



IJGlobal

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ESG Report 2022

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Riding the **ESG** rollercoaster

Writing this introduction to the ESG Report – the second we have published to date – the editorial team is fresh from having hosted the judging session for IJGlobal ESG Awards 2022... which, curiously, is also in its second incarnation.

ESG continues to fascinate as it evolves and beds in. The number of roles that now have been filled in the infrastructure and energy space where this is the primary function has been impressive... and we will continue to see this grow as the months roll past.

To this end, we thought it would be a good idea to include in this special report a few of the ESG roles *IJGlobal* has reported on being filled at organisations across the globe. This piece just scratches the surface and we could have run it over many pages... but that would have been a bit dull, so we capped the word count.

Having spent 3 years in infra/energy headhunting (2014-17), it's hard not to look back at what can only be classed a recent development and mull the fees that could have been earned placing people into roles as this nascent sector ramps up.

It's possibly in poor taste to put it that way... but when writing pieces like this, the easiest thing to do is to come across as too earnest, and – let's be honest – while ESG is incredibly laudable (and some of the awards submissions were just so awesome, you'd have raised your hat), business is business... and we're all in it to make money.

Former colleagues at One Search say ESG is so central that Henry Pepperell has it as his primary focus. In 2020 he was retained on 1 ESG search per quarter on average... while now he is retained on 5 per quarter... and they are building out the team to 3 search professionals by year end.

Evolving responsibility

This space has evolved significantly from the days when it was (light touch) represented by corporate social responsibility (CSR) which ranged from paying lip service (usually with a sneer) to companies taking it seriously... but not letting it ruffle too many feathers and get too much in the way of doing business. That's a trifle

flippant, but broadly the case for so many organisations involved in infrastructure and energy.

And it's fair enough. After all, CSR was only ever a self-regulating business model where the responsibility fell to individual organisations to enact what they considered they were required to do in a bid to be more conscious of the impact they were having on wider society.

As you deploy 20:20 hindsight, CSR was only ever a stage in the evolution of good practice when it was largely voluntary through to where we are today and where one step in the wrong direction will have people chaining themselves to your front door. This will evolve again likely with a fresh three-letter acronym (TLA).

This evolution has bedded in for the here and now at ESG which goes so much further than CSR – hence the far greater number of people with ESG in their job titles than ever we saw with CSR – and (while still nobody can adequately define it) its impact is gathering impetus and we long since sailed past the point of no return.

If the hat fits...

For years I've been saying that in the energy space we will one day see the advisory community split like westerns of yesteryear where the good cowboy wears a light-coloured Stetson, and the baddy dons a dark one.

How much longer will it be before, say, law firms tell their upstream O&G partners to carve out their business and go off on their merry way to cash in magnificently... while hiding behind a PO Box number and being gloriously vague when asked what they do for a living.

It's the same as cars. One day it will be deemed socially unacceptable to drive a gas guzzler. It won't be long before protesters start hurling buckets of black paint over what they deem to be polluting vehicles.

We're living through a revolution and it's hard not to strike a noble pose, staring boldly into the future like a reformer of old, taking pride in a job well done. But it feels more like we have peeled the second layer off an enormous onion... and there's a long way to go.

That picture should possibly be of the reformer looking back in utter disgust. ■



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The ESG recruitment revolution

IJGlobal editorial director **Angus Leslie Melville** takes a look at the recent spate of recruitment in the infrastructure and energy ESG space

The first time that the term “ESG” appeared in a people-move story on *IJGlobal* was April 2013 when it was reported that Stephen Murphy – Citadel Capital’s head of institutional relations – was relocating from Egypt to London.

Murphy had been working at the Egypt-based, MENA-focused investment company for 5 years and he was returning to serve on Citadel’s fund management boards and on those of a number of its investments.

At the time, Citadel founder Ahmed Heikal said: “Stephen has played a vital role in developing Citadel Capital’s relationships with many of our key partners and DFIs and laying the groundwork for our ESG policies.”

For *IJGlobal*, this story stands as landmark and Stephen might be somewhat surprised to hear that he is now being held up as the poster boy for environmental, social, governance recruitment in the infrastructure sector.

A lot has changed since then and hardly a day goes by that a story could not be written about another person starting in a new role where ESG either figures large... or is the entire focus.

Here follows a brief run-through of some roles that have been filled in recent times and reported on by *IJGlobal*.

Rachel Fleming

Winner of last year’s *IJGlobal* ESG Rising Star Award at the inaugural event, Rachel Fleming exited her role at IFM Investors where she had been promoted (May 2022) to the role of sustainability lead for global infrastructure debt. She joins BlackRock as vice president for infrastructure debt, working alongside Lucy Dale, director within its London debt unit. Initially, Fleming will dedicate half of her time to sustainability and ESG while bedding in at BlackRock.

Rachel Fleming



Rhyadd Keaney-Watkins

London-based Rhyadd Keaney-Watkins joined Arjun Infrastructure Partners as head of ESG, building on nearly 2 decades of ESG consulting experience working with DFIs including the IFC and numerous ECAs on infrastructure transactions. He has worked with asset managers in the real estate and infrastructure sectors in relation to ESG strategy and implementation. At Arjun, he will work closely with the investment and asset management teams, ensuring ESG integration across the asset manager’s operations. He will also support the development of new fund strategies, including Article 8 products as defined under the EU Sustainable Finance Disclosure Regulation (SFDR).

Aaron Scott

A promotion on the Zurich Patrizia team saw Aaron Scott take on the recently-created role as head of sustainable transformation, part of the asset manager’s strategic reorganisation. He had been head of strategy and sustainability since August 2022. Scott now leads the sustainability strategy of Patrizia’s global portfolio and drives ESG investment performance, reporting to chief executive Graham Matthews.



Aaron Scott

This appointment comes as part of Patrizia’s ambition to reach net-zero within its corporate operations and real assets portfolio by 2040.

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Jenni Chan

Jenni Chan



Arcus Infrastructure Partners promoted Jenni Chan to partnership in July, having joined in 2009 when the company was founded and serves as asset manager and board member for Peacock Leasing. Chan is also a member of the Arcus transport origination team and the Arcus ESG committee. She has more than 15 years of European infrastructure experience and previously worked for Babcock & Brown for 3 years before joining Arcus. Prior to that, she held roles at Prudential, PKF, Barclays Capital and Merrill Lynch.

Priya Bellino

Singapore-based Priya Bellino joined SMBC as head of ESG solutions in Asia Pacific. She now leads the Japanese bank's sustainable finance initiatives in the region, reporting to David Koh, Asia Pacific managing director and deputy head of corporate banking. Bellino was the Asean head of sustainable finance and ESG consulting at EY for about a year.

Priya Bellino



She advised international and regional banks, asset managers and insurers on sustainable finance matters. Before that, she founded Aquabaleno, a Singapore-based consulting firm that specialised in sustainable finance. Prior to that, she had almost 17 years of experience at Goldman Sachs, including its London and Singapore offices. She was the executive director of risk engineering for 1.5 years before she left. She managed portfolio analytics, capital exposure monitoring and risk metrics reporting.

Kristina Kloberdanz

Macquarie Asset Management (MAM) has appointed Kristina Kloberdanz to take on its new chief sustainability officer role in London.



Kristina Kloberdanz

She oversees MAM's sustainability and ESG commitments, including its ambition to align its \$579 billion global portfolio with the net-zero emissions targets of 2040. Kloberdanz joined from her role as chief sustainability officer at Mastercard where she worked for 5 years and helped to increase financial inclusion, bringing 1 billion people into the financial mainstream and the Mastercard Impact Fund. Before this, Kloberdanz led the global corporate responsibility strategy at IBM. At the time of her appointment,

MAM group head Ben Way said: "We want to become a global leader in sustainable asset management – not just because it's the right thing to do for our communities and the environment, but because we firmly believe that integrating sustainability and ESG drives better investment performance for our clients."

Shannon Kasley

McGuireWoods appointed Shannon Kasley to the role of energy partner in its litigation group in Washington DC. He joined the law firm from King & Spalding where he was at partner level having worked there for almost 15 years before being made up. Prior to that, he worked for more than 7 years at Jones Day. He has significant experience in the energy sector and the firm identified him as expert in "sensitive environmental and ESG issues".

Robin Allan

UK-based oil and gas company Hurricane Energy in July appointed Robin Allan to the role of non-executive director to its board. He chairs Hurricane's ESG committee, while also serving as a member of the technical committee. David Craik – up till Allan's arrival, chair of the ESG committee – stepped down from the position, but remains a member.

Robin Allan



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Fazil Abdul Rahiman

State-run Abu Dhabi National Energy Company (TAQA) hired Fazil Abdul Rahiman as vice president for climate change as part of the company's push towards sustainable energy and infra. Rahiman had been an adviser to Dubai's Supreme Council of Energy and has 14 years of experience, predominantly working on all things ESG-related and advising both the public and private sectors on the increasingly sought energy transition process. Rahiman was briefly a senior manager at PwC in Dubai from November 2021 until March 2022, after which he then left to work for the government of Dubai from April until July (2022). He also worked as a senior manager at EY's climate change and sustainability department in the MENA region, from December 2016 to November 2021.

Arguiró Elefteriu

The Libra Group promoted Arguiró Elefteriu to chief sustainability officer, a newly-created role within the organisation, based out of New York. As the first CSO, she leads the ESG strategy for the group and across all subsidiaries. Before her promotion, Elefteriu worked as an adviser to the executive team for close to 2 years and as head of office of the chair and chief executive for more than 5 years. Between the 2 positions, she spent a year as director of BD for LatAm and Spain at Genesis, a medical equipment manufacturing company in Argentina. Elefteriu joined Libra Group in 2004 as executive assistant to the chief executive of the group's real estate subsidiary Elandis and held various positions over 7 years.

Arguiró Elefteriu



Eimear Palmer

Pantheon in August made Eimear Palmer partner and global head of ESG. She operates out of London, reporting to investment manager and co-head of Pantheon's ESG committee Alex Scott.



Eimear Palmer

The position sits within Pantheon's investment function and will see Palmer develop an ESG strategy and initiatives, while leading the cross-functional ESG committee. She will also engage with Pantheon's clients, the industry and wider communities. Palmer brings 14 years' experience in ESG within private equity and is a founder of the UK network of Initiative Climate International. Prior to this role, she was managing director and head of responsible investment at Intermediate Capital Group, having previously orchestrated Carlyle Europe Partners' ESG framework.

Gwen Colin

In April, Vauban Infrastructure Partners established a dedicated ESG team led by Gwen Colin as ESG director. She joined the company in March and works alongside Rothman Valencia Mazola who started as an ESG officer in September 2021. Together

they oversee the operational implementation and improvement of processes and procedures constituting the ESG strategy. As head of ESG, Colin joined Vauban's executive committee.

She was previously a consultant for private equity and infrastructure funds looking to develop their sustainable projects across Europe and Asia, and has managed projects covering impact management, climate change and sustainable finance more broadly. She started her career as a legal adviser, then project manager, at Credit Agricole Asset Management (now Amundi) in Paris and Luxembourg.

Gwen Colin



Her involvement in sustainable finance started in 2008, leading product innovation and supporting the distribution of socially responsible investments targeting the Middle East and Southeast Asian sovereign entities, institutional clients, private banks and family offices. ■

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Allen & Overy: Governments must catch up with private sector energy transition ambitions

Having won awards in 19 global infrastructure finance categories at last year's IJGlobal awards, Allen & Overy is no stranger to coming out on top. And now, the law firm is determined to lead the way in helping companies and entire countries towards net-zero. Two of the 2021 awards went to sustainability categories: renewables and hydrogen.

"ESG is obviously important and will have a role to play, but irrespective of where we get to on value maximisation versus purposeful investing on ESG, deals will continue to be done and decarbonisation will happen over time. We must do more, and quickly," says David Lee, head of the firm's Global Infrastructure Group.

"With solar the cheapest form of energy generation and wind the second cheapest, governments, investors and lenders will be motivated to achieve outcomes that favour decarbonisation of energy sources over fossil fuels".

Offshore wind, for its part, is the subject of an increasing number of auctions in a growing number of countries: "The technology is tried and tested, and it's a huge opportunity for many countries to kick start their green ambitions."

For example, in January, ScotWind awarded options agreements to 17 projects with a combined capacity of 24.8GW, more than doubling the UK's existing offshore wind fleet.

Lee points out that generation ambitions are running ahead of current energy use, and Scotland only needs 20% of this capacity. The next steps will be to take the energy generated elsewhere, and figure out the most efficient way of connecting the system to England and beyond. One option is hydrogen, a Scottish political priority.

According to McKinsey the world had 40GW of offshore wind in 2020, and will need 630GW by 2050. The consultancy suggests that reaching net-zero by 2050 would cost \$275tn, which is an annual increase of \$3.5tn from today. This amount

David Lee



"At the end of the day, Government policy can push decarbonisation in one direction or another and speed up or slow down the transition, but ultimately it won't stop the energy transition from happening."

of cumulative spending equates to 7.5% of the aggregate of world GDP from 2021-2050. To achieve net zero, expenditure on new physical assets will reportedly need to double by 2025 and then treble again by 2030.

"Governments can do more, and the current trajectory isn't steep enough to meet the 2050 target," he acknowledges.

For now, LPs and sovereign wealth should be raising more energy transition funds, he suggests. Legacy energy companies like Shell and Exxon can meanwhile harness their experience in offshore, pipelines and

chemicals to refocus on clean energy, and are already providing EV stations and 100% renewable options.

"One of the benefits of fossil fuels becoming more expensive is that it is forcing a rethink," says Lee.

"It's getting harder to raise debt and equity for polluting businesses, so investors are being pushed to allocate capital to renewables. Investors, meanwhile, must disclose where they are doing business, so that there is transparency on who is pushing the green agenda and who isn't," he adds.

Because lower energy prices will follow lower-cost energy generation, Big Solar is for example an obvious choice for hot, vast countries like Saudi Arabia and Australia. The question is how to store and transport the resulting electrons or molecules.

"At the end of the day, Government policy can push decarbonisation in one direction or another and speed up or slow down the transition, but ultimately it won't stop the energy transition from happening," concludes Lee.

A need for systems thinking

Allen & Overy has a good view of the entire energy transition ecosystem, thanks to its work on renewables, hydrogen, batteries, carbon capture and storage (CCS), LNG liquefaction, shipping and regasification, gas-fired power plants and nuclear, says Scott Neilson, Tokyo Partner.

Echoing the concerns of Lee, he adds: "We're at this stage in the transition where no one likes fossil fuels, but there are no large-scale government programmes to facilitate the actual transition with measures such as carbon credits."

The US, he says, is moving fastest, having passed the Inflation Reduction Act and having already brought tax credits into play.

"But most of the world is nowhere. Europe has made progress on renewables but is otherwise just talking about it, and in Asia, not a lot is moving forward in terms of transformational change."

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This stasis, Neilson believes, is due to the fact that systems are complicated, and politics is often not set up for long-term thinking. What's more, the public doesn't have a detailed understanding of how and why the energy transition needs to take place.

"We help clients structure energy value chains and projects within them. In Asia, our clients want to develop green projects, but the ways of doing this are limited by existing country policies such as state electricity monopolies that have built long-term dependency on coal. Governments often need to support projects, but might be reluctant to take on the exposure."

"Sometimes governments simply have limited resources and are rightly focused on other aspects of their development, such as poverty which is exacerbated by inflation, or during Covid especially, health."

Neilson has direct experience working with governments in Asia - some of which he believes could become G20 markets by 2050.

"In our work, we will continue developing the developing world, but we also have to redevelop the energy systems of the developed world. At the same time, security of energy supply, for example what Europe is seeing with Russian gas supply, has become a short to medium-term threat.

Neilson expects fossil fuel use to go up temporarily. Countries with domestic energy supplies will use them, and those that don't will look to "friendsource" theirs.

"In democracies, we seem to have outsourced the energy transition to voters. However, we've all been educated in siloed subjects like maths, economics and biology, not entire systems like ecosystems or energy systems for countries and regions. Governments need to help citizens by being proactive and balanced through education on, for instance, energy transition, the options, and their pros and cons."

"Citizens know that renewables are good, but they also know about potential human rights issues surrounding solar panels, birds and bats killed by wind turbines, and the mineral extraction required for electric batteries. The public is confused, and the government is not giving clear policy signals, which creates an unstable environment."

This can translate into problems at the polls, notes Neilson, pointing to the recent loss by Australia's incumbent Liberal/National Coalition party. Not leading with policy also means not leveling the playing field to encourage more green investment.



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Time to reconsider nuclear

Like many, Neilson thinks we need to take a fresh look at nuclear.

"Germany has a 50 to 80GW of demand in its power system, which used to be mainly thermal and gas alongside a 30% nuclear component. But since Fukushima, they've been shutting it down to about 6% now and building out renewables.

The country is moving away from coal and nuclear, and towards wind and solar, which don't provide constant energy. "Building and running two systems (brown and green) has led to some of the world's highest energy costs and a high carbon intensity compared to France because of the reliance on coal and gas for stable power supply," he adds.

According to a recent Agora report, Germany will require 255GW of energy by 2030 and 600GW by 2045.

"What people see is the cost of fuel at the pump and their energy bills at home. In Germany, energy costs are driven up by the cost of overbuilding and operating

renewables. If citizens are paying for 600GW of supply to provide 80GW of power, they will be unhappy. This means that nuclear will have to come back, which requires the government to educate the public."

Furthermore, deindustrialisation is a real threat, which could undermine the economy, warns Neilson. This was the result of decommissioning nuclear power plants in Japan, leading to skyrocketing costs and outsourcing of jobs to other markets.

"Until governments introduce carbon pricing to level the playing field, renewables won't be competitive with fossil fuels due to the need to overbuild them, and there's a limited amount the private sector can do without a government push like what we are seeing in the US or Europe."

In APAC, 50% of energy is coal, Neilson says, and the region continues to build 200GW of coal-fired power capacity by 2030. Countries unable to develop nuclear will need gas-fired power, which is 40-50% less carbon intensive than coal.

Neilson predicts that Asia will transition through gas, decarbonising coal plants and looking to carbon capture methods such as CCS and direct air capture (DAC), which is currently used in Iceland.

A frustrating pace

"Governments won't take political risk until public opinion is clear. This points to delays in Asia, which has an urgent need to mitigate carbon emissions while adapting to climate change, amid a cost of living crisis cash-strapped governments are struggling to resolve.

Given all the challenges, stakeholders will need to focus their efforts on campaigning ahead of COP 27 in Egypt.

"We need to explain what the problems are, what's blocking them, and how we can move past them. We have more and more work to do, in a smaller amount of time, and need to finance everything."

Neilson sounds like an environmentalist in the most unlikely place. With his expertise advising export credit agencies, lenders, project sponsors and project companies on every continent, he is frustrated at the lack of coordination.

"The reality is that energy and infrastructure are not just a physical system, but a social and political one, which is messy, and lurches and stalls.

"It's time for engineers to be given the opportunity to redesign whole systems, and for governments to enact legislation that really supports energy transition. It's all there to play for." ■

An aerial photograph of a dense, green forest. A winding road with yellow lane markings curves through the trees on the left side of the image. The right side of the image is a solid white diagonal shape.

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Leaders in ESG



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Vauban Infrastructure Partners: ESG is central to our long-term investment approach

ESG has gone from a nice-to-have in the infrastructure space, to an essential, in the space of a few years.

Vauban Infrastructure Partners has gone a step further, placing environmental, social and governance standards at the very heart of its philosophy

To that end, the Paris-based group focuses on infrastructure equity investments that contribute to the sustainable development of local communities and their environments. It structures and manages equity funds that invest in essential infrastructure assets in the mobility, energy transition, social and digital infrastructure sectors.

“Being a long-term investor, and holding assets for an average of 25 years, we must by nature take into consideration environmental and social challenges. Our vision is therefore close to that of an industrial company,” says Gwen Colin, the firm’s ESG Director.

Since its inception in 2019, Vauban has reached over USD 7bn in assets under management (June 2022), across 60+ investments via six core infrastructure funds.

In 2006, Ms Colin began her career at CAAM (now Amundi), where she was responsible for developing a range of Sharia-compliant investment products, which were inspired by socially responsible investment principles such as a sector exclusion list.

After holding other positions in business development, she returned to the sustainable finance sector, when she joined a strategy consulting firm specialising in energy transition and climate change. In this context, she has spent the past three years working on Vauban’s ESG positioning and the implementation of its associated methodology before being brought in-house as ESG Director in March 2022.

“The fight against global warming is not the top priority for some states, especially those facing economic difficulties, so it’s important to take this into account when we discuss decarbonisation with local authorities and users, to build implementable action plans over an adapted timeline.”

Gwen Colin, ESG Director, **Vauban Infrastructure Partners**





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Vauban focuses on four main targets relating to the United Nations' sustainable development goals (SDGs): climate by reducing carbon emissions; gender equality; decent work, economic growth, and inclusive job creation; and fostering sustainability through ESG training.

Inside the firm, Vauban's ESG strategies revolve around an annual carbon footprint review that includes adapted reduction strategies, a gender diversity and parity policy (34% of staff are women, and 36% of its partners are women) and regular ESG training sessions for each employee several times a year.

At the portfolio level, Ms Colin explains the firm's three-pronged approach as "invest, influence, involve".

For its investment strategy, the firm integrates an ESG risks and opportunities assessment to improve its impact management and maximise asset value from the pre-investment phase to day-to-day asset management and exit phases. "This has led us to develop an in-house ESG methodology and a dedicated online data management tool, which we use to monitor more than 70 ESG indicators," says Ms Colin.

In asset management, Vauban aims to act as a positive influence by engaging with portfolio companies to influence their ongoing sustainable strategy. "Being a long-term investor, we must ensure that our assets are able to adapt and answer the evolving needs of their ecosystems."

By adopting international frameworks, the firm aligns its practices with the best market standards, while involving its stakeholders by inviting them to share knowledge through workshops and open studies. "We have taken an active role in global initiatives such as the PRI Infrastructure Committee and have for the last three years conducted our own research into key ESG topics such as the digitalisation of infrastructure (2020) and infrastructure's impact on climate change (2021)," says Ms Colin.

Social License to Operate

The topic of this year's report, to be unveiled in Paris at Infrastructure Week on 4 October, is the importance of Social License to Operate (SLO), which the firm views as a tacit social contract to develop infrastructure projects.

"In the context of a post-Covid world, which is facing the twin threats of geopolitical tensions and climate emergency, we are looking at how to provide sustainable infrastructure by involving all the stakeholders. In this way, our objective is to create shared value for everyone in the long term," says Ms Colin.

"Vauban aims to continue to collaborate with the infrastructure market, by sharing best practices and fostering sector research."

The firm has already tested the SLO strategy in multiple markets, says Ms Colin.

For example, Vauban is working towards decarbonising its US gas heating network assets across eight states, each of which has different policies and customer profiles. "The fight against global warming is not the top priority for some states, especially those facing economic difficulties, so it's important to take this into account when we discuss decarbonisation with local authorities and users, to build implementable action plans over an adapted timeline."

The report, compiled with support from strategic consultancy Altermind, included findings from academics, sector experts, industrial players, institutional investors, banks and public authorities.

As part of the report, the firm conducted a formal survey of 10,000 participants from France, Spain, Germany, Sweden and the US to gauge what makes an infrastructure project acceptable and impactful to each nation's citizens.

Despite differences in culture and context across these countries, the results were surprisingly uniform: 82% to 93% of respondents felt it was vital to gain support from residents before launching an infrastructure project.

Benefit to society, benefit to the firm

What Vauban has learned is that centering social integration can benefit the execution and development of projects, says Ms Colin.

For example, Vauban and French telecom infrastructure and service provider Axione conducted a study in 2021 to measure the socioeconomic impact of the Cap Fibre initiative, a 25-year superfast broadband project created to boost northern French regional rural digital development, and encourage digital inclusion by collaborating with public authorities, the industrial and financial sectors.

With a view to achieving social inclusion, all stakeholders were embedded in the project prior to network deployment. This involved 150 public meetings, invitations to 800 municipalities, and attendance by 40,000 local residents. The aim was to build 1,750km of civil engineering structures and cover 100% of sockets with a view to switching more than 50% of households from copper cables to optical fibre.

Thanks to their local social integration and vocational training programme in partnership with local public authorities, Vauban and Axione's project led to 241 new local jobs, more than 440,000 hours of social integration between 2017 and 2021, and nearly 80,000 hours of training.

"The impact study also highlighted the critical need to address the lack of digital access and understanding. As a result, Axione has reaffirmed its objective to work with all stakeholders to develop inclusive solutions, by maintaining and amplifying its support for local public authorities' actions in these areas," says Ms Colin.

"Since then, Cap Fibre and the public authority have stepped up their partnership to promote local innovation, ensure digitalisation in public spaces by responding to public concerns, and develop solutions to combat climate change," she continues.

"Within Vauban's own ranks, ESG is also beneficial," says Ms Colin.

She recounts a recent conversation with a member of the investment team.

According to the employee, the firm's ESG principles were "in line with my personal values, and I find it extremely rewarding to be part of tangible and highly performing projects, serving citizens and answering the need for private investments when public authorities need it." This staff member also highlighted the opportunity "to commit to a caring company, as part of a culture driven by the most senior executives, carried out across the team, and embedded into the investment philosophy."

Looking ahead, the next hot topics in ESG will be action and collaboration, predicted Ms Colin. Action refers to a "systematic implementation of action plans towards environmental and/or social improvement within assets as part of our business development strategy," she explains.

In terms of collaboration, "the transition to sustainable infrastructure will demand that each player work hand in hand with its ecosystem. Banks, institutional investors, asset managers, public authorities, industrial players, users and citizens will have to align their needs and share long-term value," she continues.

"Vauban aims to continue to collaborate with the infrastructure market, by sharing best practices and fostering sector research alongside experts and practitioners. This is an open call to join our upcoming open surveys," says Ms Colin.

"But for now, I invite you to read our SLO report on the infrastructure sector: for us, this concept is key to the future of ESG." ■

LONG TERM INVESTING, SUSTAINABLE VALUE

Vauban Infrastructure Partners is a leading Infrastructure Asset Manager focused on European core infrastructure investments which contribute to the sustainable development of local communities and their environments through long-term commitment to all stakeholders. _____

Since 2019, Vauban has spearheaded annual open research studies alongside academics, industry experts, public authorities, and industrial partners. 2022's focus is on the concept of "The Social License to Operate". This study reflects on the power of social contract to strengthen all stakeholders' support for infrastructure projects, and on what shared value can be expected from such an engagement.

Explore our findings on Vauban's website:

<https://vauban-ip.com/en/sustainability/#publications>



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Arup: Helping clients make good on sustainability commitments

Over 50 years ago, Arup founder Ove Arup said: “We should always be asking ourselves ‘how does this create a more sustainable future for the world?’, and if it doesn’t, we shouldn’t be doing it.”

This philosophy is reflected in the global consultancy’s strategy to address climate change, making sustainable use of natural resources and delivering societal benefit. To that end, it advises clients across the whole project life cycle: ESG strategy and reporting, sustainable finance, ESG due diligence and post-deal value realisation and sustainable transition.

Dedicated to sustainable development, the firm is a collective of 16,000 designers, advisors and experts working across 140 countries.

“We are learning about how to deliver sustainable development outcomes through our work designing and shaping the world’s built environments and have been able to develop a new brand of ESG services to accelerate sustainability outcomes for our clients. This helps clients decide how to invest to deliver long term benefits and reduce exposure to risks in large infrastructure projects,” explains Tim Treharne, Principal, Americas Advisory Services Leader.

Arup has transformed its approach to ESG due diligence. Previously, clients only asked for a compliance checklist on legal and health & safety standards as part of the due diligence process. “Just achieving compliance is the old watchword, now it’s about identifying how ESG factors can drive value or present critical challenges” says Steven Lloyd, ESG & Sustainable Investment Lead. “By integrating ESG into the due diligence process, Arup aims to provide more practical advice and clear guidance on how to accelerate and deliver the transition to a more sustainable future,” he continues.

The advice doesn’t stop once an asset is acquired. “We identify and quantify ESG opportunities at the investment stage, developing and implementing

transition plans post-deal in areas such as decarbonisation, mitigating climate risk, adopting nature-based approaches, enhancing health and safety and ensuring more efficient use of resources. We create more value by following clients through the life cycle of the project: identifying what they want to achieve, how they can achieve it, and how they can embed an ESG culture in their operations. During the ownership phase, we can continue to help clients report on transparent outcomes, and by identifying risks to ensure the asset is resilient,” says Lloyd.

Accelerating action and achieving measurable objectives

Acknowledging widespread cynicism about ESG, Treharne says: “We want to be sure that what we’re doing is real and substantive, always achieving a measurable outcome.”

“While governments and organisations are making commitments to 2030, 2040 and 2050, it’s not always clear how they will get there, what the first steps are, or how practical the objectives are,” adds Lloyd.

One tangible step Arup has taken towards helping others achieve ESG objectives is certification by the Climate Bonds Standard Board to become an approved verifier of green bonds. Arup joins a select group of firms around the world to vet financing that supports projects in line with the Paris Climate Agreement goals.

As the only engineering consulting firm in the United States to become an approved verifier, Arup will provide independent technical expert reviews for sustainable financing across the building, energy, transportation, water, and waste management sectors. Arup will also participate in an industry working group with the Climate Bonds Initiative to develop sector criteria for steel, cement, and hydrogen projects that are important in the transition to a carbon-free economy.

Tim Treharne



“We want to be sure that what we’re doing is real and substantive, always achieving a measurable outcome.”

“We see a long-term market for verification of sustainable benefits on projects and want to help allay concerns of greenwashing. We can measure and assess the suitability of targets, and provide advice on how to deliver the outcome,” says Treharne.

Harnessing digital to identify ESG opportunities

Digital technology will be key in accelerating complex challenges such as population growth, climate change, biodiversity loss, increasing energy demand and resource scarcity.

In the last year, Arup debuted two digital technology innovations in the water sector. Having tested them and found them to be successful, there is an opportunity to roll them out in further markets.

“We are hopeful that the efforts will contribute to protecting public health on a global level, enabling the large-scale adoption of nature-based solutions and



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Steven Lloyd



enhancing the resilience of communities, says Vikki Williams, Water Digital Lead at Arup.

The first project involved using digital Wastewater-based Epidemiology (WBE) tools, modelling and sampling techniques to trace the emergence of Covid19 from sampling wastewater to protect both community health and resilience of critical infrastructure in the UK.

This has had a major impact on the ability to manage the spread of the disease and to maintain resilience of the critical water infrastructure networks. The health and societal impacts of this are significant.

The firm realised that the technology could serve as an early warning system for public health, and as a border surveillance tool to protect UK citizens and critical national infrastructure.

"Arup was able to communicate its findings to water companies, policy makers, ministers and the general public, and has now made this technology available to others to develop similar approaches in developing markets," says Williams.

Working with nature

A second digitally enabled project was part of the Shanghai Urban Drainage Masterplan. The Chinese city is sinking and to respond to this critical challenge the city's authorities had proposed a \$40bn series of interceptor tunnels to improve urban drainage.

Arup offered an alternative solution: the large-scale implementation of blue and green solutions across the entire city, developed using satellite and AI technology integrated via its bespoke Terrain Land Analysis tool. This is adopting a "sponge city" approach, allowing the city to absorb, store and more slowly release storm waters.

According to the firm, this approach transformed a heavily engineered scheme into an integrated nature-based approach that delivers enhanced drainage outcomes at a much reduced cost and also provides a more livable city, cleaner air and new public spaces, among other ESG benefits.

Arup is now adopting this approach in the UK, supporting the Severn Trent water company to reduce flood risk in the town of Mansfield and is looking to replicate it across the world.

"We have known for some time that nature-based solutions, when compared with their concrete infrastructure equivalents, can provide additional benefits, but previously we did not have the technology to model what was possible and to measure the full benefit," says Williams.

An integrated systems approach

New digital mapping tools are helping Arup to understand cities as complex systems, and to identify opportunities to adopt nature-based solutions in its projects.

"Cities can't go on being concrete jungles that are in conflict with nature. Rapid urbanisation, over-development and the impact of climate change has exposed many cities to the major risk of urban flooding with disastrous consequences for loss of life and economic impact. To flourish, cities need to learn quickly how to deploy nature-based solutions that bring far wider benefits than traditional engineered 'grey' [concrete] infrastructure and contribute positively to biodiversity and carbon reduction," explains Lloyd.

Nature and resources – the next big challenge on the global agenda

"Nature and resources are a larger critical challenge as climate change accelerates. The Shanghai project for example is about replenishing nature and will help reduce the impact of climate change. They can work together," Lloyd continues.

Global resources are being eroded at an alarming rate. To address this, investors need to focus on the circular economy by reusing materials and extending the life of projects and components, for example. Arup has worked with the Ellen McArthur Foundation to develop the global approach to circular economy opportunities in the built environment and is bringing this insight to transactions, such as assessing the resource and energy efficiency benefits of modular construction and re-usable components at Parmaco, a Scandinavian contractor recently acquired by Partners Group.

Vikki Williams



R for resilience

"The firm has furthermore introduced a fourth dimension to its understanding of ESG, which is 'R' for resilience," says Treharne.

By harnessing nature's own capabilities, these projects can mitigate future climate change risk but also be resilient in an unpredictable future.

This involves asking questions like are assets sustainable and resilient to shocks and longer-term stresses such as pandemics and climate change. "If an asset can withstand those shocks, it will be more profitable and deliver more stable returns," points out Lloyd.

The need to prioritise

One criticism of the ESG agenda is the confusing array of targets and measures. Because it would be impossible for anyone to meet every target, it's important for investors and asset owners to narrow down their top priorities.

"What are the two or three key challenges you are going to think about, and where can you have the most impact, to really move the dial on performance and outcomes," asks Lloyd. Arup is helping investors to understand their stakeholders establish clear priorities, to baseline current performance, and develop stretching science-based targets and roadmaps for implementation.

"We set out to be a socially useful company, and this sets us apart. We are an organisation with a purpose, as demonstrated by the fact that shares are held in trust for our employees and for our charitable aims. This means we can be focused on the things we really want to do."

What's more, "We really do believe that with a positive mindset and collaborative effort we can deliver on climate change and other ESG drivers," concludes Treharne. ■

Dedicated to sustainable development

Advising on ESG strategy, reporting, financing and transformation, we're supporting investment decisions to accelerate sustainable, resilient and socially equitable outcomes.



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DLA Piper: Leading by example on ESG

Like many advisory firms, **DLA Piper** has a thriving ESG practice. But, unusually, its lawyers' recommendations to clients have already been tried and tested within the firm

DLA Piper is an active player in renewable energy, having advised on over \$3,743m transactions Year-to-Date.

Boosted by its strength on the transaction side, DLA Piper lawyers are now focused on deepening the ESG advice they can provide, in order to accelerate energy transition.

Responsible business has been a longstanding focus of the firm, which was an early adopter of the principles of the UN Global Compact, and began a more globally-coordinated ESG push in 2019.

DLA Piper aims to make business better by helping clients transition to, and thrive in, a more sustainable future. The firm delivers on this vision by working with clients on their ESG issues to provide long-term benefits for all.

The firm is located in over 40 countries throughout the world. There are more than 150 fee earners in the core ESG team and more than 500 globally who regularly advise on ESG matters.

"It was really important for us to ensure that all of our lawyers had a basic level of understanding in relation to ESG," explains Natasha Luther-Jones, the firm's International Head of Sustainability and ESG and Global co-Chair of the Energy and Natural Resources practice.

"ESG risks are really broad in nature, but clients need to understand how they personally are affected, and how their businesses are affected. So we ensured that our sector-focused lawyers understood the industry-specific issues from a personal perspective," recounts Natasha.

Armed with a bespoke understanding of their sectors, industries and geographies, DLA Piper's lawyers are best equipped to understand, explain and take to market ESG advice through a sector and geographic lens.

Natasha, for example, has been a renewable energy lawyer for many years, and is well placed to advise on corporate

power purchase agreements (PPAs) from a personal, as well as a corporate perspective.

Communicating with clients on a more authentic basis, and "behaving as we are advising our clients to behave" is essential, she continues.

To that end, the international law firm has taken three vital steps.

First, it signed up to Science Based Targets (SBTs), as approved by the SBTi, itself a partnership among CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). The SBTi advocates for a partnership between governments and business to tackle the net zero challenge.

Second, it entered into a corporate PPA in January 2022 as an offtaker, becoming the first law firm anywhere in the world to do so.

Third, the firm recently concluded an extensive global double materiality assessment to better understand its strategic sustainability priorities. This was a formal exercise undertaken in order to better understand the firm's material sustainability and ESG impacts, and what ESG issues impact the business. 'Material ESG issues' are a firm's most critical ESG risks and opportunities that it should act on and are unique to each business depending on its sector, business model, geographies of operation and other unique characteristics.

Devising an ESG steer code

Armed with firsthand experience in implementing solid ESG principles across the firm, DLA Piper has recently expanded the portfolio of advice it can offer clients. Under its embedded sector approach to ESG, the firm has defined eight key focus areas: corporate purpose, data and technology, decarbonisation and biodiversity, ESG disputes and investigations, governance and reporting, supply chain integrity, sustainable investments and insurance, and treating people fairly.

Natasha Luther-Jones



"ESG risks are really broad in nature, but clients need to understand how they personally are affected, and how their businesses are affected. So we ensured that our sector-focused lawyers understood the industry-specific issues from a personal perspective."

To streamline its advice to the infrastructure finance industry, Natasha and her team have put together a three-tier, top-down approach: strategy, policy (which includes topics such as supply chain, SFDR and compliance), and implementation.

Advising clients on buying green power is often the first step a business takes in its sustainability journey, and this can open doors to discuss how they can join the dots when it comes to ESG, explains Rhys Davies, DLA Piper's International Lead for Sustainability and ESG.

"It's important not to look at things in isolation from a renewables perspective. Just because you're doing a renewable energy deal doesn't mean it's great from an ESG perspective," he points out.

With that in mind, DLA Piper's team can offer expertise not just in commercial due diligence and legal due diligence, but due diligence with an ESG lens applied across it.

For example, if a client is looking at a solar facility, they would need to look at the supply chain issues. But for wind farm projects in the Nordics, they would also have to examine potential breaches of modern slavery, transparency of the supply chain and on top of that be very knowledgeable about the indigenous rights that the Sami people have in certain regions, says Rhys.

In the first tier of DLA Piper's ESG approach, the firm focuses on a client's strategy.

Typical questions to consider would include: What are you? What are you doing and what is it you're saying you're doing? Is there a gap between those two things? And if so, what?

The second tier, then, looks at how a client is articulating this strategy. This would go beyond statutory disclosures under Europe's Sustainable Finance Disclosure Regulation (SFDR), to examine how the strategy is being expressed in a client's marketing and other communications. This would be challenged, to ensure it correlated to the strategy, was accurate, and didn't have any gaps.

The third and most difficult tier is implementation, which covers due diligence and asset management.

"Following through on promises is as much an organisational and procedural process challenge as it is one of intent. Intent is the easy part, and where we see a lot of greenwashing risk. It is impossible to operationalise something that is good intent and nothing else, and this is where we try to help clients," says Natasha.

Beyond the legal offering

Responding to the risk of greenwashing goes beyond what most professionals study at law school, because it involves long-term risk, and responding to systemic and existential challenges, the partners explain.

Rhys Davies



"We recognised fairly early on that there was a need to bring in an additional set of skill sets, so we've spent nearly two years creating our business advisory services. We see this as a set of allied consultancy services that sit separately from the firm, but go hand in glove with it."

DLA Piper aims, through an integrated legal and business advisory solution across all ESG factors, to help clients understand, address and respond to their ESG challenges to guide them from a culture of compliance to a culture of environmental performance.

This fundamental challenge in terms of organisational change requires quite a different skill set from the skill set that lawyers bring, they admit.

"We can frame, we can build infrastructure, or we can allocate rights and liabilities, and we can help from a structural perspective. But there's a really significant cultural piece to this," says Rhys.

"We recognised fairly early on that there was a need to bring in an additional set of skill sets, so we've spent nearly two years creating our business advisory services. We see this as a set of allied consultancy services that sit separately from the firm, but go hand in glove with it," recounts Rhys.

Now, lawyers can have a legal conversation as well as a cultural and organisational change conversation with clients, to help them not only avoid greenwashing, but to launch their energy transition.

To further this cross-functional approach, DLA Piper has developed its own ESG due diligence tool.

"When we think about ESG risk, that risk does not emanate from the same sources as traditional legal risk. So it's not jumping out at us from the statute books, but it's jumping out at us from a broader set of stakeholder expectations. Sometimes those things are articulated in multilateral instruments, in the context of the UN and elsewhere, and other times they come from more organic places grounded in local communities or inalienable human rights, for example," points out Rhys.

"In an ESG diligence context, what we try to do is identify the extent to which a particular project or asset might be completely compliant on the one hand, but falling short of stakeholder expectations on the other. Just because an asset happens to be a solar PV project or onshore wind, it doesn't necessarily have full integrity across the supply chain and may not have embedded human rights abuses or other deficiencies," continues Rhys.

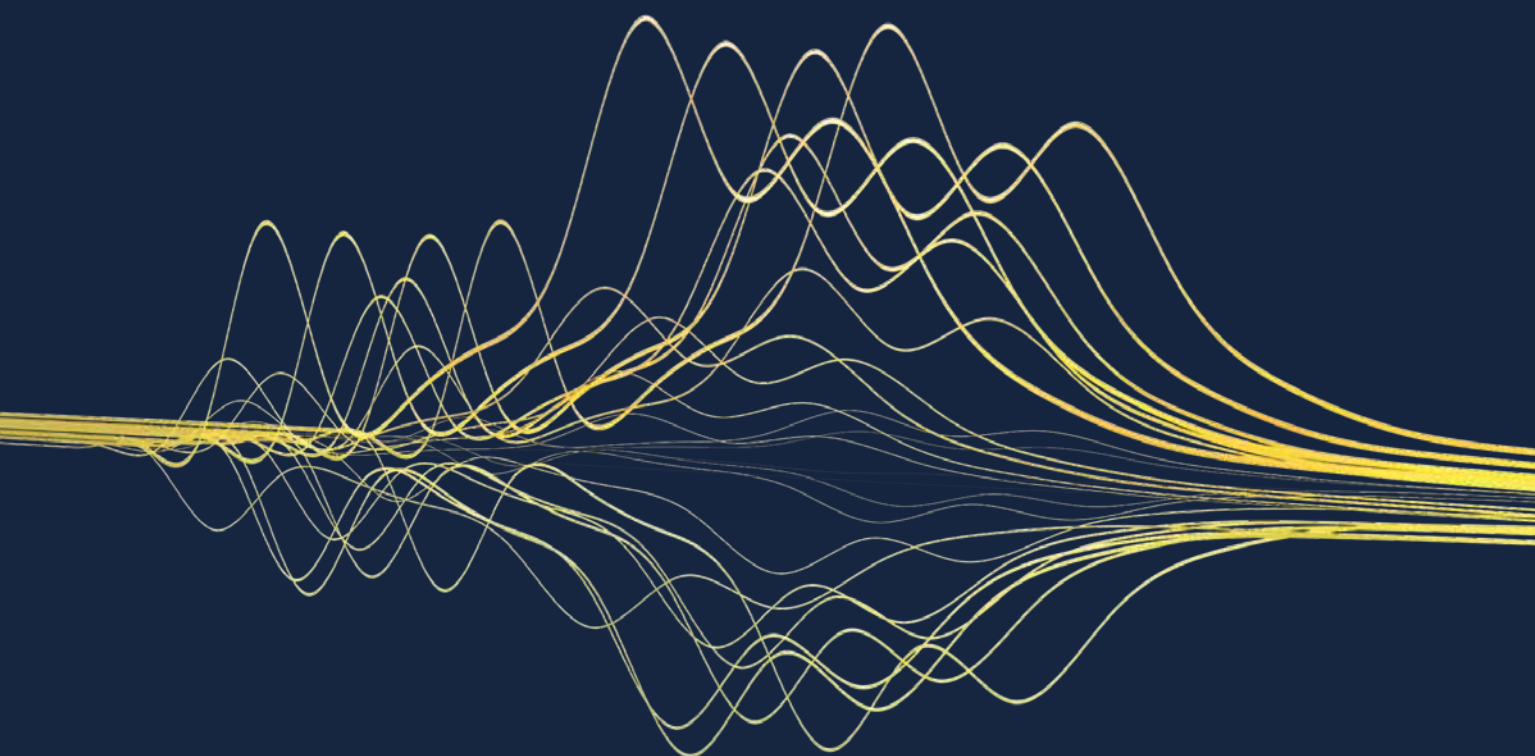
However, because it's impossible to cover every single attribute across every single year, DLA Piper has partnered with Datamaran, a software-as-a-service ESG company. This solution provides clients with a unique opportunity to embed ESG due diligence across corporate, financing and transactional activities.

The platform allows a user to plug in the sector and geography of a particular transaction, and gain access to a range of public sources, corporate reports, hardware, software, databases and traditional and social media. In this way, there is a quantitative basis to determine the top 10 ESG issues for that transaction.

From there, lawyers can work with clients to go further than testing assets for compliance, by finding out whether they meet stakeholder expectations, achieve international human rights norms, reflect supply chain integrity and contribute to a net biodiversity gain, for example.

"Those are the deeper questions that help clients build a more well-rounded sense of an asset, the value it brings from an ESG perspective and how they can use it to transition to, and thrive, in a more sustainable future," concludes Rhys. ■

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Quinbrook Infrastructure Partners: Technology shaping the future of ESG investing

As a specialist investment manager focusing on renewable energy infrastructure and related assets and business that support the energy transition, **Quinbrook** aims to protect and enhance the value of invested assets for the long-term benefit of its investors

At the heart of the firm's investment strategy and asset management practices is its investment stewardship approach, which focuses on direct, regular engagement with investees, sole or majority decision-making controls and majority board representation.

Quinbrook is committed to ESG investing and in 2021 the firm was recognised by the United Nations PRI for the integration of ESG in its investments.

The UN PRI scored Quinbrook 100% across both its assessed categories: direct – infrastructure and stewardship policy.

With a total of 3,097 firms reporting, the median score for investment and stewardship policy was 60% and the median for direct infrastructure was 77%.

Furthermore, Quinbrook has invested strategically in technologies such as blockchain and artificial intelligence (AI) to support its asset performance, energy market efficiencies, tracking and tracing and carbon and ESG integration.

Smarter energy management

Anne Foster, global head of ESG at Quinbrook, explains that the founder and team experience reaches up to 20+ years dedicated to energy transition investment.

From this foundation, the firm's investment strategy has evolved to suit the changing needs of the energy grid and decarbonising industry and community and the shift toward greater local energy reliability, security and the goal for clean energy, 24/7.

She says: "We seek to directly address growing industry and community demand for clean energy, and to enable it to be better optimised, more reliable, and managed better.

Anne Foster, global head of ESG at Quinbrook



"Overall, through the use of technology, our aim is to enable energy to be provided to people when and where it's needed, more reliably, more affordably and with greater transparency."

"The energy grid has become increasingly intermittent and distributed, in both ownership and location. This creates core demand for improvements in storage, optimisation, dispatch controls and the tracking and tracing of energy.

Importantly, it makes it harder for us to determine when and where our energy is coming from, and more critical for us to have the tools with which we can assess our energy source, and forecast our supply and demand."

"Then we must prepare for future demands, as industry residential and transport create greater complexity. For example, we work closely on power-to-X, as we decarbonise hard-to-decarbonise industries, liquid fuels, and the challenges of electrified transport, including where our managed portfolio companies are working in projects such as vehicle to grid in relation to carbon intensity so that we can achieve 24/7 clean energy supply."

Foster explains: "One of our portfolio companies is the retailer supporting a virtual power plant of solar and batteries on rooftops of social housing and other communities, where there was a risk of energy supply.

"During a coal plant failure, the dispatch of batteries was able to hold up the grid. Similarly, through technology such as synchronous condenser, we can maintain inertia levels, in an increasingly 'asynchronous' grid. For industries, such as data centres, it is crucial that we provide solutions to their energy demands, that support decarbonisation but can also accurately measure their energy and carbon impact on a granular level."



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Supply chain transparency and localisation

As the energy industry evolves, we can drive greater energy and supply chain security, at a local level, supporting more localised generation, control, dispatch and fundamental industrial level inputs and production.

Foster says: "We are using this technology increasingly in supply chain tracking, to gain transparency over the decarbonisation of industry energy usage, batteries or hydrogen production and where we need to invest in innovation and improvements.

"In addition, tracking and tracing technologies can enable transparency over where physical supply chains are located, including for polysilicon, lithium, steel, carbon, aluminium or other elements. Over time this provides not just better carbon data, but also improved data in human rights, environmental impact and physical length of supply chains. In turn, by driving local industry, we can support supply chain security, jobs and economic growth."

Forecasting energy usage

Foster points out that the ability to forecast energy usage and demand is crucial for driving optimised returns on, particularly, storage and energy assets and emerging sectors in transport and hydrogen. This is a key area some of Quinbrook's portfolio companies address.

She says: "We need to be able to address and make decisions based on increasingly complex data sets, incorporating weather patterns, market pricing, insolation, wind resource, industrial and residential energy demand forecasts.

"Only by capturing and managing that data, can you begin to optimise when and how you might be dispatching or charging those batteries and when the market needs it the most."

She says: "Through the use of AI we can figure out the best solutions, however as much as we can rely on AI to a certain extent a lot of this still requires human intervention to question the data."

Utilising the data

According to Foster, the ability to collect data and to query that data is crucial in ESG investing and technology plays a key role in the understanding of numbers. In many ways, technology can help to optimise data collection and decision making across portfolios.

Foster highlights gender and ethnicity wage gaps as one example where



"At the end of the day, technology, AI and data can tell a part of the story and can help us grapple with and manage the incredible levels of data, forecasting, and optimisation that are needed today. But we also need to be aware of its shortcomings and the limits to the story that data alone can tell."

Anne Foster, global head of ESG at **Quinbrook**

technology can interpret data in a more meaningful way and provide companies with more clarity when reporting on this area.

She says: "There isn't one single figure that provides us with a clear answer or indicator. We need to assess many different data points consistently, to assess how we can achieve improved business decision making and positive progress."

For Quinbrook, when collecting data of this kind there is a certain level of granularity needed to help them build a better picture.

"We have built our own internal solutions to give us the level of detail and granularity that we need in our space to address business improvements and efficiencies," Foster states. "We work with some external parties, but overall, we find that we have had to build our own integrated system to assess potential risks, opportunities and

options to the level that we need."

And while technology is helping to add a key level of optimisation, efficiency, improved decision making and transparency, Quinbrook still sees the person-to-person assessment as crucial.

She says: "At the end of the day, technology, AI and data can tell a part of the story and can help us grapple with and manage the incredible levels of data, forecasting, and optimisation that are needed today. But we also need to be aware of its shortcomings and the limits to the story that data alone can tell. In short, managing the technology shift is a crucial part of energy supply chains, business efficiencies, better decision making. Needless to say, we have some exciting developments and solutions and continue to drive technology as a key part of energy and ESG solutions, business decision making and innovation." ■

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Unlocking clean energy with next-gen investment tech

The amount of project finance capital going into renewables has steadily increased over the past five years. Specifically, renewables has grown to just below 30% of project finance transactions closed in 2021 and such deals accounted for 60% of total volume (295 deals).^[1]

This good news, however, could easily lead to complacency that project finance is on the right path, and that deal flow is sufficient to help meet ambitious goals such as the Paris Agreement, limiting global temperature rise this century to under 1.5 degrees celsius above pre-industrial levels and helping countries better deal with the impact of global warming. In fact, to accelerate further investment in renewable and low emission energy, the project finance industry must adopt modern investment technology and up level its data management practices now.

Global energy consumption rising

One-third of global emissions are associated with fuels used to generate electricity, and global electricity consumption is expected to triple by 2050. In order to meet this demand and reduce our emissions footprint, we must expedite investments into renewables and low-emissions technologies. The unavoidable reality is that many, many more project finance deals are needed to meet the challenge of climate change. To put the urgency of the task in further perspective, the 1.5°C Paris Scenario will require investments of USD 5.7 trillion per year until 2030, and this will require the redirection of USD 700 billion in annual investments in fossil fuels towards energy transition technologies. Multilateral agreements and governments can encourage this investment via policy, but markets and greater innovation will be crucial to success.

Current limits to project finance

It is, however, easier said than done to shift capital toward much needed investments. The significant average size of oil and gas projects (circa \$3 billion) vs renewable energy (\$200m)^[1] puts a potential cap on the total number of fundable projects. The reason

Benjamin Cohen



"If we wish to meet our climate change goals and expedite essential investment in renewable energy sources and lower-emissions fuels, we must modernize the project finance investment and data infrastructure."

why: there's an inherent challenge at the heart of originating, closing and managing all complex, high expertise, long-term projects. It can take just as much time and effort to develop, close and manage smaller projects as it does larger investments, and this means while there are many renewable projects ready to go, the current cost of capital is geared toward larger deals. Incentives, as a result, are misaligned to drive the substantially greater volume of renewable and low emission project finance deals required to meet our goals.

Here is where modern investment technology and, in particular, improved data management can provide the project finance industry the support it needs. To understand how, it's worth a deeper dive into what makes project finance different from other asset classes.

First, each deal is like a snowflake, unique in nature, and as such, each deal demands an individual approach, building custom models and analytics. Second, data comes from different directions and in a variety of formats. It is neither digitized nor standardized. Third, such deal characteristics make workflows slow and manual, particularly when compared to other asset classes. This has meant the only way for financial advisors, arrangers, sponsors and investors to take on more deals is to add staff – generally not a feasible choice given the current cost of capital for smaller renewable projects.

Unlocking crucial capital

As a result of the current limitations of project finance, innovation has been difficult, and progress has been stymied due to the lack of technology platforms sophisticated enough to adapt to the nuances of project finance, such as the disparate sources of data. Fortunately, that is no longer the case, and the industry now has the opportunity to embrace a scalable, centralized source of truth solution designed to meet the unique needs of project finance.

A modern project finance solution will bring much needed standardization, yet still allow for flexibility to tailor a deal to a project's needs. It will establish new data pipes to connect the funding ecosystem – from developer to lead arranger to investor.

A virtuous cycle

In sum, if we wish to meet our climate change goals and expedite essential investment in renewable energy sources and lower-emissions fuels, we must modernize the project finance investment and data infrastructure with scalable solutions, and we must do it today. The result will be a virtuous cycle as more funds flow into renewables and low emission projects, reducing the cost of smaller deals and further increasing funding. ■

Author: Benjamin Cohen, CEO of T-REX

^[1] Based on IJGlobal's 2021 transaction data for primary issuance project finance transactions closed.



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Hot Springs Eternal: Ancala's Evolution of HS Orka

Renewable investment in Europe has been on a stunning trajectory in recent years, but not all opportunities within the space are equal. Geothermal assets such as HS Orka are a rarity in Europe and do not frequently come up for acquisition. *IJGlobal* reporters **Arran Brown** and **Katie Davies** investigate

Ancala in the spring of 2019 forged a deal with Jarðvarmi – an Icelandic pension consortium and incumbent shareholder in the 174MW geothermal energy producer HS Orka.

This transaction saw Ancala take a 50% stake in HS Orka and marked the investment manager's entry into the Icelandic geothermal sector, which constitutes 8% of all electricity produced in the northern nation.

Since the deal, the partners have worked to realign the business towards its core focus – disposing of assets, implementing build-outs and new projects, and establishing mutually-beneficial relationships with industrial partners.

The net result of this has been a galvanising of the business' desire to place environmental considerations at its

core, devising entrepreneurial and creative solutions to move towards a zero-waste society.

At the heart of HS Orka's transformation is the principle of circular economy, with the partners concentrating on optimising existing resources and ensuring all by-products are made use of. As energy efficiency becomes an increasingly pertinent topic, HS Orka's model could well be one that other producers look to replicate.

Ancala springs into action

Natural hydro and geothermal resources have made Iceland the world's largest green energy producer per capita.

Presently, the hydro and geothermal resources supply almost 100% of Iceland's consumption of electricity and around 85% of Iceland's total consumption of primary energy.

Of the total primary energy consumption, roughly 20% comes from hydropower and 65% from geothermal sources.

This is the world's highest share of renewable energy in any national total energy budget.

HS Orka is one of 3 main energy companies on the island of Iceland, the others being Landsvirkjun (owned by the Icelandic state) and Orkuveita Reykjavíkur / Orka náttúrunnar (owned by municipalities). It was the first Icelandic energy company to be privatised in 2000.

The business then comprised 2 geothermal assets with a combined capacity of 174MW:

- Reykjanes Geothermal Power Plant, 100MW
- Svartsengi Geothermal Power Plant, 74MW





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The Svartsengi plant comprises 6 powerhouses built between the 1970s and 2018. The most recently built Powerhouse 6 has 30MW of capacity.

The Reykjanes plant, meanwhile, consists of 2x 50MW double flow turbines with sea-cooled steam turbines. Both engines entered operations in 2006.

It also owns the 10MW Brúarvirkjun run-of-river hydro project which was under construction at the time of acquisition and had other prospective renewable energy developments.

At the time of the takeover, the shareholding structure in the business was as follows:

- Innergex subsidiary Magma Energy Sweden – 53.9%
- Jarðvarmi – 33.4%
- Fagfjárfestastjóðurinn ORK – 12.7%

IJGlobal understands Innergex's acquisition of HS Orka was part of a deal wherein it acquired Swedish wind assets, though the Icelandic geothermal component was not core to its strategy. Innergex therefore decided to sell the business in 2018, with a process launched and later shelved.

Around this time, Ancala became interested in the asset. Ancala partner Lee Mellor explains the appeal: "At Ancala, renewables is something we've been investing in since inception. Our first investment was a hydro developer – Green Highland Renewables. We've always supported the energy transition, and ESG is at the heart of everything we do."

The prospect of investing in a rarer form of renewables also provoked interest. Mellor continues: "Until 2019 we had invested in solar, anaerobic digestion, hydro, many technologies. But a key interest for us has always been how can heat be decarbonised, and how do you get baseload renewable power. Geothermal ticks both those boxes, and so we were looking for an opportunity in that sector."

Beyond that is the inherent security of the business: "It's a stable cash generative business. As with most renewables investments, you have an installed asset base generating cash flows. In the Icelandic energy market you are entering into long-term, typically inflation-linked PPAs with highly credit-worthy corporate counterparties, which was another attraction for us."

Ancala presented itself to Jarðvarmi as an investment partner who shared its vision for HS Orka, spending many months aligning their approach and interests. The fruit of the discussions was a plan for a pure



play energy company with the promise of meaningful growth.

"We saw a lot of commonality and alignment with Jarðvarmi, which was interested in growing and developing the business over the long term, committing capital to build out capacity at HS Orka. We spent a lot of time with them deepening our understanding of the business, and figuring out what we wanted to do," explains Mellor.

The pension consortium agreed to buy out the remaining shareholders which paved the way for a fresh shareholder agreement on a 50:50 basis. This solved a number of problems, including an inherited complex shareholding agreement structure, and plans for the sale of a 30% stake in Blue Lagoon Geothermal Spa and Resort – Iceland's leading tourist attraction – which Ancala and Jarðvarmi invested to Blávarmi to transition HS Orka into a pure-play renewable energy platform.

Mellor is enthusiastic about the local partnership with Jarðvarmi, saying: "The benefits of a local partner are numerous. When investing across Europe, we find each country has its own nuances, customs, and the way it does business. Being able to partner with a local has allowed us to get the most from businesses. Though Jarðvarmi is a consortium of pension funds, they are actively involved in the business and driving it forward with us."

Business heats up for HS Orka

Since its acquisition of 50% in HS Orka, Ancala has implemented and overseen a multitude of changes – both operationally and technologically.

Not only was Tómas Már Sigurðsson appointed as chief exec, but a new CFO, CTO, and general counsel were recruited. The entire project team was restructured, overseen by Ancala representative Adrian Pike who serves as chair of HS Orka's board.

In Sigurðsson's words, "we refocused the operational side, strengthening the infrastructure so as to both optimise operations and execute complicated expansion projects."

This restructuring was a success: operational performance has improved and become more stable.

As for the "complicated expansion projects":

- Brúarvirkjun Hydropower Plant, 10MW – already commissioned
- 30MW extension to the Reykjanes plant – completion expected in Q1 2023
- 22MW extension to the Svartsengi plant – scheduled for late 2022/early 2023

Once completed, the projects will together add another 62MW to HS Orka's 174MW of capacity at the time of Ancala's acquisition.

The fact that the 30MW extension has been constructed "on budget and with no complications" – amid a pandemic and various economic crises – is testament to HS Orka's operational prowess, Sigurðsson says.

HS Orka's mantra is "a society without waste", and these extensions are manifestly cost-effective ways of maximising energy efficiency. As Mellor points out: "We're generating extra energy without using any

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more resources – it's just the waste heat created by the existing plant."

These renovations require funding, which is one of the reasons why Ancala and Jarðvarmi made the decision to refinance HS Orka in February 2020.

Of the \$210 million financing, around half was used to refinance existing debt while the remainder was deployed as funding for the expansion projects.

The package comprised:

- term loan
- capex facility
- revolving credit facility

The debt, priced at 150bp over reference rate and with a remaining tenor of 3 years, was provided by a consortium of 3 European banks – in contrast with the single Icelandic lender in the previous financing.

Mellor explains: "HS Orka was under levered for a renewables asset, which is consistent with our approach. We look to create value through operational improvement rather than financial engineering whilst retaining financial flexibility."

With this refi, Ancala secured "a good-sized capex facility to support the ambitious growth plans of the company," Mellor adds.

The earth is HS Orka's oyster

HS Orka's Resource Park – the crowning jewel of its circular-economy model – is a part of the business that has seen huge growth since Ancala's investment.

The number of businesses in the park has swelled to 11, each of which has found a specific use for one or more of HS Orka's many by-products – including (but not limited to) brine, heat, seawater, and CO₂.

Ancala has chosen carefully which businesses to partner with HS Orka. As Mellor notes, "one of the selection criteria for who we want to work with is who can use what resources."

Businesses located at the Resource Park include Samherji Aquaculture – a salmon farm planning to invest more than ISK45 billion (\$33m) over the next 11 years to build up to 40,000 tonnes of aquaculture.

Another partner is international energy company Hydrogen Ventures, which will invest more than €100 million (\$102m) – in the first phase – into green methanol production. Both deals were announced last year (2021).

These are "long-term partners," Sigurðsson says, with "good experience in their fields who will invest and grow" within the Resource Park.

Other geothermal facilities have been unsuccessful in their attempts to replicate the scale and diversity of HS Orka's Resource Park – often hampered by complications.

Ancala's plans for HS Orka's power plants and Resource Park are ambitious, premised on the concept of circular economy and energy efficiency.

In addition to the 62MW increase in capacity since Ancala's acquisition, Mellor predicts that there is "another 200MW+ that we could develop over time," adding that "we're not taking our foot off the pedal in terms of development."

Operational improvements, too, are on the horizon – such as the refurbishment of outdated equipment at Svartsengi.

New customers are lining up for the Resource Park, with upcoming projects in the agriculture and cosmetics industries, as well as a recently-signed contract for an algae farm expansion.

Existing Icelandic energy projects such as HS Orka look to be more and more attractive to investors. Coupled with the energy shortage in Iceland, there is an increasingly rigorous process through which approval is gained for new projects, thereby enhancing the appeal of existing assets. As Mellor puts it: "Iceland needs more power, and the options to generate that power are somewhat limited because there's a very stringent process to go through to develop new capacity."

Not only is there a limited supply of energy, but Iceland's prices remain insulated from those that are currently sky-high in the rest of Europe.

Iceland also has "effectively 100% baseload green energy," Mellor points out, increasing its attractiveness to investors keen to strengthen their ESG credentials.

Interest in the Icelandic energy market is growing "week on week," according to Sigurðsson. With a 3-year head start, a diverse pipeline of opportunities, and a methodical approach to waste, Ancala and HS Orka look well-positioned to capitalise on this interest.

Advisers on the acquisition:

- Evercore – financial to Ancala
- Travers Smith – legal to Ancala

Advisers on the refi:

- DC Advisory – financial to the borrowers
- Latham & Watkins – legal to the borrowers
- Logos – legal to the borrowers
- Shearman & Sterling – lender ■





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Blue Phoenix Group acquisition, Netherlands

InfraVia Capital Partners' acquisition of a 70% stake in Dutch energy-from-waste recycling company Blue Phoenix Group wrapped up this year. *IJGlobal* reporter **Katie Davies** delves deeper into the deal

Deals in the niche energy-from-waste (EfW) recycling sector are few and far between, rendering InfraVia Capital Partners' acquisition of a 70% stake in Netherlands-based Blue Phoenix Group (BPG) a transaction worthy of attention.

The 70% stake was acquired from Waterland Private Equity, with the remaining 30% retained by minority shareholder Daiwa International Capital Partners.

BPG – formerly known as Inashco – collects and recycles incinerator bottom ash (IBA) produced by power stations during the EfW process. The company produces a final clean material that can be reused in construction, while also extracting ferrous and nonferrous metals which are subsequently refined and sold to the smelter industry.

The tenet of BPG's model is the circular economy, as it enters at what is ostensibly the end of a product's life (waste incineration) and instead injects it back into the value chain.

With more than 25 facilities across Europe, the USA, Asia, and Australia, BPG is the largest

"Municipal waste is increasingly being incinerated instead of used in landfills, with a growing percentage of incinerators delivering electricity and/or heat to the energy."

Stephanie Horowitz, partner, **Clifford Chance**



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player in the global IBA recycling industry. InfraVia's acquisition comes as governments across the world look for alternatives to landfill for waste disposal – a development that should work in BPG's favour.

The Asset

BPG is – albeit not unique – one of a handful of players in the IBA recycling sector. Although the company is not an energy provider itself, the convergence of energy and infra in this business is clear: not only are BPG's clients in the EfW sector, but the avoided CO₂ emissions of recycling rather than mining virgin metals reinforces this overlap.

This is one of the reasons why the sale of BPG is interesting as Stephanie Horowitz, partner at Clifford Chance (legal adviser to InfraVia on the deal), notes: "There have been approximately 25 EfW transactions annually in Europe in recent years, according to our data, but deals specific to EfW waste recycling are much rarer."

Taking a broader view, the Dutch EfW sector has been rapidly evolving over the past few years and is now more advanced than those in many other countries. "The Netherlands' waste-to-energy market is consolidated," Horowitz says.

As a result, there is overcapacity in the Dutch EfW sector – so much so that the country used to import huge quantities of waste for incineration from the UK, although this has now been complicated by post-Brexit legislation.

Waterland initially invested in BPG in 2015, when this arrangement was in full swing, and has since supported the company in its expansion to different geographies and through the development of new technologies.

One example of this innovation is an IBA-washing technology that BPG developed and patented – designed to improve IBA quality and increase yields by integrating wet metal recovery into the collection process.

Building on existing facilities, BPG expanded its presence in March 2021 with the acquisition of German IBA processing company CC Gruppe, marking its entry into the country. BPG also around that time finished construction of a new IBA treatment plant in Australia.

A few months later in July (2021), Daiwa ICP European Infrastructure I acquired a 30% stake in BPG from Waterland – shortly after Macquarie refinanced the company.

Two sources close to the deal have confirmed that BPG's EBITDA for FY 2021 was in the region of €50-60 million (\$55-66m), with revenues around €239 million (\$263.1m).



The Deal

BPG's sale was not initiated by Waterland – although as a private equity house its divestment after 7 years of ownership did not come as a surprise – but was instead triggered by an approach from a prospective buyer.

The process itself was highly selective, according to a source, with only a small number of infra investors invited to bid on the asset.

IJGlobal exclusively reported in March this year (2022) that the IM had been issued, amid rumours circulating that major private equity players such as EQT and Antin Infrastructure Partners were eyeing BPG, with other parties thought to have expressed interest... only to rebuffed.

The ESG appeal of BPG's circular-economy model was instrumental, Horowitz notes: "Shareholder appetite for sustainable investment is on the rise globally, as well as shareholder activism forcing investors to revise their strategies in this respect."

Aside from the patent ESG attraction, a source close to the deal reveals why BPG is differentiated from its competitors:

- ability to integrate several proprietary technologies into a single solution
- ability to scale and deploy this technology on a larger platform

Other players' EfW recycling businesses often form part of a broader utility company as opposed to a standalone platform. BPG is more specialised, deriving efficiency from this ability to scale – as large amounts of IBA are required to extract the quantity of metals required to make it a viable business.

InfraVia eventually emerged as preferred bidder and [signed a deal with Waterland](#) on 22 June (2022), with completion the following month (27 July).

While the value of the acquisition is yet to be revealed, it is understood that the

significant level of debt within BPG would have affected the price it fetched.

The Future

EfW is fast emerging as the preferable alternative to landfill in many regions. The situation is more complex in the US and Australia, with vast swathes of usable land and tight regulation. But on the whole, space is a finite resource and countries are keen to diversify their means of energy production.

Horowitz summarises: "Municipal waste is increasingly being incinerated instead of used in landfills, with a growing percentage of incinerators delivering electricity and/or heat to the energy grid."

"The percentage of IBA being recycled varies greatly between countries – from 0% to 100% – but there is a growing trend towards recycling and a growing number of IBA treatment plants. With the current sentiment in society and stricter regulation around waste and recycling, combined with the rising value of recycled metals, it is highly likely that these trends will continue."

"BPG – with its expertise, global reach, patents, and solid track record – is well placed to expand further in this growing market and their partnership with InfraVia will allow BPG to accelerate its growth."

There looks to have been an irrevocable shift away from the use landfill for waste disposal. With the growing adoption of EfW as a source of global energy production and a heightened focus on the circular economy, this could bode well for BPG and the specialised EfW recycling sector in which it operates.

Sell-side advisers on the deal:

- Macquarie Capital – financial
- Allen & Overy – legal

Buy-side advisers on the deal:

- Emendo Capital – financial
- Natixis Partners – financial
- Clifford Chance – legal ■

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Women in Infrastructure & ESG

Women's Infrastructure Network board member and CMS Cameron McKenna Nabarro Olswang infra lawyer **Stephanie Flynn** talks about ESG in WIN.

WIN and the importance of ESG

ESG is important to WIN as an organisation and to our individual members for multiple reasons, including: the importance to our industry of creating resilient, long term infrastructure reflecting the needs of the community it serves; good governance and business ethics being important to members from a personal and investment perspective, with issues of particular relevance to WIN being fairness, including equal compensation; and diversity and inclusivity being central to WIN and our members, from a career and work perspective.

How has WIN addresses ESG in its activities

The activities we have organised in recent years reflect the growing significance of ESG to our industry and members, and include:

1. A virtual networking event to discuss how has the Covid crisis impacted the ESG agenda. This event drew on the experience of our members to explore this topic further, including the extent to which they see the drive to net zero being impacted by recent events;
2. A Keynote speaker event to discuss neurodiversity in the workplace. This event highlighted a key issue for WIN from an ESG perspective: the importance of diversity in the workplace. This event informed and educated, and in some cases introduced, members of our network to the important topic of neurodiversity. Enabling members to be better informed on all aspects of neurodiversity, with networking to discuss further, in order to try to assist in creating fairer and more inclusive labour practices and work places. Hence our speaker helped to champion diversity and inclusion in our industry;

Stephanie Flynn



"ESG has been integral to a number of the financing projects I have worked on in recent years. From fund facilities to be used to invest directly in infrastructure projects, to development facilities that deliver such projects, we are increasingly seeing the use of ESG related KPIs."

3. A virtual networking events focusing on wellbeing at work, by discussing topics such as maintaining boundaries in hybrid working arrangements and how to avoid burnout. Our members shared their experiences of innovative work practices and potential solutions in order to help foster more inclusive, supportive and resilient work places and workers;
4. A virtual presentation on digital twins and how such digital replicas can be used to create solutions in infrastructure, in order to make infrastructure assets more efficient, collaborative and productive, and to best serve the needs of the communities that use such infrastructure.

ESG in Infrastructure

ESG has been integral to a number of the financing projects I have worked on in recent years. From fund facilities to be used to invest directly in infrastructure projects, to development facilities that deliver such projects, we are increasingly seeing the use of ESG related KPIs.

A significant proportion of the KPIs we have encountered on such transactions focus on the "E". With the "G" being captured by other direct advice such as board advice on governance and directors' duties, supplier codes of conduct and sustainability reporting.

While the "S" is often thought of as being integral to all social infrastructure projects, clients are also showing greater focus on projects more generally to supply chain management, diversity and inclusion, as well as the impact on the community. ESG is also important at the organisation I work at, CMS, which has committed to its own sustainability goals, so that we can progress and help our clients progress their goals. ■



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