# pi ESG CLUB

***Sustainability in property and infrastructure is no longer seen as an added extra, but a driver of value and income growth. This month's ESG Club focuses on how investors are changing the profile of assets which are huge drivers of climate change.***

Members

## POLITICAL BACKLASH HITS SUSTAINABLE INVESTMENT IN THE US

**Could the negative impact on ESG-led investing cross the Atlantic? *Andrew Holt* takes a look.**

The political backlash against environmental, social and governance (ESG) investing in the US has been on an entirely different level to the UK, but for the first time evidence suggests investors are walking away from sustainable investments as a result.

Total outflows of sustainable investment funds amounted to a staggering $8.8bn (£7bn) during the first quarter of this year, according to Morningstar.

A concern is that this trend could spread to the UK. Rishi Sunak has already reneged on many of the government's climate commitments and the worry is that investors could follow.

"The picture is bleak in the US," said Hortense Bioy, global director of sustainability research at Morningstar. "The ESG backlash is having an impact on investor appetite."

With high interest rates, inflation and supply chain disruptions, renewable energy projects have suffered, resulting in clean-energy funds paying lower returns, Morningstar revealed.

Worryingly, sustainable funds have underperformed their more conventional peers, with lower returns in 2022 prompting investors to be more cautious last year, Morningstar said.

Among sustainable funds in the US, those which are actively managed have registered outflows as a category since July last year, Morningstar revealed. Passively managed sustainable funds were slower to see such negatives, with only the past two quarters witnessing net redemptions.

### Sustainable outflows

However, the rest of the world is not following suit. While money flowed out of sustainable funds in the US, that wasn't the case globally, as $900m (£717bn) worth of new investments were made globally.

That was fuelled by persistent demand in Europe, which saw nearly £9bn invested in the first three months of the year – double the figures reported in the previous quarter, according to Morningstar.

Across the regions tracked by the company, Japan was the only one aside from the US to see sustainable fund redemptions in the first quarter, at $1.7bn (£1.35bn).

So the concern that the UK could follow suit hasn't happened… at least not yet.

The biggest company by sustainable assets under management globally is BlackRock at $367bn (£292bn). This was more than double the $177bn (£141bn) second on the list Amundi is managing, Morningstar's data showed.

Contrasting the outflows BlackRock saw in the US, it raked in more than any European sustainable fund provider in the first quarter, at $6.8bn (£5.4bn).

But in the US, the firm's redemptions totalled around $5bn (£3.9bn) during the first quarter, nearly 10 times the outflows its sustainable funds saw in the previous three months at $543m (£432m).

### Republican pushback

This comes back to the political backlash against ESG-led investing. There has been a great deal of pushback by Republicans in Congress on the issue, who have accused Blackrock in particular of being "woke".

This trend has also seen some ESG-focused asset managers being blacklisted by some states, such as Texas.

As a result, some asset managers have seemingly toned down their stances on ESG publicly. Vanguard, JP Morgan, State Street, Pimco and Invesco have left organisations such as the Net Zero Asset Managers Initiative or Climate Action 100+, which have net zero and climate change commitments at their heart.

Blackrock is losing out on more than $10bn (£8bn) in assets under management in Texas and Florida due to the anti-ESG measures implemented in those states – although it remains a committed member of the Net Zero Asset Managers Initiative.

The ESG backlash is a trend that is growing across America and shows no sign of abating. Wyoming has published guidance on a rule requiring investment professionals to disclose whether they consider social criteria when making an investment. A similar rule in Missouri is in the pipeline.

ESG investing also has had to deal with new regulation and legislation in the US. A new rule from the Securities and Exchange Commission (SEC) has introduced disclosure requirements for investment advisers and companies around ESG.

And in March, the SEC completed its climate-disclosure rule for publicly listed companies, following the introduction last year of a "fund-naming" rule aimed at dealing with greenwashing.

But one factor that has not helped within the ESG debate is the fact that sustainable funds as a category underperformed their conventional peers in 2023. Data from Morningstar shows that 53% of US sustainable funds were in the bottom half for returns last year, adding fuel to the fire for ESG-investment sceptics.

## ESG INTERVIEW – ROBERT HULME

# "If we are not being listened to then the ultimate sanction is to get out."

The West Yorkshire Pension Fund's responsible investment engagement manager tells *Andrew Holt* about taking a holistic approach to ESG, making a local impact, re-energising engagement, dealing with lapses within oil companies and keeping an open mind.

**How important is ESG and sustainable investing to the West Yorkshire Pension Fund?**

As an investor, we recognise that the ESG characteristics of individual companies will determine their long-term sustainability.

Those that treat their staff unfairly, are involved in corrupt practices or have a bad environmental record are not going to be good investments in the long run.

These ESG externalities are financial risks, so we need to consider them as part of our whole investment process.

**What ESG exposures does the West Yorkshire Pension Fund have?**

We view the portfolio holistically. We don't categorise a certain percentage of our assets as ESG. Rather we want to provide robust oversight of the entire portfolio, which is consistent with our responsibilities under the stewardship code.

If you screened the portfolio using SFDR Article 9 standards, approximately a quarter of our equities would be considered green.

We are also looking at investments in climate solutions, sustainable cities and regional economic growth, including those specific to West Yorkshire.

**What assets are you targeting that are specific to West Yorkshire?**

We are in the process of establishing social housing funds and investments.

We are considering a number of ways to make a local impact. We have a number of housing projects, such as sheltered housing, but we are looking at property more generally, as well as local lending, infrastructure and renewable energy projects.

They will, of course, all have to supply us with a good financial return while having a positive local impact.

**During the three years you have been in your role, what changes have you made to the fund?**

There has been a wider evolution of ESG as an investment discipline, but we have also made progress as an organisation.

We have published a document defining our investment beliefs with five ESG principles. We are signatories to the Stewardship Code, have submitted our TCFD report and mapped our carbon emissions for the past five years.

In the second half of this year we will release a climate report using the Net Zero

Asset Manager Initiative framework to demonstrate how we want to abide by our Paris Alignment commitment.

**What are your ESG principles?**

In 2021 we adopted five principles:

One, we recognise ESG factors can profoundly impact an individual company's long-term sustainability.

Two, West Yorkshire Pension Fund does not believe there is a trade-off between the investment performance of a financial asset and investing in a company that is behaving in a responsible and sustainable manner.

Three, we choose to be an informed and active manager.

Four, we recognise our stewardship responsibilities through engagement and voting.

And finally, we use positive engagement for change. As owners of companies, we have the power to change the behaviour of management teams who we consider our agents.

**So divestment is a tactic of last resort?**

Yes, because at that point you are throwing in the towel. You are saying: "We have tried to make this company come round to our way of thinking, but unfortunately we are going our separate ways because that hasn't happened."

Conversely, though, it is a weapon that we need. In these engagements, if we are not being listened to then the ultimate sanction is to get out.

**What still needs to change at the fund in terms of ESG and sustainable investment?**

Best practice continues to evolve and improve. There has been a tremendous amount of work in the sector by asset owners, asset managers and third-party NGOs in the research we are receiving in terms of getting to net zero.

But we are working collaboratively to move us forward. It takes a lot of work.

**You have undertaken a strategic asset allocation review. What does that mean for your ESG and sustainable investments?**

The first issue was our engagement activity. We felt some of our engagements were not delivering our desired outcomes, so we want to improve those processes. We are in the process of commissioning a piece of work to do just that.

The second element involves our investment panel, who have chosen to consider

the UN Sustainable Development Goals. We have been working on some of these themes: climate solutions, supporting sustainable cities and utilising energy efficiencies.

We want to help drive all this and create investment opportunities. We are still awaiting the asset allocation framework and we are going to incorporate these into the portfolio.

**Which element of ESG is most important to the West Yorkshire Pension Fund?**

Climate change is, among investors, the most important factor. It is an existential threat. Investors, companies and governments have a collective responsibility to act.

That is not to say it is our sole target. We are involved in a broad range of engagements. For example, we work with the 30% Club to get a greater gender balance on boards and the C-suite. So I would say we are involved in a variety of ESG themes.

**What are your biggest challenges in addressing ESG and sustainability?**

It is making engagements count. We need to provide oversight to companies striking an appropriate balance of support and scrutiny. Historically, we believed several of the European oil companies had demonstrated climate leadership and we encouraged that.

But in the last couple of years there has been some slippage in this activity. The challenge will be to do this constructively, so that a company's management team will view it as a priority.

**There has been a backlash against ESG in some political quarters. Does this worry you?**

It is a disappointment. These issues are complex. They require a short, medium and long-term focus, which are sometimes different.

Decarbonising the energy sector is a case in point. Addressing climate change is vital in the long term but in the shorter term, energy availability and price is also important.

## We use positive engagement for change.

**What does the government need to do to improve the sustainability investment outlook for institutional investors?**

From a regulatory point of view, we are awaiting guidance on the expansion of the Task Force on Climate-Related Financial Disclosures for LGPS funds. A common complaint we hear from investee companies is we must see stronger support for dealing with climate issues and the transition, which the government should be driving forward.

**So that is not happening?**

That is what companies tell us: the government needs to do more to demonstrate that it is committed to the transition.

**What do you make of the various COP meetings? Do they add up to anything?**

Some impressive progress has been made. Since Kyoto [in 1992] great strides forward have been made: 2015 saw the Paris Agreement which was a major move forward in setting a framework to tackle climate change. This is despite different positions from governments across the globe. So I would say the COP meetings have generally been a success, but a great deal of work needs to be done.

**What have you brought from your asset management background to this asset owner role?**

For much of my career I worked in emerging markets and was drawn to effective governance; how different management and regulatory frameworks result in different outcomes.

On a company level, how do some succeed and others don't. It is the type of governance that can help define what outcome companies achieve.

In terms of West Yorkshire Pension Fund, we work directly with company management to ensure they are accountable. And as an asset owner we take a long-term approach to companies. They have to show transparency and good governance over the longer term.

**What are your ambitions for West Yorkshire Pension Fund?**

The West Yorkshire Pension Fund in the LGPS has been a huge success story. We want to continue to build on that.

The size of the fund at almost £20bn is big enough to keep the management of the portfolio in-house, which is important. This makes for a unique approach. It has also proved highly successful. We can invest in a whole range of approaches like infrastructure and have an impact, but as I mentioned, our primary focus will be delivering solid risk-adjusted returns to pay the pensions of our members.

**What is the biggest lesson you have learnt from your career?**

You have to keep an open mind. Individuals and teams have different styles and ways of doing things, there are often different pathways to reach a satisfactory result. So don't hesitate in seeking support when necessary.

pi ESG CLUB CONFERENCE

# SUSTAINABLE GROWTH FOR A NEW ERA

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Hospitals are bad for our health. So are schools, fire service stations and shopping malls. Then there are bridges and communication networks, which are also a threat to our wellbeing.

Constructed with the best of intentions, and many years ago in most cases, the built environment is a huge contributor to the negative changes effecting our climate.

Indeed, property is responsible for close to half of the world's carbon emissions (42%), says Architecture 2030, a think tank working to decarbonise the built environment.

Powering, heating and cooling buildings generates 27% of the world's climate-harming gases, while the extraction, processing and transportation of the cement, iron, steel and aluminium used in the construction of property and infrastructure contributes a further 15% to the built environment's rap sheet.

And the demand for new properties is expected to rise as human populations continue to grow. Then the energy transition, digitalisation and upgrading aging assets will all push demand for new infrastructure higher. Indeed, the United Nations believes that three-quarters of the infrastructure that will be standing across the world in 2050 is yet to be built.

The International Energy Agency expands on this figure by predicting that around 2.6 trillion square foot of new floor space will exist in 2060 – this, they say, is the equivalent of rebuilding New York City each month.

### Clean thinking

The good news is that investors are taking the ESG performance of their property portfolios seriously. "Sustainability certifications were once deemed a nice to have but now they

# REAL ASSETS: FUTURE FIT

How are investors using real assets to tackle climate change? *Mark Dunne* reports.

are a ‘licence to operate’,” says Simon Durkin, BlackRock’s global head of real estate research and analytics.

Indeed, to meet energy-efficiency standards, investors are putting their property portfolios on a path to net zero. “It is the responsibility of managers to ensure that assets and funds are aligned with the prevailing ESG certifications,” Durkin adds.

One firm that has put £36.9bn worth of offices, retail, industrial, residential and infrastructure assets as well as debt on a net-zero pathway is Legal & General Investment Management (LGIM). “Over time we aim to help transition existing assets in the right direction or finance new assets and projects that are helping the world move in the right direction,” says Laura Brown, head of client and sustainability solutions at LGIM.

Indeed, not all real estate and infrastructure assets are created equally. Many are now designed to make a positive impact on the environment. These new assets include building and managing sources of clean energy. “Real assets, in our view play a critical role [in the energy and climate transition],” Brown says. However, the major issue is the emissions generated by the legacy assets, those which have been standing for decades. And there are many of them.

For Shuen Chan, head of responsible investment and sustainability at LGIM Real Assets, decarbonisation is about seeking to protect asset value and deliver value creation for the assets the firm owns. “The majority of these buildings will be around in 2050 and beyond,” Chan says. “So we engage with our tenants to understand the emissions and together we align towards a solution.

“For example, we have invested in dashboard technology that shows where energy is consumed, so we can help our

tenants to reduce their usage," she adds. "We are helping our tenants to cut their energy costs, while cutting their carbon emissions."

Other ways of reducing the harmful emissions from legacy structures include replacing gas-fired installations with a sustainable energy source, such as solar panels. Improving natural light and air circulation are other options.

### A new cycle

But why, after so long, is reducing the carbon emissions of bricks and mortar now seen as a strategy that will improve value? Well, for years investors benefitted from the prolonged low interest-rate environment that followed the financial crisis. However, this new cycle is different and it is recognised that future performance will be driven by value creation and income growth throughout the asset class, Durkin says.

"There was a different driver of real estate performance post-financial crisis, yields turbo charged by zero interest rates, however we now see sustainability and ESG certifications at the front of many investors' agenda," he adds.

### Beyond climate

But the E in ESG is no longer solely about the environment. "Biodiversity has climbed up the agenda," Chan says.

Since February, it has been mandatory in the UK for construction projects to consider the natural habitats of land being developed. In short, wildlife has to benefit from the expansion of the built environment.

"But we are going beyond those regulations," Chan says, explaining that LGIM is piloting baseline assessments across its standing assets in a bid to improve their biodiversity profile.

But a strong ESG performance is not just the result of addressing environmental risk. "We talk a lot about the E in ESG, but the S is equally as important and interconnected," Durkin says. As an example, he points to the employees working at a property owned by a BlackRock-managed fund, who formed a beekeeping group and placed hives around the site. Any proceeds from selling the honey are donated to a partner charity.

"That is all accretive to the general well-being of people who are working in buildings, and post pandemic we are all far more aware of wellbeing," Durkin adds. "The narrative is increasingly expanding from the E into the S as they are often related."

Legal & General has built a place-based social impact framework around the core pillars of inclusive economy; health, wellbeing and quality of life; and climate and nature. Then there is a toolkit to apply these principles across the investment lifecycle, from new developments to assets which have been fully operational for years.

### Driving value

With the energy transition having such an impact on valuations and rental income, how should investors assess real assets?

There are four pillars that Durkin considers when assessing the impact of sustainability on a property in addition to physical climate risks: regulation, the lending market, the investment environment and the occupiers.

And through the occupier lens, he is seeing an interesting trend. "Some companies simply will not occupy buildings that do not support the specific ESG commitments that they have made at the corporate level."

The importance of which, Durkin says, should not be underestimated. "Real estate performance is 80% driven by the income stream, so focusing on the tenant needs is absolutely critical."

Then there is regulation, which can be volatile, and its direction cannot always be predicted. "Regulation is integrated with politics, which can be difficult to predict, although over the longer term regulation is unlikely to become looser.

"Most likely it will become more restrictive over time," he adds. "There will be bumps in the road, as we have seen in the UK, but the overall trajectory is relatively known."

On the funding side, real estate is a debt-funded asset class, making the probability of re-financing in the next five years absolutely critical. Then there is the issue of some traditional bank lenders offering a preferential funding rate if certain sustainability targets are achieved through green finance initiatives. "It is a much more complex picture for investors as we think about how this impacts value," Durkin says. "There is evidence now to show that it is less of a green premium and more of a brown discount for values and for rents in the region of 15% to 20%. So, it is meaningful today, but is not something that will impact value in the future."

These four issues impact what returns an investor is ultimately able to achieve from investing in a property. "Gone are the days where a decision is made on an asset purely based on the cashflow forecast. You have to broaden that conversation to

**Biodiversity has climbed up the agenda.**

Shuen Chan, LGIM Real Assets

**Sustainability certifications were once deemed a nice to have but now they are a 'licence to operate'.**

Simon Durkin, BlackRock

include the drivers of occupational decisions and your ability to finance the asset," Durkin says.

For LGIM, when assessing a real asset it has to meet the needs of the community and is commercially beneficial in that local infrastructure needs to drive footfall towards shops and restaurants. Then there is collaboration. "We are an asset manager, a builder and an operator, we are not experts in community engagement," Chan says. "So we need to work with the right partners on the ground to drive specific outcomes."

These partners for LGIM include the NHS, universities as well as community and educational organisations.

It is clear that if asset owners do not invest in improving the sustainable performance of their properties then not only will value and rental income fall, but they face trying to attract occupiers from a smaller pool of companies. It will also increase the illiquidity of an already illiquid asset.

For Brown, net zero, biodiversity and social impact strategies are about increasing the value of assets and withstanding any risks that might be out there. "The purpose of sustainability in this space is an intrinsic part of the investment process and as a result intrinsic to adding value in these investments."

Chan says that smaller companies are less motivated by ticking boxes. They want a building where there is better air quality, is connected to nature and the local community to empower staff back to work. "It is a more conducive environment to work in, particularly post pandemic where we all stuck in our little holes and people need to be attracted back to the office.

"These are important behavioural considerations for how we design and operate our buildings," she adds. "We think holistically about the whole package and what it means to an occupier. It is much more than just a green building; it has to be future fit. That is being resilient to climate change and purposeful for the communities that use it.

"Green certifications have been around for a long time but have now come to the fore," Chan says. "Our head of development describes them as a set of scout badges for buildings.

"But those badges are not a tick in a box, they ensure that there is a level playing field by getting our buildings to a certain standard that meet the objectives our tenants require," Chan adds.

### Follow the trend

Yet Durkin is witnessing a change in the narrative as some investors are focusing beyond certifications and sustainability labels towards understanding the actual carbon output of an asset and how owners can impact those emissions.

"Ideally, the two would perfectly nest but we are all aware that filling in a spreadsheet to get a rating does not directly translate to actual carbon reductions," he says. "So, we are starting to see that shift."

Durkin also expects to see a greater understanding of the social impact that a sustainable built environment can have, particularly concerning health and wellbeing. "Better air quality and the integration of biodiversity ultimately creates a places where people want to be," he adds.

It is not just about sustainability. The Covid lockdowns have left landlords with problems, and top of the list is occupiers want to be located in an area that can draw their staff away from the home office.

"You have a far greater degree of success if an office is located in a place where they truly want to spend time and offers a working environment that supports health and wellbeing," Durkin says. "That is one of the challenges emerging in London."

A location has to be vibrant with shops, restaurants, leisure facilities and green spaces. "King's Cross is a great example of a market that has emerged that fuses offices alongside other uses," Durkin says. "People are far more cognizant now of where they want to work and spend their time. So hence that will be a draw for occupiers to want to locate in those places. King's Cross ticks all of those boxes."

For Brown, we will see a continued focus not only on the impact the built environment has on nature but also on the people living in the area. "Climate remains at the heart of things, but place-based impacts and thinking through the connectedness of the different components of ESG is increasingly becoming important," she says.

Whatever the coming years have in store for us, the one certainty is that the build environment will expand and the purposes it serves will be different.

The fabric of cities changes over time as the built environment changes to meet our evolving needs. "As landlords, we have to ensure that we are evolving our buildings as regulation, technology and tenant preferences evolve," Durkin says.

Stephanie Passet and Vincent Guillaume are co-heads of infrastructure debt at BNP Paribas Asset Management.

# INFRASTRUCTURE DEBT – FINANCING A SUSTAINABLE FUTURE

**Private capital has a vital role to play in achieving net-zero goals. Infrastructure debt is an attractive way for institutions to achieve long-term return and income goals while financing the assets urgently needed to support the transition to a low-carbon economy.**

### An essential asset class for an urgent challenge

Climate change is the defining issue of our time, and we are at a critical moment. Rising temperatures are already having a tangible impact on the global economy, on ecosystems and on society as a whole. The International Energy Agency estimates that investment in clean energy alone must reach $4trn (£3.1trn) annually by 2030[1] if we are to achieve net zero by 2050 and prevent catastrophic changes to health, livelihoods, water supply, food security, human security and economies.

These investment needs cannot be met by public funding alone: private capital has a huge role to play. One urgent challenge is to build the infrastructure that will be fundamental to the transition to a low-carbon economy – from clean energy production and storage capabilities to electric vehicle charging stations. As a result, infrastructure debt is an asset class at the forefront of the energy transition.

### Resilience of the asset class

Infrastructure debt involves the financing of essential assets and services that benefit from high barriers to entry, predictability of cashflows, supportive regulatory framework and strong contractual frameworks. These characteristics mean the asset class has displayed resilience through economic cycles and offers an attractive risk-return profile with inflation-linked features. For institutional investors with the ability to lock money away for longer periods, it can serve as a useful portfolio diversifier, offering low volatility, a low correlation with public markets, stable income, and access to an illiquidity premium.

Following rapid growth in recent years, European infrastructure debt market totalled $185.1bn (£146.5bn) as of Q3 2023.[2] The increasing maturity of the asset class means investors can build portfolios that are diversified across sectors, themes, geographies and currencies, and access opportunities in junior as well as senior debt, depending on their risk appetite.

From utilities to mobility, major infrastructure debt sectors are closely related to the energy transition. Social infrastructure assets such as healthcare and education facilities have also been a core element of the opportunity set for many years, providing essential services that directly benefit local communities. As a result, the asset class is closely aligned with investors' environmental, social and governance (ESG) preferences and has strong impact potential.

### Opportunities aligned with investors' goals

Infrastructure debt investors in Europe and, increasingly, around the world are transitioning to low-carbon assets as recognition grows of the need for private capital to support net-zero goals.

The net-zero transition is also creating a wealth of less immediately apparent opportunities for sustainable investors. All infrastructure assets need to be decarbonised, from transportation to the phase-out of fossil fuels in the utility mix. New technologies such as gigafactories for electric vehicle battery production and energy storage are creating significant infrastructure needs, while huge capital expenditure is required to harness the potential of emergent technologies such

as green hydrogen and carbon capture and storage (CCS). Natural carbon sinks such as forests are another new and developing frontier for real asset investment.

Beyond climate, the preservation of biodiversity and natural capital is becoming increasingly important in the analysis of new projects. Emphasis is also growing on the circular economy and recycling, both in project design, which seeks to minimise the use of raw materials and optimise reuse of materials at the end of the asset's life, and as a source of investment opportunity. More development related to the social aspect of environmental, social and governance (ESG) is expected too.

### New value chains are emerging

Innovation to address climate change is driving the emergence of new asset types as well as new ecosystems that span sectors. Below, we look at two examples.

### Battery technology: an essential element enabling green mobility and clean energy storage

Battery technology is vital to the energy transition, both as an important tool for the stability of the renewable energy supply and as the power source for electric vehicles. The market for battery cells is expected to grow by more than 20% a year on average until 2030, with further acceleration possible as costs fall.[3]

Demand for batteries is creating a complete ecosystem, from the sourcing and transportation of critical metals and minerals to battery production, grid enhancement and gigafactories for electrical vehicles. To date, the infrastructure debt opportunities in Europe have been limited, but the technology is an increasing focus in the region, with governments keen to secure local supply and production.

### Green hydrogen: early-stage technology with the potential to address decarbonisation challenges

While electric batteries can power cars and other small vehicles, decarbonising heavy transport is more challenging. Hydrogen fuel cells are an alternative power source with potential uses in freight haulage, shipping and aviation. Hydrogen is also widely used in heavy industrial processes that are challenging to decarbonise such as steel production.

More than 80% of hydrogen produced today comes from fossil fuels using steam reforming of natural gas and coal gasification.[4] However, an alternative process known as water electrolysis can be used to produce 'green' hydrogen.

This is an early-stage technology and operational assets in Europe to date are small pilots and projects related to sustainable mobility. However, we expect the first utility-scale green hydrogen projects to come to market for infrastructure debt financing early in 2024. Some parts of Europe offer rich potential for the production of green hydrogen using low-cost, abundant renewable energy. We also see infrastructure debt opportunities further along the value chain, for example in green steel and transportation.

### Artificial intelligence as a facilitator of green infrastructure

Digitalisation has long been a driver of the development of infrastructure assets. Artificial intelligence (AI) represents a significant step forward given its ability to act as an enabler for new solutions, optimising the design and use of infrastructure assets and the management of data.

There are many applications. In electricity networks, AI can optimise power supply based on consumption, realise economies of scale and identify efficiencies in the management of production of the grid. In green transportation, the technology can be used to optimise electric vehicle charging networks. Across the infrastructure asset class, AI is helping to build better, more efficient and greener assets.

### Capturing the opportunities

With so many projects and business models relating to early-stage assets and ecosystems, capturing the infrastructure debt opportunities resulting from the net-zero transition while maintaining an adequate risk profile requires resources and specialist expertise to analyse complex projects.

Lenders, such as BNP Paribas, with the ability to assess the full value chain, from technology to market research to income generation, and to offer bespoke financing solutions that align with emerging business models, will have a greater capacity to invest proactively and take advantage of early-stage opportunities to capture the best risk-return assets.

The backdrop of higher capital costs means caution is required on the profitability of projects. Lenders need to be highly selective and ensure projects can generate sufficient income and stable cashflows to mitigate the higher costs.

A rich project pipeline makes such selectivity possible. The rapid evolution of the opportunity set is accompanied by equally fast-paced regulatory developments. In-house sustainability expertise, legal capabilities and a robust ESG framework are vital when structuring long-term sustainable products, as is constant dialogue with regulators.

1) IEA (2021), Net Zero by 2050
2) Inframation News, September 2023
3) https://www.mckinsey.com/industries/electricpower-and-natural-gas/our-insights/capturingthe-battery-value-chain-opp
4) BNP Paribas Asset Management, 2023

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