and Oceania lead the way, dominating the GRESB award tally in the category of overall global sector leaders, picking up a collective eight.

Decade of progress

It is 10 years since GRESB was launched by a group of pension funds. In that time, the sector's commitment to sustainability, at the fund management level and at the asset level, has grown significantly. In 2010, there were 198 participants in the assessment, compared with 1,005 in 2019. This is the go-to benchmark against which managers and investors now measure themselves and their peers. It is a sign of the times – the environment matters and institutional capital is acknowledging property's critical role in creating a more sustainable world.

Technology and big data

Technology and sustainability are core talking points in the private real estate sector. Both are disruptors changing how the built environment operates. But often they are discussed as separate agenda items. That is changing. There is a realization that technology is helping managers and investors improve sustainability performance. Throughout this report there are examples of technology facilitating energy efficiencies and data offering a snapshot of whether space is used optimally, helping managers drive down operating costs and improve investor returns.

Nuveen Real Estate's head of sustainability, Abigail Dean, says: "Improving buildings with technology future proofs their value in the years to come." And Nina Reid, M&G Real Estate's director of responsible property investment, agrees data is a "game changer."

Health and well-being

The notion that property can improve occupants' well-being has quickly become a core part of the sustainability conversation. Much of the well-being movement is tenant-driven, particularly in the office sector. In waging a war for talent, corporate tenants want to ensure they are perceived as responsible, compassionate employers. And with social, regulatory and political pressure on businesses to step up to sustainability and create healthy working environments, the space leased must be conducive to meeting such expectations.

While it remains challenging to correlate social initiatives to actual value-add, there is a "gut feeling" among a growing cohort of the investment community that a focus on these aspects is warranted and will in the long term improve bottom lines. Success, after all, depends on getting tenants in the door. And that hinges on making property attractive to them. The equation is simple – no tenants, no cashflow, no returns.

Impact investing

Another cog in the 'S' wheel, impact investing is the idea that institutional capital through property has an obligation to contribute positively to the wider social community. And that the commercial success of buildings depends on communities thriving and being attractive places to live and work – symbiotic success.

The correlation between social impact and returns is also challenging to prove, but an increasing number of managers are buying into the argument. As Hermes Investment Management's director – real estate risk and environmental impact, Sharon Brown, concludes in her article in this report: "Profit and impact can co-exist in real estate. Indeed, we now see them as two sides of the same coin."

Climate change, energy efficiency, carbon reduction

As this report was in production, one of our contributors, South Carolina-based Greystar, found itself in the path of Hurricane Dorian, which had already wrought devastation in the Bahamas. Addressing the impact of climate change on property and pricing the risk into investment decisions, and the sector's role in reducing carbon emissions, remain mission critical. The built environment is responsible for around 40 percent of the world's total carbon emissions and has been tasked by the World Green Building Council with achieving net zero carbon across all buildings by 2050. As David Russell, head of responsible investment at USS Investment Management says: "In a net zero world, the real estate sector needs to increase its efforts to reduce energy use and also to adopt renewable energy. This will require a shift in the thinking in the sector sooner rather than later, otherwise we could have 'stranded' real estate assets – ones that are very difficult to sell except at a large discount to market value."

Points of view

"ESG has become mainstream in the real estate sector, although there is more room for improvement"

Mathieu Elshout, PGGM

508%

Increase in GRESB participation between 2010 and 2019

Source: PERE Investor Perspectives Survey 2019

"Investors have made major strides over the past 10 years in recognizing the impact that real estate has on emissions and the need to respond to climate change"

David Russell, USS Investment Management

78%

Investors that consider ESG an important consideration in private real estate fund due diligence

Source: PERE Investor Perspectives Survey 2019

Editor's letter

Property's growing social conscience

Helen Lewer
helen.l@peimedia.com

Health, well-being and mindfulness are issues past generations would likely have given precious little thought to – one can almost see the eye-rolling of a stoic grandparent decrying such talk as 'wishy-washy nonsense.' But attitudes evolve and different perspectives emerge – often for the better – with the passing of time. Today, these matters have taken on immense relevance in all spheres of life and are points of open discussion, especially among millennials and Gen Zs. But what, I hear you ask, does this have to do with property investing?

Well, this new generation of residential tenants and office workers are acutely aware that the environments they are exposed on a daily basis have a fundamental impact on general health – physical and mental. If we feel positive and enjoy the spaces we inhabit, at home and at work, then our productivity rises, too – good for society, good for the economy. But good for property owners' bottom line?

> **"Health and wellness has become a core agenda item in the wider sustainability conversation"**

Landlords are certainly acknowledging it is best practice to reflect these modern tenant values through their assets, and health and wellness has become a core agenda item in the wider sustainability conversation. We are witnessing a real push on integrating features that increase natural light, provide cleaner air, ensure energy efficiency and keep us active – little things that just make us feel brighter, more energetic.

Investors are in the business of money-making, however, and these initiatives often don't come cheap, so there is a hefty dose of skepticism that the wellness drive produces sufficient value-add to justify the costs, plus meet profit expectations – the correlation to returns remains difficult to measure and the data set to support the thesis immature.

But in the words of one commentator, there is a "gut feeling" that over the long term, the current health and wellness focus in real estate will yield financial results for capital owners. If you still need to be persuaded of the merits, think of it this way: more and more tenants will expect you to deliver on all aspects of sustainability – social and environmental – and ultimately, they pay the rent. Now is the time to think about future-proofing the portfolio.

Helen Lewer

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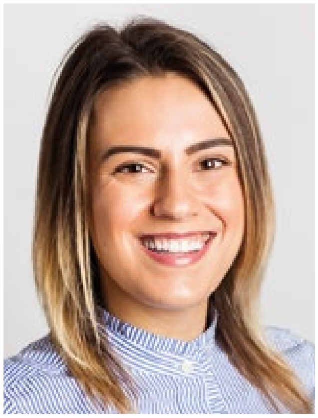
KEYNOTE INTERVIEW

Living a sustainable life



Working with both investors and residents is crucial to making sustainable residential investing a reality, explains Lexie Goldberg of Greystar Real Estate Partners

Charleston-based Greystar, a global developer, investor and operator of rental housing including build-to-rent, student housing and senior housing, overseeing $35.8 billion of assets under management, emphasizes putting people and best-in-class living environments at the heart of its agenda. It is not surprising, then, that sustainability is also a core value for the firm.

Here, *PERE's* Michelle Phillips talks to the firm's head of sustainability, Lexie Goldberg, to find out how the firm has integrated sustainability into its global portfolio.

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Q How do you define sustainable residential real estate investing?

It is really about the impact our organization, portfolio and even individual assets are having on our residents and communities. The conversation has now gone beyond just the basic operating metrics around environmental impact. We are starting to discuss issues such as resident health and wellbeing as well as climate risk and resiliency. As a firm, we must show how we are thinking about these issues and about the future of our portfolios, and not just what we are doing today.

Q Can you elaborate on what you mean by having an impact on communities, and why that is important to the success of a rental housing investment?

First, it is about what we are consuming on site, knowing a property will have an impact on the health of that community. But more importantly, we think it is critical to engage our residents directly on the topic of sustainability. That might involve participating in local fundraisers or educating residents about what is available to them. It is not just about the building itself, but ensuring our properties offer access to public transportation, green space, an ability to bike around and nearby stores. It is a holistic view of the community.

We see our community of residents engaging directly with sustainability. Some are even driving our sustainability efforts. According to a 2018 Shelton Group survey, 89 percent of residents are concerned about climate change, 80 percent think living in

Case study

Greenford Quay, London

The development, a mixed-use neighborhood on the banks of the Grand Union Canal in London, will include 1,965 purpose-designed homes across seven multifamily buildings. Greystar built the development using modular and off-site construction methods. These methods not only cut construction time, but have enormous environmental benefits.

Heriot-Watt University recently completed research on the development's environmental impact and the benefits of off-site and modular construction. The findings showed that compared with traditional construction methods, Greenford Quay's construction saved an equivalent to 26,000 tons of CO^2. These savings equate to 160,287 trees being planted or 7,030 vehicles taken off the road for an entire year. The development is expected to be completed in 2020.

a green home is beneficial for their health, and 80 percent are already engaging in green behavior, like reducing energy and water usage.

To engage our residents, we provide a Green Living Guide, which gives simple tips on how to live more sustainably. The feedback on that guide has been very positive. Our residents also participate in 'Sustainable September,' a month-long coordinated effort to drive innovative sustainability ideas from local managers and residents. We really strive to include residents in the sustainability conversation, because without their engagement, it would be nearly impossible to measure our impact.

Q Have you seen institutional investors' attitudes toward sustainability change over time?

It has become an area of focus with nearly all of our investors, but there has been an evolution of their approach and how they engage with us. Ten years ago, sustainability was a 'check-the-box' exercise. It was not something that was discussed in great depths if it was not going to add to the bottom line. But with an increased focus on transparency, investors these days want to know what organizations like Greystar are doing and how we are demonstrating progress.

The most common question we get from investors is how we are managing consumption. Some go a step further and ask how we can do more, whether through retrofitting buildings to have a lower carbon footprint or exploring carbon neutrality. Investors are also thinking about climate risk and resiliency and how to mitigate those long-term risks. So it is not just looking at what we are doing now or what we have done in the past, but how we are taking into account the future impacts of the decisions we make today.

26,000

Equivalent tonnage of CO^2 saved in construction of Greenfield Quay, London

80%

Residents think living in a green home has health benefits, according to the Shelton Group

Q At the end of the day, these are still investments, so how does sustainability intersect with profitability?

One of the biggest changes in the past few years is being able to collect environmental metrics and measure their impact on the bottom line. It has taken a long time to get that capacity. Our sustainability efforts are measured across energy, water and waste metrics. Water is the area where we most typically do retrofits for whole buildings: installing low-flow fixtures, adjusting water pressure, adding leak detection devices. We always make sure to have a starting point where we can measure consumption before our retrofits, and then measure it again afterwards. That way we can demonstrate where our efforts are successful and measure the impact.

We do the same for energy: LED retrofits are perhaps the most common, as they are low-hanging fruit. But we are also looking at HVAC (heating, ventilation and air conditioning) efficiencies, and some higher cost energy improvements that might not deliver a return within the year. For waste improvements, we are trying to increase recycling by creating robust programs that include access and education to residents.

These projects can be expensive, so we give investors a clear understanding of each project and the impacts we expect to see. Our investor base has certainly become more holistic in how they think about investments in these projects – the initial costs might seem high, but if you can generate returns within the same year, it is an easy win for both sides.

Q What have you found to be some of the greatest challenges in sustainability?

Hands down, it is data collection. A unique challenge in rental housing is that residents pay their energy bills directly to the energy providers, so we do not have insight into their consumption. We respect each resident's privacy and often the law precludes us from getting resident data directly. We are starting to see some utility companies offer aggregate whole-building data, but that varies from place to place.

The discrepancy of where we can get data and where we cannot is a huge challenge, especially when trying to compare portfolios, not just in the US, but internationally. There are a million different ways utilities are managed and paid for, and we need to understand this in order to measure improvements.

Sometimes local governments require us to measure consumption by building to provide benchmarking reports. Sometimes utility companies are helpful in this endeavor, and other times we get a subset of residents to disclose their consumption and extrapolate from that to the building as whole.

We partner with our innovation team to determine solutions around how to collect the data reliably. We obviously want as much data as we can get, but it is important to know what we have access to and what our partners are able to provide.

"We strive to include our residents in the sustainability conversation, because without their engagement, it would be nearly impossible to measure our impact"

Q Why is data that much harder to get in the field of sustainability?

A lack of standardization is a problem. In most cases sustainability comes down to consumption, but there are many different ways buildings are metered and billed. There are differences not just state-by-state, but county-by-county that undermine consistency.

There are still many new things that we are trying to understand as an industry. How do we define sustainability? What is the standard way to get insight into resident consumption habits? How do we deal with all these new measurements? How do we figure out what those standards are? How do we benchmark against ourselves and others?

To add to the complications, other countries do not have the same understanding, either. It can be difficult to collect data or report on sustainability if there is not a common language.

Q Greystar is a global firm, headquartered in the US, so what is your view on how the US real estate market compares with the rest of the world in terms of adopting sustainability?

In Europe, the sector and people generally have a much better understanding of sustainability – it is integrated into the overall culture and there is much less education needed around the subject. Expectations around sustainability in Europe have been there a long time, and they are pushing the boundaries of what it means to build and operate sustainably. We model a lot of what we do in the US on European standards.

Australia is also very advanced in their expectations and the standards placed around sustainable real estate. When we first looked at expanding to the Asia-Pacific region, it was surprising to see such a strong push toward holistic sustainability in the region as a whole, whether it is about combating climate change or reaching carbon neutral goals. In South America, we are trying to integrate global standards, but it is still a work in progress and we need to see how it will evolve.

I would say across the board, some form of reporting, like GRESB, is always required. As a residential firm, we are seeing standardization in the sector increase, with plans to show long-term sustainability improvements over time too. ■

GRESB 2019 leaderboard

The private real estate sectors' sustainability stars are revealed with Europe and Australia-based managers on top as global leaders

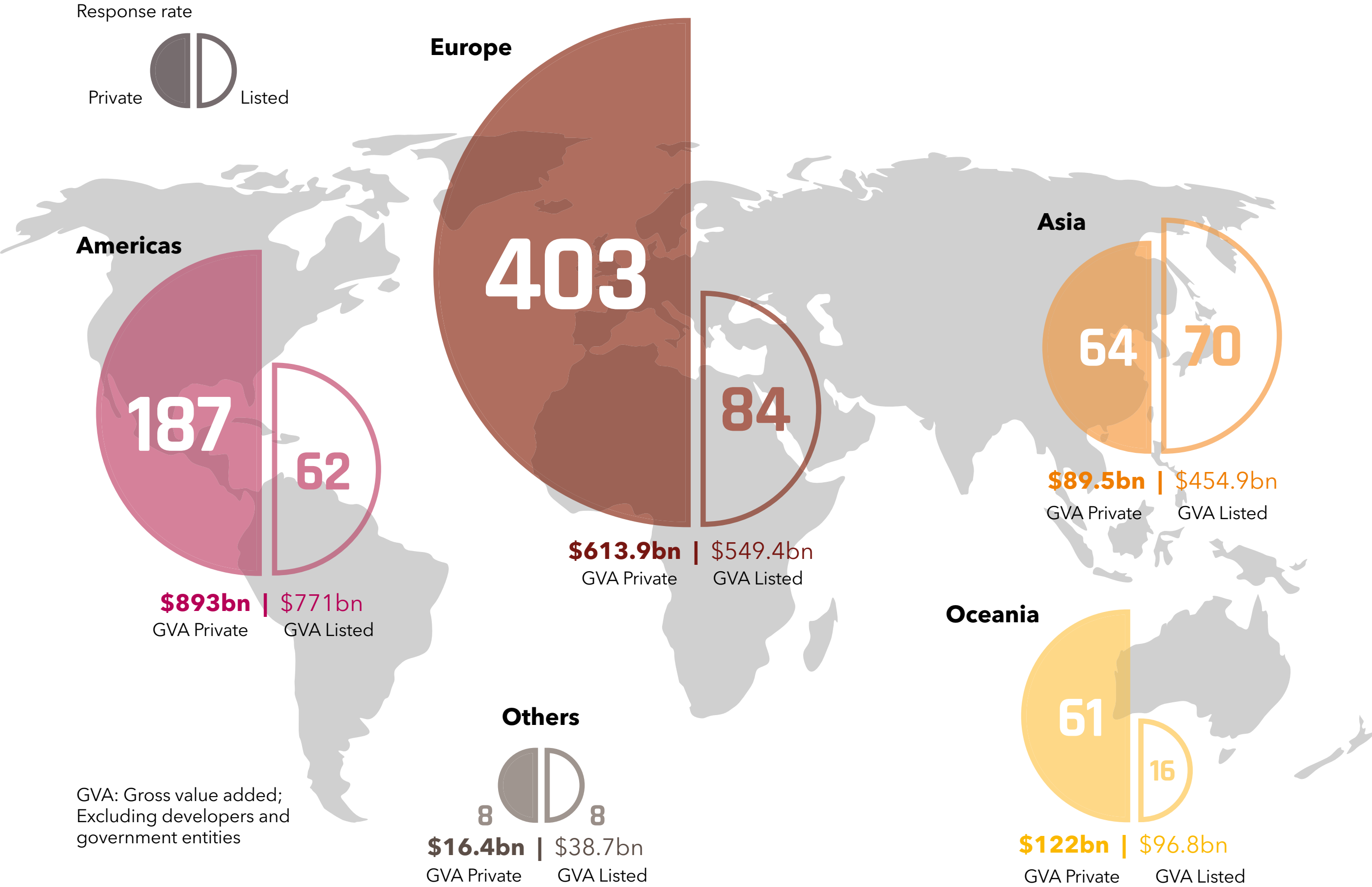
Sector	Winners
EUROPE	
Office	CBRE Dutch Office Fund, CBRE Global Investors
Residential	Access Development Partnership, LGIM Real Assets *
Industrial	UBS German Logistics Fund, UBS Asset Management *
Retail	CBRE Retail Property Fund Iberica L.P, CBRE Global Investors
Healthcare	Achmea Dutch Health Case Property Fund, Syntrus Achmea Real Estate & Finance *
Hotels	Bouwinvest Dutch Institutional Hotel Fund N.V., Bouwinvest REIM
Diversified	Hines Master Fund Management Company S.a.r.l, Hines Real Estate Master FCP-FIS *
Diversified - office/residential	BlackRock Europe Property Fund IV, BlackRock *
Diversified - office/retail	Sponda Plc
Diversified - office/industrial	Storebrand Eiendomsfond Norge KS, Storebrand Asset Management AS
Other	Regent Street, The Crown Estate
AMERICAS	
Office	CommonWealth Partners
Residential	GS Chelsea Co-Investment, LP, Greystar Real Estate Partners
Industrial	Institutional Logistics Partners managed by BentallGreenOak
Retail	Ivanhoé Cambridge - managed portfolio
Diversified - office/retail	Oxford Properties Group (OMERS)
ASIA	
Office	IGIS Private Real Estate Investment Trust No.35, IGIS Asset Management
Industrial	Goodman Japan Core Partnership (GJCP), Goodman Group
Retail	Lendlease Asian Retail Investment Fund 1, Lendlease
Diversified	Nomura Real Estate Private REIT, Inc., Nomura Real Estate Asset Management Co.,Ltd
OCEANIA	
Office	Australian Prime Property Fund Commercial, Lendlease *
Industrial	Australian Prime Property Fund Industrial, Lendlease
Retail	Australian Prime Property Fund Retail, Lendlease *
Diversified - office/retail	Dexus Wholesale Property Fund, Dexus Property Group *
Diversified - office/industrial	Frasers Property Australia Pty Ltd - Investment Properties, Frasers Property Australia Pty Ltd
DEVELOPER	
Developer - residential	Frasers Property Australia Pty Ltd - Development Assets, Frasers Property Australia Pty Ltd *
Developer - office	Skanska Commercial Development Nordic, Skanska Commercial Development Nordic *
Developer - diversified	Keppel Land Limited, Keppel Land Limited *
Developer - industrial	Goodman Group (GMG), Goodman Group *

* denotes entity is an overall global sector leader (achieved highest score for its sector)
Source: GRESB

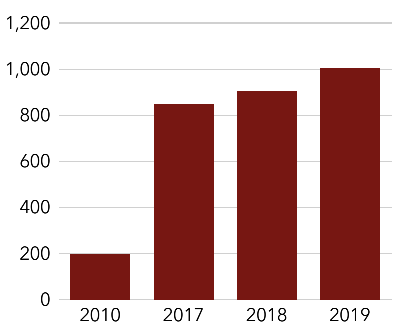
A sustainable leap

GRESB scores show the real estate sector has upped its game again in 2019

Participation rates in the 2019 GRESB benchmark, by region. Asia, where there is greater listed representation by GAV, has some catching up to do



Total participants (listed and private)



248

Public entities included

11.3%

Increase in participants from 2018

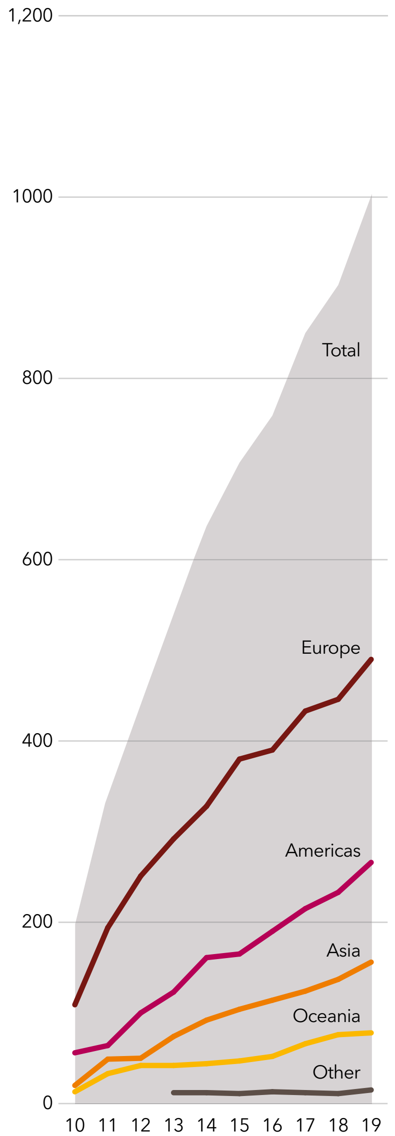
755

Private entities included

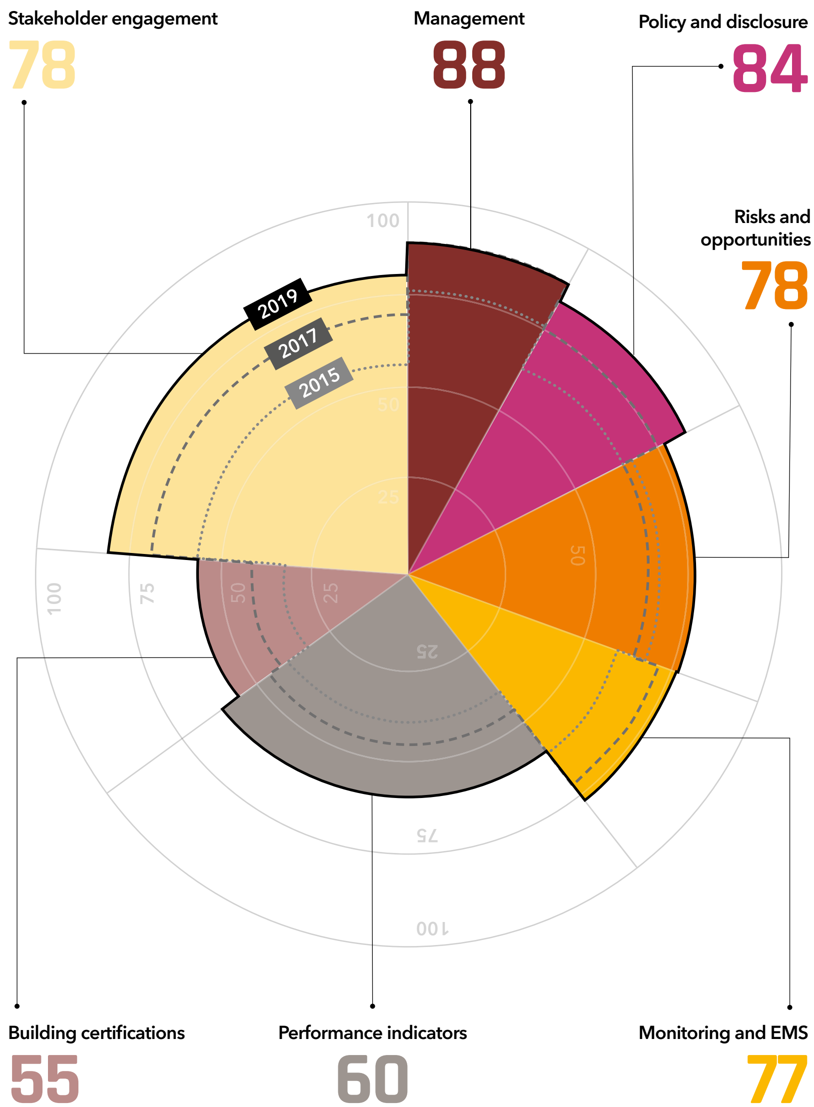
508%

Increase in total participation rate, listed and private, over a decade of GRESB reporting (2010-19)

Every key region registers growth in participation rates in the last year with Europe well out in front again (No of particpants)



The sector's sustainable performance in 2019 improved for all key aspects, with management remaining stable for another year (GRESB score out of 100)



64

Countries represented

$4.1trn

Total asset value of the participating entities ($3.5trn in 2018)

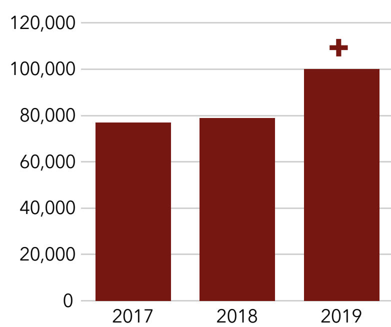
6

Continents represented

72

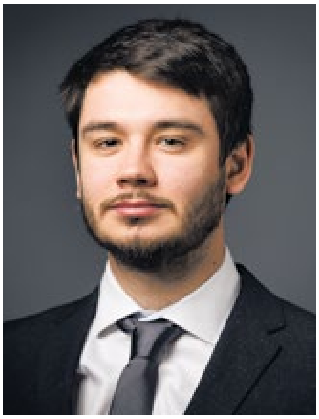
Global average GRESB score achieved (68 in 2018)

Total assets included (listed and private)



KEYNOTE INTERVIEW

Tech is enabling better ESG performance


Nuveen Real Estate's Abigail Dean and Jack Sibley discuss the potential for tech innovation to reduce emissions, increase energy efficiency and provide a better working environment with Helena Olin of AP2

Across the real estate sector, technological innovation is changing the way buildings operate, improving the construction process and developing properties that can contribute to protecting the environment for the future. Although the sector has traditionally lagged behind others when it comes to harnessing the benefits of technology, change is afoot. But do the benefits of having greener buildings outweigh the considerable costs of implementing the tech changes required to stay ahead of the game when it comes to delivering on sustainability? Nuveen Real Estate thinks so. The firm has committed to reducing the energy intensity of its portfolio by 30 percent by 2030 and will achieve that, in part, by implementing technological improvements. *PERE*'s Rhiannon Curry went along to find out more from the firm's real estate head of sustainability, Abigail Dean, technology and innovation strategist, Jack Sibley, and Helena Olin of the Swedish national pension fund AP2.

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20%

Anticipated energy reduction over a 4-year period at Nuveen's 40 Holborn Viaduct

Pace of change

Helena Olin, AP2: The sustainability agenda has increased significantly in the last few years, and enlightened investors are more concerned with encouraging their managers to implement green changes. From our perspective, the driver is environmental. In the Nordics, it is particularly high on the agenda for both the government and the public. There is growing public awareness of climate change issues. And we are now seeing the increasing use of technology to monitor sustainability performance in property assets.

There has also been a greater concern with well-being in properties, as companies seek to improve the working environment through air quality, for example.

Abigail Dean: Improving user experience for building occupants, with a focus on both sustainability and technological innovation, will drive returns for investors. At the very least it reduces the operating costs of buildings. Tenants expect to see this technology in prime property assets. This might include LED lighting and more sophisticated building management systems, which allow tenants to manage the temperature of buildings. But we are at the point where there is still some way to go and more exciting technology is on the horizon. The next few years are going to be really critical as we pilot more of those innovations and the industry starts to realize their value.

Jack Sibley: Investment into the sector is driving the pace of change. The amount of venture capital funding going into technologies and proptech as a whole, of which environmental sustainability tech targeting real estate is a subset, has grown exponentially over the last three years or so. Sustainability is probably one of the areas of proptech which is more mature than others.

HO: And the financial benefits of improving the sustainability of buildings are beginning to emerge. We think sustainable buildings are going to give us a better return going forward. Our properties that are more sustainable than others are getting higher rent, less vacancy, a better return, and the cost of operating them is lower. Alongside cost, improving the green credentials of buildings builds a more resilient portfolio and helps meet wider corporate goals. Adopting these changes takes planning over a number of years.

> *"Our properties that are more sustainable than others are getting higher rent, less vacancy, a better return, and the cost of operating them is lower"*
>
> **HELENA OLIN**

AD: Other parts of the real estate industry have been slower at embracing change. Real estate is quite an illiquid asset class with a long hold period and this can mean things change a lot less quickly. Also lease lengths can be quite long and so opportunities to upgrade between tenancies can be quite limited. Although REITS, listed companies and vehicles owned by institutions or pension funds are generally motivated to make changes to improve sustainability, many private owners are not. Tenants are not always explicitly demanding sustainable spaces, so the drive to change simply does not exist. I do think that kind of complacency will ultimately trip up those taking that approach, and it is important to differentiate and find out what will make our buildings better and our tenants happier, and that goes hand in hand with sustainability and technology.

Case study: 40 Holborn Viaduct

Nuveen Real Estate's London-based property is a prime example of how activating a portfolio with smart alpha can enhance occupier experience, drive energy savings and optimize maintenance

The company partnered with Verco Advisory Services, and a smart proptech provider, Demand Logic. Described as the "FitBit for buildings," Demand Logic transforms a 'basic' building of bricks and mortar into a living digital asset where energy data drives energy performance.

Nuveen developed a commercial model where the energy savings from the Demand Logic solution were guaranteed, underwritten by Verco Advisory Services. This de-risked the investment and ensured that its customers received the benefit of lower energy bills.

The project, first implemented in 2017, is on track to drive a 20 percent reduction in energy use over a four-year period.

Nuveen also worked with Arbnco to trial the use of temperature and indoor air quality sensors in the building.

More innovation to come

AD: One of the most exciting areas for me is around smart buildings and predictive maintenance. At the moment, a lot of buildings have technology that monitors when energy is being used and for what purpose, and can report that back to the managers of that building any areas that require improvement, such as lights being left on overnight or the heating kicking in too early. Where that is going to go over the next five years is, I think, being more proactive, using the data to maintain pieces of equipment in advance and work out when they might go wrong.

Effectively, buildings will manage themselves. Rather than someone having to go and turn off the air conditioning or increase the heating, the building will adjust its own programs to meet the optimum working environment using artificial intelligence. This has the added benefit of delivering buildings which are not only more energy efficient, but ones where the replacement or maintenance of equipment is optimized. This has savings for embodied carbon, and money savings as well.

JS: From that, digital twins, which model the real-life workings of a building, could help develop a more intelligent management system.

At the moment, we have lots of systems in buildings, but they are not all necessarily linked together, in terms of the building having a brain. That is certainly something we are beginning to see. This could be as simple as an IoT sensor, which measures the carbon dioxide and temperature in a particular meeting room, which after an hour triggers a higher airflow or lowers the temperature. Or it could be a system to monitor which desks are occupied and could be linked to the lift system to maximize efficiencies.

HO: AP2 is considering the use of renewables, such as solar panels on roofs, or battery storage, to improve buildings' performance. We are probably going to go from centralized electricity to a distributed network. Battery use has the potential to stop emissions at source, and to enable energy to be produced more locally. There is potential to link these innovations with work being done on electric vehicles, where in the future the building might be able to take energy from car batteries, as well as charge them.

> *"Improving user experience for building occupants, with a focus on both sustainability and technological innovation, will drive returns for investors"*
>
> **ABIGAIL DEAN**

> *"The next five years are about making technology as user-friendly as possible"*
>
> **JACK SIBLEY**

AD: The reality is, as we move toward a low carbon future, electricity becomes more and more important.

Data part of the equation

AD: Big data also has the potential to boost returns and safeguard investment. Assessing future climate change risk is still a relatively new concept for the property industry, but is becoming increasingly common. Although we have been very good as an industry at looking back, for example at areas which have flooded in the past, now we are looking to the future.

Analyzing data helps us to understand not only if certain areas are more risky to invest in than others, but what expectations we need to have for buildings in terms of what wind speed they can withstand, if we need better guttering or new facades, for example.

JS: In the future, this is likely to encompass the wider environment and not just the building itself. There is a growing realization that buildings do not exist in isolation, and that a threat to the city infrastructure represents a threat to the investment. It is going to be about understanding what the dependencies of these assets are. That could be whether the electricity generator is located on a flood plain or how the broadband reaches the building.

AD: Although technology offers some solutions, it is by no means the only way to make properties more sustainable. With existing buildings, you can use technology to optimize what's there, and to make sure it is working as efficiently as possible. But when you are designing a building from scratch, if you want to develop a building to be low carbon and energy efficient, the passive features are just as important as the technological features.

And technological developments can only be implemented successfully if the skills contained in the industry keep up with the pace of change.

JS: Technology is only as good as the people using it. The next five years are about making technology as user-friendly as possible.

AD: Used the right way, the benefits are clear. Improving buildings with technology future proofs their value in the years to come. ■

Pricing in climate risk

Guest comment by **Billy Grayson**

The executive director of the Urban Land Institute's Center for Sustainability and Economic Performance highlights emerging best practice

The year 2017 was a record one for property losses from extreme weather events – hurricanes, droughts, wildfires, inland flooding, and other natural disasters were responsible for $330 billion in losses, $195 billion of which was uninsured, according to *The New York Times*. With the frequency and magnitude of extreme weather events increasing each year, and recognition of the long-term impact of climate change increasing in both the public and private sector, investors are beginning to take a serious look at how they are integrating these risks into their real estate investments.

Understanding and mitigating the risks associated with extreme weather events and long-term impacts of climate change present a complex and evolving challenge for real estate investors – risks like sea level rise, droughts and extreme heat will have a profound impact on real estate values, but the timing and magnitude of these impacts is difficult to predict.

The future cost and availability of property insurance and the strategies cities will use to address climate vulnerabilities – and their associated cost on real estate in the form of new building codes and taxes – further complicate the challenge of assessing these risks and pricing them into investment decisions.

Leading asset managers, investors and real estate owners are working to develop strategies to assess and mitigate the long-term risk of climate change. Through their efforts to begin addressing these risks, a set of best practices is emerging for real estate.

Assess physical risks

An important first step for most investors is to better understand the physical risks in their portfolio. Some are turning to an emerging set of software and data analytics providers, which are mapping their assets' risk using global models for the increase in frequency and severity of extreme weather events, and climate change's anticipated impact on sea level rise, extreme heat and the prevalence of droughts and wildfires.

Others are calling on their assets to assess, report out on and start mitigating these risks using emerging global reporting standards from CDP and the Task Force on Climate Related Financial Disclosures (TCFD). Companies analyzing these risks are finding the highest risk assets are usually found in regions subject to multiple climate-related risks, and in buildings that may be outside the FEMA 100-year flood zone but in regions where this flood level has been exceeded multiple times in the last 10-20 years.

Integrating transition risks

The second step is to evaluate transition risks – the possibility that markets vulnerable to climate change will see major shifts in the cost and availability of property insurance, the cost associated with new regulations to address climate change, and a potential increase in sales and property taxes for cities to pay for building and infrastructure investments to manage their climate risks.

Investors are modeling how aggressive cities will be in mitigating their climate risks, and the way in which these cities will pay for these investments. Cities that act quickly and decisively are likely to reduce long-term risks to asset value, but may require bigger short-term costs on real estate to pay for these investments. Cities that do not make these investments in a timely manner will increase the likelihood that properties will be at a higher physical risk, and for markets vulnerable to climate change, they may become less desirable to residents and tenants over time.

Pricing climate risks into investment decisions

As investors build models to assess the risks associated with climate change, they are beginning to apply these models to their investment decisions.

Some investors are using these models in acquisition due diligence – to help them better assess the long-term value of assets in high-risk areas, and to help underwrite investments in mitigating long-term climate risk into their capital plans. Others are using climate risk to help them identify properties in their portfolio to engage around mitigating long-term climate risks – investments that 'harden' these buildings and make them more resistant to extreme weather events and long-term climate threats.

In the near future, some investors are considering a strategy to divest from assets that have the greatest long-term climate change vulnerabilities, and in some cases to exit markets completely where they believe the long-term risks outweigh the cities' ability to cost-effectively mitigate them. ■

Step inside AXA's 'vertical village'

A gleaming new office tower will open in London in 2020 and it is going big on health and well-being. PERE's Helen Lewer reports

Readers might recall the hype surrounding the Helter Skelter – official name, 'The Pinnacle' – in the early 2000s. Yet another office property designed with a quirky façade, it was set to join the growing collection of buildings with fancy monikers – the Shard, the Gherkin – dominating, not to everyone's delight, the cityscape of the UK capital's financial center.

Then along came the global financial crisis in 2008; the economic climate became tricky, and the building's consortium of Saudi investors got the jitters and abandoned ship, leaving behind a concrete stump at number 22 Bishopsgate.

Had the Helter Skelter been completed it would have become one of many opulent glass constructions designed to dazzle those walking through its doors.

New era, new focus

Appearances counted more back then. Living, shopping and working in buildings with beautiful interiors remains important in 2019, but increasingly, people want something more substantive from the spaces they inhabit – and the office sector is reflecting this change perhaps more than other property types.

Gone are the days when people clocked in at 9am, completed their day's work and left at 5pm, giving little thought to how the environment in which they spent the bulk of their weekdays impacted them personally.

Fast-forward to today and users of property are adopting a razor-sharp focus on issues like energy efficiency, clean air and carbon reduction. Sustainability and protecting the environment matter to them; they want property assets, and those that capitalize, develop and manage them, to reflect those val-

Future view: how Twentytwo will look on completion

Image: Hayes Davidson

Let there be light

Components as simple as window blinds and glass will help create energy efficiencies, cut costs and deliver a healthier workspace for Twentytwo's 12,000 workers

"The floor-to-ceiling height space on each floor is 20 percent taller than you would get in a market-standard building. That gives a sense of volume, which seems to have a positive impact on how a building's occupants feel," comments Badham.

Triple glazing the building's windows boosts the level of natural daylight coming into the office by about 60 percent, thereby reducing the need for internal lighting.

Data storage and analytics software will collect every piece of data on how different parts of the building are operating. Should a fault be detected, many of problems that might normally require calling for an engineer can be remediated automatically.

"If a thermostat says we should be cooling a room, then we can press reset to bring it to the right temperature. In around 50 percent of faults, this will be enough to solve the issue."

Is the sun shining on the façade making the office too hot to work? Sensors will detect which part of the building is being overexposed and heating too rapidly. Blinds will then drop automatically in the specific part of the building impacted.

"If you can stop the space overheating in the first place, then you don't need to cool it down with air conditioning. And that means less energy is used," Badham explains.

Sustainability in real estate in action.

ues too. And now there is an ever-growing spotlight on the role the real estate sector can play in improving the health, well-being and mindset of occupants.

AXA IM – Real Assets, an investment management division of French insurer AXA, is one business that says it is on board with the importance of the health and wellness conversation; the unfinished site at 22 Bishopsgate first captured the manager's attention back in 2013. But according to Harry Badham, AXA IM – Real Assets' director of development in the UK, the firm was uninterested in developing "buildings with nicknames" and eager to "deliver something a little different" to the City. With a new consortium of investors – not revealed at the time of writing – backing the project, the acquisition completed in 2015 and, planning permission granted, the manager could set about bringing to life its vision for an office of the future, one with health and wellness at its core. Badham likens it to a "vertical village."

"We started to think about this project from the view of the individual rather than from the view of the corporate," explains Badham.

"There's more and more scientific and anecdotal evidence that the well-being of office staff is directly related to their productivity. And that is really the essence of a successful office building."

Active occupants: a climbing wall will encourage the workforce to stay fit

Good for the mind and business

The mission statement on the marketing website for the building, dubbed Twentytwo, reads: "We imagined a building you'd want to work in." Evidently, deep thinking has gone into what this would encompass, and the type of environment that would allow prospective tenants not only to get the very best performance from their staff but also to drive their reputations as attractive employers.

"Our catchphrase is, 'Sometimes, not thinking about business is good for business' – that people's best ideas come when they are out of the office, not in it," says Badham.

He explains that the elements incorporated into the building are not something conjured up on a whim. Some serious study went into the types of health and wellness features that have been already tried and tested by other companies, mostly at the tenant rather than landlord level. And Ipsos Mori was tasked with conducting a poll of City workers to find out what their ideal workspace would look like.

The vision is unique in many respects. In addition to features we have come to expect from many modern City offices – a top-floor public viewing gallery, bar, restaurant, outdoor green space and a gym – there are plans for a spa and access to onsite medical services. A climbing wall, perhaps the most unusual and eye-catching feature, will encourage occupants to get active during lunch breaks. A food market will provide an informal social meeting place and offer choices to nudge along healthy eating habits. A learning zone and a library will facilitate further education and skills development.

> *"We're seeing wellness become a metric every organization realizes is critical to the future of the industry"*
>
> **HARRY BADHAM**
> **AXA IM – Real Assets**

And for City workers' growing appetite for cycling, an underground bike park will be onsite with around 1,700 spaces for people to safely park their two wheelers, and with access to lockers, showers, laundry facilities and a cycle maintenance service to boot. A host of other health and wellness aspects are planned into the building.

Wellness as a financial value-add

Of course, there is skepticism surrounding the impact that such features can really have on the performance of businesses leasing space, and measuring the value-add it will ultimately deliver to property assets and their underlying investors remains a challenge. So is it worth the cost of building in such features to office assets? "At

Twentytwo Bishopsgate

In numbers

City of London, UK
Location

Developer
AXA Investment Managers - Real Assets; Lipton Rogers Developments

62
Number of floors

278m
Building height

2015
Planning permission granted

Pre-lets
Circa 430,000 square feet with Hiscox, Beazley, AXA IM, RGA, Cooley, Convene and Rhubarb confirmed

2016
Construction started

Q1 2020
Opens

1.275m sq f
Area covered

Sustainability certifications
Pursuing WELL and BREEAM

12,000 strong workforce
Capacity

Multiplex
Contractor

Karen Cook, PLP
Architect

Moving in

Convene is coming to London and 22 Bishopsgate's focus on creating a healthy working environment helped seal the deal on the company making the property its UK home, says its CEO, Ryan Simonetti

Simonetti: wellness is not just about having a gym

When health and wellness are discussed in the context of sustainability in commercial real estate, property owners are often quick to highlight that they are delivering on tenants' demand to live and work in better environments. But is this simply good marketing talk, or fact?

In August, Convene, the New York-based flexible workspace company, shook hands with AXA IM – Real Assets to pre-let four floors – 102,000 square feet of space – in the new tower. And according to the firm's co-founder and CEO, Ryan Simonetti, the commitment to sustainability was a big part of the building's appeal to his firm.

While Simonetti says that the building's use of innovative engineering techniques to ensure energy efficiency is absolutely "the right thing to do," as it will also help reduce costs for tenants, it is the well-being features of the property that ultimately caught Convene's eye, something that marries well with the company's own corporate ethos.

"Wellness, as we define it, is not just about having a gym in the building or having access to natural light and great fresh air. Convene sees it as more holistic. It includes the mind, the physical and the experiential; features like the climbing wall are really exciting to me," he says.

"And AXA IM is not just thinking about dollars and cents, but about workplace experience. As a prospective tenant, that was an important factor in our decision to choose the building and to partner with AXA IM, because Convene is in the business of delivering great experiences to our customers."

Tenants are also listening closely to what their own employees want from their workspace. And these days, sitting all day at desk under unnatural – sometimes headache-inducing – fluorescent lighting with access to a small kitchen to make the odd coffee or tea just doesn't cut it now, especially among the younger millennial and gen Z workers.

"As a company, not only do we have to show our commitment to sustainability initiatives to our customers, it is really important to our own talent attraction and retention strategy because, guess what, our employees care about these things," says Simonetti.

Simonetti is adamant that catering to health and well-being does not mean property owners having to sacrifice the bottom line either. "I think we will have occupied space in around 30 buildings by the end of this year, most of which are institutionally owned assets. And I can tell you that all of the buildings that have truly committed to sustainability, and to delivering an experience for their tenants, have performed better financially than those that have chosen not to follow that path. At Convene, we believe that you can do good and do well financially at the same time."

the moment, there are few well-established metrics," Badham admits. "We're still really waiting for data to come through on how wellness features in offices impact factors like absenteeism and productivity. But we're looking for ways other than just rent-per-square foot to gauge how successful a building is. People are more productive and successful when they're happy."

The war for talent has transformed over the last five to 10 years, says Badham. Professionals are more discerning about where and how they work, and more knowledgeable on issues like sustainability and climate change; employers should demonstrate they are committed to the cause. And for the institutional capital investing in offices, it can only pay to support them in that endeavor, too.

"Every investor has a sustainability policy, and I think we're seeing wellness become a metric every organization realizes is critical to the future of the industry," says Badham. "It's about creating space that is generally attractive to business and to staff, and that will drive performance, because in the long term we'll see improved leasing performance and shorter void periods."

Wrapping up *PERE*'s tour of Twentytwo Bishopsgate, it is clear AXA IM – Real Assets is keen to be part of the growing customer-centric approach of the private real estate sector on issues like environmental protection, health and well-being. ■

Well rewarded?

Investors believe health and well-being initiatives are worthwhile, but find it hard to quantify any increase in value from these measures, writes Mark Cooper

Health and well-being are increasingly factors in investment managers' sustainability considerations, but quantifying the financial benefits remains challenging.

Wellness initiatives include providing gyms, cycle racks or yoga classes. In some cases, buildings, mainly for owner-occupiers, are designed to encourage more activity – using stairs instead of lifts, for example. Healthy buildings are those where measures are undertaken to improve factors such as natural light, views of nature and clean air in order to improve the end-user experience.

Office buildings have been the major focus of healthy building initiatives, as well as multifamily assets, as their occupiers spend the most time there. Studies have found clean air, natural light and lower noise levels all improve office workers' scores on cognitive tests. In theory, any initiatives that improve staff productivity and reduce absenteeism will boost a tenant's bottom line and thus drive higher rents.

According to data in a research paper published by consultant Integrated Environmental Solutions (IES), staff costs are roughly estimated to be 90 percent of an occupier's costs, compared with 9 percent for rent and 1 percent for energy. So a 5 percent uplift in productivity is worth more than a 50 percent cut in energy costs. Cutting the staff absenteeism rate from 2 percent to 1 percent is worth more than a 10 percent rent reduction.

However, even if occupiers are able to compare productivity and attendance across their portfolio, it is tough to establish the cause of increased productivity – for example, it might be down to better management rather than cleaner air.

Sophie Carruth, head of sustainability, Europe, at fund manager LaSalle Investment Management, says: "There are quite a lot of parallels between how people view healthy buildings today and the way they viewed energy efficiency a few years ago. Everybody was asking the same questions: what is the link to value, how can you demonstrate that spending on improving energy efficiency is benefiting investment performance?"

Expectation is growing

It is relatively straightforward to prove that reducing energy costs will be financially positive over the life of a building, but far less simple to prove these savings are reflected in the asset's valuation.

"Everybody talked about a green premium and in most cases that has been quite hard to prove. However, it has been relatively easy to show there is a brown discount for buildings which are falling behind," says Carruth. "I think exactly the same will come about for healthy and unhealthy buildings. Landlords will need to deliver a healthy building in order to attract the best tenants. They still might not pay a rental premium, but if you're not delivering a healthy building, then you should probably expect a rental discount."

Anna Duchnowska, senior director and head of Polish operations at fund manager Invesco Real Estate, says: "Healthy building initiatives will gradually become part of what is expected for a prime asset. It is hard to quantify the value of 'soft' ESG components, such as health and wellness initiatives. However, we believe these measures will improve employee satisfaction, which means tenants are more likely to want to stay in the building."

Investment managers tend to lean toward 'software' wellness initiatives, unless they are developing or are engaged in substantial remodeling of an asset. For example, LaSalle, in partnership with JLL, refurbished 27 Great West Road, an office building in Brentford, West London, which has around 700 people working for tenants including video game company Sega and engineering firm WorleyParsons.

The refurbishment created a café with healthy food options and a reconfiguration of the parking lot created 80 cycle spaces and shower facilities. The building offers weekly yoga and bootcamp fitness sessions for tenants and a pop-up nail bar.

However, ground-up development offers opportunities to hardwire wellness into a building. US developer and investment manager Hines' One Museum Place office tower in Shanghai has been constructed with the health of end-users in mind, says Derek Hrzek, senior associate at Hines.

"The design by Gensler, with the support of Hines Conceptual Construction, sought to maximize open space around the building and also natural light within it. One Museum Place has a full glass curtain wall system with floor-to-ceiling windows and nearly 3.2 meter-tall vision glass, which is unique in Shanghai," he says. "Air quality is a massive issue in China. It

Healthy minded: Hines' One Museum Place, Shanghai

is not unusual for tenants to have their own personal air-quality monitors and for average citizens to check air-quality readings on mobile apps. We have 112 monitors on the building's 60 office floors and we filter particulates through two separate filters and then implement a UV light filter in order to maintain the required quality. The building has a full-time indoor air-quality manager and we believe this, combined with the volume and quality of data coming in from this quantity of monitors, is a first in China.

"The building also focuses on healthy water. Tenants can access plumbing and drainage locations at six points on each office floor. These multiple access points make the installation of in-line filtered water stations easy for both instant hot and cold drinking water. This is primarily to help eliminate plastic bottle use, but of course encouraging hydration with clean water is another positive health initiative."

Hrzek admits it is hard to quantify the financial benefits of these initiatives, even though factors such as air quality can be measured. "Although we can measure real-time air quality with remarkable specificity, it is harder to quantify the monetary value of these initiatives, but we do believe they have been positive for the leasing efforts to date – we are doing well on rental rates and leasing velocity. These initiatives are all required to create a premium product and we believe we are already getting payback."

Certifying health and wellness

Just as building certifications such as LEED reward sustainability, there are newer programs focused on wellness. The International Well Building Institute's WELL building certification has been awarded to more than 200 buildings around the world. Buildings are assessed on factors including air and water quality, thermal comfort, light and physical activity.

However, the certification does not come cheap. Duchnowska says: "The WELL certification is still very expensive and is also fairly new to Europe, so is not yet widely recognized. We use the WELL pre-assessment, which is useful for pointing out areas for improvement and we would rather invest in addressing these before spending money on the certification itself."

There are other certifications available, such as Fitwel, whose founding members include Tishman Speyer and Vornado Realty Trust.

The Global Real Estate Sustainability Benchmark has included a wellness module since 2016 and this year incorporated it into the main assessment. GRESB notes: "Health and well-being programs are not yet uniform or standardized. Leading companies have comprehensive programs informed by an intentional health promotion process including policy, needs assessment, action and monitoring for health and well-being. Lagging companies have disjointed, incomplete processes for health."

Tenant-driven

Despite the difficulty in demonstrating the dollar value of a "healthy premium," managers are increasingly treating wellness as part of their sustainability remit and not simply for altruistic reasons.

Carruth says: "Tenant engagement on sustainability matters has been really challenging over the past few years. However, where tenants have been uninterested in talking about energy efficiency they are completely engaged in talking about staff well-being."

Tenant engagement is crucial, because without input from the end-users, landlords cannot know whether their initiatives are having an impact. "Absenteeism is the most quantifiable way to measure healthy building benefits but there is also value in qualitative assessments via regular surveys," says Carruth.

Naturally, anything that is front and center for corporate tenants is of importance to real estate investors. There is also a sense among landlords that advances in technology which empower end-users will force owners of real estate into action. "The time is not very far off when you will be able to use your mobile phone as an indoor air quality monitor," Carruth notes. "As soon as that happens there's a relatively large risk to landlords that are not delivering good air quality."

As more and more property owners become involved in wellness initiatives, the costs are falling. Hrzek says: "The costs of sustainability are also falling. For example, between when we first considered the air-quality monitors in 2014 and purchased them in 2018, the overall costs roughly halved and they continue to drop." ■

KEYNOTE INTERVIEW

A responsible approach to an uncertain future

Investors' growing awareness of the risk posed by environmental and social change is galvanizing their interest in responsible property investment, argues M&G Real Estate's Nina Reid

The rapidity with which demographics and technology are reshaping the world in increasingly visible ways while throwing up a series of pressing social and environmental challenges has begun to focus the minds of an increasing cohort of investors on how their activities impact on the wider world. Nina Reid, director of responsible property investment (RPI) at London-headquartered fund manager M&G Real Estate, tells *PERE*'s Stuart Watson how managers are developing investment strategies that aim to be kinder to the planet and its people while maintaining the bottom line.

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Q How have investor attitudes to responsible property investment evolved?

There has been a noticeable increase in both the extent to which investors are considering sustainability and the extent to which it is becoming embedded within investment decision-making. Eight years ago, we might have been asked whether we were signed up to the principles of responsible investment (PRI), so it was a bit of a tick-box exercise.

Three years ago, the question might have been about whether we participate in GRESB. Now, many leading investors are asking more detailed questions around risk, like the extent to which our portfolios are exposed to climate risk. Most of those questions are still environment-focused, but there is also rising interest in impact investing and how real estate affects the societies and communities in which investors operate. Meanwhile, we have seen the topic of wellness come to the fore among investors in offices as it rises up the agendas of corporate occupiers.

There is a growing movement that is saying we cannot wait long to act if we are to have an impact on environmental issues. If we are to hit carbon reduction targets then real estate will have a major role to play because the built environment is responsible for 40 percent of carbon emissions. Real estate is a low-hanging fruit for government action on climate change, so we can expect the industry to be heavily regulated because they will need to really drive down buildings' energy consumption if they are to limit global warming to a target of 1.5 or two degrees centigrade. If those targets are missed, and we are looking at an increase of four or five degrees, real estate will be heavily impacted from a physical risk perspective. Rising sea levels would make a significant number of cities uninvestable. Meanwhile, financial regulators are pressing insurance companies and other institutions to stress-test their exposure to climate risk.

Q How are investment managers like M&G responding?

We are trying to stay ahead of the curve by anticipating what investors might ask for. That can be challenging because RPI encompasses a wide spectrum of issues, some of which are changing rapidly. For example, wellness was a very niche subject five years ago and now has considerable significance. In this area, the range of issues is very broad and prioritizing which aspects to focus on is key. We have the challenge of working across practically every real estate asset class, and we are also global, so we try to have some degree of consistency around the world while also being able to tailor solutions to the individual markets in which we operate.

All our funds under management have the same over-arching strategy, which aspires us to manage world-class places to benefit the societies and communities in which we operate, our investors and also the environment. Within that, there are four key impact areas: environmental excellence; health, wellbeing and occupier experience; socio-economic benefit; and smart, secure and connected places. We have a series of global targets to drive progress in that by 2025. We want to achieve a 25 percent improvement in energy efficiency and we are currently running at 23 percent. We are also aiming to achieve green building certification for 50 percent of our assets under management by 2025, and we want to reach 10 million people with our health, wellbeing and inclusivity programs.

Then each of our funds has its own set of targets to achieve by 2020. A lot of our funds are growing quite quickly, and we do not know what type of assets they may hold in 2025, so we set a shorter program of work tailored to the markets in which they are operating.

Q How is RPI shaping your approach to acquisitions and asset management?

We have integrated material sustainability considerations such as flood risk into our

Good for the Seoul

Centropolis Towers, South Korea

Completed in 2018, M&G's Centropolis Towers mixed-use development in Seoul's central business district of Jongno achieved Leadership in Energy and Environmental Design (LEED) Gold certification, the second highest rating, thanks to a range of environmental features. The 26-story twin-tower complex offers 132,440 square feet of offices built on top of a shopping mall as well as an underground museum that preserves the remains of 16th- and 17th-century houses discovered during its construction.

The project's green features prioritize renewable energy and include photovoltaic panels on the rooftops and exterior, which power the building by converting sunlight into electricity. Meanwhile, seven fuel cells substitute for a higher carbon-emitting boiler system and feed the building's remaining electricity requirements using water and natural gas. Geothermal heat pumps, an uncommon feature in offices, channel heat from the ground to supply hot and cold water, while air conditioning is controlled by a thermal ice storage system.

Rental revenue premium for green certified buildings compensates for the increase in operating expenses, resulting in a higher distributable income to investors

	Rental income/ % NAV	Operating expenses/% NAV	Distributable income/% NAV
Yield premium: certified vs non-certified buildings	53bps	31bps	19bps

Source: M&G Real Estate

investment process. We also look at known legislative risks. For instance, in the UK there are regulations that prohibit landlords from letting buildings with low energy performance certificate ratings, and there is similar legislation mooted in the Netherlands. That risk is taken into account when considering acquisitions, so if we buy assets that will require improvement the cost is fully reflected in our underwriting.

On the asset management side, we have tiered all our assets in terms of their significance for the RPI performance of the fund. Significant assets tend to be multi-let offices or large shopping centers where we have a high ability to influence performance and work with property managers to implement improvement programs. Tier one assets have a series of annual energy, water and waste targets, they will often require a green building certificate, and will have a program of community and occupier engagement activities. There are slightly lower requirements for tier two assets which cannot be managed quite so closely, and then all remaining assets will have sustainability embedded in their asset-planning process.

Q Does RPI enhance investment returns?

Recent academic research in the US tested the premise that sustainable properties offer financial benefits to investors by comparing the cashflow REITs generated from certified and non-certified buildings. We sought to replicate that study using data drawn from our European property portfolio, which demonstrated that while the operational costs of green buildings within the portfolio were higher – possibly because they tended to be bigger and have a larger onsite team – there was a net benefit, with a higher distributable income to the investors, although with the slight caveat that the sample was not huge. For individual projects, the business case for sustainability stacks up. Installing LED lighting and other energy reduction projects tend to have the benefit of either lowering service charge costs for occupiers, or reducing non-recoverable costs for funds, or both, while making the assets more attractive to future occupiers.

As more studies come out about how wellness affects the productivity of staff, it may be possible to tie the wellbeing agenda to an economic gain, but in cases where the benefits are currently unquantifiable, businesses often make the investment nevertheless because it comes back to the view they take of the risk and the opportunity, and they have a gut feeling about it.

"Real estate is a low-hanging fruit for government action on climate change, so we can expect the industry to be heavily regulated"

Q How can RPI achievements be measured?

GRESB remains the only measure to compare performance of non-listed funds so it is a hugely important benchmark for our investors. It has also started to include wellness, which is a bit of a driver for investors in that area. However, GRESB is still focused on processes, policies and data rather than the actual perfomance of the underlying assets, and it will come under greater pressure to measure how the assets compare in terms of climate change risk and well-being performance.

Wide use of green building certification provides more visibility to owners and occupiers about asset performance, but at the moment the proportion of certified buildings varies widely from market to market. In the UK, most new buildings are certified, but there is a low take up of operational certification, while in continental Europe there has been a significant uptake of the BREEAM 'in-use' designation. We are seeing REITs and fund managers there getting nearly 100 percent certification for their portfolios, or starting to commit to that. In Australia, NABERS in-use building performance ratings are mandatory and you can see the impact the ratings have had on investment performance. Assets with higher NABERS ratings show lower void rates and achieve higher values and rents.

Q What will be the most influential future trends in responsible investing?

Leading fund managers will do a lot more thinking around net-zero carbon targets – how resilient buildings are to that standard, and strategies for getting buildings to achieve it. I suspect there will be some price chipping for buildings that cannot easily be future-proofed. Within five years we may well see some investors uncomfortable about investing in some markets without a very clear understanding about the management of the physical risks posed by climate change.

Data is a bit of a game changer as well. Investors will demand to see the underlying sustainability performance of the assets they invest in, and the greater availability of data will allow them to do their own modelling, which may change the dynamic in discussions with managers. There will be a big growth in the number of investors with an impact mandate. Smart building technology and the ability of people to access information on their phones about air quality and temperature in their workplace will mean there is much more scrutiny of, and real time feedback about, the performance of buildings. That will change what we provide in buildings and how we provide it. ■

Walking the talk

A decade has passed since the first GRESB Real Estate Benchmark, and despite substantial improvements in the sector's performance, there is more to do. Mark Cooper reports

This year marks a decade since the launch of GRESB, the ESG benchmark for real assets, offering global real estate managers a way to benchmark the sustainability and ESG performance of their assets and investments. To mark the occasion, *PERE* took the opportunity to speak with GRESB co-founder and managing director Sander Paul van Tongeren, and representatives from two of the original institutions which launched GRESB, Patrick Kanters, managing director global real assets at APG Asset Management, and Mathieu Elshout, senior director, private real estate, PGGM Real Estate. The group discussed how the sector has made progress in meeting sustainability commitments and what the focus needs to be to drive forward the sustainability agenda in the next decade.

> *"ESG has become mainstream in the real estate sector, although there is more room for improvement"*
>
> **MATHIEU ELSHOUT**
> **PGGM Real Estate**

Q Looking over the past decade, what progress has the private real estate investment sector made with regard to ESG issues?

Sander Paul van Tongeren: Over the past 10 years, ESG has gone mainstream and GRESB has been instrumental in this. There were 1,005 property companies, REITs, funds and developers participating in the 2019 Real Estate Assessment. This is the 10th consecutive year of participation growth. Ten years ago, 18.7 percent of participants collected energy data. In 2019, it is 97.7 percent. In 2009, 13.1 percent of participants used renewable energy; in 2019, it is 61.2 percent.

So in terms of performance, we are seeing a big change. Nearly all – 94 percent – of investors actively reach out to their managers to request participation in the annual GRESB Assessment. It is this strong demand from asset owners for greater ESG transparency that drives action and, ultimately, more sustainability practices among investment managers.

Mathieu Elshout: ESG has become mainstream in the real estate sector, although there is more room for improvement. I am quite proud of the industry's progress, but there is still a lot to do, of course. Looking back, 10 years ago there was simply no instrument or objective way available to us of measuring the ESG performance of our investments. Since then, the industry has really changed. So GRESB has become the one way to assess ESG performance, and we have seen performance increasing over that period of time, as well.

Patrick Kanters: Global industry standards were something the sector really needed. Now, sustainability awareness has increased and companies continue to score higher on the GRESB survey metrics every year. Of course, as investors we want to outperform the average scores. We first had to work on the coverage within our portfolio, and we made it mandatory for all our investments. I am sure that is why we have seen great progress. We can track the performance of our own portfolio against the GRESB benchmark, enabling us to discuss with managers and operators their individual performance.

The benchmarking really gave a push to the managers because they didn't want to be underperforming compared to their peers. We have seen a huge increase in performance over time. One other way to show you what has changed is that 10 years ago we very often had to request for sustainability to be put on the agenda of the boards and committees we serve on. That is very different these days, where it is common practice to discuss these matters.

Q Other than GRESB, what other developments have made the sector sit up and realize the importance of sustainability?

ME: Organizations such as INREV have launched guidelines which require their members to report on ESG measures, such as the ESG strategy of their funds and how they have performed against targets. The fact that the real estate industry itself has adopted reporting guidelines has been extremely helpful in improving the transparency and culpability of funds. We have also seen regulators, governments and central banks focus more on ESG and require more detailed reporting on ESG.

SPvT: The Task Force on Climate-related Financial Disclosures has helped move the needle, with a clear focus on resilience. A lot of real estate companies are now tackling climate risk and resilience and determining whether they are exposed to extreme weather events. That is also why we introduced the GRESB Resilience Module, because we feel this addresses a very important issue. Around 25 percent of resilience module participants report having a comprehensive program, which demonstrates the need for progress here.

"There is a general conviction that sustainability actually mitigates risk and can drive returns going forward"

PATRICK KANTERS
APG Asset Management

Q Does it remain a challenge to quantify the impact of ESG on real estate investments?

PK: A key development is that companies are no longer questioning whether sustainability will come at a cost. There is a general conviction that sustainability actually mitigates risk and can drive returns going forward. There is evidence that sustainable buildings will command higher rents. However, I think from an overall basis it is still difficult to prove. Ultimately, assets should move toward complying with the Paris Climate Agreement and achieving net-zero emissions. In time, valuers will take sustainability more into account, but managers should not wait until that point; it will be way too late.

SPvT: The short answer is yes. It remains a challenge to quantify social impact on performance. For example, it is difficult to assess the indoor air quality of office buildings and link that to higher productivity levels of those who use the office space. Furthermore, there are no commonly accepted indicators or metrics that measure the positive impact of real estate on local communities in terms of GDP growth or job creation. There are a few thought leaders, mainly in the UK and Australia, who have started to measure social impact. However, this is really the exception. For environmental metrics, it's different. There are commonly accepted indicators when it comes to water, waste, energy and carbon, and the vast majority of fund managers are able to report on these metrics.

ME: There is mounting evidence that sustainability is adding to returns or reducing risk. But it is difficult because you need a long series of data before you find real evidence. At PGGM, we started off 10 years ago with a belief that sustainability pays off. We still believe this, but it is difficult to single out sustainability, because you can find funds which perform well on the GRESB assessment but underperform on their real estate benchmarks. Our portfolio, which this year again scores very high on the GRESB benchmark, has certainly been outperforming over the longer term.

> *"The next 10 years will be more challenging than the past decade"*
>
> **SANDER PAUL VAN TONGEREN**
> **GRESB**

Q Can social initiatives have a positive impact on performance?

SPvT: The GRESB 2019 real estate assessment shows leading companies have structured their health and well-being programs to include consideration of employees, tenants, communities and supply chains. But health and well-being programs are not yet standardized. Although the social part of ESG is extremely important, the difficulty is quantifying the social impact on performance. But there has been good progress on measuring tenant and employee satisfaction levels and, over time, I am convinced we will also be able to measure the social impact and performance at the asset level, community, portfolio and even at the fund level. It will take some time though.

PK: Success will only come with being able to standardize and have a common language in which to talk about these issues, and this still needs further improvement. But I am also convinced the sector will get there. There is increasing evidence of a correlation between a healthy environment and the improved learning capacity of children and also higher work productivity. No doubt the focus on this area will continue to increase.

ME: We do not want to single out investments as being impact investments because I feel we would then be lacking focus on the rest of the portfolio. So rather than focusing on impact investing itself, or on the social aspects separately – although of course they are very important – we again look at them as an integral part of ESG.

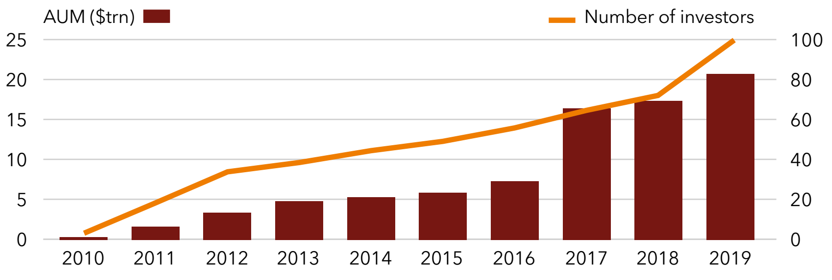
Q Taking a look ahead now, what further progress needs to happen in the next decade?

PK: We need, as an industry, to take a very strong line on the Paris Climate Agreement and to comply with it. That is going to lead to much more information about properties in order to compare them one by one with regard to the pathways which lead to the Paris Climate Agreement. That is ultimately what will need to happen and will be important as countries introduce regulations supporting the agreement.

ME: Climate change is really crucial to us. We want to bring our portfolio in line with the Paris agreement, so we see a transition risk if we are not in line with the pathways that lead to compliance. This is a growing focus for us. As for the physical risk, as long-term investors we need to take a longer-term view on this matter. We own real estate that we may want to sell in 10 years' time to a buyer with a 10-year ownership horizon, which means we need to be concerned with at least a 20-year timeframe over which to consider the resilience of the asset.

SPvT: We face a number of global challenges: the climate crisis, ecosystem breakdown, mass extinctions, extreme income inequality, political instability, mass migrations and demographic changes, and we have much work ahead of us. However, because of the strength of our movement, because of the commitment to transparency by thousands of managers around the world, because of institutional investors embracing the UN Sustainable Development Goals (SDGs), we can be optimistic that a sustainable real asset industry is within our grasp. Nonetheless, it will be a challenge. In fact, I think the next 10 years will be more challenging than the past decade. ■

GRESB's network of investor members has expanded from three to 100 since 2010



Source: GRESB

EXPERT COMMENTARY

Hermes Real Estate's Sharon Brown, director – real estate risk and environmental impact – sets out the firm's approach to impact investing and why it is compatible with making returns

Creating an impactful framework

Responsible property investment (RPI) principles were first integrated into our firm in 2008 and since then we have progressed beyond considering simply ESG risks in the portfolio to looking at how we as an investment manager can proactively generate positive sustainable outcomes for all stakeholders, including investors, occupiers, communities and regional economies. These outcomes have been delivered through a proprietary, innovative and proven approach – the impact framework – to quantifying the relationships between property developments in the portfolio, the natural environment, economic growth, productivity and strong financial performance – what we view as the 'holistic' returns from investments.

The impact framework was designed to increase the intentionality, additionality and transparency of our approach to sustainable investment. At the core of this is our work investing on behalf of pension funds whose underlying investors depend on strong financial returns to fund their post-retirement incomes. The framework aims to deliver for investors both high and sustainable financial returns, as well as produce a measurable impact that is aligned with clear social, economic, fiscal and environmental goals.

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Theme setting

Since 2018, three major impact themes have been targeted through our £7.3 billion ($9 billion; €8.2 billion) portfolio – urban regeneration, climate and resource efficiency, and the health and well-being of occupiers and surrounding communities. And looking ahead, in 2020 three new areas of thematic impact will be evaluated – jobs and skills development, affordable and accessible housing, and tenant engagement.

The process of translating this impact blueprint into constructive action for each of the investment strategies in the Hermes real estate universe involved mapping the specific characteristics of each fund or investment mandate against the impactful investment themes mentioned above.

A screening process identifies the appropriate overarching socioeconomic and environmental impact targets for the entire portfolio. After ensuring the impact framework is on sound footing, specific, measurable targets can then be assigned to each fund or mandate, according to their respective investment strategies.

Importantly, the impact of properties are then tracked against quantifiable criteria, not vague guidelines. Over 2018, we matched or outperformed on 80 percent of our key performance indicators. Not only do we benchmark ourselves against peers using globally recognized external measures such as the Principles for Responsible Investment and the Global

Real Estate Sustainability Benchmark, but we also started last year to develop an internal benchmarking process – more on that later – in order to increase the intentionality of our impacts.

The role of meaningful placemaking

Of course, KPIs and industry rankings only tell part of the story. The most important results are measured through the experiences of the communities and families that work, live in and use properties in the portfolio, or what we have termed 'placemaking' – the act of creating urban spaces that generate robust, long-term investment returns while serving social, economic, leisure, well-being and community needs, rather than just a developer's short-term profit target.

Over the last six years, our firm has undertaken eight large urban regeneration developments across the UK, spanning a combined 19 million square feet and £13 billion of capital value. The sites provide the perfect opportunity to showcase the meaningful placemaking concept in action. At a site level, this placemaking approach can often deliver results greater than the sum of its parts, with many additional benefits including:

- Restoring a sense of civic pride and belonging, often in regions of the UK that may have historically suffered from underinvestment, thereby bringing the 'meaningful city' concept to life.
- Creating mixed-use and multi-occupier sites that offer job opportunities and training across the employment spectrum, which increases the pool of technical and vocational skills in specific industries identified by the local authorities and regional enterprise partnerships we work with. The growing cluster of high-skilled workers typically attracts further capital investment and talent to the area, spreading waves of socioeconomic growth across the region, or a 'halo' effect of catalytic development. But these sites also provide entry-level employment to ensure that the places developed remain inclusive and diverse.
- Introducing mixed-use and accessible urban spaces that function as a community and cultural 'mosaic'. In addition to creating employment opportunities and environmentally future-fit engineering, it is critical to

Wellington Place, Leeds, England

The business and social hub shows how impact investing generates value to the wider community

Construction

300

Leeds residents employed during construction

Placemaking

65%

Share of Grade A space delivered in Central Leeds since 2009 that is at Wellington Place

Community

£1.7m

Total well-being benefits per annum enabled by events and activities. Around £2,000 was raised for charity at onsite events and activities

Commercial

4,827

Number of employees in Wellington Place. Ninety percent of occupiers have expanded their business and 60 percent of jobs have been taken by Leeds residents

Environment

1,000

Tonnes of CO2 savings due to energy efficiency of buildings. Seventy-five percent of staff use sustainable transport modes to travel to work (compared with 70 percent in Central Leeds)

respect the heritage of the sites being developed. In shared spaces, the aim is to conserve the local area's link with the region's history and ensure it exists in harmony alongside modern educational, commercial, technological, residential and well-being structures.

Benchmarking outcomes

Building on our social impact measurement, we have piloted a benchmarking study that aims to throw further light on how the placemaking process brings positive change at different development phases – including design, construction and occupation – at both individual fund and site levels.

This benchmark was road-tested using the sustainable outcomes measured in the reports for three flagship RPI developments: King's Cross in London, NOMA in Manchester and Wellington Place in Leeds. These sites differ significantly in terms of size and overall spend, and they also represent diverse socioeconomic regions of the UK with a wide variance of market prices, rents, risk premia and environmental challenges.

From that perspective, it is possible to more accurately measure where the highest impact intensity has been achieved across the targeted social and economic factors. And importantly, such research also offers insight into our additionality as an investor in a particular community.

The pilot benchmarking study has already delivered some surprising results, including the unexpected finding that wage rates at the NOMA site in Manchester are higher than those at King's Cross in London. NOMA employees actually earn a staggering 45 percent more than the average worker in Greater Manchester.

The benchmarking report also revealed some interesting data on the various events held across the three sites in the pilot study. Again, after controlling for size and spend, it was found that one of the sites featured irregular but highly attended events, while another hosted frequent events but had fewer overall attendees. We found that the stark contrast in community engagement styles between the two sites reflected both cultural differences and the relative development stages of the two projects. Understanding these subtleties has enabled projects to be better tailored to local needs.

Benchmarking impact performance in a consistent manner provides a more nuanced view of the day-to-day 'lived experience' of the sites we develop.

Consequently, a better understanding can be gained of how impactful intent actually affects the people who live in, work at and visit real estate.

NOMA, Manchester, England

The £800m project is one of Hermes' most high-profile developments

Construction

£150m

Spend so far. Sixty-two percent of workers were employed from the local area. More than 1,000 of them received on on-the-job training

Placemaking

£7m

ERDF funding granted for public realm and infrastructure improvements, including a new city center public square

Commercial

~5,500

Employees working across the NOMA area with £210 million generated in wages per annum. More than £4 million business rates revenue has been generated from occupied premises

Community

20,000

Number of visitors attending events over last three years, helping to generate over £4.5 million in social value through volunteering, training, apprenticeships, health & well-being

Performance is not compromised

These positive results do not come at the expense of traditional financial returns. In fact, they have enhanced performance, as shown by the sale of several of our best-performing properties in 2018. The strong valuations of those buildings also partly reflect energy-efficiency enhancements and community engagement that has been achieved.

The addition of quantitative social targets to the long-established environmental metrics in a property portfolio management toolkit can reinforce the power of placemaking. At its core, this shift is driven by the desire for places of work and pleasure that reflect the values of those that work and reside within them: flexibility, sustainability and purpose.

Profit and impact can co-exist in real-estate investing. Indeed, we now see them as two sides of the same coin. ■

Sorenson: From impact investor to manager

After almost two decades as an investor and advocate for impact investing, Jim Sorenson steps over the fence to launch his own impact investing fund in the US opportunity zone space. Lisa Fu reports

The US opportunity zone program is the reason for Jim Sorenson – impact investing pioneer, entrepreneur and Utah billionaire – entering the market as a real estate investment manager for the first time this year.

The opportunity zone program, a piece of bipartisan legislation included in the 2017 Tax Cuts and Jobs Act, offers tax benefits to investors that re-invest capital gains over the long term into communities across the country identified by the US government as economically distressed. For Sorenson, who has spent nearly 20 years as an impact investor and had been an early supporter of the legislation, the program presented an opportunity to launch impact investing into the mainstream. He saw a model in which investors, initially incentivized by the program's tax benefits, could also become invested in the social impact of their projects on communities.

Sorenson, along with former Sorenson Impact Center chief executive Jeremy Keele and serial tech start-up founder and early-stage tech investor Patrick McKenna, established Salt Lake City-based impact investing firm Catalyst in January. The three managing partners worked together through the policy and advocacy organization Economic Innovation Group and advocated for the passing of the opportunity zone legislation before establishing Catalyst and subsequently launching its first fund in May.

The fund, a closed-ended commingled real estate vehicle that seeks to take advantage of the opportunity zone program, is aiming to raise $150 million in equity from an investor base of smaller registered investment advisors, institutions with capital gains and high-net-worth individuals and family offices that have previously shown an interest in impact investing. When *PERE* spoke to Keele in May, he said Catalyst had 50 projects lined up for fund investments and that the vehicle would follow an opportunistic investment strategy targeting "market-rate returns." Most of the investments are expected to be mixed-use developments anchored by workforce housing, he said.

Once the real estate fund is raised and deployed, Catalyst plans to launch a second vehicle for private equity and venture investments in businesses. The firm hopes to find opportunities where the real estate and business investments benefit one another, and anticipates that some business investments will come from the tenants of the property developments. But regardless of asset class, Catalyst will be pursuing the dual goal of making a tangible positive impact and generating attractive investment returns.

Opportunity zones

When Sorenson heard about the proposed opportunity zone legislation, he saw an opportunity to incentivize impact investing among investors with capital gains. He leveraged his relationship with Utah senator Orrin Hatch and met with Paul Ryan, House speaker at the time, to help pass the legislation. The opportunity zone program was likely the only real bipartisan piece of the tax reform bill, Sorenson notes.

"It captivated me because I saw a real powerful incentive that could motivate mainstream investors. People that normally wouldn't be looking at impact in their investment decisions could suddenly become impact investors."

Though the legislation is purposeful in its aim to stimulate distressed communities across the US, the concept of impact investing is new to many of the program participants, according to Sorenson. By becoming a manager and participating in the program, he hopes he can draw on his impact investing experience and create a firm that will serve as a model for the industry.

"I want to see [the legislation] renewed in 10 years," Sorenson says. "I don't want this to be a once and done because there is question about its value."

According to Sorenson, fulfilling the aim of the legislation will start with engaging communities in these opportunity zones so that the investments are aligned with local interests.

He says Catalyst's underwriting process includes an impact score card, which takes community engagement into consideration. When evaluating an opportunity zone project, the firm will rate the developer's relationship with the local government, philanthropic organizations and non-profit service providers. The firm also evaluates the level of support for a project among residents before allocating capital to it. Housing affordability and the potential for current resident displacement are also included as sections on the impact score card. The firm searches for projects that will create new affordable housing and workforce accommodation or preserve existing stock.

With the inclusion of an impact score card in the underwriting process, long-term focus and social impact measurement criteria developed by Georgetown University and the US Impact Investing Alliance, Sorenson hopes Catalyst can demonstrate to other investors that chasing dual financial and social returns is an attainable goal.

Impact scorecard

Catalyst considers more than the financials when evaluating an investment and uses an impact score card that measures a variety of social factors, including:

- Community engagement by developers
- Project support by local residents
- Housing affordability and displacement rate
- Inclusion of minorities and women
- Access to services
- Job creation or job training for low-to-middle income individuals

The team: Patrick McKenna, Jim Sorenson and Jeremy Keele

Not the retiring type

It would not be unusual for a man like Sorenson to retire at this point in his career. There is no pressure for him to try to debut as a real estate investment manager with an impact strategy in the opportunity zone field. After all, now in his late sixties and with several grandchildren, he already has a reputation as an impact investing pioneer.

"I've been successful, and I could be just clipping coupons and retired, living on an island somewhere," he says. "But the reason that I decided to do this is that I really wanted to demonstrate best of class."

Sorenson explains he has been promoting the investment strategy for almost two decades, before the term 'impact investing' became widely used.

The son of the late medical devices entrepreneur James LeVoy Sorenson, he first encountered impact investing as the founder of Sorenson Communications. The company was founded as a video conferencing business aimed at the masses. However, when the dotcom bubble burst in the 2000s Sorenson says it was left with little interest from investors and partners.

He decided to pivot the business after being introduced to a new service being trialed in the deaf community by a brother-in-law, himself deaf, who explained that the video relay service trials enabled deaf people to communicate with the hearing over the internet through a remote sign language interpreter in real time. Seeing an opportunity, Sorenson Communications focused solely on facilitating communication between the hearing and deaf communities. Within three years, Sorenson scaled up the business and sold it to private equity firm GTCR in 2005.

Realizing he could build a company that scaled quickly and created a positive impact, Sorenson began looking for business models like Sorenson Communications. He became involved with microfinancing, starting with grant funding then moving on to investing as

Catalyst Fund I

$150m

Equity fundraising target

Structure

Traditional closed-ended commingled fund

Investment strategy

Opportunistic

Investor base

Smaller registered investment advisors; certain institutions with capital gains; and high-net-worth individuals and family offices that have shown a prior interest in impact investing

Bonus

Includes some of Sorenson's own capital gains

some microfinancing institutions switched from non-profit to for-profit status in order to access greater pools of capital.

However, the impact investing field was still at a nascent stage and investors faced a lot of barriers, he says. Investment standards such as proper due diligence, available dealflow and managers with extensive track records were still developing in the impact investing space. He became an advocate of the impact strategy, which he saw as offering a solution to philanthropy's problems with sustainability and scalability.

Defining impact investing

Impact investing takes place on a spectrum and is somewhat influenced by the eye of the beholder. However, Sorenson defines it as an investment that generates a financial return alongside intentional, measurable social impact. It also tends to be thematic, focusing on a singular issue such as education or financial inclusion.

Some investors remain skeptical about the feasibility of marrying the heart of philanthropy with financial goals and are not entirely convinced that such investments can offer market-rate returns. As with conventional funds, the key to success in impact investing boils down to fund selection.

"It captivated me … people that normally wouldn't be looking at impact in their investment decisions could suddenly become impact investors"

According to a 2017 report by the Global Impact Investing Network and Boston-based portfolio manager Cambridge Associates, the distribution of individual fund returns varies widely. The study, which analyzed the financial performance of 20 real estate impact investing funds and 616 conventional real estate funds with vintage years ranging from 2004 to 2014, found that real estate impact investing vehicles provided better downside protection but limited upside compared with conventional funds. Real estate impact funds reported a pooled net internal rate of return of 0.8 percent, compared with the 4.9 percent net IRR reported by conventional funds.

But as the study noted, IRRs for impact funds were dragged down by the poor performance of a few large vehicles. On the other hand, impact investment funds with less than $50 million in assets under management returned a 10.2 percent pooled IRR, compared with 6.3 percent for conventional funds of the same size.

Still, Sorenson insists that impact investing can do good while still providing investors with favorable financial returns.

"I think you can generate outsized returns," he says. "I think you can generate competitive returns and it's important to note that impact investing, unlike traditional investing, is a spectrum."

His own Sorenson Impact Foundation allocates 5 percent of its money to grants and the remainder to what he calls "mission-related investing," which is gaining ground in the philanthropic world. In mission-related investing, an investment policy targets market-rate returns and a liquidity profile necessary to continue the annual grants and program-related investments. Much like traditional investments, it is designed for risk versus return. At the time of the interview, Sorenson said his foundation was around 60 percent converted to mission-related investments and had been performing 144 basis points ahead of its benchmarks.

Sorenson is already betting big on impact investing with his own capital and his own foundation. The next step is to show managers that impact investing, particularly within the context of opportunity zones, is a viable fund strategy. ■

Lenders can make an environmental impact

 

Guest comment by **Aksel Lundquist** and **Annina Salakka**

The sector must shift toward a more sustainable future, say the fund managers at Brunswick Real Estate, and together borrowers and lenders can drive progress

Climate change is an acute topic now, as it becomes ever clearer that mankind has overused the world's finite resources and may have caused irreparable damage to the ecosystem. According to research by the International Energy Agency, the buildings and construction sectors combined are responsible for 36 percent of global energy consumption and nearly 40 percent of total direct and indirect CO^2 emissions. Cooling, in particular, is an energy-intensive area accounting for 10 percent of the world's energy consumption, and according to the IEA, global energy demand from air conditioners alone is expected to triple by 2050, which will require new electricity capacity equivalent to the combined capacity of the US, the EU and Japan today.

Regulations and energy standards are being implemented at varying speed across jurisdictions. Despite this being a pressing concern, it may take a significant amount of time before more stringent energy standards are implemented on a global level. As private enterprises, we have the ability to start making a change and contributing immediately, while we wait for these regulations to be implemented.

The benefits of working actively with sustainability are expected to grow over time. Tenants, investors and lenders are all highlighting sustainability as a major area of concern and are implementing new standards ahead of regulation.

In Sweden, we are seeing the percentage of green financing continue to grow. However, the levels remain low in relation to the total loan stock. To illustrate, as of Q2 2019, green bonds and green loans accounted for just 6 percent and 5 percent, respectively, for the 26 listed real estate companies in Sweden.

Green money: Brunswick's green loan to Fabege is backed by the Apotekaren office asset in Stockholm, Sweden

For owners, sustainability can, in some cases, have a direct correlation with shareholder returns as well as underlying asset values. Investors are also putting more pressure on managers and companies to ensure buildings are sustainable and resilient in the long term.

Making an impact

Lenders are often perceived as more passive than borrowers and sponsors, but by having a stringent investment process they can select which deals to finance, and as significant capital providers make a real impact to driving sustainability in the sector.

In Q1 2019, Brunswick's debt fund provided an SKr1.6 billion ($170 million; €150 million) green loan to Fabege AB, a leader in Sweden with 77 percent of their financing being green as of Q2 2019. This was the first green loan for the fund as well as the first green bilateral loan to be provided by a debt fund in Sweden. Our approach to green financing focuses on two main themes: loans backed by certified green buildings, and loans back by buildings that are being transformed toward being greener.

One of the most effective ways of making an impact is when property owners and lenders work together. Multiple green loan frameworks focus on the already existing environmental attributes of a property instead of considering what environmental upgrades can be made during the loan term. The key to making an impact lies in the ways we can improve the existing real estate stock together with the borrowers and sponsors.

During the summer, Brunswick's Green Loan Framework was reviewed by a third party, and it is now possible for the fund to provide green as well as greening loans based on this framework. This new approach to green financing, together with the Green Loan Framework, enables us to be at the forefront of driving these initiatives in the sector. It is a process that will take time, but by having a long-term commitment and working together with borrowers, lenders can make a positive environmental impact. ■

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