



DELIVERING THE ENERGY TRANSITION THE ACTIS WAY

THE STREET VIEW

OCTOBER 2023

IN THIS EDITION



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A VIEW ON SUSTAINABILITY PROVIDED BY

ACTIS VOICES

VALUE THROUGH SUSTAINABILITY



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Guest Editor and Partner, Head of Sustainability



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Partner, Chief Investment Officer

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Managing Director, NatureVest
at The Nature Conservancy



COMPETITIVELY FINANCING SUSTAINABILITY



Courtney Lowrance

Managing Director, Sustainability
and Corporate Transitions, Citi



CRITICAL MINERALS AND THE TRANSITION TO NET ZERO



Rohitesh Dhawan

CEO and President, The International
Council on Mining and Metals



COMPANY VOICES

SUSTAINABLE AND COOL



Dr. Adib El Moubadder

CEO, Emicool



GAS IS PART OF THE SOLUTION



Narcís De Carreras Roques

CEO, Valia Energía



DRIVING VALUE THROUGH ESG INITIATIVES



Hassan Ebrahim

CFA, Corporate Development,
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Livia Mariz

Portfolio Development,
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THE SUSTAINABLE INFRASTRUCTURE JOURNEY OF RX PROPELLANT



Vishal Goel

Managing Director,
Rx Propellant

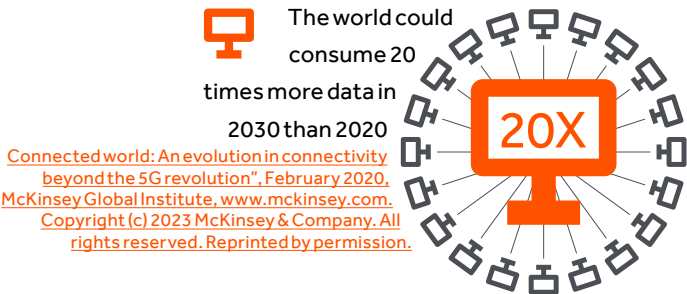
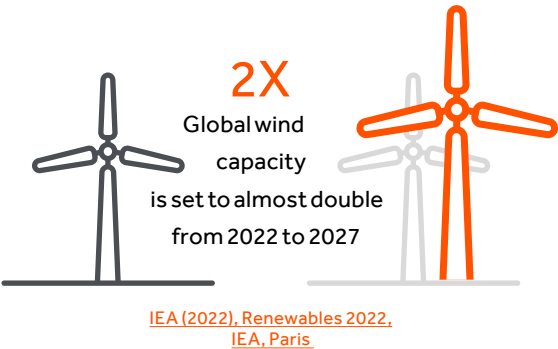
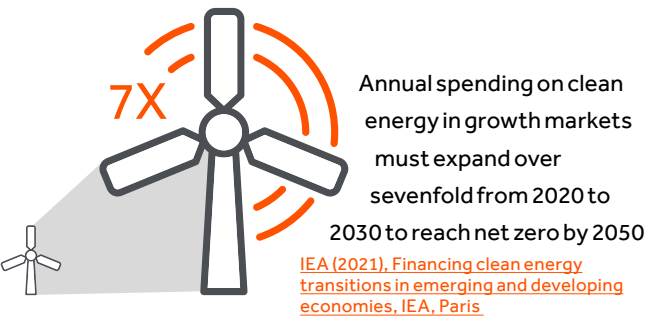
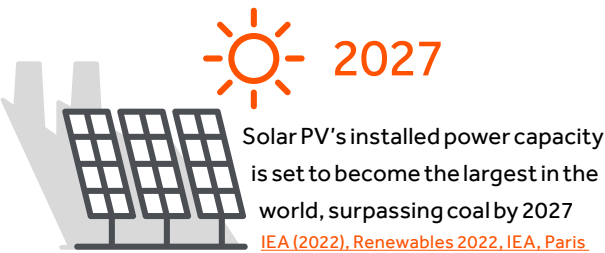
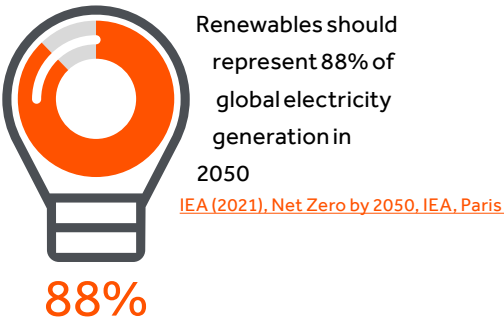
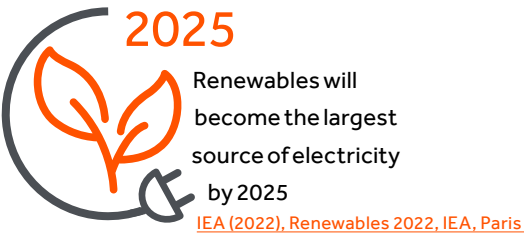


Dr Ketki Tulpule

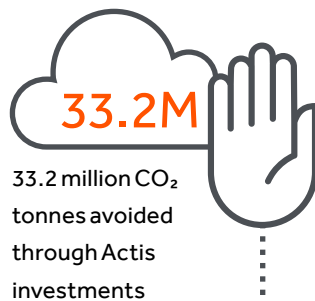
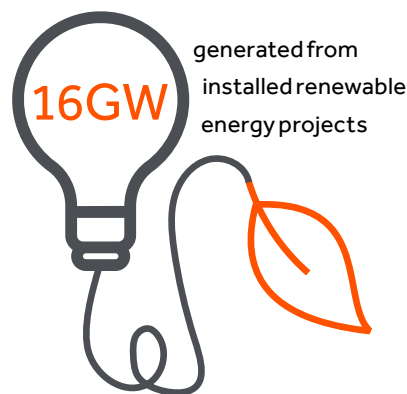
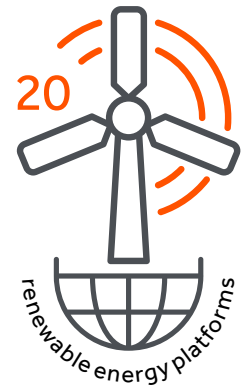
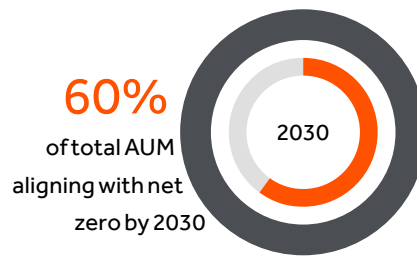
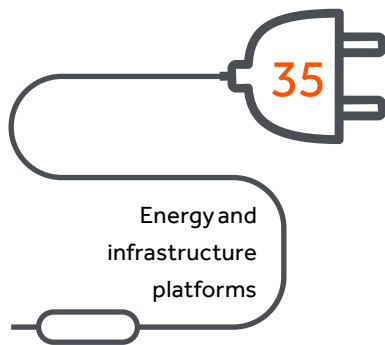
Senior Vice President,
Business Development,
Rx Propellant



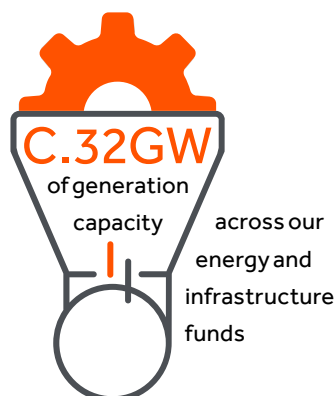
GLOBAL OPPORTUNITY IN NUMBERS



ACTIS IN NUMBERS



...Equivalent to more than 7.2 million gasoline- powered passenger vehicles taken off the road for one year



Total number of beneficiaries of Actis' community investments in 2021 and 2022



More than US\$17 million- total community projects spend by Actis in 2021 and 2022

VALUE THROUGH SUSTAINABILITY



MIKAEL KARLSSON

Partner, Chief Investment Officer, Actis, Luxembourg



SHAMI NISSAN

Guest Editor and Partner, Head of Sustainability, Actis, London



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For too many businesses, sustainability is still seen as something to be bolted on – often as an afterthought – to keep investors and other stakeholders happy. A tick-box approach is thought sufficient to meet regulatory and stakeholder requirements to adopt Environmental, Social and Governance (ESG) policies.

At Actis, we take a completely different approach. We believe that by investing in sectors which provide solutions to global ESG challenges, like sustainable infrastructure, as well as taking an active management approach to embedding such values in our portfolio companies, we are doing more than helping the world meet its sustainability goals. We think that creating sustainability leaders also adds significant financial value to a portfolio company, throughout the period of our ownership and beyond. We draw on 30 years or more experience in making these claims. We don't just talk, we walk.

“SUSTAINABILITY IS IMPORTANT NOT JUST TO CREATE RESILIENT, SUSTAINABLE SOCIETIES: IT IS ALSO CRITICAL TO DELIVERING FINANCIAL VALUE FOR OUR INVESTORS.”

There are a number of reasons why we hold this view. Embedding sustainability is critical to risk mitigation for example in preventing value erosion for investors. Around the world, there are a growing number of ESG risks that can threaten a company's value, from climate change – such as extreme weather events or shifting long-term weather patterns – to

the growing public focus on diversity and inclusion. One of Actis' core skillsets is assessing issues like these during the due diligence process, and subsequently developing mitigation strategies to ensure any potential problems are resolved during our ownership.

“EMBEDDING SUSTAINABILITY IS CRITICAL TO RISK MITIGATION.”

Sustainability is also a value creation tool as it offers the potential to access more revenue streams. Assets which have proven and demonstrable ESG characteristics are in higher demand than those that have not, and can therefore achieve the best price, a point driven home by McKinsey & Company in Exhibit 1. Hyperscalers – large scale e-commerce, search or cloud computing businesses – will for example only use data centres which have the most robust sustainability credentials, in order to meet the demands of their own investors.

A third reason to embrace sustainability is that it can offer wider access to finance and a lower cost of capital. Many lenders will now only fund projects which can demonstrate a strong sustainability profile. For our part, last year we were able to secure US\$1.2bn in impact-linked financing for our Actis Energy 5 fund because we could show the proceeds would be directed only to projects that would deliver social and environmental improvements, and that these improvements could be objectively measured.

There are other reasons why sustainability drives increased value. Investing thoughtfully in communities

close to our assets is often important to give us a social licence to operate and can help lead to the smoother running of our businesses. Meanwhile by taking an ESG view across our whole portfolio, we can drive synergies: our sustainability and operations teams are constantly working closely with the businesses we invest in to identify efficiencies and other cost saving opportunities. We are only in business to deliver competitive returns to our investors – losing sight of that priority would not be good business practice.

In addition, taking a strong sustainability approach to our investment principles is increasingly important when it comes to talent acquisition and retention. Many potential employees will only work for businesses which match their own values and ambitions. A commitment to investing in purposeful, sustainable and impactful businesses is, therefore, a critical differentiator for us to ensure we hire the best, most passionate, and most committed employees. The various Actis voices you hear in accompanying articles should attest to this point.

“SUSTAINABILITY IS ALSO A VALUE CREATION TOOL AS IT OFFERS THE POTENTIAL TO ACCESS MORE REVENUE STREAMS.”

Equally important, a higher quality, more sustainable company can command a superior exit price. Sustainability increases the number of potential buyers and leads to greater competition in the sale process, generating outsized returns. We know this from experience. For example, when we sold Sprng Energy – our Indian renewables platform – to

EXHIBIT 1: MOST SURVEYED INVESTORS NOT ONLY CONSIDER ENVIRONMENTAL, SOCIAL, AND GOVERNANCE INITIATIVES TO BE IMPORTANT - THEY'RE ALSO WILLING TO PAY A PREMIUM

Importance of ESG initiatives in investment decision making

Expected size of ESG premium, cash flows and risk being equal

They matter regardless of their effect on cash flows and risk	53	22	More than 10%
		33	5-10%
They only matter if they affect cash flows and risk over the short and long term	32	28	Less than 5%
They only matter if they affect cash flows and risk over the long term	11	17	No premium
They do not matter in investment decision making	5		

Note: Figures may not sum to 100% because of rounding.

Source: Exhibit from "Investors want to hear from companies about the value of sustainability", September 2013, [McKinsey & Company](#). Copyright (c) 2023 McKinsey & Company. All rights reserved. Reprinted by permission.

Shell, the business's high ESG standards were a key factor in the success of the deal. Meanwhile during our five-year joint ownership of Lekela – which generates clean energy across Africa – we created a business which became a role model for what a sustainable company should look like on the continent and which we exited with a significant US dollar uplift despite operating in crisis impacted countries such as Egypt and South Africa. Indeed, the business was rated in the top 1% of ESG-rated companies globally by Sustainalytics. The approach we took was critical to achieving a successful exit from the investment.

“WE THINK THAT CREATING SUSTAINABILITY LEADERS ADDS SIGNIFICANT FINANCIAL VALUE TO A PORTFOLIO COMPANY, THROUGHOUT THE PERIOD OF OUR OWNERSHIP AND BEYOND. WE DRAW ON 30 YEARS OR MORE EXPERIENCE IN MAKING THESE CLAIMS. WE DON'T JUST TALK, WE WALK.”

A commitment to embedding sustainability is likely to prove even more important in the years ahead, thanks to the rapidly evolving regulatory landscape. There has been a huge increase in regulators' interest in sustainability in recent years. Indeed, there is now an alphabet soup of regulations around the world. In Europe alone we have the European Union's Sustainable Finance Disclosure Regulation (SFDR), its Corporate Sustainability Due Diligence Directive (CSDDD), and the Corporate Sustainability Reporting Directive (CSRD). More broadly, there is also the Task Force on Climate-related Financial Disclosures (TCFD), with the Taskforce on Nature-related Financial Disclosures (TNFD) to come. Meanwhile the new International Sustainability Standards

Board (ISSB) will make sustainability reporting and auditing mandatory as part of a company's integrated financial accounting. Natural capital will soon become another strand for investor attention and our experience in Kenya detailed in the article [“Delivering nature positive Infrastructure”](#) evidences our credentials in this space.

Taken together, this new regulatory environment – not just in the EU but around the world – will force the issue of sustainability deeper into the heart of business decision making. It will move sustainability even further out of the voluntary domain into the regulatory one. Firms that fail to pay the appropriate attention to these changes will create a significant business risk for their investors, employees and other stakeholders.

This new regulatory focus places greater emphasis than ever before on businesses to demonstrate in clear and objective terms the way they are helping the world meet its sustainability challenges. At Actis, we believe that our investment approach – which embeds sustainability at the heart of all the businesses we own – has been meeting this goal for years. Sustainability is important not just to create resilient, sustainable societies: it is also critical to delivering financial value for our investors. Thanks to our decades of experience operating in some of the fastest growing economies in the world, we believe that by creating more sustainable companies, we are able to best deliver the returns our own investors require.

One footnote – Actis' close partnership with our portfolio companies is the only practical delivery method we know to achieve these aims. Please read the accompanying company voices section to get a more first-hand view of this in action. We need and engage with many expert advisors – as seen in the external voices section of this publication. And listen to the passion and detailed knowledge of our colleagues in the Actis Voices section. Taken together we feel well placed to deliver for our stakeholders.





Solar panels at Atlas Renewable Energy, Latin America

COP 28: WALKING THE TALK



SHERIF ELKHOLY

Partner, Long Life Infrastructure, Actis, Cairo and Dubai



[WATCH VIDEO](#)

The COP 28 conference in the United Arab Emirates, opening on 30 November 2023, is likely to offer a huge opportunity to advance the commitment to global climate mitigation and adaptation strategies. The discussions on loss and damage which took place at last year's event, for example, should be taken further, since emerging markets and developing countries are at the sharp end of dealing with the impacts of climate change. In addition, the concept of a Just Transition – one that is carried out in an equitable manner and takes into consideration issues such as gender equality, the social context, and local employment – will loom even larger than before. And, given the event is being held in a region which leads world hydrocarbon output we expect a sharpened focus on transitioning out of a fossil fuel-based economy to a clean energy-based one.

“ONE LARGE QUESTION PERTAINS TO THE ONGOING GLOBAL DISCOURSE REGARDING THE ROLE OF GAS IN THE TRANSITION.”

The private sector will be the critical conduit through which change happens. Governments need to pull back somewhat, and reduce their role in the energy business, decommission thermal assets and allow the rapid development by the private sector of clean energy sources, including wind, solar, hydro and green hydrogen.

Thanks to efforts like these, the world has already come a long way on the road to a greener economy. Clean energy, in particular, has moved forward rapidly in the last decade. Today, many markets – even in the Middle East and Africa – are

able to rely on clean energy to provide as much as 25% of their electricity generation capacity.

Being able to achieve a future based on clean energy will also require significant advancements in other areas. To make renewable energy a reliable source of baseload power, we need to get to a point where there are cost-competitive options to store power and make it available around the clock. What moved the needle on wind and solar was when there was a huge drop in the costs of the panels and turbines: we have yet to achieve that on storage technologies, but this is well underway. Meanwhile, when it comes to green hydrogen – another technology at a relatively early stage – there are also plenty of good intentions and good plans, and an abundance of hope. We will get there, but it is still early days.

One large question pertains to the ongoing global discourse regarding the role of gas in the transition. We believe it plays a critical role as a transitional fuel in markets which cannot swiftly shift from a standing start to full reliance on clean energy, and therefore is critical for energy security and to underpin economic development. So, Combined Cycle Gas Power plants need to provide the stepping stones required to get there.

Actis is already playing a significant part in helping meet the world's climate goals. We are one of the leading investors, developers and owners of clean energy in the emerging markets. We have built, or are building, 35 energy and infrastructure platforms, 20 of which are renewable energy platforms specifically. We have owned and operated around 32GW of generation capacity, including 16GW of installed renewable energy assets. We were in at the very beginning – when clean energy was very niche and hardly anyone else was interested in the sector – and, since then, we have been building our credentials. We have a focus on impact, and sustainability is at the heart of

everything we do. We are firm believers in the notion that values drive value; that a focus on social values drives financial value.

We are fully committed to supporting COP 28's four pillars of climate action: fast-tracking the move to a low-CO₂ world, improving climate finance, focusing on people, lives and livelihoods, and ensuring full inclusivity. We are playing our part in meeting the United Nations' Sustainable Development Goals (SDGs), we are signatories to the UN's Principles of Responsible Investment and have committed to Net Zero by 2050 through our membership of the Net Zero Asset Manager's Initiative (part of GFANZ – Glasgow Financial Alliance for Net Zero). Our [impact model](#) is one of the highest rated among all our peers. And every one of our portfolio companies is actively developing a net zero plan that will be Board approved, fully costed, monitored, and rigorously implemented.

Continuing to invest into businesses that are at the heart of climate mitigation and resilience will always be crucial. The world used to just talk about climate change. Now, you only need to look around you and you can see it is here. It will have huge impacts on food safety, employment and economic activity. There is no more important topic for the world's survival than mitigating it.

But in order to push forward, the G7 countries need to commit legally to curbing their emissions and setting net zero targets. They need to walk the talk, and also commit to compensating the smaller markets. Many of the emerging markets are ahead of the more developed ones when it comes to the energy transition, but they cannot be the ones being held to account when it comes to the transformation. After all, they are the ones bearing the brunt of climate change. The big countries now need to pull their weight.



BTE Renewables' Kipeto Wind Farm in Kenya

IMPACTING VALUE



MARINA JOHNSON
Sustainability, Actis, London



As owner-operators of infrastructure assets, we understand that securing a social license to operate is not only critical for strengthening the sustainability of our businesses but also to safeguarding and enhancing the value of those businesses.

What do we mean by social license to operate and why is it critical?

The legal right to build, operate or maintain an infrastructure asset is derived from a concession or contract, however, a conducive, long-term operating environment requires something less tangible but equally important: social licence. Social licence is earned; it is not a given nor can it be inherited from a previous owner/operator.

Assets which secure a strong social license are significantly 'de-risked' because they are less likely to suffer disruption, operational delays and backlash, all of which are not only costly but can lead to reputational harm and brand damage. Securing goodwill with local stakeholders goes a long way to minimising such risks. It's also important

to remember that when we speak of local stakeholders and communities, we are also often speaking of our workforce. Our workers and communities are fundamental to the success of our businesses; their wellbeing and socio-economic empowerment are at the heart of a Just Transition.

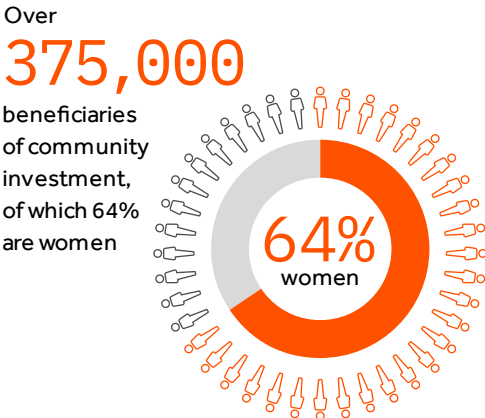
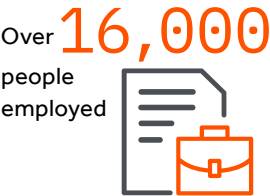
The Actis Way

At Actis, we are laser-focused on social licence right from the due diligence stage, where we assess relations with local stakeholders. We diagnose any shortfalls /issues and develop a community investment plan. Our management teams are highly aligned with us. Our companies develop community investment plans and engage proactively and early with the community to listen to their needs and viewpoints and to co-develop initiatives. Our focus is on long-term transformational community benefits, which can materially change socio-economic prospects of families and households. We avoid tactical 'quick-win' initiatives which have limited enduring value to beneficiaries.

Actis continues to capture and quantify the positive outcomes of its investments, both environmental and social, through the [Actis Impact Score](#). This tool is used to illustrate the incremental value of delivering multiple impacts over our holding period, contributing to just social outcomes.

Actis brings deep experience and a long track-record of investing to deliver measurable positive impacts for people and environment. Our community initiatives have encompassed:

- employability – through direct job creation
- economic empowerment – through skills training, vocational courses, forming cooperatives and access to market



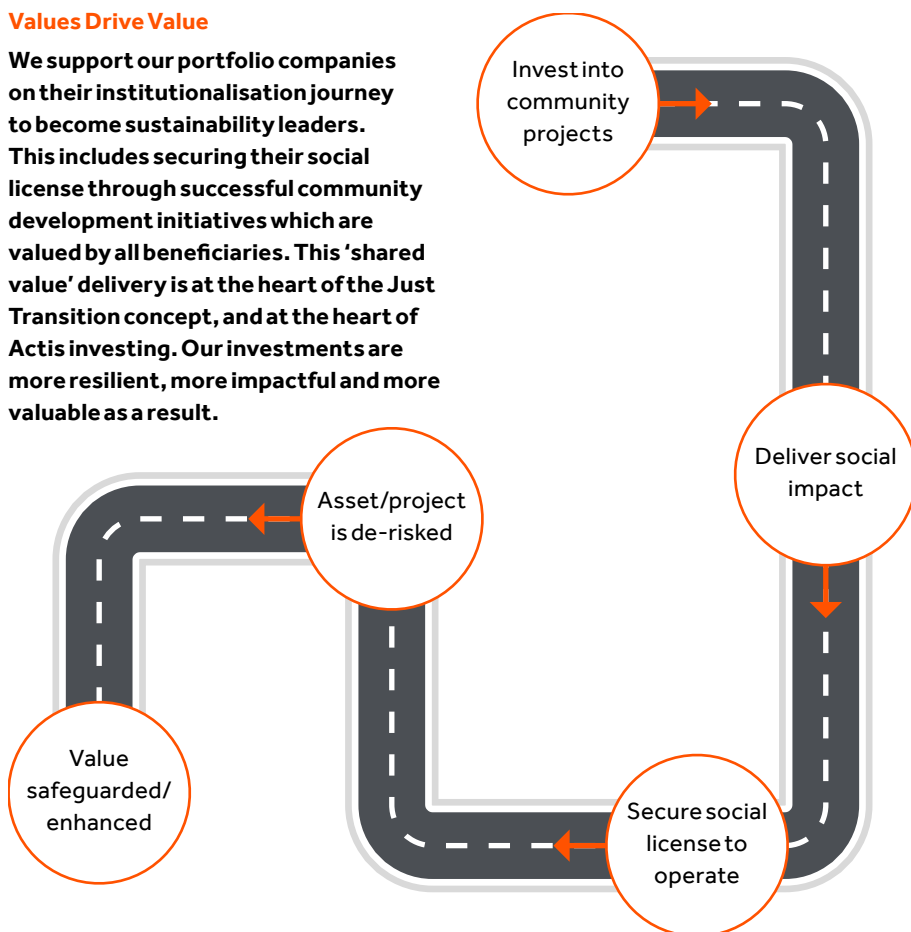
- education / health – ensuring primary development needs in the community are met via mobile health clinics and supporting primary education resources
- gender / diversity focus – many projects are focused on women/girls, or those who are marginalised (youth, elderly, single parents, unemployed, indigenous groups etc.)
- local infrastructure – access roads, village halls, electrification

To deliver these initiatives requires collaboration with multiple stakeholders (local governments, our contractors, workers, the community and NGOs) and deep local relationships. C-suite level support from portfolio company management is essential.

Actis portfolio companies in the same country have collaborated on community projects (a fantastic example is the educational project [INSPIRE](#) in South Africa, backed by both [BTE](#) and [Lekela](#)) and we have 'exported' our most successful initiatives across funds and portfolio companies to leverage our experience and deliver positive impacts rapidly.

Values Drive Value

We support our portfolio companies on their institutionalisation journey to become sustainability leaders. This includes securing their social license through successful community development initiatives which are valued by all beneficiaries. This 'shared value' delivery is at the heart of the Just Transition concept, and at the heart of Actis investing. Our investments are more resilient, more impactful and more valuable as a result.



Community at the Actis Acts-funded cisterns, Babilonia Wind Park in Bahia, Brazil

DELIVERING NATURE POSITIVE INFRASTRUCTURE



LAUREN FERSTANDIG

Managing Director, NatureVest at The Nature Conservancy



JAMES MAGOR

Sustainability, Actis, London



[SEE FEATURE](#)

Biodiversity and nature are important topics in sustainability circles, but they are transcending sustainability and going mainstream. As we build more infrastructure we encroach further into nature and encounter more and more sensitive habitats, so this challenge will only grow. The key question is: What does it take to invest in 'nature positive' infrastructure, and how does this approach unlock value? To help address precisely this question, we spoke to Lauren Ferstandig at The Nature Conservancy (TNC).

"AT THE OUTSET, WE WANTED TO PROVE THAT CONSERVATION AND COMMERCIAL VIABILITY CAN COEXIST. WE HOPE THAT KIPETO PROVIDES AN EXAMPLE THAT OTHERS CAN FOLLOW, NOT ONLY IN AFRICA BUT GLOBALLY."

James: Can you tell us what is meant by the term "natural capital" and why is the conservation of natural capital so important?

Lauren: Natural capital is the air we breathe, the soil we live on, the water we drink and fish in, as well as the biodiversity around us, all of which make human life possible. In the industrial age, we have been continually consuming natural

capital – resources like timber, water, minerals – believing that (or acting like) it was both limitless and virtually free. However, as we are all now painfully aware, natural capital is limited – regeneration cannot keep up with the current pace of extraction. And natural capital extraction has real costs: climate change and biodiversity loss both cause cascading systems collapse and therefore economic and, sometimes, human losses. It is critical therefore that we conserve natural capital so that we have the resources needed to maintain and improve people's lives globally while also protecting the intrinsic importance of the world around us.

James: From TNC's perspective, what are the current global biodiversity priorities?

Lauren: For biodiversity we need to focus on opportunities for protection and, where necessary, restoration. A biodiverse system is a healthy system which we need to feed an increasingly growing population and slow the warming of our planet. However, biodiversity is highly localised – the species in South Africa are very different from the ones in, say, Spain or the Seychelles. This means it's much more difficult to develop a standardised or replicable investment structure that addresses biodiversity, and even more important that biodiversity targets and outcomes are tailored to project drivers – as we did with the Kipeto wind farm, in Kenya.

James: Yes, when Actis is developing and operating infrastructure, we recognise the importance of local specialists. However, there are some good practice principles that are universally applicable, such as developing a comprehensive biodiversity baseline, ensuring a robust impact assessment process and systematically integrating the mitigation hierarchy into a development approach. What do you believe is the role and importance of the private sector in addressing the biodiversity priorities that you've highlighted? What do you think this means for Actis?

Lauren: As with all areas of conservation, philanthropic funding is crucial, but not sufficient to meet the scope of the problem. Therefore, the private sector plays a very important role in providing the capital critical to address the biodiversity crisis. A firm like Actis, whose investments touch many local places, has the opportunity to bring in local and international experts and develop tailored biodiversity plans to minimise, offset or perhaps even eliminate biodiversity loss.

As you've pointed out, Actis and others, at a minimum, should be following the mitigation hierarchy to limit as far as possible the negative impacts on biodiversity from development projects, while looking for opportunities to go above and beyond that to actually restore biodiversity.



Dominic Kimani, Biodiversity Manager at BTE Renewables' Kipeto Energy, monitoring avian activity at Kipeto Wind Farm, Kenya
©Sarah Waiswa / Courtesy The Nature Conservancy



Vultures at BTE Renewables' Kipeto Wind Farm, Kenya
©Bobby Neptune / Courtesy The Nature Conservancy

James: It's interesting that you highlight the importance of going above and beyond to actually restore biodiversity. How does TNC define and measure 'nature positive' when looking at investment opportunities?

Lauren: TNC works to make all of our investments nature positive. For us this means going beyond just an 'investment screen' when we're making investment decisions. It means identifying opportunities to specifically build in target outcomes that improve performance above and beyond business as usual.

Each investment must have specific targets developed for it that are applicable to the on-the-ground needs.

TNC aims to demonstrate that nature-positive infrastructure can be a better investment over the long-term, providing better-performing assets and many tangible and intangible co-benefits. In this process, TNC seeks to ensure that infrastructure is sited early in the project life cycle using landscape-scale planning and applying the mitigation hierarchy, that natural infrastructure can take the place of engineered solutions (as well as hybrid solutions), and that natural capital concepts are incorporated into infrastructure planning.

James: Why is infrastructure one of TNC's priorities?

Lauren: There is a significant relationship between infrastructure and biodiversity, which is underlined by the scale of expected infrastructure development, the longevity of infrastructure assets, and their potential for transformational impacts on nature. Therefore, TNC believes that including a nature-positive infrastructure approach is necessary to ensure that countries drive infrastructure development based on a clear pathway for mitigating impacts on biodiversity, helping to ensure that projects are designed and implemented sustainably, with biodiversity and the ecosystem services they support at the forefront of every project decision.

James: Yes, there are potentially significant risks, but the scale and long-life nature of infrastructure investments also presents a great opportunity to have a positive impact. And that's what the two of us worked toward together on the Kipeto wind power project in Kenya.

Lauren: Exactly, The Nature Conservancy, with the support of 12 impact-focused investors, provided capital to Actis for the Kipeto wind farm in Kenya. Through this investment, the project is generating US\$500,000 annually to be spent on vulture conservation across the southern Rift Valley – more than the previous budget for vulture conservation across the entire country. Additionally, TNC serves on Kipeto Wind Farm's Biodiversity Committee (a sub-committee to the board of directors), overseeing vulture conservation efforts in and around the wind farm.

TNC partnered with Actis on this particular wind farm because the vulture population in this part of the world has declined rapidly over the past 20 years. This is not due to the construction of wind farms; rather, it is due to increasing human-wildlife conflict. As humans move further out into once-wild areas, their livelihoods can be threatened by wild animals – for instance, lions and other predators may attack their cattle herds. In order to prevent this, cattle herders may poison carcasses in order to kill the predators, but carrion-eating birds like vultures are the ones really affected. TNC recognised an opportunity to generate long-term sustainable funding to address this problem while also working with Actis to mitigate its specific impacts on biodiversity through this wind farm.

James: Kipeto is a wonderful project and it's been a real career highlight to be involved. Can you speak about the biodiversity activities that have been implemented at the Kipeto project? Can you describe how Kipeto is enhancing natural capital while driving Africa's energy transition?

Lauren: Renewable sources of energy are a priority in Kenya (and globally) but mitigating impacts on local communities

and wildlife populations is of extreme importance as this infrastructure is developed. Kipeto Energy's biodiversity action plan, developed and overseen by the Biodiversity Committee of which TNC is a member, allocates funding to local non-profits implementing conservation actions in support of this plan. Using this funding, over the past two years one of our non-profit collaborators has GPS-tagged 35 raptors, including 22 vultures, to monitor movements and identify population hotspots to better understand collision risk and help safeguard the birds. Our non-profit collaborators and the Kipeto team have focused on community engagement to educate local communities on human-wildlife conflicts and ways to reduce their impacts, such as helping build predator-proof bomas for local livestock keepers, distributing predator deterrent lights and raising awareness of the importance of vultures.

All of the biodiversity activities coupled with Kipeto Energy's efforts at monitoring the wind farm for bird activity at collision risk height, shutting down turbines to reduce bird fatalities when needed and working with local experts to understand changes to the wind farm landscape that will assist with reducing bird species congregating near the turbines, are ensuring natural capital is prioritised and enhanced while delivering a much-needed energy resource.

James: Thank you, Lauren. At the outset, we wanted to prove that conservation and commercial viability can coexist. We hope that Kipeto provides an example that others can follow, not only in Africa but globally. Furthermore, when we created the BTE Renewables platform, biodiversity was a one of several project risks that needed to be managed and mitigated; however, the success of BTE's biodiversity programs in Kenya and South Africa attracted broad industry recognition. I believe this has become intrinsic to the Platform's identity and value. Actis is a commercial investor, and clearly we don't seek biodiversity issues to manage, but it's a great illustration of how closely connected risk management and value creation can be.

THE HYDROGEN JOURNEY



HERNAN ARRIGONE

Energy Infrastructure, Actis, London



[WATCH VIDEO](#)

The world needs hydrogen to reach net zero. The development of green hydrogen (using renewable energy) and blue hydrogen (using fossil fuels and carbon capture and storage) is essential in hard-to-abate sectors that cannot simply be electrified. These include vital chemical processes, such as desulphurisation and hydrocracking for oil refining, as well as the production of fertilisers and methanol. Hydrogen's importance also extends to sectors where there are few alternatives, such as steel production, maritime shipping fuel, and sustainable aviation fuel.



Global hydrogen demand today

94 MT per year

Hydrogen (from fossil fuels) today accounts for



2.3% of global CO₂ emissions



Green hydrogen demand by 2030

200 to 600 MT

This will require at least **3X**



the total renewable capacity installed to date

As a highly abundant element that emits no carbon dioxide when burned, it is easy to understand the enthusiasm. Yet, hydrogen has been considered for applications where its suitability is unclear at best, this includes passenger cars, buses, and domestic heating, to name a few. Where there is a strong and viable alternative, such as batteries for cars or renewable energy-fuelled heat pumps in homes, these are far more likely to win out both today and over the long term.

Low-carbon hydrogen applications

This is not to say that the investment universe for hydrogen will be small. If we just focus on the areas where hydrogen makes the most sense, the volumes required are still substantial. To put this in context, just the decarbonisation of sectors where hydrogen is indispensable, primarily fertilisers, methanol, and oil refining, would require close to 100 Mt of low-carbon hydrogen annually. To produce this amount of hydrogen via renewables, we would need to build 1.5 times the renewable capacity installed to date. Even the most conservative projections, aligned with experts like Michael Liebreich, foresee a future where low-carbon hydrogen demand reaches as high as 200 Mt per annum, a market valued at around US\$300 billion.

Why smart policymaking is necessary

The reality is that clean hydrogen is far more expensive and less efficient to produce, store, and transport than the fossil fuels we use today. The cheapest green hydrogen developed today cost between US\$2.5 to US\$5 per kg, making it over 10 times pricier than the natural gas alternative. Over time costs will reduce as technologies evolve, demand increases and economies of scale start to materialise. Innovation in electrolyzers will increase efficiency, energy density, and stack size. Meanwhile, automated manufacturing and 'giga-scale' facilities

are set to drive prices down, following similar trends to those seen in other technologies, such as solar PV or batteries. Nonetheless, hydrogen will still have significant barriers to widespread adoption, driven by the characteristics of the molecule.

- Hydrogen gas needs 3 to 4 times the storage capacity of natural gas.
- The extremely low temperature required to liquefy and transport hydrogen results in costs that in many cases exceed those of production.
- Pipelines may be an obvious means of transporting hydrogen, but using existing infrastructure would require natural gas to have been phased out and infrastructure retrofitted, while building parallel lines is often unviable for private investors.

Government incentives and policymaking are therefore vital to encourage investment in viable hydrogen infrastructure and to create a market for hydrogen products.

Significant steps have been taken, especially in the United States, where the Inflation Reduction Act incentivises green and blue hydrogen production through tax credits. Europe, too, is making promising headway with initiatives like the Hydrogen Bank and the ambitious plan to build 28,000 kilometres of hydrogen pipelines by 2030. Subsidies for the use of green hydrogen in the European Union, through long-term contract-for-difference auctions, are ensuring cost competitiveness for industries transitioning to hydrogen.

In markets such as Japan and South Korea, where phasing out coal-fired generation will take decades, governments are exploring innovative solutions like blending ammonia to reduce emissions. Despite the complexity and significant cost of this solution, given the lack of

short-term alternatives, companies are gearing up to meet these government-set targets.

These initiatives are in turn spurring private-sector interest in low-carbon hydrogen projects, both for lenders and sponsors. The market for hydrogen projects and products is rapidly evolving beyond traditional applications, driving an increased demand for capital. Experiences from prior energy transition technologies, like solar PV and wind, tell us that declining costs and innovation can turn a trickle of adoption into a flood of acceptance.

Investment opportunities are strong, but only when aligned with hydrogen's true potential

We see plenty of opportunities, as models emerge structured around hydrogen limitations and true potential. For smaller projects, we see opportunities for local production where local consumption is needed. This is for example the case of a low-carbon hydrogen plant located next to a fertiliser factory or refinery. Meanwhile, larger "giga-scale projects" are interesting when focused on producing the cheapest low-carbon ammonia for export, to markets with limited renewable resources.

Given that electricity accounts for more than 60% of hydrogen's levelised cost, our expertise in renewables becomes a valuable asset. Our vast experience in regions rich in solar and wind resources,

like the Middle East, North Africa, Brazil, Chile, and India, positions us well for projects aimed to produce green hydrogen and ammonia. Our history of working closely with governments and regulators, as trusted partners in critical infrastructure projects, allows us to navigate the complexities involved in converting promising ideas into tangible projects.

"THE DEVELOPMENT OF COST-EFFECTIVE AND SUSTAINABLE LOW CARBON HYDROGEN APPLICATIONS IS VITAL IF WE ARE TO REACH NET ZERO. THIS PRESENTS SIGNIFICANT INVESTMENT OPPORTUNITIES, BUT CAPITAL AND POLICYMAKING SHOULD FOCUS ON AREAS WHERE THERE ARE NO OR FEW ALTERNATIVES."

We are actively evaluating and developing hydrogen opportunities, drawing upon our local knowledge and networks to capture what are often large projects. Given the scale required for many of these low-carbon hydrogen plants, forging the right partnerships is key. We leverage

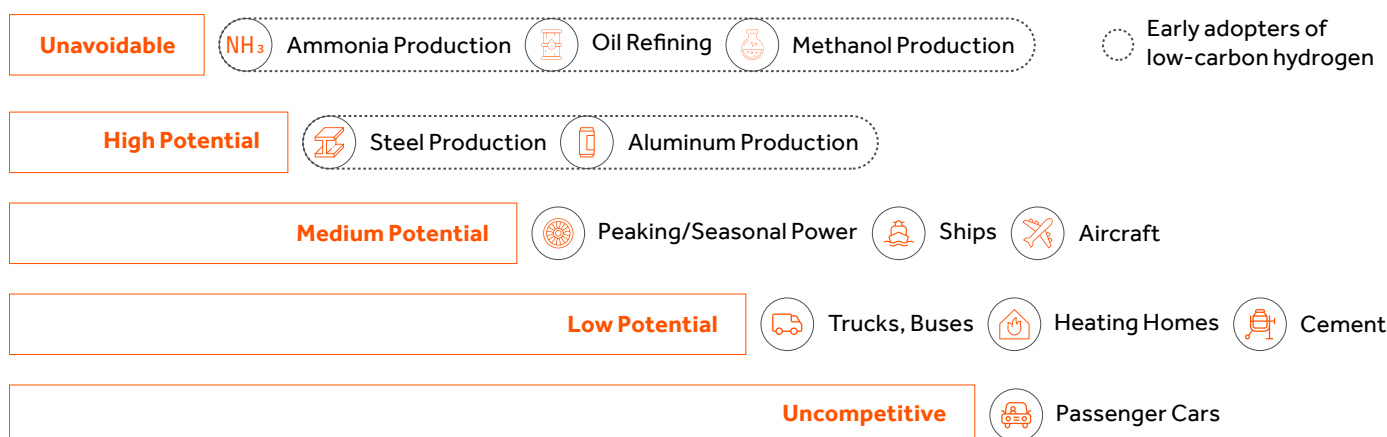
our extensive network and reputation in the energy sector to establish these partnerships.

Our in-house operations team has extensive experience working with equipment suppliers and manufacturers, enabling us to structure contracts that mitigate the risks associated with scaling up new and existing technologies. Our track record in developing intelligent finance solutions for complex situations positions us well to create and structure bankable projects, especially given our experience in securing long-term offtake agreements with high-quality customers.

As the market for hydrogen and its derivatives develops to meet the needs of a net zero global economy, we believe that there will strong appetite from investors for viable, high quality operating assets in the space, which will create exciting opportunities in years to come.

While scepticism about hydrogen may be justified in many cases, it is important to recognise the applications where it stands as the indispensable path to decarbonisation. In these instances, where no viable alternative exists, hydrogen emerges as a massive opportunity—an opportunity equivalent to three times the cumulative renewable capacity built globally to date. Success in these investments will hinge on being able to see through the noise and focus on real opportunities backed by robust government policy and strong fundamentals.

EXHIBIT 1: LOW-CARBON HYDROGEN OFFERS A SOLUTION FOR THE "HARD-TO-ABATE" SECTORS, BUT HAS BETTER PROSPECT IN SOME SECTORS THAN OTHERS



Source: Adapted from Liebreich Associates

COMPETITIVELY FINANCING SUSTAINABILITY



COURTNEY LOWRANCE

Managing Director, Sustainability and Corporate Transitions, Citi

Sustainability is part of a wholesale transformation of the financial world which is integrating environmental and social externalities into the way we value assets. Actis has been a leading player in this area for many years, and at Citi we are excited to do what we can to help the market play an even greater role in accelerating sustainable finance, having announced US\$1 trillion commitment to Sustainable Finance by 2030.

Sustainable finance has been around for a considerable time, beginning with 'do no harm' investing and has evolved into something far deeper. Previously, sustainability-linked loans had been tied to outputs rather than outcomes. Now, however, the actual impact investments make – and how they are measured – is becoming more important. The subscription loan facility we developed with Actis allows us to support these aims in a highly innovative, but also highly effective, way.

"THE ACTIS IMPACT SCORE IS VITAL IN ALLOWING US TO DEMONSTRATE HOW AN INVESTMENT ACHIEVES TANGIBLE RESULTS."

The facility ties the impact of an investment directly to the margin on offer according to a set of sustainability criteria. [The Actis Impact Score \(AIS\)](#) is therefore vital in allowing us to demonstrate how an investment achieves tangible results.

At Citi, we believe that financings such as this helps make the overall financial system more sustainable. We work with clients and industry leaders such as Actis to transition the system to one where we are able to integrate impact with financial performance. We believe that positive environmental and social impacts are linked to economic growth: there is simply no trade-off between financial value and sustainability benefits. It is therefore in our interest, as well as in the interests of the global economy, to support initiatives like these.

"LOANS SUCH AS THE SUBSCRIPTION FACILITY WE HAVE INTRODUCED WITH ACTIS ARE STILL IN THEIR RELATIVE INFANCY. AND VERY FEW HAVE THE LEVEL OF SOPHISTICATION THAT THE ACTIS IMPACT SCORE ALLOWS US TO HAVE."

Loans such as the subscription facility we have introduced with Actis are still in their relative infancy. And very few have the level of sophistication that the [AIS](#) allows us to have. However, there is likely to be significant expansion of the market in the future, on two fronts.

"WE TRANSITION THE SYSTEM TO ONE WHERE WE ARE ABLE TO INTEGRATE IMPACT WITH FINANCIAL PERFORMANCE. WE BELIEVE THAT POSITIVE ENVIRONMENTAL AND SOCIAL IMPACTS ARE LINKED TO ECONOMIC GROWTH: THERE IS SIMPLY NO TRADE-OFF BETWEEN FINANCIAL VALUE AND SUSTAINABILITY BENEFITS."

First, we will see more financial instruments with sustainability-linked Key Performance Indicators (KPIs). We are already seeing significant volumes in investment grade credit, but we are also seeing it in a range of other instruments, including supply chain finance and derivatives. Second, we expect to see an expansion in the use of impact scores such as the [AIS](#). That means not just a single factor KPI, but also being able to add greater context such as where the impact is taking place, the extent to which it supports development or mitigates the impact of climate change, and the difference it makes to the communities where it is happening.

We expect the private markets to continue to become much more engaged in sustainable finance in the years ahead. Instruments like the subscription facility can play a key role in ensuring benefits reach the people who most need them around the world.



Meadow of
wild flowers

WHY SUSTAINABILITY IS A WINNING DATA CENTRE STRATEGY



DALMAR SHEIKH

Global Head of Data Centre Operations, Actis, Singapore



[WATCH VIDEO](#)

Data centres already play an integral role in supporting global economic development, but what we've seen to date is set to pale in insignificance compared to what is to come. According to forecasts by McKinsey Global Institute, the world will consume 20 times more data in 2030 than it did in 2020, with much of this growth driven by new users as well as greater time spent watching higher definition video content. With data becoming increasingly indispensable, it is entirely appropriate to label it 'the fourth utility'.

In this context, data centres have become a critical infrastructure asset class. But data centres are notoriously energy-hungry. In Denmark, for example, data centre energy use is projected to rise six times by 2030 to account for almost 15% of the country's electricity use. Such increases in energy use create energy supply, cost and sustainability challenges – but for the same reasons, this means a sustainability-focused data centre strategy is a winning formula.

As a leading global investor in sustainable infrastructure, data centres form a core part of Actis' investment strategy. We are perfectly positioned to link our real estate, energy and sustainability capabilities to create highly profitable and valuable data centre assets, and that is also in large part thanks to an offering aligned to hyperscalers' demands.

A bright future for green data centres

Given data centres' enormous energy demands, energy supply and efficiency are critical but so is the question of energy source. The data centre market is dominated by a handful of big technology companies – hyperscalers – capable of creating, processing and storing millions of terabytes of data every day. Hyperscalers are driving new data centre construction and consumption globally, both through their own construction and through leasing. Their data centre needs

are vast and so are their energy needs – or low cost, renewable energy needs, to be precise. The hyperscalers have set aggressive net zero targets in the battle against climate change, with, for example, Microsoft, Google and Meta all pledging to reach net zero by 2030 and Amazon's target set for 2040.

This is where Actis' expertise across real estate, energy and sustainability comes into play to offer a compelling competitive advantage in the data centre market. Through our deep sector specialism and builder and operator model, we are ideally placed to develop data centre assets co-located with renewables. This not only helps cover the vital issue of energy security by reducing reliance (and burden) on the grid but also allows for greater control over energy costs and attracts hyperscalers looking for decarbonised data centres.

And focusing on hyperscaler customers is indeed important given that Amazon, Microsoft, Meta and Google are the four largest purchasers of corporate renewable energy PPAs, with almost 50GW contracted (equal to the generation capacity of Sweden). Given the fact that hyperscalers' data needs are accelerating faster than their capability to build their own infrastructure, especially in markets such as Latin America, Asia and Africa where Actis is deeply implanted but where hyperscalers can lack an established presence and local market knowledge, the opportunity for green data centre providers is tremendous.

The deployment of cost-efficient renewables can create a more profitable data centre operation, allowing for a more competitive market offering targeted to hyperscalers as well as generating better investor returns. We're putting this strategy to work to deliver for our investors, as exemplified in our acquisition earlier this year of 11 data centres throughout the Americas, many of which source their energy from wind

power plants, and our Seoul data centre which utilises solar PV to meet power needs.

A focus on sustainability therefore helps create more attractive assets by reducing costs and meeting the criteria hyperscalers are looking for. But a focus on sustainability also delivers a further, additional energy benefit – energy efficiency.

Energy efficiency: the other energy trump card

Actis embraces a vision of investment as a catalyst to drive forward the growth of data centres and the reduction of their environmental impact through energy efficiency in addition to renewables. Driven by their net zero commitments, our hyperscaler target customers have drastically improved power usage effectiveness (PUE), a measure of energy efficiency, at their data centres and seek similar efficiencies from their providers.

PUE is a gauge which shows how efficient a data centre is by contrasting total data centre energy use (including cooling and ventilation) with energy use just from computing equipment. A perfectly efficient data centre would have a PUE of 1. At Actis, we work toward a 1.2-1.5 PUE range by using the most efficient cooling systems and ancillary processes, and have even achieved an impressive PUE score of 1.19 through Chayora, our portfolio company and data centre provider in China.

Our Rack Centre facility in Lagos is also an excellent example of efficiency. It is 35% more energy efficient than other regional data centres, and 16% more efficient than the global average. Thanks to our investments in energy generation, cooling and ventilation, Rack Centre became the first IFC EDGE-certified data centre in Europe, the Middle East and Africa – a recognition of excellence in resource efficiency.

By investing into both renewables and energy efficiency, we have created a straightforward but powerful formula. Focusing on sustainability creates data centres that maximise energy efficiency and utilise renewable energy to reduce major cost centres (energy and water), creating the operational efficiencies to drive competitive advantage and attract hyperscaler customers, which in turn generate higher profits and bigger asset valuations.

Going above and beyond for the “S” in ESG

While the environmental and energy implications of data centre expansion will be the primary sustainability concern for hyperscalers, they are also preoccupied by social considerations. Indeed, the social aspect of ESG is becoming increasingly prominent for hyperscalers and corporations more generally,

including in requests for proposals, as they look to take a holistic approach to sustainability.

This once again puts Actis assets at a competitive advantage, thanks to sustainability being integrated into every investment decision we make and our commitment to creating sustainability leaders that improve the lives and livelihoods of the communities in which they operate. Our community focus is in strong alignment with what hyperscalers want from service providers, including with digital-related social impact programmes, such as digital literacy skills training in local communities.

The excess heat produced by data centres is also increasingly being explored for community use, notably in developed markets, with heat networks being introduced to heat local commercial and residential buildings for example.

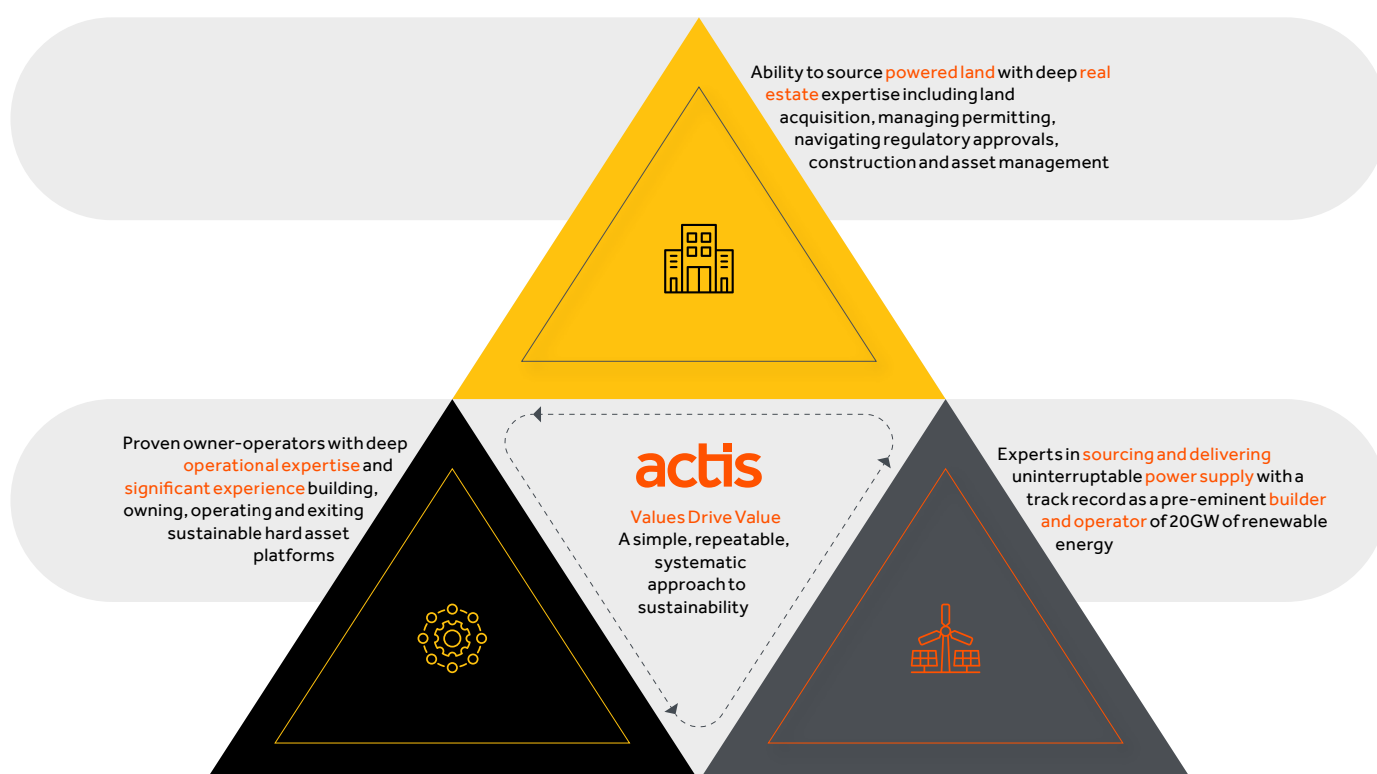
Cheaper, cleaner, better

At Actis we are forthright in our belief that values drive value – our focus on sustainability is not driven merely by the fact that it is the ‘right thing to do’ but because it is a commercial imperative. The data centre market powerfully illustrates this.

In sourcing power from renewables and maximising energy efficiency, data centres benefit from lower operational costs and increased profitability. Add to this the fact that sustainable, decarbonised data centres are key to attracting hyperscaler customers and the argument compounds. Such green data centres make strong yield returning long life infrastructure assets but also maximise their value for a future exit. This is a winning strategy on all fronts.

EXHIBIT 1: A ‘ONE ACTIS’ APPROACH TO INVESTING IN SUSTAINABLE DIGITAL INFRASTRUCTURE

The digital infrastructure sector is key to delivering the UN SDGs and enabling the low-carbon transition. Actis takes a ‘One Actis’ approach to investing in sustainable digital infrastructure globally:



Source: Actis

CRITICAL MINERALS AND THE TRANSITION TO NET ZERO



ROHITESH DHAWAN

CEO and President, The International Council on Mining and Metals



SHAMI NISSAN

Guest Editor and Partner, Head of Sustainability, Actis, London

Shami: Why are we at such a crucial junction with critical minerals and the transition to Net Zero?

Rohitesh: The Northern Hemisphere has faced a relentless summer of extremes. July 2023 was the hottest month on record globally, with wildfires ravaging Greece, Syria, Canada, and Spain, causing a tragic loss of life alongside environmental devastation. The harsh reality of climate change is hitting populations worldwide, and scientists believe it is only a taste of what is to come. As temperatures soared, oil demand reached an all-time high, according to the International Energy Agency. While ambitious net zero targets have been set and investment in renewable energy systems is rising, the structural transformation of global energy systems to “wean ourselves off” fossil fuel is at risk of remaining a distant dream.

What these events have brought into sharp focus is that the world is significantly off-track to meet the global goals set out in the Paris Agreement. There is increasing concern around the lack of raw materials required to create the clean energy the world so desperately needs. Supply of some metals and minerals will need to increase up to 20 times in the next 30 years, and people are concerned that this will lead to a mad rush for critical minerals which will only exacerbate existing social and environmental challenges. I don't think anyone would deny that we are at one of the most critical junctures in the history

of the mining industry. Society rightly expects that miners need to operate in a way that care for people and the planet, which is true for many companies especially those who have self-selected to be part of The International Council on Mining and Metals (ICMM), but not of all.

Shami: How would you describe the risks we face as a result of this challenge?

Rohitesh: When I think about the challenges, I think about the three S' – 'supply', 'strategic' and 'sustainability'. Taking 'supply' first. If we look at the supply vs demand equation there is a clear imbalance. We'll need around 3 billion tons of metal to reach net zero by 2050 as essential building blocks of wind turbines, solar panels, and electric vehicles. This demand comes on top of their use in buildings and infrastructure that is also growing as the global population grows and becomes richer. There's no shortage of minerals needed in the ground, but we are currently not producing them quickly enough, especially for commodities like copper, lithium, cobalt and nickel. Without doubt, we need to maximise supply from metals already in circulation and implement material substitution wherever possible, but even with maximum recycling, mining will need to grow materially.

By 'strategic' I am talking about where these metals come from and the related geopolitics. Critical minerals are now a top-level national security and geopolitical issue, and that could

shape both demand and supply for these commodities. We're likely to see countries work unilaterally, bilaterally, and multilaterally to try and secure supplies, especially with and from other like-minded countries – the Minerals Security Partnership is just one example of this. This could exacerbate existing geopolitical tensions but could also lead to some unlikely alliances which would be positive.

“CRITICAL MINERALS ARE NOW A TOP-LEVEL NATIONAL SECURITY AND GEOPOLITICAL ISSUE, AND THAT COULD SHAPE BOTH DEMAND AND SUPPLY FOR THESE COMMODITIES.”

Finally, and perhaps most importantly, 'sustainability'. In short, the concern here is that the 'cure' isn't worse than the 'disease'. In other words, that in our rush to grow mineral supply to power the decarbonisation technologies of the future we don't end up with huge collateral damage to people and the planet. When done responsibly, mining is in fact one of the most powerful forces to meet all the Sustainable Development Goals but when done irresponsibly, it can cause real harm. We have so many good examples of responsible mining and the key is to make those the norm, and to continue to raise the bar.

Shami: The mining industry is poised for a large spike in demand, but is it ready to meet regulatory and societal expectations on sustainability, including how extraction, processing, refining and other processes are performed?

Rohitesh: I have personally seen a very clear and genuine commitment, particularly on the part of ICMC members, to take steps to address societal and regulatory concerns. However, we as a mining industry must put our hands up and acknowledge that performance has not always met expectations. We don't have the trust and confidence of society at large. It's not hard to pinpoint why – the collapse of the tailings dam at Brumadinho, Brazil, the events at Juukan Gorge in Western Australia and well publicised incidents of corruption have all contributed to this.

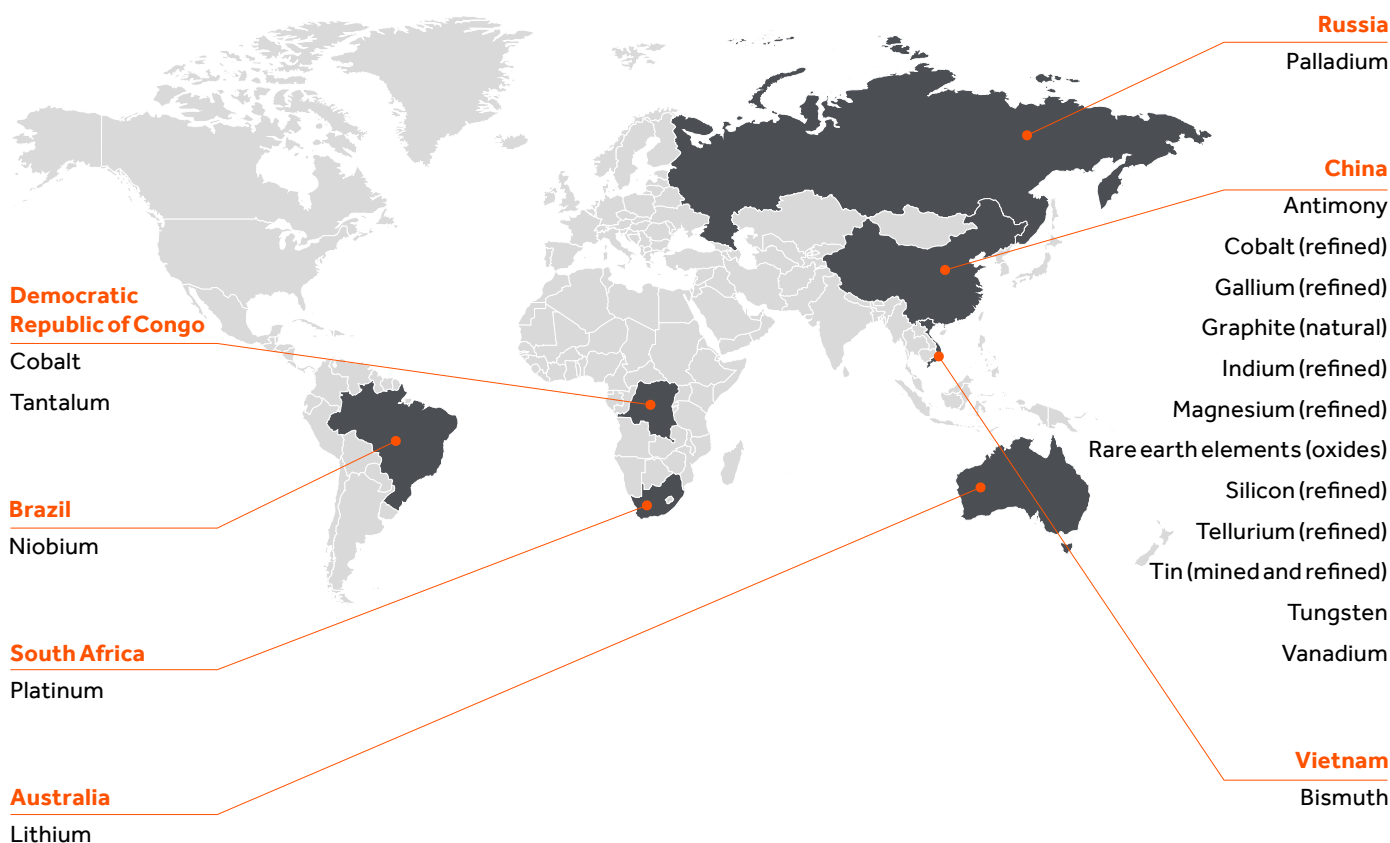
What is less widely reported are the examples of responsible extraction and good practice which are taking place across the industry. One great example is the work Anglo American is doing at their Quellaveco project in Peru. Working with communities and the regional government, they have gone above and beyond the legal and regulatory requirements for a new mine. This includes agreeing 26 specific commitments relating to water management, environment, and social investment. They have also provided 29,000 local jobs through the construction of the project and an expected 2,500 now the mine is in production. It is these kinds of positive examples that we not just need to talk about but ensure that we learn from and encourage all miners globally to adopt.

“SUPPLY OF SOME METALS AND MINERALS WILL NEED TO INCREASE UP TO 20 TIMES IN THE NEXT 30 YEARS.”

Shami: What should investors (like Actis) do/demand?

Rohitesh: I am going to use two examples to illustrate what investors can and should be doing. Firstly, on tailings. Tailings are a byproduct of mining, consisting of ground rock, organic matter and effluents. If not managed properly, tailings can have adverse impacts on the environment and human health and safety, with pollution from effluent and dust emissions being potentially toxic to humans, animals or

EXHIBIT 1: TOP PRODUCERS GLOBALLY OF THE 18 CRITICAL MINERALS



Note: Country with the highest production of each critical mineral; refers to mined production, unless otherwise stated. 5-year average production 2016-2020.

Source: Department for Business, Energy & Industrial Strategy, [Resilience for the Future: The UK's Critical Minerals Strategy](#) (March 2023). Figure contains data from the UK Critical Intelligence Minerals Centre, British Geological Survey © UKRI 2022.

plants. Investors played a critical role in supporting the industry's journey towards more responsible tailings management. This was through the Principles for Responsible Investments' role alongside UNEP and ICMM in developing the Global Industry Standard on Tailings management. There is an unwavering commitment from ICMM members to implement the standard, but we need to also see this from the wider industry. Here actions of investors such as the Church of England have been critical. They have said publicly they will vote against boards who are not implementing the standard. Investors should look to take the same approach for other key challenges – help to identify good practice, then apply pressure on companies to implement.

The second example looks at what investors should be doing. I believe that in some cases, the rhetoric of investors does not match action. A good example of this is the issue of nature and biodiversity. I have heard many investors speak about this issue publicly, but I have heard that these issues are not being brought up in direct engagements with companies. It is not simply a case of challenging companies publicly; investors must be willing to offer their support to companies to drive the change needed.

Shami: Nature & Biodiversity is a huge growing topic. Nature-positive mining – will it ever be possible?

Rohitesh: When considering this it is important to note that 'nature positive' refers to the state of nature and is not a description of an activity. So, we should avoid describing companies or sectors as being nature positive or not – at least until the metrics and standards for nature are sufficiently well developed. The mining industry therefore has an opportunity to create a nature positive future, by minimising our negative impacts on nature and contributing through conservation and preservation activities.

The most critical task, which ICMM members have committed to doing, is to apply the 'mitigation hierarchy' with an ambition of no net loss of biodiversity. This means taking steps to first avoid negative impacts on nature as far as possible, minimising those that can't be avoided, remediating any residual impacts, and only using offsets as a last resort. ICMM members have also committed to not exploring or developing new mines in World Heritage Sites and to respect legally designated protected areas – something that I think should be a baseline expectation of all mining.

Mining companies also have an opportunity to contribute to nature positive outcomes beyond their immediate operations. Some members are leading actors when it comes to conservation, restoration, and preservation of biodiversity and nature. For example, Vale helps protect nearly 1 million hectares of land across the world, including 800,000 hectares in the Amazon. Or that Anglo American is using eDNA to manage, measure and share 30,000 data points on water quality and biodiversity to achieve a net positive impact in North Yorkshire.

Shami: Circular economy and recycling – will we get to a point where we don't need to mine at all because all that we need is in circulation already, or is that fantasy land? Will we have to resort to deep sea mining?

Rohitesh: The reuse and recycling of metals already in circulation is critical to help the world meet demand. However, this alone will not be enough to service the expected rise in demand for key commodities. We will still need to see a significant growth in primary production. For example, 2/3rds of the copper mined since the 1900s is still in circulation. Copper production is expected to double between now and 2050 to meet demand. This is the same across several other critical minerals. We will still need to responsibly increase the supply of new

metal, but we must work to supplement this with the reuse, remanufacture or recycling of existing materials. It is especially important this is done through mechanisms that value the durability of materials. Specifically on deep sea mining, it can be a source of critical minerals, but the risk of harm is significant and not yet fully understood. While mining on land is not without risks, we understand and can control associated risks better than we currently can in the deep seas and no ICMM member currently engages in Deep Sea Mining.

Shami: What makes you optimistic/hopeful?

Rohitesh: There are so many examples of mining in harmony with nature and people, and I'm really hopeful that we can make those the norm. Even when we start from a bad place, we can still end up where we need. For instance, consider Ite – Peru's largest wetland. It is a pristine and thriving 12km long wetland where I saw crystal clear water, flamingos, and other incredible birdlife – it's a completely idyllic natural ecosystem. 20 years ago however, it was the opposite. Mine waste (tailings) had been deposited there for several years, and it was a barren and lifeless wasteland. Southern Copper, through their restoration project, has helped turn a landscape which was degraded into something that is healthy and thriving. It gives me hope that even in the most challenging circumstances the industry, communities, and regional authorities can work together to create a more positive future.

"WE'LL NEED AROUND 3 BILLION TONS OF METAL TO REACH NET ZERO BY 2050 AS ESSENTIAL BUILDING BLOCKS OF WIND TURBINES, SOLAR PANELS, AND ELECTRIC VEHICLES."



Flamingo in wetlands



DR. ADIB EL MOUBADDER
CEO, Emicool



[WATCH VIDEO](#)

At Emicool, we're proud to be cooling buildings and transport links at the upcoming COP 28 event. We're a natural partner for this, as it draws on our record of helping the UAE meet its carbon footprint targets while meeting demand for cooling, healthier living and working environments.

In a region where temperatures can regularly exceed 40 degrees centigrade and humidity can reach up to 98%, cooling systems are essential to the economy and human wellbeing. In the United Arab Emirates where we are based, for example, there is often demand in buildings of more than 2,500 hours a year for cooling. Yet while conventional air conditioning can keep inside temperatures comfortable, it can be energy intensive to run and can struggle to maintain air-quality parameters and humidity levels.

"EMICOOL IS HELPING THE UAE MEET ITS CARBON FOOTPRINT TARGETS WHILE MEETING DEMAND FOR COOLING, HEALTHIER LIVING AND WORKING ENVIRONMENTS."

By contrast, Emicool operates a more reliable and energy efficient system that also offers better air quality. While not new, district air cooling systems are now increasingly seen as a way to keep people cool and reduce greenhouse gas emissions. At Emicool, our 20 plants pump chilled water (at 5 degrees centigrade) through insulated pipes around residential, commercial, retail, hospitality and industrial buildings, serving more than 50,000 customers. We then pump the warmer water back again for cooling in what is a closed loop system, running through 400 km of pipelines. As a cooling source that is between 30% and

33% more energy efficient than individual conventional systems, our company is contributing to the UAE's ambitious targets of improving energy efficiency by 40% and reducing its carbon footprint by 70% by 2050.

However, in partnership with Actis, we believe we can do more at Emicool to preserve precious resources and lead the way in sustainable practices. This has always been part of the Emicool strategy. In 2019, for example, we embarked on a plan to move all our fleet vehicles to electric. Today, 68% of our fleet is electric and we are providing new EV charging points open to the general public. We have won multiple awards over the past decade, recognising our resource efficiency efforts, such as leak detection programmes and energy efficiency initiatives and in 2022, we were named a "Great Place to Work" by the International District Energy Association.

Since Actis invested in Emicool in 2022, we have established a new ESG framework under the responsibility of a board-level ESG committee. We are aligned with our investors in setting new and more stretching sustainability targets and we are already starting to see results. For example, water is a precious resource globally and particularly in the Gulf region. We have strict water conservation strategies and one of our aims is to increase the amount of treated sewage water (TSE) instead of potable water we use in our cooling plants. We now have a mix of 45% TSE, up from 30%. We are also making headway on renewable energy use – we already use solar power for some of our operations and we are currently conducting research and development on the viability of wind turbines to help power cooling towers.

We are supporting these efforts with a digital transformation programme that improves communication with customers and helps us manage all stakeholders

including in our supply chain and procurement. Our Enterprise Resource Planning (ERP) digital system (Oracle Fusion) will optimise operations, allowing us to monitor and improve the efficiency of how we use our resources.

Emicool is also committed to social goals. We have established best practice guidelines to provide a healthy and safe environment for workers, that is free from accidents. In addition, we are supporting employment opportunities for local people through training in skilled operations and maintenance – over the past year, we have delivered 4,000 training hours for our employees. In line with our inclusion and diversity policy, we have set targets to increase the number of females we employ, including the potential to hire from the female engineer training programmes we are sponsoring. We have increased female employees by 6% in the past three years.

With the UAE hosting COP 28 this year, we see further opportunities to contribute to the energy transition. Not only will Emicool be cooling thousands of buildings in the Expo village and the metro stations where COP 28 will be held, we intend to play a significant role in the event. As advocates for sustainability, among other initiatives, we will be involved in a committee discussing the climate agenda, sharing experience and helping to foster sustainable best practice.

Having built a strong platform in the UAE, we have plans to expand further into other Gulf countries and beyond. There is high demand for cooling across the region and governments are actively supporting the development of district cooling systems. Other markets in the Middle East, India and the Far East are also promising areas for expansion through organic growth and M&A. The next few years will be an exciting time and we are delighted to have Actis by our side to support us on the journey ahead.



Emicool employees maintaining district cooling infrastructure in Dubai, UAE

GAS IS PART OF THE SOLUTION



NARCÍS DE CARRERAS ROQUES
CEO, Valia Energía

Valia Energía was launched in November 2022, and in just nine months we have become Mexico's first Independent Power Producer (IPP), and rank within the top ten across Latin America as a whole. Valia now represents 4% of the installed capacity in Mexico, generates 7% of its electricity, and accounts for 6% of the total annual gas demand. These are large numbers in a country the size of Mexico. We are directly connected to the most competitive gas supply market in the world – Texas – and our key assets are sited in the parts of the country where most of the population lives and where the main industrial clusters are located. All our power is sold to CFE, the public utility, under long-term contracts. Meanwhile Mexico's ongoing industrialisation continues to offer opportunities aligned with our strategy. (Recently Mexico surpassed China as the number one exporter to the USA).

Our ambition is to set the example for what an energy company should look like in the next phase of Mexico's transition to a cleaner future. That means offering a secure supply of electricity that is both sustainable and cost competitive.

"THE MOVE TOWARDS A CLEANER ENERGY WORLD WILL SIMPLY NOT HAPPEN WITHOUT GAS, AT LEAST IN THE SHORT TERM. IT IS RELIABLE, ABUNDANT AND COMPETITIVE."

We are taking several steps to sustain and build upon our leadership to date. Mexico's energy sector is challenging and intense to operate in, hence we hire leaders who will help us become the best-in-class operator of energy assets in the country. Our Power Purchase Agreements (PPAs) begin to expire in 2026, so we are developing our commercial strategy to ensure we can overcome this challenge of renegotiation of agreements. We will develop our sustainability plans, and optimise our debt

through a capital markets refinancing. And we will simplify the way we operate, by eliminating whatever we do not need and digitising wherever we can.

As a company which generates energy using natural gas, we believe it will play a key role in ensuring a just energy transition. The move towards a cleaner energy world will simply not happen without gas, at least in the short term. It is reliable, abundant and competitive, and lacks the problem of intermittency of supply which solar and wind can face. Until battery storage becomes more advanced, it is the only fuel that solves the energy trilemma, offering security of supply, affordability and sustainability. And it is far less polluting than other fossil fuels such as coal or diesel, meaning we can keep carbon emissions to the lowest level possible. Gas is part of the solution to the world's energy needs.

The situation with hydrogen is more challenging. We are continuing to monitor it, but although a significant amount of capital is being deployed into the technology, as of today there is neither a self-sustaining business model, nor a clear regulatory path, nor a final market demand. Its future may well lie – over



Valia Energía's
Altamira Plant in
Altamira, Mexico

the longer term – as the solution for some hard-to-abate clusters such as industry, cement and petrochemicals, or in areas where there are no alternatives. Its relevance remains to be seen for the power generation sector in a country such as Mexico.

“OUR AMBITION IS TO SET THE EXAMPLE FOR WHAT AN ENERGY COMPANY SHOULD LOOK LIKE IN THE NEXT PHASE OF MEXICO’S TRANSITION TO A CLEANER FUTURE. THAT MEANS OFFERING A SECURE SUPPLY OF ELECTRICITY THAT IS BOTH SUSTAINABLE AND COST COMPETITIVE.”

We face two main challenges in achieving our goals: to decarbonise the gas burned in our power plants, and to continue to impress on customers and financial partners that the gas industry is supporting efforts to accelerate the energy transition. If we did not do so, customers would not buy our electricity and banks would not finance our investments. Initiatives such as carbon capture, improved energy efficiency, reduced methane emissions, and more renewable gases in the supply mix help us, but the real opportunity is to deepen the partnership between gas and renewables. Mexico has abundant access to the cheapest gas in the world, and unlimited access to renewable resources, particularly solar. Used together, they can foster greater industrialisation, employment and prosperity, while maximising environmental returns by reducing the country’s dependence on coal and oil.

We are active on a number of fronts to help achieve this objective. We are taking greater steps to understand the exact level of our emissions today. We are also planning how to eliminate methane emissions from our pipelines, implementing energy efficiency projects throughout our fleet, and carrying out reforestation initiatives as part of our decarbonisation efforts.

Actis plays a major role in supporting us with our long-term plan. The firm encourages our management to adopt a rigorous and robust attitude towards our operations. The investment team in Mexico coordinates with us on a number of initiatives, as well as on the management of the platform. We also receive support with our operations, sustainability strategy, and our communications with stakeholders. It is a really constructive relationship, and a privilege for all of the team at Valia to be working with them.

EXHIBIT 1: VALIA PORTFOLIO MAP



Source: Valia Energia

DRIVING VALUE THROUGH ESG INITIATIVES



HASSAN EBRAHIM

CFA, Corporate Development, ESG and Growth Strategy,
Yellow Door Energy



LÍVIA MARIZ

Portfolio Development, Sustainability and ESG, Public Affairs,
Omega Energia



LISA PINSLEY

Partner, Head of Middle East & Africa, Energy Infrastructure, Actis, Cape Town

What role does sustainability play in Actis' portfolio companies, and how does it help drive value? To find out, Lisa Pinsley, who leads Actis' Middle East and Africa energy team, spoke to sustainability leaders from two portfolio companies: Livia Mariz, from Omega Energia, the largest publicly-listed, pure-play renewable energy generation company in Latin America, and Hassan Ebrahim from Yellow Door Energy, the leading Middle East and Africa-focused platform targeting more than 1GW of distributed solar and related energy solutions to C&I customers across the region.

Lisa: How is sustainability integrated into your projects, and how does it drive customer relationships and value?

Hassan: At Yellow Door Energy, we always used to just assume that we were sustainable – we are, after all, a solar company. So we used to think we didn't need to prove our sustainability credentials. But after getting guidance from Actis, we understood that just being a solar company did not exempt us from putting in the effort to become a sustainability leader.

We also believe that sustainability initiatives enhance the value of the company. For example, the community investment strategy we are implementing ensures that wherever we are investing we also invest in the community. This generates buy-in, and a social licence to

operate. This facilitates our work, and mitigates the risk of any disruption to our business.

"YOU WIN MORE BUSINESS BY BEING MORE SUSTAINABLE."

Livia: In Brazil, the first wind plants we built were located in very remote places, within poor and vulnerable communities. From the beginning, we said we needed to do something, because we knew we would be present for 30 years, and needed to be good neighbours. So in parallel to the project, we built an educational centre, since the major local vulnerability was schooling. Now we have four such centres here in Brazil. As a result, we have not had problems or disruptions from the community. We have very positive relationships.

Lisa: What do your C&I customers think of initiatives like these?

Livia: You have to be intelligent and credible in showing that you are not saying you are doing something that you are not. For big multinationals in particular, sustainability is a value. While price is the leading motivation, they will not buy anything without understanding the sustainability strategy behind the product they are buying. Sometimes they will even go to the plant, visit the educational centres, check the KPIs. We love when they are interested in understanding our sustainable journey.

Hassan: We find that a lot of our customers want to be associated with other businesses that are sustainability leaders. That, in itself, is a value driver: we win projects because we demonstrate our strong sustainability credentials. So, I agree with Livia that the tide is turning – the stakeholders we work with, such as shareholders, lenders or customers, are demanding higher sustainability standards from each other. You win more business by being more sustainable.

Livia: Sustainability also plays an important role for the new generation that is starting to work. They really care about having a purpose and working in a company that they are proud of – not just of its products but of everything it is doing. So, while we are still creating value for our customers, having employees who are proud of what they do makes a big difference in areas such as recruitment. This is a generation that is really concerned with doing better for the planet, so I think sustainability plays a role in their decision of where to work and where to put their energy.

Lisa: How important is the Just Transition? Does this come up in your regions, and is it part of your strategy?

Livia: When we are building a project we always do a diagnosis of the community to understand what their values are, and how we can help with a focus on education and on generation of income, which are our norm when it comes to voluntary social investments. In some communities for example, we carry out projects which

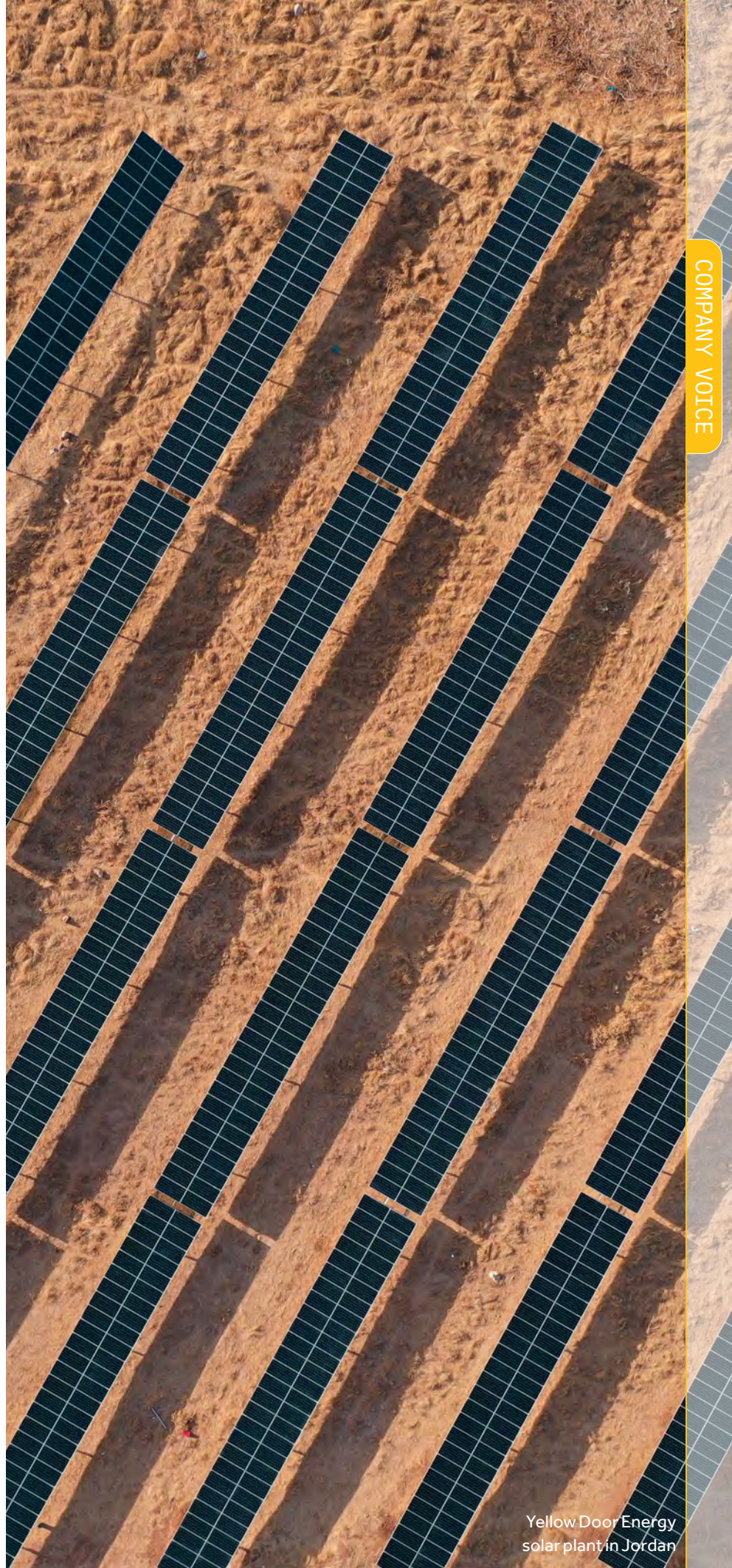
help close the gender gap. We have plans, for instance, to ensure women are as able to work on our projects as men are, and making sure our contractors hire a percentage of workers who are women: if you don't push a little bit, it often won't happen. In another location, we had to deviate from our norm of investing only in education and income generation, because we needed to help with the infrastructure to give the community clean water to enable children to go to school. In the end, if you build an effective, sustainable culture, you are changing the communities where you operate.

Hassan: In South Africa, we are designing a community investment strategy that involves training the coal miners or people associated with the industry to transition to a role in solar energy. There are people in the energy industry who would potentially be left behind by a transition, so we need to find ways to ensure they benefit from it.

Lisa: **What has it been like to work with Actis on sustainability?**

Livia: From the beginning it was a great opportunity for us to have this partnership. We started to have monthly conversations with the team after the transaction closed. They added a lot by understanding our sustainability masterplan and started not only to give their opinions on how to address the problems that we wanted to solve, but also to connect Omega Energia with other invested companies that have already solved such problems. It is an amazing opportunity to exchange ideas with the other sustainability leaders in the same industry who aren't necessarily competitors, so you can be open and frank in your conversation.

Hassan: The fact that sustainability is very high on Actis' agenda has enabled us to put it high on our agenda. Facilitating that cross-pollination of ideas is probably the most important benefit: learning from companies like Omega Energia is vital, and Actis helps us do that. Overall, Actis has put sustainability high on our agenda, and given us the tools to implement it.



Yellow Door Energy
solar plant in Jordan

THE SUSTAINABLE INFRASTRUCTURE JOURNEY OF RX PROPELLANT



VISHAL GOEL

Managing Director, Rx Propellant



DR KETKI TULPULE

Senior Vice President, Business Development, Rx Propellant

As India's leading life sciences infrastructure platform, Rx Propellant's aim is to help build world-class clusters for research and innovation. While real estate lies at the core of our business, we like to complement this with our expertise in helping foster talent, networking, and building accelerators and incubators. The most thriving clusters worldwide - including in the US, the UK and the rest of Europe - are those where organisations of different scales not only co-locate, but also collaborate. Using this model, our goal is to seed and grow life sciences clusters in India that create rich ecosystems of scientific communities which in turn create breakthroughs.

"WE ARE EXPLORING PHOTOVOLTAICS MATERIALS ON OUR VERTICAL FACADES TO REDUCE OUR RELIANCE ON GRID-SUPPLIED ELECTRICITY AS WELL AS GENERATE RENEWABLE ENERGY."

We support innovation by building life sciences-focused research and manufacturing infrastructure that enables rapid operational scaling. In doing so, we remain dedicated to creating laboratories and specialised environments that combine functionality with amenities that promote productivity and well-being. We also seek to deepen our relationships with our tenants by aligning our sustainability goals with theirs.

What is driving the interest in the sector? One of the main challenges during the pandemic was fulfilling the unprecedented demand for fast-tracked research and testing cycles and manufacturing infrastructure to cater to the urgent and global demand for vaccines. Research work and production volumes were heavily dependent on the availability of talent, raw materials, manufacturing and fill-finish capacities. This demonstrated the need to collaborate across borders as well as to build specialised infrastructure for life sciences with high-end technical specifications, since commercial or office infrastructure can seldom be retrofitted to meet the sector's needs.

Now, in the post-pandemic era, the life sciences industry - particularly the Pharma and Biotech sectors - are in growth mode across the globe. As the world embraces new therapeutic modalities such as cell-gene therapies, RNA-based therapies and biologics, India is gaining prominence as a popular destination thanks to its diverse talent pool and cost advantage. One of the key trends that has emerged is for businesses to establish a footprint here, either by setting up operations or outsourcing to domestic contract development and manufacturing organisations. This has led to an increased demand for purpose-built infrastructure for life sciences operations that enable organisations to expand their capacities for research and manufacturing rapidly, while also staying asset-light.

Sustainability is core to our mission. We are focusing our approach to net zero by developing our greenhouse gas emissions mitigation strategy. Our decarbonisation strategy will be closely aligned with

the sustainability goals of our tenants, clients and investors. The strategy aims to reduce emissions from our operations through energy efficiency and renewable energy. Efficiencies equal cost savings, of course, through reduced demand for electricity and water. Our building design also incorporates the principles of the circular economy and we aim for green certification for our buildings.

"EFFICIENCIES EQUAL COST SAVINGS, OF COURSE, THROUGH REDUCED DEMAND FOR ELECTRICITY AND WATER."

As a result, the investments within the Rx Propellant platform are aligned with five of the United Nations' Sustainable Development Goals (SDGs): SDG3 (Good Health & Well-Being), SDG8 (Decent Work and Economic Growth), SDG9 (Industry, Innovation and Infrastructure), SDG12 (Responsible consumption and production), and SDG13 (Climate Action).

Some examples of how we achieve this in practice include the choice of building materials, the design and implementation of heating, cooling, plumbing, waste, and ventilation systems, and the integration of the built environment into the natural landscape. Sustainable design principles and techniques are incorporated to reduce environmental impacts. These principles include ensuring the optimal orientation of a building to minimise heat, providing adequate daylight with a mix of shading devices integrated into windows, and efficient building envelope design with high-performance insulation, double glazing and cavity wall usage. This reduces heat gain and minimises cooling needs.

**“WE ARE NOW AN
INDUSTRY LEADER
IN SUSTAINABILITY
IN LIFE SCIENCES
REAL ESTATE.”**

We are also exploring Building Integrated Photovoltaics (BIPV) materials on our vertical facades, and solar panels on our terraces, to reduce our reliance on grid-supplied electricity, as well as generate on-site and off-site renewable energy. We provide for water sustainability by meeting 100% of our non-potable requirements through the recycling of wastewater. We ensure our transport is sustainable by providing EV charging

infrastructure at parking stations to promote the use of electric vehicles. And we take an integrated waste management approach for achieving zero waste to landfill during both construction and operational phases.

This focus on sustainability is important not just to us, but to our tenants too. They are committed to sustainability more than ever before and have ESG mandates for their operations. We therefore ensure our infrastructure is aligned to meet their goals. We are targeting IFC-EDGE & LEED green building certifications for all our assets. Buildings with energy-efficient systems and combining these with renewable energy sources can

significantly reduce carbon emissions and also cut energy bills over the long term, leading to savings for tenants. This is a major value-add and will differentiate us from other players in the market.

Partnering with Actis helps us stay ahead of the curve. We are now an industry leader in sustainability in life sciences real estate. We are able to leverage Actis’ deep expertise to build robust implementation plans for our portfolio. At the same time, we are paving the way for further development of the life sciences real estate sector, by being actively involved in creating industry-specific standards and metrics for product sustainability.



Rx Propellant life sciences facility in Genome Valley, Hyderabad, India

DELIVERING NET ZERO THROUGH SUSTAINABLE INFRASTRUCTURE



POLLY FIRMAN

Sustainability, Actis, London



[WATCH VIDEO](#)

Achieving net zero by 2050 and limiting global warming to 1.5 degrees requires a global shift to low-carbon, climate-resilient systems. Actis is part of the solution with our continued investment into sustainable infrastructure. Our commitment to be net zero by 2050 across our whole investment portfolio, supported by near-term science-based interim targets, is one of the ways in which we demonstrate this.

The investment imperative

According to the latest estimates from the International Energy Agency (IEA), annual clean energy investment worldwide will need to more than triple from 2021 to 2030 to around US\$4 trillion

to reach net zero emissions by 2050. For infrastructure investors, this presents a compelling investment opportunity that is accelerated further by other thematic tailwinds such as digitalisation and energy security.

“INFRASTRUCTURE AND THE BUILT ENVIRONMENT ACCOUNTS FOR ALMOST 80% OF GLOBAL EMISSIONS TODAY. NET ZERO, THEREFORE, REQUIRES CURRENT AND FUTURE INFRASTRUCTURE TO BE DECARBONISED.”

At Actis, we continue to capture value across this opportunity for our investors; investing behind these global themes across a range of sustainable infrastructure sectors, and enacting our *mission to transform infrastructure for a better tomorrow*. Our approach to sustainability is founded on a dual objective that encapsulates this: to invest in sustainable infrastructure, and to create companies that are sustainability leaders. In the context of net zero we think about this as:

- **Investing in sustainable infrastructure:** The transition to a net zero economy requires investment in infrastructure which provides solutions to climate change – such



Eolicas Babilonia wind farm in Northern Brazil

EXHIBIT 1: ACTIS' INTERIM NET ZERO TARGETS

Investing in sustainable infrastructure

Actis committed for 50% of its AUM to be invested in climate solutions by 2030.

For Actis, these are sustainable infrastructure investments that are critical to enabling net zero through reducing greenhouse gas emissions - either by decarbonisation or energy efficiency measures. Actis' ambition is clear here, with 30% of AUM on average targeted by other NZAM members, per The Net Zero Asset Managers initiative 2022 Progress Report.

Creating sustainability leaders

Actis committed 60% of its total AUM to be aligning with net zero by 2030.

As described earlier, net zero aligned means assets that are managed in line with a science-based decarbonisation pathway for Scope 1, 2, and material Scope 3 emissions, consistent with net zero by 2050 or sooner. This needs to also be supported by adequate governance, strategy, targets, and reporting. Our 60% target is well above the average AUM committed across NZAM members of 37%, per The Net Zero Asset Managers initiative 2022 Progress Report.

All Actis portfolio companies will develop costed net zero plans that will be Board-approved by 2025 (or within two years for new investments).

This is an integral component in our pursuit of sustainability leadership across our portfolio companies and central to achieving the 2030 net zero alignment target.

as renewable power to decarbonise energy supply; district energy systems that make heating or cooling more energy efficient; and co-located hyperscale data centres that can offer more efficient and green data storage to customers. Such infrastructure is also at the heart of modern economies and therefore fundamental to sustainable development and raising standards of living in developing countries. These are just some of the sectors that we invest in across our three strategies in Energy, Real Estate, and Digital Infrastructure.

- **Creating sustainability leaders:** Infrastructure and the built environment accounts for almost 80% of global emissions today. Net zero, therefore, requires current and future infrastructure to be decarbonised – meaning that assets must be built and operated in line with global science-based decarbonisation pathways for net zero 2050. At Actis, we call these “net zero-aligned assets” and we believe that investors can find value here when designing new infrastructure, upgrading or retrofitting existing infrastructure, and considering how these assets will be governed and managed.

Accelerating net zero through our commitments

In 2022, Actis committed to align its investment portfolio to net zero by 2050. Actis has also become a signatory to the Net Zero Asset Managers Initiative (NZAM) and a member of the Institutional Investors Group on Climate Change (IIGCC) - both supporting the Just Transition to a net zero economy by 2050 or sooner.

In March 2023, Actis announced interim targets to progress its 2050 commitment which were developed using the Paris-aligned Investment Initiative's Net Zero Investment Framework for Infrastructure. These targets reflect our dual sustainability objectives shown in Exhibit 1.

“ANNUAL CLEAN ENERGY INVESTMENT WORLDWIDE WILL NEED TO MORE THAN TRIPLE FROM 2021 TO 2030 TO AROUND US\$4 TRILLION TO REACH NET ZERO EMISSIONS BY 2050.”

The value case

Having invested in 16 GW of installed renewable energy projects and with 33.2 million tonnes of CO₂ avoided through Actis investments – equivalent to more than 7.2 million gasoline-powered passenger vehicles being off the road for one year - Actis' investment behind net zero is by no means a recent phenomenon.

Our net zero commitments therefore reflect Actis' continued implementation of its dual sustainability objectives into its investment approach. This is underpinned by a belief that net zero aligned assets are more resilient, de-risked, and better positioned to capture value as economies and societies transition.

For example, corporate climate and net zero commitments are driving “green premiums” in Real Estate as well as increasing demand for renewables-powered data centres. Decarbonising these assets therefore plays a role in first qualifying for environmental criteria within customers' procurement processes, and then securing high quality tenants at an attractive price. In addition, costs savings can be achieved through reduced operating costs, lowered cost of capital, and discounted insurance premiums. Cumulatively, these

opportunities can provide a compelling payback for the upfront CAPEX required to build or retrofit to green specifications.

Sustainable infrastructure that supports net zero also needs to be climate-resilient and this is an important feature of how we de-risk investments. Actis considers physical and transition-related risks to minimise financial exposure to climate risk. For example, we assess the resilience of our infrastructure to potential physical and social impacts of climate change in the context of different global warming scenarios (physical risks), as well as how changes in policy, technology, and financial markets may impact our investments (transition risks). We systematically implement this into our investment and asset management approach, supported by Actis' proprietary [Transition Tool](#). Actis will be publishing its first set of disclosures in line with the Task Force on Climate Related-Financial Disclosures next year.

Our recent progress

We are focused on implementing net zero across our portfolio as well as further embedding climate change into our investment approach. Recent highlights include:

- delivering net zero workshops for CEOs, CFOs and Heads of Sustainability at Actis' Energy and Long Life Infrastructure businesses;
- working across Actis' portfolio to appoint consultants to work with portfolio companies on their net zero plans. Net zero plans will include bottom-up carbon footprinting for Scope 1, 2, and material Scope 3 emissions and development of a strategy for net zero by 2050 or sooner. Strategies will have interim science-based targets, marginal abatement cost curve analyses of decarbonisation interventions, and

a roadmap to achieve these targets, including milestones and governance arrangements. Once developed, costed net zero plans will be reviewed and approved by Boards and then integrated into portfolio companies' business plans and strategies;

- Actis' portfolio company, Omega Energia – Brazil's largest renewable independent power producer – had a fully costed net zero plan approved by its Board this year for inclusion into their business plan. This plan includes a 2030 target to reduce Scope 1 and 2 emissions by 75%, as well as compensation to neutralise residual emissions on the journey to net zero; and
- commissioning a specialist third-party advisor to undertake climate scenario analysis across our investment portfolio, to identify and prioritise physical- and transition-related climate risks, in the context of different global warming scenarios and time horizons.

"NET ZERO IS A CRITICAL OPPORTUNITY TO GENERATE SUPERIOR RISK-ADJUSTED RETURNS."

At Actis, we recognise the risks and opportunities that climate change and the transition to net zero present to infrastructure investors. As such, we expect net zero aligned assets will continue to be increasingly attractive to sophisticated buyers that evaluate and price the economic, environmental, and social components of the net zero transition into investments. Net zero is, therefore, one of many opportunities to generate superior risk-adjusted returns for investors whilst also preserving the planet and its people – or what Actis refers to as "Values Drive Value".





Yellow Door Energy's solar power plant at The Bahrain Mall, operated by Majid Al Futtaim, in Bahrain



Ornithologists at
BTE Renewables'
Kipeto Wind
Farm, Kenya

Actis Production Team



ELLEN
DICKINSON
Knowledge



SARAH
DOUGLAS
Communications

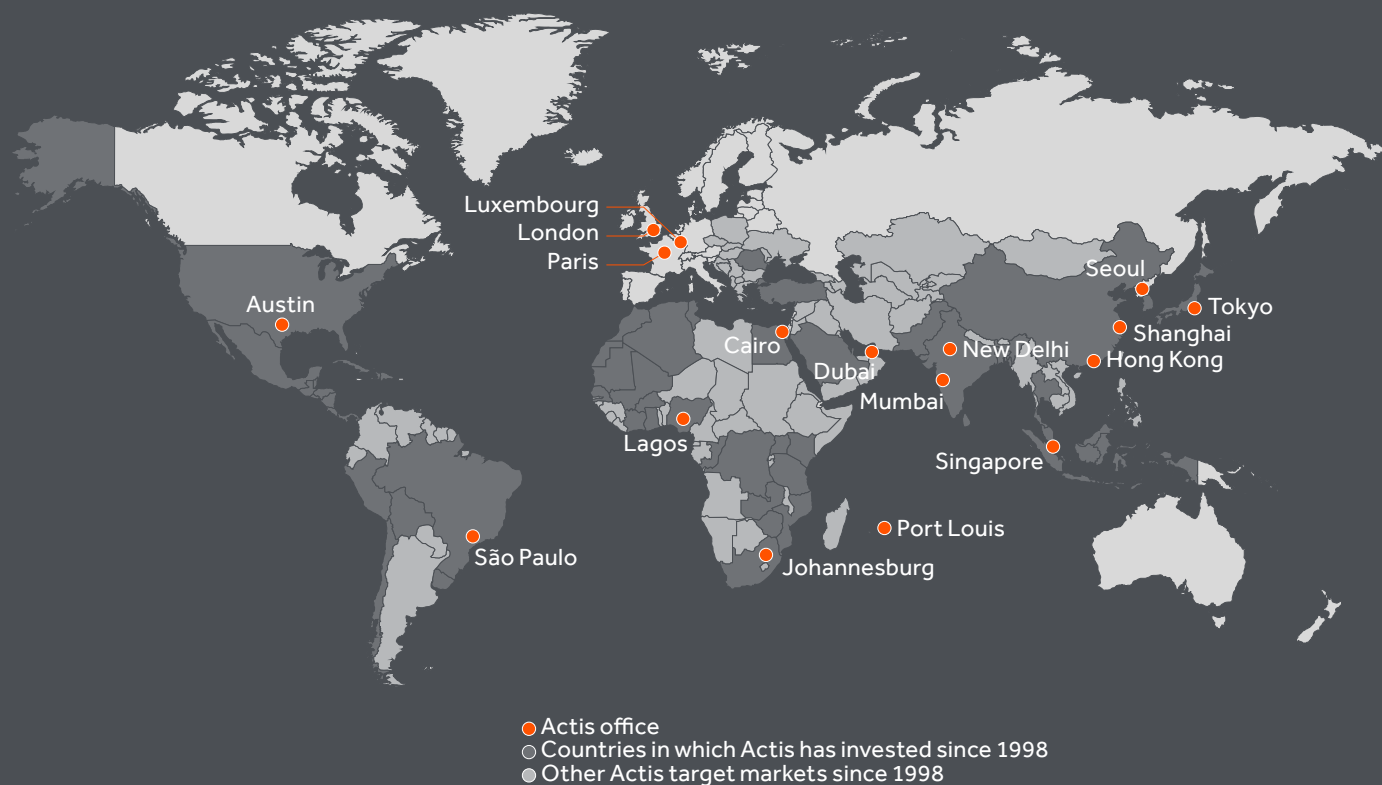


HELEN
JOHNSON
Production



DEBBIE
MINCHINGTON
Right Aligned

ACTIS IS A GLOBAL INVESTOR IN SUSTAINABLE INFRASTRUCTURE



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