For Professional Investors only

M&G Investments

M&G Catalyst

Annual Impact Report 2023

Contents

Front cover: learn more about BioFirst on page 18.

Introduction

The year 2023 sounded yet another wakeup call in a decade marked by the escalating environmental crises. The average land and ocean surface temperature rose to 1.18 °C (2.12 °F) above the 20th century average, setting the highest global temperature recorded by the National Oceanic and Atmospheric Administration since 1850. Alarmingly, the 10 warmest years since 1850 have all occurred in the past decade[1], with 2024 projected to break temperature records again[2]. These records reinforce the case for investing in climate solutions.

In 2023, regulatory and policy advancements galvanised climate investing. The US Inflation Reduction Act spurred increased investment in clean energy and sustainability initiatives. The European Union's Corporate Sustainability Reporting Directive, and proposed climate disclosure rules in the US, also signalled a pivotal move towards mandatory sustainability reporting, ushering in a new era of corporate accountability.

Elsewhere, the UN Biodiversity Conference (COP15) set ambitious targets for 2030, inspiring and reshaping sustainability strategies throughout 2023. The renewable energy sector also witnessed a revolution, with the International Energy Agency reporting that renewable electricity capacity additions surged to an estimated 507 gigawatts in 2023, nearly 50% higher than in 2022, backed by continuous policy support in more than 130 countries[3].

While environmental concerns remained at the forefront, social issues, including diversity, equity and inclusion, as well as labour rights, also garnered significant attention – areas that Catalyst has included in its definition of sustainability since inception.

The healthcare sector experienced a transformative year, with COVID-19 transitioning from a pandemic to an endemic disease. Yet, the lessons learned have reshaped the industry, bringing in a new era of innovation and accessibility. The pandemic accelerated the adoption of digital health solutions, a trend that continued in 2023. Investors showed strong interest in companies providing telehealth services, remote patient monitoring, and digital therapeutics, all of which can revolutionise healthcare access and affordability, particularly for underserved populations.

The Catalyst team remains steadfast in our goal of deploying capital where it counts the most – into groundbreaking, innovative solutions that can deliver positive impact at scale. In this report, we present some of the investments made in 2023. While quantifying impact in early-stage companies presents challenges, we have dedicated ourselves to spending quality time with management teams, to understand their motivations and the purpose driving their businesses. The case studies in this report spotlight these visionary teams, showcasing their ingenuity and dedication. We hope the executives leading our investee companies inspire you as much as they do us, in our mission to tackle the world's biggest social and environmental challenges.

Alex Seddon
Head of Impact and Private Equity

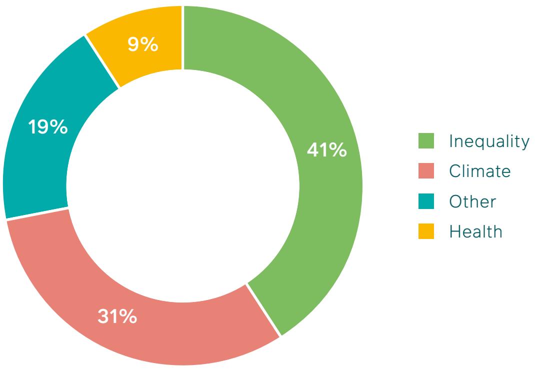
Rana Modarres
Impact Director

[1]National Centers for Environmental Information (NCEI), 'Annual 2023 Global Climate Report', (noaa.gov), 2023.
[2]Copernicus, 'Surface air temperature for July 2024', (climate.copernicus.eu), July 2024.
[3]International Energy Agency (IEA), 'Renewables 2023', (iea.org), January 2024.

Catalyst 2023: at a glance

Catalyst's mandate has two objectives: to achieve at a portfolio level an attractive financial return, whilst reducing negative and increasing positive impacts for people, communities and the planet. The targeted impact differs across the portfolio from robust Environmental, Social and Governance (ESG) risk management to ensure that investments avoid harm, to actively seeking intentional, positive impact for stakeholders.

Catalyst Theme Breakdown (% NAV)



Source: M&G, 31 December 2023, % NAV.

The 'other' category includes fund investments through managers with specialist expertise.

Fund statistics (in USD)

Portfolio investments

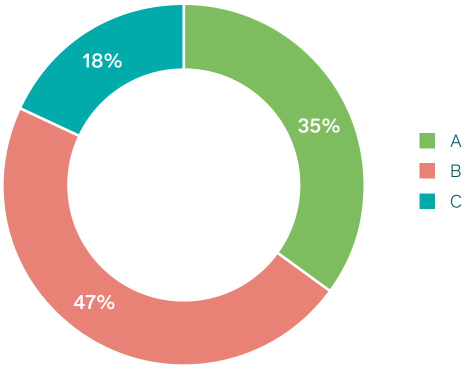
64

	In 2022:	In 2023:
New investments	21	18
Assets under management	$1.74bn	$2.70bn
Investor commitments	$4.89bn	$5.60bn
Commitments to investments	$2.47bn	$3.82bn

Portfolio analysis by impact classification

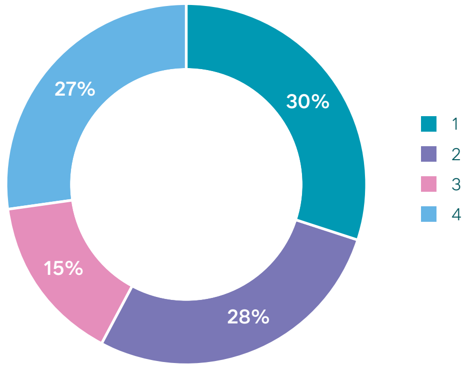
We classify impact with the IMP+ACT framework. (A) means Act to avoid harm, (B) Benefit stakeholders and (C) Contribute to solutions. The ACT scale 1-4 indicates the potential for Catalyst as an investor to drive additional impact. A categorisation of 1 shows that we have signalled our impact intentions, through to 4, which involves active engagement and growing under-served markets. Read more about the framework on page 45.

Category of Enterprise Impact (IMP) by number of investments



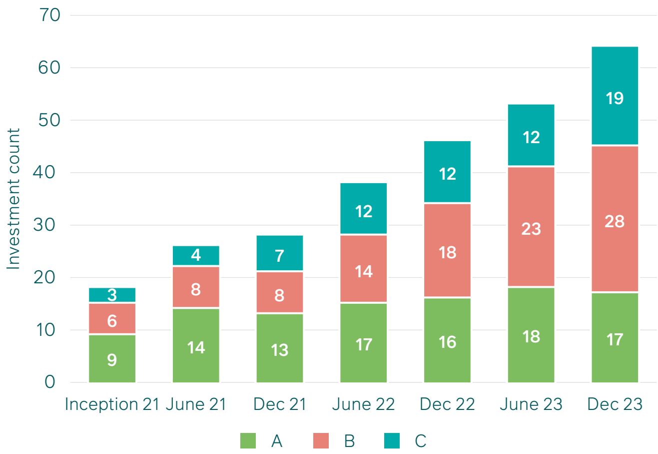
Source: M&G Investments, as at 31 December 2023.

Investor Contribution (ACT) by number of investments



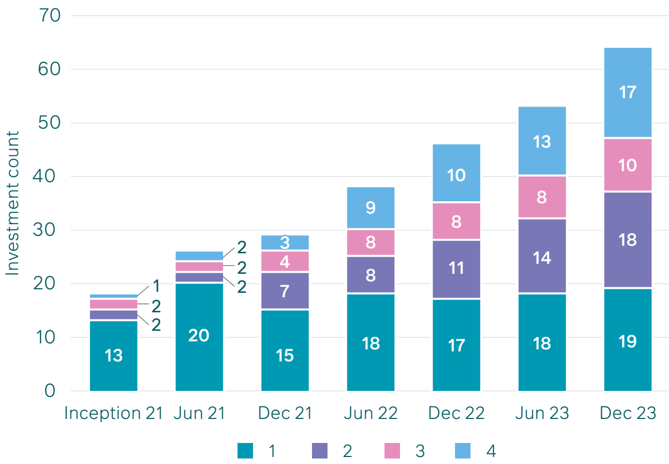
Source: M&G Investments, as at 31 December 2023.

Category of Enterprise Impact (IMP) by number of investments, over time



Source: M&G Investments, as at 31 December 2023.

Investor Contribution (ACT) by number of investments, over time



Source: M&G Investments, as at 31 December 2022.

Catalyst's new investment origination activities over 2023 have been tilted towards more impactful investments, those that Benefit Stakeholders and Contribute to Solutions, as opposed to those that Act to avoid harm. The team's efforts can be seen though the increase in investments categorised as B and C. B rated assets have increased from 23 to 28 over 2023 with C rated investments increasing from 12 to 19 over the same period.

Over the year 2023, Catalyst also increased the share of investments where it can help to drive positive change – this may be through an advisory role or by taking a board seat and driving change from the top. Catalyst has increased the number investments rated 4 from 13 to 17.

Catalyst Investment Themes	Climate and Environment				
Sub-themes	**Cleaner Energy**	**Resource Efficiency**	**Circular Economy**	**Sustainable Transport**	**Sustainable Agriculture**
The problem we are solving	Limiting global warming to <1.5°C requires global power sector emissions to decline by nearly 80% by 2030 and requires the global economy to increase energy efficiency by 4-5% per year[4].	The built environment accounts for approximately 40% of global energy consumption and 30% of energy-related CO_2 emissions[5]. Improving energy efficiency in buildings and promoting energy-efficient products within them is crucial for mitigating climate change.	Only 7.2% of used materials are cycled back into our economies after use. This has a significant burden on the environment and contributes to the climate, biodiversity, and pollution crises[6].	In 2022, road vehicles were the most significant source of emissions of the transportation subsectors, accounting for 74% of global transportation CO_2 emissions[7].	Agriculture consumes 30% of global energy[8] and drives 80% of biodiversity loss[9]; improving energy efficiency and biodiversity preservation in agriculture is crucial for food security and ecosystem resilience amid climate change and population growth.
How companies provide solutions	Reducing emissions through the use of renewable and low-carbon power Improving energy efficiency in power generation and distribution Developing and implementing energy storage solutions	Making construction more efficient Improving building energy efficiency Producing energy-efficient appliances, housing, and supporting infrastructure	Increasing circularity in material use Developing more sustainable materials Reducing pollution	Reducing emissions by enabling electric and other low emission transport Reducing emissions through AI enabled traffic management solutions	Displacing harmful chemical pesticides and fertilizers Promoting biodiversity and resource efficiency in food production
Catalyst portfolio holdings[15]	CVE Chile SunKing Rockville	Greencore Homes Bazalgette Finance Meter Serve	Grover UBQ Plastic Energy	Brusa Hypower Tier Mobility Fjord AG No Traffic	BioBest Regenerate Astanor
Key performance indicators	MWh of renewable energy generated Emissions avoided in tCO_2e No. of households provided with access to clean or renewable energy	No. housing units built using sustainable materials Waste (in tonnes) avoided, recycled or transformed into energy Electricity savings achieved Water in m^3 tested, treated or recycled	Waste (in tonnes) avoided, recycled or transformed into energy No. of devices refurbished, purchases replaced Quantity of Municipal Solid Waste diverted from being land filled or incinerated	Emissions avoided in tCO_2e	Emissions avoided in tCO_2e Qty of chemical fertilisers offset Water usage avoided in m^3 Land use avoided in hectares
UNSDGs*	7 AFFORDABLE AND CLEAN ENERGY	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	11 SUSTAINABLE CITIES AND COMMUNITIES	2 ZERO HUNGER

*While we support the UN SDGs, we are not associated with the UN and our funds are not endorsed by them
[4]Intergovernmental Panel on Climate Change (IPCC), 'Global warming of 1.5°C', (ipcc.ch), 2018.
[5]International Energy Agency (IEA), 'Global Status Report for Buildings and Construction', (iea.org), 2019.
[6]United Nations Development Programme (UNDP), 'What is circular economy and why does it matter?', (climatepromise.undp.org), 2023.
[7]United Nations Environment Programme Finance Initiative (UNEP FI), 'Climate Risks in the Transportation Sector', (unepfi.org), May 2024.
[8]Food and Agriculture Organization of the United Nations (FAO), 'Energy-Smart Food for People and Climate', (fao.org), 2011.
[9]Tim G. Benton et al., 'Food system impacts on biodiversity loss', (chathamhouse.org), February 2021.

	Health and Lifesciences		Inclusive Growth	
Cleaner Industry	**Diagnostics and Therapeutics**	**Health Tech**	**Access to Finance**	**Access to Housing**
Industrial processes account for 24% of direct CO_2 emissions globally[10] and is responsible for about 19% of global water withdrawals[11].	Delayed or inaccurate disease detection and diagnosis lead to suboptimal patient outcomes and increased healthcare costs, particularly in low-resource settings[12].	According to a 2019 WHO study around half the world population lacks access to basic healthcare services[12]. Access to quality, comprehensive and affordable healthcare is pivotal to improving quality of life.	MSMEs make up over 90% of all firms and account, on average, for 70% of total employment and 50% of GDP worldwide. The MSME finance gap now stands at $5.7 trillion – a number that swells to $8 trillion when informal enterprises are included[13].	An estimated 100 million people globally don't have a home and a quarter live in conditions that are harmful to their health, safety and prosperity[14].
Providing CO_2 capture, removal and storage solutions Decarbonizing hard-to-abate sectors Minimising water footprint by renewing wastewater, reducing industrial water consumption and reclaiming water resources	Developing innovative tools, technologies, or methods to improve the accuracy, speed, or accessibility of disease detection and diagnosis	Streamlining healthcare processes with targeted treatments Improving patient data utilization Increasing healthcare accessibility Improving efficiency of pharmaceutical transport logistics	Providing access to finance for underserved businesses and communities	Providing access to affordable housing for underserved populations
Climeworks Storegga Svante Boston Metal Gradiant	Osler Flagship Pioneering Oxford Nanopore Technology Nuclera Barinthus Biotherapeutics Harbinger Health	SkyCell Innovaccer Cambridge Innovation Capital Oxford Science Enterprises	Microfinance Enhancement Facility Lafayette Square Vivriti Udaan	Ardcairn Hightown Housing Home Partners of America
Total emissions avoided in tCO_2e Emissions avoided through recycling, reuse and resource management Hydrogen production capacity and offset of CO_2 Annual mining waste capacity and amount processed	No. of patients served Average % cost reduction for standard treatment and medicines No. of tests performed and early diagnosis done	No. of patients / customers served No. of pharmaceutical containers leased out Annual temperature deviations in pharmaceutical transport	No. of new businesses created in low-income areas No. of investments disbursed by the organisation No. of customers from underserved or under-represented markets No. of small and medium businesses financed	No. of affordable and social housing units delivered and managed. No. of residents provided with care and support No. of new homes rated EPC B or better and the EPC rating portfolio split.
13 CLIMATE ACTION	3 GOOD HEALTH AND WELL-BEING	3 GOOD HEALTH AND WELL-BEING	8 DECENT WORK AND ECONOMIC GROWTH	10 REDUCED INEQUALITIES

[10]International Energy Agency (IEA), 'Greenhouse Gas Emissions from Energy: Overview', (iea.org), 2021.
[11]United Nations Educational, Scientific and Cultural Organization (UNESCO), 'The United Nations World Water Development Report 2019: Leaving No One Behind', (unesco.org), 2019.
[12]United Nations News, 'UN health agency welcomes Facebook pledge to stop vaccine misinformation from going viral', (news.un.org), September 2019.
[13]International Finance Corporation (IFC), 'MSME Finance Gap', (ifc.org), 2024.
[14]World Economic Forum, 'How are rising housing costs affecting people', (weforum.org), June 2022.
[15]Holdings as of 31/12/23

Catalyst approach

Investing capital where it counts

The purpose of the Catalyst platform is to channel capital to innovative, privately owned businesses seeking to tackle some of the world's biggest environmental and social challenges.

Climate change, availability and accessibility of effective healthcare, energy and food insecurity, and social and economic inequality are global, complex problems which require significant effort and capital to address. Catalyst aims to build lasting relationships with entrepreneurs developing innovative solutions to these challenges, providing the financial and other support needed to unlock their full potential.

To meet this purpose, Catalyst has been designed in collaboration with the Prudential Assurance Company's £145 billion With-profits Fund with four key features:

Impact

A focus on intentionality, additionality and measurability of positive impact across three key themes: protecting the climate and environment; improving health for all; and tackling inequality. Impact is at the heart of our platform, giving us the ability to offer solutions and products at any point on the spectrum of impact, sustainable, and ESG investments.

Flexibility

The capability to provide capital how and when growing companies need it: the Catalyst team invests in growth equity, specialty asset equity, credit, and in innovative privately-owned companies or asset platforms tackling the world's biggest environmental and social challenges. This allows us to offer a great deal of flexibility to investee companies seeking financing at different stages in their lifecycle, which few others can provide, as well as matching our client's specific risk / return profile.

Patience

A long-term view which gives businesses with breakthrough technologies the time they need to commercialise and scale-up.

Scale

The capacity to invest globally at scale and to make follow-on investments, which is particularly important to the transformational technologies required in the transition to a low-carbon economy.

Impact

Catalyst's mandate for the Prudential With-Profits Fund has dual objectives: to deliver attractive financial return for customers, and overall generate positive outcomes for people and the planet. Catalyst does not invest in concessional return opportunities and applies robust financial criteria, as well as sectoral exclusions, ESG risk screening and impact assessment, to all potential investments.

We invest impact capital across a spectrum – as defined by the IMP+ACT framework – of (A) Act to avoid harm, (B) Benefit stakeholders and (C) Contribute to solutions, with a conscious focus on increasingly allocating in the B and C categories. Read more about this on page 45.

Over the first three years of the mandate, the proportion of the strategy qualifying as 'positive impact' investments (Bs and Cs) as compared to 'do no harm' investments (As), on a NAV basis for both the Credit and Capital fund combined, have risen consistently from 40% at year-end 2021, to 54% at year-end 2022, to 65% at year-end 2023.

Intentionality

We look for companies that specifically set out to deliver a particular impact, which is part of the company's mission statement, strategy and day-to-day operations. While companies and investors may inadvertently create positive impact, we believe long-term sustainability needs intention.

Measurability

Impact measurement, management and reporting are central to our impact investing practices at Catalyst. We screen and monitor our investments in accordance with two frameworks: the SASB materiality map[16] that enables us to focus on sustainability issues which are relevant or are material risks to financial performance, and the Impact Management Project's IMP+ACT framework[17] that helps us conduct impact analysis.

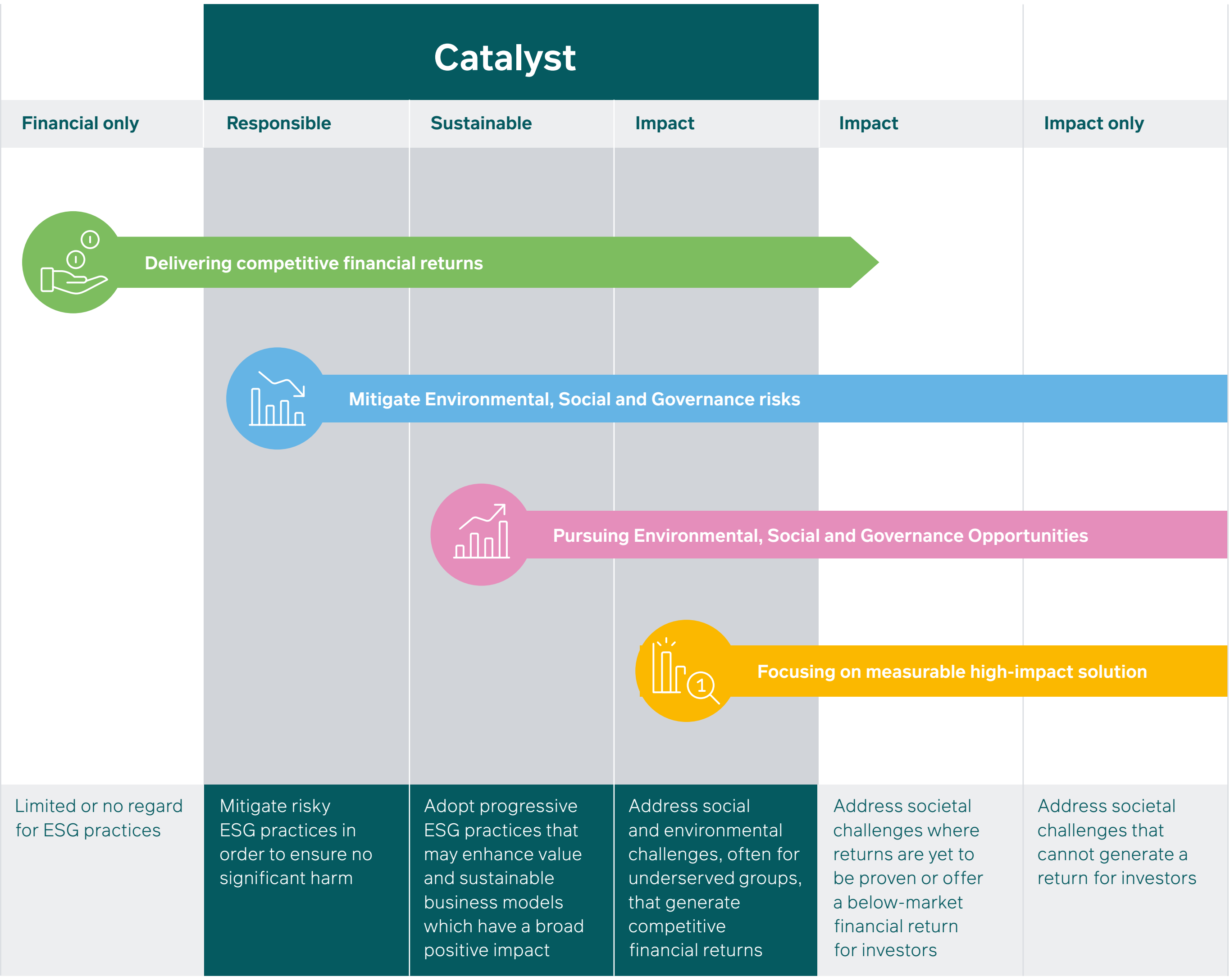
These frameworks are employed from the screening stage and our investments are periodically monitored in accordance with these frameworks and defined metrics. Metrics are drawn from databases that are used widely in the industry to maintain an overarching consistency and comparability where possible. The primary database used to derive metrics is IRIS+[18], however where an investee company has selected non-IRIS performance indicators, we use these to reduce the reporting burden.

Additionality and materiality

Additionality also helps us identify impact investments. In our assessments, we ask how the world would be different if a particular company did not exist or if it were not adequately funded, or how replicable its products or services are. We might also ask if the type and terms of our investment capital are additional to what the company could raise without us. For example, in many cases potentially high-impact companies might not be able to access long-term or flexible capital from other sources.

We also consider the 'materiality' of the products or services provided by these companies, which is estimated or calculated as the level to which they help solve a given societal problem, and the percentage of the company's revenue derived from those activities.

Where Catalyst invests on the impact spectrum



[16] Exploring Materiality, SASB (sasb.ifrs.org)
[17] ABC of Enterprise Impact, Impact Frontiers (impactfrontiers.org)
[18] IRIS Catalog of Metrics, IRIS+ System (thegiin.org)

Catalyst approach

Flexibility in where we invest

With team members based in London, New York, Singapore and Mumbai, Catalyst can originate and execute transactions anywhere in the world. We have made portfolio investments in six continents, and although there is a larger concentration of direct Catalyst investments in developed markets, we also have indirect exposure to many emerging markets: for example, via our investments in Microfinance Enhancement Facility or Vivriti. The 64 investments that we have made to date are headquartered in or have operations predominantly based in the United Kingdom (20), United States (16), European Union (8), Asia Pacific (1), Africa (1), Ireland (1), Israel (1), India (2), World (4), Switzerland (3), New Zealand (1), Chile (2), Brazil (1), Germany (1) and Norway (2).

Flexibility in how and when we invest

Catalyst invests via two funding mechanisms:

- The M&G Catalyst Capital Fund, which invests directly in specialty assets and corporate growth equity, and indirectly in smaller specialist funds managed by other investment managers. Although it invests predominantly in private assets, it can also hold public equity: for example, in order to benefit from growth in value after a Catalyst portfolio company holds an Initial Public Offering.
- The M&G Catalyst Credit Fund, which invests in Senior Secured and Junior Debt.

Both funds have dual investment objectives, to achieve an attractive financial return whilst overall making a positive difference to the environment and society. The investment ticket sizes for both funds can range from $10-300m, with a target ticket size for equity investment over $50m and for debt over $30m. The flexibility of the mandate and the diverse expertise of the team allow Catalyst to offer a greater choice of financing solutions to investee companies: equity, debt, or specialty asset-backed equity, and at different times in the company's lifecycle, according to the their needs.

- We can invest in specialty assets including platforms of financial assets and real assets. Our focus is on capital preservation and creating structures that mitigate downside and align our interest with the originators and servicers. Our strong market relationships and structuring expertise enable us to obtain very competitive leverage facilities to boost returns and deliver strong exits. Typically, this involves the roll-out of assets that fit with the sustainable economy of tomorrow.
- We can deploy capital using equity and equity-like instruments. We invest in operating, innovative and disruptive sustainable companies and platforms, which are typically at growth or later stage and are leading their respective sectors into a more sustainable economy. We can take either a minority or a majority stake and act as a patient holder, building a long-term partnership, with risk-adjusted return requirements. We price for risk based on the stage of the business and we try to limit our exposure to technology risks. We focus on companies that are tackling the biggest issues and these are, consequently, the larger global opportunities.
- We can provide companies with private credit to help them scale up and increase the impact of their activities. We can structure debt as senior secured floating rate debt as well as in junior tranches, including lower-rated senior debt, secured by single or pooled assets. Our focus is on capital preservation, asset valuations and recoveries, appropriate alignment of interest, structure and controls, alongside ESG risk mitigation, sustainability and positive impact.

Scale

The Organisation for Economic Cooperation and Development (OECD) estimates that there is a US$3.7tn[5] funding gap between the annual financing needed to meet the UN Sustainable Development Goals by 2030 and what is provided by current investment levels, with the COVID-19 pandemic creating additional capital needs and reducing existing funding.

We believe that in the transition to a sustainable economy, the most successful businesses will be purpose-driven high-growth companies that contribute to solutions to the social, environmental and economic challenges we face, often disrupting existing value chains and business models.

However, these businesses, particularly those with IP-based scientific and technological solutions, will require large amounts of capital to unlock their potential. Once their technology and commercial relevance has been proven, they will need investment at scale to grow the business and make a meaningful impact – beyond the funding that most venture capital firms can provide.

With a £5 billion mandate, Catalyst is one of the few institutional investors in the UK and Europe with the scale and expertise to capitalise on this opportunity, by leading or making substantial commitments to later stage funding rounds.

Patience

Catalyst is structured as an open-ended, evergreen mandate, which allows Catalyst to take a long-term view of emerging industries, particularly in carbon transition and in life sciences. These sectors have massive potential for global positive impact, but product development can take years to move from the lab bench to commercialisation and making impact at scale, requiring sustained investment in follow-on rounds over several years.

In the UK, there is often clear additionality due to the shortage of patient scale-up capital available for innovative Intellectual Property-based businesses from other sources, making Catalyst one of the few investors in this space. Catalyst's close links with, and investments in, university accelerator and spin out funds such as Oxford Sciences Enterprise, Cambridge Innovation Capital, and Northern Gritstone mean that we are well positioned to access the most promising emerging opportunities in deep tech.

Catalyst is also unusual in being able to hold investments up to and beyond IPO, to ensure that our end customers do not miss out on the significant value and impact which can accrue after a company goes public. This is an attractive proposition to investees too, who value M&G's knowledge of and participation in public markets as well as private ones.

M&G Catalyst – Investing in Women

In January 2023, M&G was one of the first large UK asset managers to sign the UK Government's Investing in Women Code on behalf of the Catalyst Fund. At present, less than 1% of all venture capital (VC) in the UK[19] and only 2.4% in the US[20] is invested in female-founded ventures. This disparity represents a missed opportunity for economic growth, job creation, and enhanced investor value. By becoming a signatory to this code, Catalyst committed to taking meaningful action to address this gap by helping female entrepreneurs access funding necessary to scale their businesses.

Under Catalyst's Investing in Women initiative, an initial £50 million has been allocated to VC managers – typically those making Seed and Series A investments – which are often, if not exclusively female-led and committed to investing in female founders. This initiative has a global footprint, with allocations available in each jurisdiction where Catalyst has an investment team: the US, EMEA, and Asia. The Catalyst Investment Committee has appointed a diverse sub-committee which has the ability to deploy up to 20% of the allocation into each fund and the ability to allocate to follow-on funds by the same manager if they see fit. At present, the £50 million allocation is nearing full deployment into funds that meet the Catalyst ESG and Impact mandate and are committed to supporting female founders.

[19] British Business Bank, 'UK VC & Female Founders, report' (british-business-bank.co.uk), February 2019.

[20] PitchBook-NVCA, 'PitchBook-NVCA Venture Monitor Q4 2022', (pitchbook.com), January 2023.

Deep dive: impact pillars

Climate and the environment

31%
of Catalyst's NAV has been deployed into climate and environmental investments.

The Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report, released March 2023[21] highlighted that human-induced global warming of 1.1°C (2°F) has resulted in unprecedented changes to the planet's climate such as extreme weather events, rising sea levels, and rapidly receding sea ice. The report warned that any further warming will exacerbate these changes–every 0.5°C (0.9°F) increase in global temperature will likely heighten the frequency and severity of heavy rainfall events, heat extremes, and regional droughts. Additionally, increasing global temperature elevate the risk of crossing critical tipping points in the Earth's climate systems. Once these thresholds are breached, they could initiate self-reinforcing feedback loops, further accelerating global warming through mechanisms such as large-scale forest dieback and thawing permafrost[21].

Reducing greenhouse gas (GHG) emissions is thus an imperative for the long-term health of the planet. Fossil fuels remain the largest producer of GHG emissions, and efforts are underway to reduce and eventually eliminate these emissions from fossil fuel combustion. At the closing of the COP28 Summit, the 28th UN Climate Change conference, that took place in Dubai, UAE in November-December 2023, the UN Climate Change Executive Secretary Simon Stiell said in his closing speech: "Whilst we didn't turn the page on the fossil fuel era in Dubai, this outcome is the beginning of the end. Now all governments and businesses need to turn these pledges into real-economy outcomes, without delay."

Beyond fossil fuels, significant emission reductions are required across areas such as industry, buildings, electricity generation, agriculture, and forestry. Primary sectors such as agriculture, forestry, and other land uses are responsible for 20% of total emissions, while transportation, industry, electricity generation, and buildings account for around 80% percent of emissions[22].

To effectively mitigate climate change, immediate actions are necessary: retiring coal-fired power plants, investing in clean energy solutions and energy efficiency, retrofitting and decarbonising buildings, and decarbonising the production of cement, steel, and plastics. Additionally, transitioning to electric vehicles, enhancing public transport, biking, and walking, decarbonising aviation and shipping, reducing food loss and waste, improving agricultural practices, halting deforestation, and restoring degraded land are critical steps[22].

Furthermore, as per the IPCC's findings, decarbonisation across sectors and industries, along with building resilience, will not be sufficient to achieve global climate goals. Pathways that limit warming to 1.5°C (2.7°F) with limited or no overshoot rely on some degree of carbon removal. These approaches constitutes both natural solutions, such as sequestering and storing carbon in trees and soil, as well as emerging technologies that capture carbon dioxide from the atmosphere[22].

Businesses that offer solutions to mitigate climate change and help us live sustainably within the Earth's limited resources have the potential to generate positive impact and significant value. For example, according to the IEA, transitioning to a low-carbon energy system could yield $26 trillion in net present value by 2050[23], and the opportunity in clean tech infrastructure is estimated at $56 trillion by 2050[24].

Investable areas

We invest in a wide range of industries and types of companies within our climate and environment theme. Specific investment areas which we have identified are: circular economy and waste management, green transport, renewable energy, energy efficiency, sustainable and regenerative agriculture, sustainable housebuilding, and carbon capture and storage.

> **"Whilst we didn't turn the page on the fossil fuel era in COP28, this outcome is the beginning of the end. Now all governments and businesses need to turn these pledges into real-economy outcomes, without delay."**

[21] Intergovernmental Panel on Climate Change (IPCC), 'Sixth Assessment Report', (ipcc.ch), March 2023.

[22] World Resources Institute, '10 Big Findings from the 2023 IPCC Report on Climate Change', (wri.org), March 2023.

[23] Global Commission on the Economy and Climate, 'Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times', (newclimateeconomy.net), 2018.

[24] International Finance Corporation (IFC), 'A Green Reboot for Emerging Markets', (ifc.org), 2021.

Case study:

BioFirst Group

Growth Equity

IMP Category: C

Biofirstgroup.com

Interview with Jean-Marc Vandoorne, CEO and Peter van Leent, Sustainability Manager, BioFirst Group

Jean-Marc Vandoorne
CEO

Peter van Leent
Sustainability Manager

Q. Can you provide us with some background on the BioFirst Group and your role within the company?

Jean-Marc: The company was founded in 1987 by a Belgian veterinarian with a passion for bumblebees. He had the idea to use bumblebees for commercial greenhouse pollination, which proved to be a huge success, boosting farmers' yields and cutting labour costs. However, pesticides were harming the bumblebees, so we developed sustainable biological control methods to tackle pests and diseases.

In the '90s, we expanded to include biological control using insects and mites, which are now just as efficient and cost-effective as chemical alternatives. We've grown a lot over the years and I came on board as CEO in 2009. Since 2014, we have been actively acquiring other companies, with 18 acquisitions to date.

Peter: I have been the Sustainability Manager at BioFirst for about three years. At the time, the management recognised the importance of structurally organising our sustainability efforts and the board appointed me to oversee the strategy and measurement of our initiatives. With my experience in various sectors, my focus is making sustainability measurable and demonstrating the added value to both society and the company. I began by identifying the core focus of BioFirst, both in terms of what we want to measure and communicate to showcase our existing sustainability efforts. We also looked at how to align our internal operations with sustainable practices, considering areas like product usage, emissions, toxicity, and overall product improvements.

Q. How has BioFirst's approach to impact evolved over time?

Jean-Marc: Back in 1987 when sustainability was not yet really on the agenda for most people, our products attracted customers primarily for their economic value. However, as concerns like climate change and food security became increasingly important issues to retailers, our focus likewise shifted towards sustainability. In this way, our journey didn't start with a sustainable idea; rather, over the past 37 years, we naturally evolved to align with the broader sustainability movement.

At first, we concentrated on the sustainability of our products. The global sustainability movement activated our focus on our internal operations. We realised the need for a more organised approach, as everyone was working on different aspects without a clear vision. Now, sustainability is integrated into our daily operations, project priorities, and reporting. We have dedicated teams working on packaging, energy, and transport, with set targets agreed upon by our board and shareholders. Peter coordinates these efforts as we actively work towards achieving our goals.

Peter: The shift in societal values towards sustainability has been significant and is increasingly reflected in financial and business practices. The Stiglitz Commission's 2009 report for the UN general assembly marked a turning point by including non-monetary values like environmental impact in the global financial system. Business models today are evolving to address long-term sustainability risks, as seen in the agricultural sector. Farmers are increasingly recognising the long-term costs of chemical usage and slowly, but gradually, shifting towards more sustainable practices.

The asbestos example is a stark reminder of the hidden costs of short-term thinking. Initially, asbestos was valued for its heat resistance and durability at a low cost. However, its long-term health risks and environmental impact were either unknown or underestimated at the time, leading to significant future costs. Examples like these from the industrial era have led to a reevaluation of production processes and a shift towards long-term risk assessments. While the process is complex and ongoing, the trend towards sustainability and long-term thinking is clear and promising.

Q. How is BioFirst measuring its impact?

Jean-Marc: At BioFirst, we measure our impact in three ways. First, our sales growth is a straightforward indicator: the more products we sell, the more we contribute to sustainable practices.

Second, we track specific Key Performance Indicators (KPIs) like reducing our carbon footprint, improving packaging sustainability, and enhancing waste separation. These metrics offer a more granular perspective on our sustainability initiatives.

The third level is more complex due to the nature of our biological products, which are not a one-for-one replacement for chemicals. Instead, we offer product combinations to combat specific pests or diseases, making a direct comparison difficult. Shareholders often ask about the quantity of chemicals we've replaced, but this isn't a straightforward calculation. We are cautious of getting lost in the minutiae or chasing an impressive figure, which could potentially mislead or misrepresent our true impact.

That said, there is a strong correlation between our sales growth and our impact. As we continue to refine our methodology, our sales growth and KPIs remain a reliable indicator of our overall impact. We are dedicated to transparency and regular reporting on our progress towards our sustainability goals.

Peter: I echo what Jean-Marc said. While we could spend considerable time comparing how our products work in different contexts, such as tomato cultivation in the south of the Netherlands versus pepper production in Australia, the essential point remains the same; we are replacing chemicals and fertilisers with Integrated Pest Management (IPM) strategies, which is a positive step towards sustainable agriculture. Currently our time is invested in offering the best possible products to our clients and measuring our sustainability progress at group level.

Case study:

BioFirst Group

Q. How is BioFirst using innovation to enhance its agricultural practices?

Jean-Marc: We understand the importance of balancing pests and diseases with biopesticides, biostimulants, beneficial insects, and other biological crop protection products – a concept rooted in traditional farming practices. However, we augment this approach with modern technology. Using artificial intelligence, we interpret data collected by tools like the 'Crop-Scanner', to make informed decisions.

The 'Crop-Scanner' is the central hub of all our operations, and we add new solutions to it every year to better tackle specific pests or diseases. With these tools, we can automatically gather reports and identify specific locations in the greenhouse or field where pests or diseases are present. This allows us to assist growers in a more targeted and efficient manner, a practice known as precision agriculture.

Our goal is to create a digital decision support system that analyses data, proposes solutions, and even automates product acquisition. We aim to implement an integrated system for our customers, merging traditional wisdom with technological solutions.

Q. What are the main challenges you've come across since working in this space?

Jean-Marc: I think regulation is our biggest challenge worldwide, particularly in Europe, where there's a goal to reduce the use of chemicals by 50%. Farmers would likely prefer biological products if they were as efficient and competitively priced as chemical ones. However, the regulatory process in Europe can take up to 10 years for a product to get approved, compared to just one year in countries like Brazil.

This regulatory lag creates a bottleneck. If Europe aims to reduce chemical use by 50% by 2030, it's an ambitious goal given the current rate of product approvals. The products are available but not yet approved for use. While we acknowledge the need for regulation to prevent the introduction of certain species into new environments, it slows down progress in a lot of ways. Alongside this, we face the same challenges as everyone else in our industry.

Peter: Legislation can sometimes be necessary to ensure a level playing field with competitors. For instance, as Jean-Marc mentioned, we don't want any company to introduce any species in the wrong place, so we appreciate regulations that all industry players must follow.

However, in some instances, regulations can hinder our progress. This is evident in our supply chain, particularly in the flow of materials and the extent of recycling permitted by law for example. We often find potential resources we would like to use, but regulatory or market conditions make it challenging. For example, we would greatly benefit from freely available biobased plastics that are recyclable and easily reused. However, if these sectors face similar challenges and cannot compete with traditional plastic suppliers who use crude oil, these biobased products become prohibitively expensive. Passing this type of costs onto customers would hurt our competitiveness.

So, these regulatory and market challenges extend to our supply chain and the products we use. Overcoming these challenges will help us achieve our internal goals and make more sustainable products available. In general, there are many great ideas, but the path to implementation can be complex due to regulatory challenges and other costs of innovation.

Q. What has Catalyst's role been in BioFirst?

Jean-Marc: Firstly, Catalyst played a crucial role in facilitating our acquisition of Biotrop in Brazil. Such growth also brings about substantial changes at our level. I recall in 2009, I was involved in weekly planning process for the start up of new bumblebee hives in our plant in Belgium. Today, my responsibilities have shifted significantly, reflecting the evolution in our organisational structure, business operations, and even our board level operations.

Especially now, following our substantial acquisition, we have welcomed many new shareholders. I greatly appreciate the professionalism introduced by Niranjan Sirdeshpande (Head of Catalyst). His calm demeanour has been instrumental in navigating these changes. Niranjan's counsel has been helpful to us in structuring and organising our operations.

Q. What was your first memory about witnessing an 'impact' being made?

Jean-Marc: My earliest memory of understanding impact dates back to when I was 12. We went on a school trip to Switzerland and visited a hydroelectric power station. I had never seen anything like that. This was in the early '80s, just after the oil crisis of the '70s, so seeing free electricity generated by nature was fantastic. Although I didn't become an environmentalist immediately, that experience stuck with me. Fast forward to 2009 when I was introduced to BioFirst, I was impressed by their environmental impact through their products. Not many companies can claim to make such a significant difference.

Peter: During my studies as a biologist and throughout my 13-14 years working in sustainability, I've always been drawn to making real changes in the world. I previously worked at an engineering company, and while writing great recommendations and reports was satisfying, I have always been much happier seeing 20 windmills being erected or seeing a new part of a city being built as envisioned. While research is valuable, I love seeing knowledge applied and making a tangible difference.

When I joined BioFirst for example, I spoke with our HR department and insisted on having an electric car to match my role. It was the company's first one and they made it happen within weeks. Together with the finance department, we've changed the policy and now we're moving towards an all-electric car fleet. It's starting with a small change that leads to significant progress.

Another memorable moment for me was organising a cleanup action where even Jean-Marc participated. It was a powerful experience, showing that while we work on global strategies, we can also roll up our sleeves to make a local impact. I believe we don't just talk about change, we demonstrate it as well.

What song do you start your day with?

Jean-Marc: I'm a big music fan. I just returned from a rock concert here in Belgium, which I attend every year. It's a difficult question to pick just one song to wake up to because I enjoy a wide variety of music styles. I'm a big fan of The National and Nick Cave. But, if I had to choose a song that makes me happy in the morning, it would be 'I Say a Little Prayer for You', by Aretha Franklin. Even though it doesn't exactly fit my usual music preferences, it's a great song that lifts my spirits for the rest of the day.

Peter: I'm more into heavy metal and punk music. Electronic music like by The Prodigy or Pendulum also makes me happy, as long as it's fast-paced and loud. If I had to pick a song that combines my love for punk music and sustainability, it would be something by Bad Religion. They have quite a few songs that advocate for the planet and the environment.

Key statistics

In 2023, the company successfully avoided 30.6 million metric tonnes of CO_2 equivalent ($mtCO_2e$) in GHG emissions by substituting nitrogen-based fertilisers with its innovative inoculants and biostimulants. These inoculants provide nitrogen-fixing bacteria, while the biostimulants enhance plant physiology and increase tolerance to abiotic stress. Biotrop produced nearly 8,000 cubic metres of these products, sufficient to cover 22 million hectares and replace nearly 12 million tonnes of nitrogen-based fertilisers*.

Additionally, Biotrop produced approximately 3,400 cubic metres of biopesticides, enough to treat an area of 6.4 million hectares, thereby avoiding the application of 7,400 tonnes of chemical pesticides on crops.

*Estimates are based on Biotrop's inoculants applied over 11.4 million hectares, replacing 11.4 million tonnes of nitrogen-based fertilisers and avoiding 29.8 million metric tonnes of CO_2 equivalent, assuming 100% application to high-productivity soy crops.

Case study:

Boston Metal

Growth Equity

IMP Category: B

Bostonmetal.com

Interview with Tadeu Carneiro, CEO, Boston Metal

Q. Can you provide us with some background on Boston Metal and your role within the company?

A. Boston Metal was founded to manufacture metals sustainably using molten oxide electrolysis. This process uses electricity to break down oxides in an electrolytic cell, allowing for metal recovery. It is particularly effective for green steel production, eliminating CO_2 emissions by using clean electricity instead of coal. The technology can utilise any grade of iron ore, making it scalable and efficient.

Additionally, we are exploring metal recovery from mining waste. Initially developed at MIT with NASA funding for lunar oxygen production, the technology was adapted for Earth-based steel manufacturing by switching the anode material to a chromium metal alloy, making it economically viable. Altogether, the company's technology offers a sustainable and scalable solution for green steel production and metal recovery from mining waste.

I joined the company in its very early stages as the sixth employee in 2017. I had connections with professors at MIT and the first angel investor who funded the transition from small-scale experiments to larger applications. Initially exploring various metal systems, we decided to focus on steel and high-value metal extraction from mineral waste due to the significant impact our technology could have in those industries. This strategic focus has driven our growth and development.

Since then, we've had three successful financing rounds, growing the company to nearly 300 employees and securing $450 million in investment.

Q. How is Boston Metal contributing to sustainable practices and impactful solutions in the industry?

A. This technology is revolutionising impact and sustainability in the industry in two main ways. First, its high selectivity allows us to use low-grade feedstocks to extract valuable metals, making it a powerful tool for the circular economy. It enables us to recover more value from mining waste, offering a 'second crop' from what was previously considered waste, thus enhancing efficiency.

Second, it helps decarbonise the steel industry. Metals in nature are usually found as oxides, and traditionally, carbon is used to reduce these oxides. This technology, however, uses electricity instead of carbon, significantly reducing CO_2 emissions.

Day-to-day, we focus on sustainability, examining every aspect of scaling up the technology to improve efficiency. To revolutionise the steel industry, we will need to transform the supply chain through key partnerships for large-scale implementation.

We are currently in the pilot phase for our steel technology and are close to manufacturing the first semi-industrial cell. Soon, we will create the first industrial demonstrator to better measure the technology's impact.

Q. What are the main challenges you've come across since working in this space?

A. Initially, our main challenge was convincing stakeholders that steel could be competitively manufactured using electricity. Some even joked that only divine intervention could provide the necessary electricity to eliminate carbon from steel manufacturing on a large scale. However, it is now widely accepted that this is feasible.

At this stage, obtaining green electricity is not a significant challenge. We have access to affordable green electricity in various parts of the world, which allows us to deploy our energy-intensive technology. Our process is actually more energy-efficient than the incumbent methods, using fewer megawatt hours per ton of steel. While traditional methods rely on coal, our technology requires electricity, making it crucial to believe in the future availability of abundant, cheap, and reliable green electricity.

Currently, there are regions with cheap green electricity ready for commercial deployment of our technology. As we scale up, the need for more green electricity will grow, but we anticipate this will be met through new sustainable generation methods and energy storage solutions that stabilise supply.

Today, the challenge is to accelerate the implementation process. We don't face significant regulatory obstacles; in fact, there is widespread support for rapid deployment. The primary focus now is on scaling up, developing engineering systems, and making larger advancements more quickly.

Boston Metal pilot plant

Q. What has Catalyst's role been in Boston Metal?

A. It's a significant endorsement, arriving at a crucial moment when the market was questioning valuations and the importance of various investments. This endorsement also came with a structure that aligns with sustainability metrics, which other investors also value.

The European component of this endorsement is particularly beneficial, as it imposes stricter parameters on sustainability. This helps us structure that aspect of our business more effectively, ensuring we meet high standards and gain further credibility in the market.

Q. What was your first memory about witnessing an 'impact' being made?

A. There are several examples of impactful events in our daily lives, but the first major impact that truly changed me and opened my eyes happened when I was a kid. It was the first human heart transplant performed by Dr. Christian Barnard in South Africa. The idea of transplanting a heart from one person to another was astonishing to me as a child.

Case study:

Boston Metal

Shortly after that, the moon landing occurred, which also had a profound impact on me. These two events – the heart transplant and the moon landing – showed me that anything is possible. They instilled in me the belief that you can dream big and achieve the seemingly impossible. These early experiences were my first recollection of impactful events. In my professional career, I've encountered many significant moments, but they seem almost minuscule in comparison because these events showed me how powerful human capabilities are.

Q. What song do you start your day with?

A. That's a difficult question because I'm very passionate about music. I love starting my days with classical music, ranging from Carl Orff to Mozart and Vivaldi. But I have a deep appreciation for the classics across genres, whether it's Brazilian songs, hard rock from the '70s, or music from the Middle Ages.

Deep dive: impact pillars

Better Health

9%
of our strategy's NAV has been deployed into health and life sciences investments.

As the global population and general life expectancy continues to rise, the demand for quality and affordable healthcare is expected to grow accordingly. Concurrently, increasing healthcare costs and demand are expected to heighten concerns regarding affordability and accessibility of quality healthcare services. To adapt to and address these challenges, new technological solutions, such as telemedicine, affordable diagnostics, and better healthcare delivery systems, should be leveraged. Dr Philippe Duneton, Executive Director of Unitaid, as part of the 2023 progress report on the Global Action Plan for Healthy Lives and Well-being (SDG3) from the World Health Organization (WHO), highlighted that: 'To reach global health goals, we must be proactive and invest in novel illness prevention, diagnostic, and treatment solutions.'

The 2023 progress report on the Global Action Plan for Healthy Lives and Well-being (SDG3) from WHO highlighted that: ‘Even before COVID-19, the world was off track on major health-related indicators. Now, it is even further behind, and many countries face a range of overlapping health crises stemming from the impact of the pandemic, war, food insecurity and climate change. Economic conditions are also placing significant pressure on domestic and external financing for development. While other approaches, such as data and delivery for impact and innovation in products, services and financing, are also needed, enhanced collaboration within the multilateral system is more important than ever to help accelerate progress towards the SDGs and make the most efficient and effective use of available resources[25].’

Investable areas

Catalyst can invest across the value chain of healthcare and life sciences. Rather than investing in individual drugs or treatments, we prefer to invest in platform technologies that help healthcare providers broaden their reach and impact. These can include innovations to improve the speed and accuracy of diagnosis, early detection of diseases, and technologies that improve the speed and cost of drug discovery: such as cell and gene sequencing, the use of big data and artificial intelligence, and new ways of making research materials. We also invest in products to increase the scale and reduce the costs of clinical work, such as patient records and billing software, wearable devices, portable diagnostic tools, data analytics, and telemedicine. We partner with specialist start up incubators and early-stage investors to broaden pipeline of opportunities for Catalyst to consider as a late-stage grow equity investor.

[25]World Health Organization (WHO), ‘2023 progress report on the Global Action Plan for Healthy Lives and Well-being for All’, (who.int), May 2023.

Case study:

SkyCell

Growth Equity

IMP Category: B

Skycell.ch

Interview with Dr. Remo Gerber, CFO, SkyCell

Q. Can you provide us with some background on SkyCell and your role within the company?

A. SkyCell is a technology company revolutionising the pharmaceutical supply chain with proprietary software, hardware, and big data analytics. As the leading manufacturer of temperature-controlled door-to-door container solutions, we help pharma companies optimise their supply chains by reducing and predicting risks in air delivery of sensitive drugs. Our software integrates simulation and operational data, providing real-time, end-to-end oversight of global shipments.

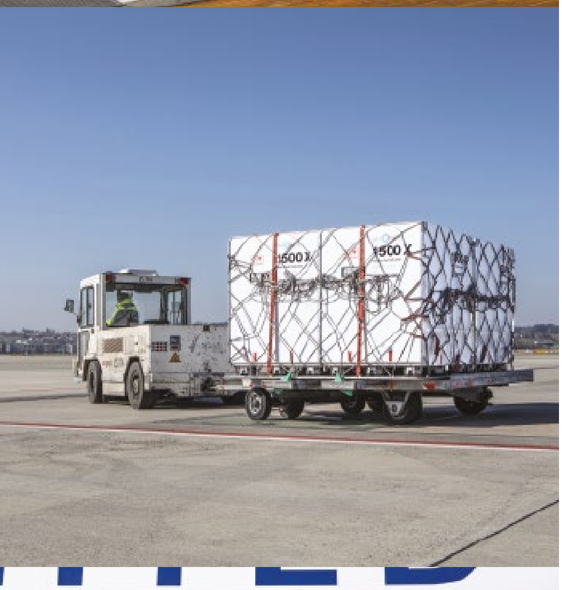
As SkyCell's CFO, I'm focused on raising funds and helping to structure the company so we can grow and eventually be ready for a public offering. I joined for three main reasons. First, the founders and team are incredibly inspiring. Second, the product has a clear and meaningful purpose. It's easy to see how our solutions can significantly reduce the carbon footprint when transporting goods globally. It's quite simple – when a box weighs half as much and can be returned via ocean transport instead of by air, it significantly reduces the carbon footprint, often by more than half. Third, the product has strong unit economics, making it very attractive and a great case to invest.

Overall, I very much enjoy that the company is highly innovative. SkyCell is a technology company specialising in both software and hardware, rather than a logistics organisation as it might initially appear. We focus on developing cold chain hardware and Internet of Things (IoT) monitoring systems for transporting medicines and other highly perishable, temperature-sensitive goods globally. Over the past five years, we've achieved an impressive record of zero medicine loss, despite not directly managing the logistics transport, which has had a profoundly positive impact.

Q. What impact is SkyCell having on the industry?

A. The pharmaceutical industry is responsible for approximately 4.4% of global emissions and according to IQVIA and the International Air Transport Association (IATA), an estimated $35 billion worth of drugs are lost annually due to temperature excursions. Our goal was simple: create reusable containers with the aim of helping to lower those figures. We focus on impact and sustainability in two main ways.

First, when drugs are lost, it limits access and increases costs, making equitable access to medicine a critical issue. For instance, IATA reports that about a quarter of vaccines lose their efficacy by the time they reach end-users, especially in areas with poor cold chain infrastructure. To combat this, we've designed containers that ensure zero medicine loss, no matter how complex the delivery route.




Second, we're committed to reducing CO_2 emissions. The pharmaceutical supply chain is centralised, with drugs produced in a few locations and distributed globally. These drugs are often flown in due to their short shelf lives, and the specialised containers are typically empty on the return journey. We've halved the weight of our boxes and ship them back instead of flying, significantly cutting the CO_2 footprint. Shipping is about 100 times less CO_2-intensive than flying, so this change makes a big difference.

We are climate-neutral in our own direct operations and are committed to the goal of end-to-end net-zero by 2040. Our sustainability targets are science-led and aligned with both the Paris Agreement and UN Sustainable Development Goals. While we are already net zero in our Scope 1 and 2 emissions, our real focus is on reducing Scope 3 emissions for our clients.

Q. How is SkyCell measuring its impact?

A. We're committed to a science-based approach in our efforts to reduce emissions. We have a dedicated team that measures our emissions and collaborates with several universities to ensure our methods are robust. For example, we've partnered with MIT on an extensive study to analyse the carbon footprint of various packaging solutions worldwide. This research helps us understand how our packaging compares to other options and examines all the factors that impact the journey of drugs from point A to point B. By leveraging scientific insights and industry collaborations, we aim to continuously improve and set new standards for sustainability in our field.

Case study:

SkyCell

Q. How is technological innovation shaping impact in your operations?

A. For over a decade, we have been developing innovative solutions to eliminate medicine loss and reduce carbon emissions within the pharmaceutical supply chain. We believe in adopting a clean sheet approach. For instance, the ideal container would be zero weight and deliver 100% protection. Right from the beginning, our goal has been to manufacture our goods using as little energy as possible. Instead of just tweaking existing processes, we build everything from the ground up to ensure minimal energy use from the start. This means we're extremely efficient, using fewer resources and materials.

We're really focused on where our energy comes from. For instance, we have installed solar panels on the roofs of our global service centres to ensure we utilise clean energy during various operations, such as charging the phase change materials in the containers before use. The main idea is to use as little energy as possible, which also applies to our containers and manufacturing processes. Making our products lighter is a big part of our strategy. Lighter products mean we use less material and produce fewer emissions during transportation. We've been working on this continuous cycle of improvement for the last 10 years. With our current 1500x container product, we've set a new gold standard in the industry.

Q. What are the main challenges you've come across since working in this space?

A. The real challenge is getting our large clients to think about the total cost, including the environmental impact. Many big companies have systems that work for them, and changing those systems takes effort and a good reason. Often, clients are reluctant to pay more for just one element and making holistic changes can be challenging because budget holders are spread across their value chain. This makes it hard for them to see the full picture of transport costs.

We believe that total cost should also include the CO_2 emissions from our clients' current practices. This is a significant change and will take time. Some of our clients are more advanced and are already considering end-to-end costs, including CO_2 emissions. In the end, our goal is to help our customers reduce risks, costs, and CO_2 emissions in their supply chains. By doing this, we aim to promote more sustainable and efficient logistics practices.

Key statistics

- Environmental impact: By switching to SkyCell's containers, a typical client avoids over 200,000 tonnes of CO_2 emissions, equivalent to the annual emissions of 40,000 gasoline-powered cars.
- Product Integrity: To date, SkyCell customers have experienced less than 0.1% temperature deviations, resulting in zero product loss for medications and vaccines.
- Gender diversity: Women hold 32% of management positions at SkyCell.

Q. What has Catalyst's role been in SkyCell?

A. Catalyst is a relatively new investor in our company, but even in this short time, their involvement has already made a significant positive impact. The insights and connections that the Catalyst board member, Praveg Patil (Head of APAC), brings to our discussions have been invaluable. They have helped us connect with various other players in the ecosystem and open doors that were previously inaccessible, which has been tremendously helpful. Also, incorporating a long-term perspective into the discussion is helpful as we are transforming a well-established industry not only with software but, more critically, with a hardware product. This kind of change doesn't happen overnight.

We're only at the beginning of what we believe will be a fruitful working relationship, and what we truly appreciate is the quality of this relationship. Catalyst takes a long-term perspective, which aligns with our vision. We understand that significant impact won't be realised in just a few months or the next quarter; it requires a longer-term commitment. We've already seen this long-term approach in action. Extending our Series D funding to over $116 million is a testament to the support we've received from the Catalyst team. This has put SkyCell in an extremely strong financial position, enabling us to pursue our goals with confidence.

Q. What was your first memory about witnessing an 'impact' being made?

A. From my professional career, I have numerous examples, but one particularly memorable moment was witnessing the maiden flight of an electric vertical takeoff and landing aircraft in 2019. This four-seater plane was designed from the ground up to be fully electric, and its successful flight demonstrated the feasibility of electric vertical takeoff and landing, a concept many had previously doubted.

The implications of this technology are vast, with the potential to transform how our societies move while maintaining high speed and low environmental impact. Watching the aircraft take off vertically, fly, and land safely was a powerful moment that showcased the potential of electrifying aviation.

Although it may take another decade or two to be fully realised, this milestone proved that sustainable, electric flight is possible and set the stage for future advancements in the field.

Q. What song do you start your day with?

A. If I start my morning with music, my go-to choice is usually Chopin's 'Nocturnes'. I know it's a bit counterintuitive, but it gets me into the flow to focus on what really matters.

Case study:

Osler Diagnostics

Growth Equity

IMP Category: B

Oslerdiagnostics.com

Interview with Connor Campbell, Founder and CEO, Osler Diagnostics

Q. Can you provide us with some background on Osler Diagnostics and your role within the company?

A. We are an Oxford-based diagnostics company whose purpose is to enable anyone, anywhere, to access, understand, and act on their health. To achieve this, we have developed the Osler Origin – a 'portable lab' that can provide lab-quality diagnostics to anyone, anywhere, at any time, and therein enable the decentralisation of global diagnostics and healthcare.

Osler spun out of the University of Oxford in 2017 and currently employs more than 150 staff. My role is Founder and CEO. I started Osler after having previously been working at Oxford Science Enterprises, as an Entrepreneur in Residence, focused on finding disruptive technologies in healthcare.

Q. How is Osler generating impact in the industry?

A. The current healthcare system is highly centralised, being primarily based in hospitals and reliant on laboratory diagnostics. This centralisation makes healthcare inaccessible, slow, inefficient, and difficult to navigate, ultimately leading to poor outcomes, high costs, and low patient satisfaction. Moreover, the decentralisation of healthcare has been hindered by the lack of effective decentralised diagnostics, also known as portable or 'point-of-care' diagnostics. Current solutions are critically limited in their test menus, performance, and usability – they essentially test for a few things, and do so poorly.

To address this, we have developed the Osler Origin – a 'portable lab' that can provide lab-quality diagnostics to anyone, anywhere, at any time. It has a wide applicable test menu, lab-quality performance, and is portable, low-cost, quick, and easy to use. Crucially, the Osler Origin, with its initial tests, is complete, and its capabilities have been proven through robust studies. It is currently preparing for the regulatory process.

We believe the Osler Origin will drive the decentralisation of global diagnostics and healthcare, helping to create a more accessible, efficient, and user-friendly system, with better outcomes, lower costs, and higher patient satisfaction.

Q. What are the main challenges you've come across since working in this space?

A. It has to be the technological challenge.

The urgent need for, and value of, a lab-quality portable diagnostic is well-known. However, whilst many have tried to deliver it over the past decades, none have succeeded.

That is why we are so excited that after many years of working hard on doing so, we have.

Q. What has Catalyst's role been in Osler?

A. I'd like to highlight Martin Wales's (Head of Equity Research, Global Pharmaceuticals / Healthcare Analyst) role as an observer on our board. Martin is highly knowledgeable about diagnostics, and he shares his expertise in a productive and supportive manner; his counsel has been valuable to me, and the whole Board.

Q. What inspired your commitment to impact?

A. I don't think there's any individual experience that inspired it. I've always wanted to make an impact and have been lucky enough to have the opportunities to do so. To me it's always been about just trying to find the way to make the most impact. That's what brought me to healthcare, and specifically to diagnostics, which is the foundation upon which all of healthcare is built – put simply, you can't solve a problem until you first know what the problem is.

Q. What song do you start your day with?

A. I live on the river in Oxford, a walking distance from our office and labs, so I get to listen to nature – mostly rain – whilst I walk to work.

Deep dive: impact pillars

Tackling inequality

41%
of our strategy's NAV has been invested in inclusive growth-related investments.

Inequality is an issue inextricably intertwined with Catalyst's other themes of Climate and Health. For several decades, the world has witnessed a rise in inequality. While some emerging economies have successfully reduced the number of people living below the poverty line, the gap in income and wealth gap has continued to widen. In most developed nations and the major emerging economies, national wealth and income are disproportionately concentrated in the richest decile[26].

According to the UBS Global Wealth Report, in 2023, the richest 1% of the global population – individuals with assets exceeding $1 million – owned 47.5% of the world's wealth, amounting to approximately $214 trillion[27]. In contrast, adults with less than $10,000 hold less than 1% of the world's wealth despite making up nearly 40% of the global population. According to the UN: 'Inequality threatens long-term social and economic development, harms poverty reduction and destroys people's sense of fulfilment and self-worth[28].'

[26] Inequality, 'Facts on Global Inequality', (inequality.org), 2023.
[27] UBS Global, 'Global Wealth Report 2024', (ubs.com), 2024.
[28] United Nations, 'SDG10: Reduced Inequalities', (un.org), 2023.

The pandemic disproportionately affected low-income individuals and communities, and women. According to a report from Oxfam, the pandemic may have pushed up to 500 million people into poverty, and it is estimated that it will take at least a decade for the poorest households to recover from its economic impacts[29]. The McKinsey Global Institute states that women make up 39% of global employment but have accounted for 54% of overall job losses since the pandemic began[30]. As per the UN: 'The incomes of the poorest 40 per cent of the population had been growing faster than the national average in most countries. But emerging yet inconclusive evidence suggests that COVID-19 may have put a dent in this positive trend of falling within-country inequality[31].'

Climate change is also disproportionately affecting people in lower income groups, especially in the Global South. These populations are less resilient to extreme and frequent weather events and reduced agricultural production, resulting in poorer health, food insecurity, displacement, and forced migration. According to a World Bank report[32], it is estimated that an additional 68 to 135 million people are at the risk of being pushed into poverty between 2021 and 2030 due to climate change. The International Monetary Fund's (IMF) research shows that climate change could potentially reverse the gains from economic growth of the past decades and could result in inequality to rise between countries[33]. Additionally, within countries, there is a risk of worsening inequality due to the impacts of climate change. There is also a possibility that mitigating actions taken to minimise the effects of global warming could have a negative effect on inequality if climate policies prove to be too onerous for developing nations.

Investable areas

The good news is that there are businesses focusing intentionally on achieving more inclusive growth. These companies may be responding to structural and systemic issues such as racial and gender inequalities which have left some groups underserved, or to specific issues such as climate change, health, food insecurity, or financial inclusion, where there is often overlap with our other two key impact themes. Some of the investable sectors Catalyst explores include affordable housing, clean energy, accessible healthcare, access to capital and financial services, and gender equality.

[29]Oxfam International, 'Half a billion people could be pushed into poverty by coronavirus, warns Oxfam', (oxfam.org), April 2020.

[30]McKinsey & Company, 'COVID-19 and Gender Equality: Countering the Regressive Effects', (mckinsey.com), July 2020.

[31]United Nations (UN), 'SDG10: Reduced Inequalities', (un.org), 2023.

[32]World Bank, 'Global Action Urgently Needed to Halt Historic Threats to Poverty Reduction', (worldbank.org), October 2020.

[33]International Monetary Fund (IMF), 'Linking Climate and Inequality', (imf.org), September 2021.

Case study:

Vivriti Capital

Growth Equity

IMP Category: B

Viviriticapital.com

Interview with Smitha Jain Arora, Head of Sustainability and Impact, Vivriti Capital

Q. Can you provide us with some background on Vivriti Capital and your role within the company?

A. When our founder, Vineet Sukumar, established Vivriti seven years ago, he had two key priorities in mind: serving India's mid-market segment and promoting financial inclusion. There are close to 15,000 mid-market enterprises in India generating revenue exceeding INR800 million (USD 9.6 million). Vineet recognised the significant challenge faced by these enterprises in accessing debt, particularly long-term debt, which is crucial for their expansion and growth.

The mission then was to develop innovative financial solutions to meet the credit needs of mid-market players, thereby directing investments towards impactful areas aimed at achieving broader financial inclusion. Through its companies, Vivriti Capital and Vivriti Asset Management, the group has pursued this mission with a shared vision of creating parity in the mid-market segment of the country. In seven years, we have served over 400 mid-market enterprises, covered more than 40 sectors, raised commitment totaling INR4.25 billion (USD 51 million), and attracted support from over 800 institutional and private contributors to our funds.

Impact and sustainability have always been fundamental to the Vivriti's ethos. My role since joining in March 2002 has been to oversee Vivriti's corporate sustainability adoption, ESG, impact, and CSR at the group level. This involves developing strategies and initiatives, as well as driving stakeholder engagement and internal collaboration, to ensure adherence to our sustainable practices.

Q. How does Vivriti think about impact

A. It's an ongoing journey for all of us. Initially, the focus was demonstrating commitment to sustainability within the organisation's own operation. Over time, the emphasis shifted to strengthening ESG practices and building a risk assessment framework to consider the long-term sustainability and ethical impact of borrowers.

Our sustainability risk management framework ensures the continuous improvement of our internal processes and systems, enhancing our overall sustainability performance. Impact has been a key driver of these internal developments within our operations. We have adopted sustainable and impactful measures within our organisation including operational decarbonisation initiatives, alongside other environmental initiatives focused on sustainable water and waste management. In addition to this, we prioritise social initiatives that improve the wellbeing and professional development of our employees, while maintaining high standards of ethical governance. We have also incorporated an annual sustainability reporting exercise to publicly disclose and validate our sustainability and impact performance across stakeholders. To date, we have published three sustainability reports.

Moreover, we are committed to 'building a circle of sustainable champions' to foster wider impact through our stakeholder engagement and stewardship activities. We have developed an in-house ESG risk assessment model to evaluate the ESG risks and opportunities of our clients and investee companies. Pre- and post-ESG due diligence is conducted, with the inputs factored into the model that generates an ESG score and report to evaluate an entity's sustainability performance. This process helps us measure, manage, and report on impact parameters, thereby solidifying our impact performance.

Q. How is Vivriti measuring its impact?

A. I'll answer this in two parts: how we measure our investees' ESG performance and how we measure impact. On measuring ESG performance, we started with a concise yes/no questionnaire that was completed in-person. Our methodology has since evolved, from a paper-based checklist to a tech-driven application for a more streamlined process.

We've now developed an in-house model called the Vivriti Sustainability Assessment Model (VSAM). VSAM is designed to meet the requirements of relevant sustainability and impact frameworks and standards, including the Global Reporting Initiative, European Sustainability Reporting Standards, Business Responsibility and Sustainability Reporting, Global Impact Investing Network (GIIN), and Task Force on Climate Related Financial Disclosures. The input from the due diligence is factored into the model to generate an ESG score and report. This report is reviewed by our ESG Risk Assessment Committee, which provides recommendations and charts out monitoring and stewardship action plans to help the entity improve its ESG performance and score.

Regarding our impact measurement and management, we faced challenges related to data availability and granularity, given the size of the entities we finance or invest in. To address this, we've tailored an Impact Measurement and Management (IMM) framework based on global standards such as the GIIN IRIS+ and UN Global Sustainable Development Goals (SDGs). This framework helps us identify and map relevant impact parameters or key performance indicators for reporting. Our IMM framework is further supported by 'The Theory of Change' pathways, which address the five dimensions of impact: 'What,' 'Who,' 'How Much,' 'Contribution,' and 'Risk.'

We successfully implemented this approach with the Vivriti India Retail Assets Fund (VIRAF), leveraging data pools. However, measuring impact for Venture Capital Funds (VCFs) clients remains challenging due to data limitations.

Currently, we simplify impact measurement by mapping sectors to the IRIS+ and the SDGs, identifying specific SDGs aligned with our work. VIRAF has been a stepping stone for us, where we can provide accurate data on metrics such as rural impact, women empowerment, and agriculture. We aim to extend this approach to other sectors within Vivriti Capital and across our entire portfolio. In addition to the VSAM, we have an ESG policy, a Sustainable Finance Framework, an Energy Policy, alongside other relevant social and governance policies. Altogether, measuring impact is an ongoing roadmap for us and we have just begun this journey.

Case study:

Vivriti Capital

Q. What are the main challenges you've come across since working in this space?

A. At different phases I've found different challenges. Initially, the challenge was internal acceptance of ESG within the organisation. Fortunately, our founder had a top-down vision on ESG, sustainability, and impact, which made it easier for others to accept. Over time, as people saw the value our team added, acceptance of ESG grew.

The most difficult challenge, beyond our control, is data. While we can easily build frameworks and tools, if our investee companies do not measure or report the necessary data, it becomes challenging. We have introduced clauses in agreements with financial clients, requiring quarterly data submission, with penalties for non-compliance. This step, taken in March, is aimed at obtaining the required data and is being monitored by our credit team.

Capacity-building is another challenge. Finding individuals with expertise in ESG and impact is difficult. We prioritise intent over educational or field experience. If someone is inclined towards sustainability and making a difference, they are a good fit for our team.

These are gradual steps, and we are cognisant of the time it takes as it ensures a full implementation of the slated methodologies. Overall, we remain committed to overcoming these challenges and advancing our ESG and impact initiatives.

Q. What has Catalyst's role been in Vivriti?

A. I met Catalyst's Asia team on day one, it was my first investor introduction when joining Vivriti. The M&G Investment Committees were extremely educational, providing valuable insights on what questions to ask investees. VIRAF, our first fund with impact measurement, allows us to track and identify impact and how funds are allocated. It is the only fund where ESG considerations play a decisive role in investment decisions.

M&G introduced the principles of the Sustainable Finance Disclosure Regulation (SFDR) to us and its principles of Good Governance, Do No Significant Harm, and Principle Adverse Impact. If an investee lacks an independent director or key policies to be considered sustainable under SFDR, we do not proceed. The fund manager and credit partner closely monitor the progress of investees, ensuring alignment with ESG standards before proceeding. M&G, through VIRAF, has played an instrumental role in shaping this approach. The fund is only a year old, but we've learnt a lot in this whole process in the journey so far.

Q. What was your first memory about witnessing an 'impact' being made

A. Corporate Social Responsibility (CSR) has always been close to my heart. Over the past few years, our CSR initiatives have included restoring lakes. One particular project stood out to me. When I first saw this lake spanning 11.5 acres, I asked "Are you sure there is a lake here?" because all you could see was garbage. We managed the cleaning, deweeding, and desilting of the lake, along with reinforcing its structure. The cleanup was carried out by individuals participating in the government's 100 days of wage employment

Key statistics

- Total number of loans provided: 112,034
- Average loan size (INR in crore): 63,923 INR in crore (USD 767)
- Number of microfinance institutions (MFIs): 57,237
- Number of micro businesses financed: 48,984
- Number of small and medium businesses financed: 1,150
- Number of female/women clients financed: 96,258
- Number of unique agriculture loans: 24,917
- Number of income-generating assets financed: 75,402

programme. So these are unemployed senior individuals from the nearby villages, with 92% of the participants being women.

The lake restoration project directly benefited three villages, impacting around 2,000 people. Every penny spent on this project amplified the impact, and I personally witnessed the results. I was so moved by the experience that it affirmed my commitment to replicating this success with other initiatives.

Q. What song do you start your day with?

A. I have an eleven-and-a-half-year-old boy who's learning Hindustani music, but he loves singing English songs and he's got me hooked on to 'The Knights' by Avicii.

Vivriti team at a lake restoration project

Catalyst investment process

We apply ESG assessment and impact categorisation tools from the earliest stages of consideration of a potential investment. Our end-to-end investment process, and the ESG and impact considerations across this process, is set out below.


Vaccitech scientist in laboratory

1 Screening

As a first step, all potential investments go through a negative screening against our Exclusion List (please see page 56 in the Appendix). We do not consider companies if they derive any revenues from coal, oil and gas extraction, cannabis or pornography, or if they derive a greater share of revenues than the stringent limits, we have placed on activities including defence, alcohol, gambling and tobacco. Potential investees are also assessed against the UN Global Compact Principles on human rights, labour, the environment and corruption[34]. We also carry out initial ESG, impact and intent analyses to ensure an investment is eligible and that there is a sufficiently strong ESG and impact case, alongside financial return considerations, to progress the deal to the next stage. This initial ESG analysis focuses on identifying risks and opportunities in four areas across policy and practice, through their operations as well as supply chains, seeking visibility through the manufacturing process:

- governance
- climate, to align with our zero net carbon target by 2050
- social, specifically considering Modern Slavery
- diversity and inclusion.

We also identify SASB materiality issues by industry, where we focus on the top three to five SASB industry risks. The initial intent analysis helps determine the company's intention in its approach to ESG risk management and impact aspirations. It considers ESG and impact intent across numerous aspects, including the company's Vision, Mission and Strategy; Governance and Leadership; People and Culture; Implementation; and Impact Engagement. The initial impact analysis focuses on IMP+ACT's classification and on IMP's five dimensions of impact (see page 45 for more detail). We ensure that at the minimum, all our investments meet the 'Acting to Avoid Harm' classification. Beyond the material risks perspective applied in ESG analysis, the impact analysis can consider the company's activities from the perspective of the stakeholder: people, communities and the planet.

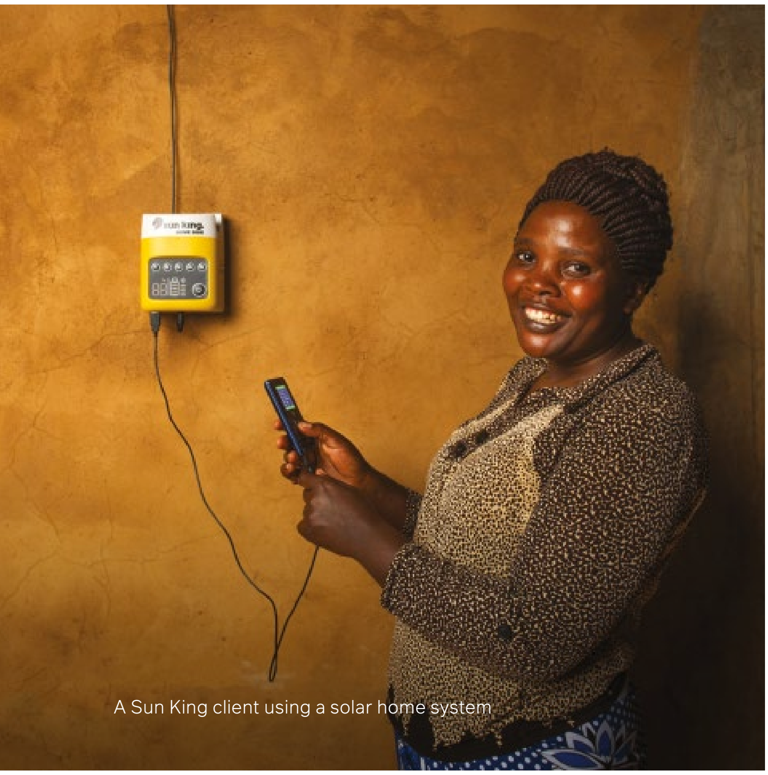
2 Green Light

The financial and initial ESG, impact and intent assessments are considered at the Green Light meeting, where the potential investment is presented to the Investment Committee. The Committee decides if work on the investment opportunity should continue and gives guidance on further diligence. This interim step is useful in ensuring investments are brought to the Investment Committee with the correct information and assessment of further areas of diligence and engagement.

[34] The Ten Principles, UN Global Compact.

3 Further Analysis

The team will then undertake a more detailed analysis to inform or verify its initial assessments. With the screening analysis as a starting point, a detailed analysis of the areas under the ESG scorecard – governance, climate, social and SASB industry material risks, is carried out. More in-depth analysis is also carried out on impact and intent at this stage, in particular addressing material issues highlighted at the Green Light committee. (Across the five dimensions of impact, 'What' is split between positive and negative impact to provide a holistic view and the 'Contribution' is split between enterprise and investor to highlight the role that Catalyst will play. Impact Risks relating to the 'What' and the nine Impact Risk categories must consider the likelihood of the risk happening as well as the consequences for the stakeholder should the risk materialise.) The impact and intent analyses and ESG scorecard are also used to determine the impact thesis of each potential deal – which we consider as equally important as the financial investment thesis – and the IMP+ACT Classification of each potential deal. We also indicate the primary and secondary SDGs and the relevant sub-targets that each potential deal relates to, while recognising that the SDGs were not designed as investment goals but as broad policy goals.


A Sun King client using a solar home system

For potential investments likely to have the impact classification of 'B' or 'C', we carry out additional analysis on the impact context and, where possible, an impact case study. We also do more detailed analysis across the five categories of our intent framework, based on the Operational and Management Due Diligence carried out by the investment team. The intent risk, as it relates to achieving the ESG and impact thesis, is analysed across the likelihood of the risk happening and the impact or consequences should the risk materialise. In some cases, deals may either not show the level of intent appropriate or desirable, but may aspire to improve. Or, some investee companies may have sufficient intent, but their management systems and operations might need to improve to be able to deliver on this intent. We identify tangible actions, which such investee companies could take to deliver greater intent alignment and impact in our analysis, and opportunities for Catalyst engagement to influence this process during the execution phase.

4 Investment Committee

Summaries of our ESG, intent and impact analyses, along with the impact and financial investment cases, are presented to the Investment Committee (IC). The IC will consider the extent to which there is alignment with the business model, impact and with the Catalyst mandate objectives, and make the decision to approve or reject a proposal for investment. The IC will be responsible for confirming that the investment meets the Exclusion List and the IMP+ACT Classification.

5 Execution

As a private asset investor, we can request certain contractual controls relating to ESG and impact during the deal execution process, tailored to each deal. As far as possible, we request reporting KPIs in line with agreed impact plan (see below), and continued adherence to the exclusion list evidenced, for all investments. We may also require investees to meet KPI targets, publish impact performance, or bring in specialist skills to focus on ESG risk management. Catalyst may also request a governance role, including a seat on a company's board or a platform's investment committee, to help ensure decisions are taken in line with the impact intentions of Catalyst's mandate. We aim to develop an Impact Plan, which is a shared agreement between Catalyst and the investee on key ESG and impact objectives. This plan acts as a basis for monitoring, managing and reporting ESG and impact over the life of the investment. We aim to set up to three objectives aligned with the ESG and impact thesis to sit alongside KPIs and set annual targets, aligned with calendar year as far as possible. The KPIs are chosen to be meaningful, material and aspirational while still realistic. They may be set at Activity, Output or Outcome levels and the measurement metrics are drawn from globally recognised or industry accepted databases such as the SDGs, IRIS+, Global Reporting Initiative and World Development Indicators. Although KPIs are primarily quantitative, qualitative information is used to support them. If the investee has either not considered impact management or is early in its journey, it may require support to set targets and measure, manage and report impact. The Catalyst team will provide tools and guidelines to support investees and can establish an Organisational Action Plan with the investee to address key material actions that arose from our Intent analysis.

Catalyst has completed a third-party verification of its impact processes and its measurement and reporting, in line with M&G's overall intent to align with the Operating Principles for Impact Management.

6 Engagement

In addition to monitoring and measurement, Catalyst can play an active role to reduce negative and improve positive impacts of its investments through engagement, where needed. Engagement plans will be agreed during the execution phase and will cover objectives, who will be undertaking the engagement, how much time it is expected to take, and the approach that will be taken to engage the borrower/partner. The engagement plan may also be updated post execution with new objectives and activities if issues arise during the life of the investment. The depth and regularity of engagement depends on the nature of each investment and its IMP classification. At a minimum, an annual ESG and impact performance review meeting is carried out for each investee. The discussion uses the information submitted by the investee as part of its impact report, and focuses on: what went well and what could have gone better over the last year; future risks and opportunities over the coming year; and whether the investee is continuing to meet the Exclusion List restrictions, plus the A Classification at a minimum. Following the review we will decide what further monitoring or action is required, update KPIs and targets, and reflect on learnings which can be applied to new and other portfolio investments.

7 Reporting

Our annual ESG and impact report reflects the impact performance across our portfolio and engagement activities. Using both qualitative and quantitative assessments, this report draws on the KPIs from individual investments, includes commentary by Catalyst team, and uses case studies to illustrate the difference to people, communities, and the planet that Catalyst is helping to achieve. Catalyst has completed a third-party verification of its impact processes and its measurement and reporting, in line with M&G's overall intent to align with the Operating Principles for Impact Management[35].

[35] The 9 Principles, Operating Principles for Impact Management (impactprinciples.org)

A Pragmatic fabrication facility

Regenerate:

Soil Horizon in cover Crops

The photo of the soil horizon shows a darker layer (ie higher carbon) of soil close to the surface. This is from a small area of the recently acquired land that has had a natural cover crop growing on it for approx 10 years, grazed occasionally by sheep. This photo is a good illustration of what is possible in terms of building soil, sequestering carbon etc, and what we can achieve over the entire area.

How we assess impact

The IMP+ACT frameworks

We employ the categorisations and framework developed by the Impact Management Project (IMP) – a forum for building global consensus on how to measure and manage impacts, in our assessment of the investees' impact and potential impact. Between 2016 and 2021 the IMP convened a global consultation with over 2,000 stakeholders, including governments, businesses, charities, and investors, to reach consensus on how to describe, measure, manage and report impact. Their methodology gained widespread global recognition and has now created a structured network of organisations working together to coordinate standards of impact measurement and management. In 2021 as the term of the Impact Management Project ended, the Impact Management Platform was launched: current partner organisations in the platform include the Global Impact Investor Network (GIIN), Principles for Responsible Investment (PRI), Global Steering Group (GSG), the International Finance Corporation, the OECD and the United Nations, among others.

We assess the impact or potential impact of our investees across the IMP's 'Five Dimensions of Impact'. We believe these integrate well with our impact objectives and provide an additional means to understand the scope of the impact being generated. These are:

- **What:** Tells us what outcome the issuer is contributing to, whether it is positive or negative, and how important the outcome is stakeholders.
- **Who:** Tells us which stakeholders are experiencing the outcome and how underserved they are in relation to the outcome.
- **How Much:** Tells us how many stakeholders experienced the outcome, what degree of change they experienced, and how long they experienced it for.
- **Contribution:** Tells us whether an issuer's and/or investor's efforts resulted in outcomes that were likely better than what would have occurred otherwise.
- **Risk:** Tells us the likelihood that impact will be different than expected.

All enterprises create positive or negative intended or unintended impact on people and the planet. Motivations to manage impact can range from creating positive social or environmental change, to concerns about regulatory and reputational risks, or a desire to unlock commercial value. The IMP's ABC categorisation ('Act to Avoid Harm', 'Benefit Stakeholders' and 'Contribute to Solutions') is a way to manage the impact potential of our investments and provides a common language to understand the spectrum of investment types. We categorise all Catalyst potential deals using this framework and can invest in A, B or C. We expect that all investees at a minimum will act to avoid harm by identifying where they may be causing harm and improving those outcomes to ensure that any negative outcomes are mitigated. Investees in the 'B' category will 'Benefit stakeholders', where the benefit can be to one or more group of people and/or to the condition of the environment. Investees in the 'C' category would 'Contribute to solutions' to create sustainable outcomes in previously unsustainable sectors or activities, where natural resources were put at risk, and/or for previously unserved groups of people, particularly in terms of access to basic needs. The ACT classification measures the investor contribution, that is M&G's ability to influence investee companies to deliver positive impact. A categorisation of 1 shows that have signalled our impact intentions through to 4 which involves active engagement and growing under-served markets.

Enterprises' intentions relate to three types of impact: A, B or C

At year end of 2023, the Catalyst strategy 35% investments in A, 47% in B and 18% in C categories; while in terms of the number of investments, 17 are in A, 28 investees are in B, and 19 investees are in C categories.

Does or may cause harm

Act to avoid harm

'I have regulatory requirements to meet (eg I have to cut my carbon emissions)'

'I want to mitigate risk'

'I want to behave responsibly'

Benefit stakeholders

'I want to have a positive effect on the world to sustain long-term financial performance'

'I want a world where all businesses try to have a positive effect on society'

Contribute to solutions

'We want to help tackle malnutrition in Africa'

'We want to help tackle the education gap'

Source: Impact Management Project, https://impactfrontiers.org/norms/abc-of-enterprise-impact/

Investor's Contribution		Impact of Underlying Assets / Enterprises		
		Act to avoid harm	**Benefit stakeholders**	**Contribute to solutions**
1	**Signal that impact matters** + Engage actively + Grow new / undersupplied capital markets + Provide flexible capital	Eg, ethical bond fund	Eg, positively screened / best-in-class ESG fund	Eg, sovereign-backed bonds (secondary market) funding vaccine delivery to understand people or renewable energy projects
2	**Signal that impact matters** **+ Engage actively** + Grow new / undersupplied capital markets + Provide flexible capital	Eg, shareholder activist fund	Eg, positively-screened/ best-in-class ESG fund using deep shareholder engagement to improve performance	Eg, public or private equity fund selecting and engaging with businesses that have a significant effect on education and health for underserved people
3	**Signal that impact matters** + Engage actively **+ Grow new / undersupplied capital markets** + Provide flexible capital	Eg, anchor investment in a negatively-screened real estate fund in a frontier market	Eg, positively-screened infrastructure fund in a frontier market	Eg, bond fund anchoring primary issuances by businesses that have a significant effect on environmental sustainability, access to clean water and sanitation
4	**Signal that impact matters** **+ Engage actively** **+ Grow new / undersupplied capital markets** + Provide flexible capital	Investment archetypes not yet defined	Eg, positively-screened private equity fund making anchor investments in frontier markets	Eg, private equity fund making anchor investments in businesses that have a significant effect on income and employment for underserved people

Summary reflections

In 2023, we identified several trends, challenges, and areas of opportunity to explore – we are pleased to now share an overview of our progress. While some areas remain longer-term projects and will be updated in due course, we share the work accomplished over the past year in the areas outlined below.

Staying at the forefront of Impact

Last year, we initiated an evaluation of our performance in impact measurement and management relative to our peers, with the aim to optimise outcomes. M&G Catalyst engaged BlueMark to undertake an independent verification of the alignment of M&G Catalyst's impact management (IM) system with the Operating Principles for Impact Management (the Impact Principles)[36].

BlueMark is a market leader in impact measurement and management, working with major asset owners and managers to design and implement impact management systems. Their adoption of the Impact Principles as a market standard aligns with our strategy of adhering to these principles and ultimately becoming signatories. The results of the process verification have confirmed that Catalyst aligns with the Impact Principles, achieving 'high' or 'moderate' on 7 out of 8 Principles. Detailed results are on page 58 in the Appendix.

Sustainable Finance Disclosure Regulation (SFDR)

Sustainable investment refers to investing in economic activities that contribute to environmental or social objective, provided that such investments do not significantly harm any environmental or social objectives and that the investee companies adhere to good governance practices. Catalyst is an Article 8 fund, committed to maintaining a minimum of 51% (NAV) in sustainable investments.

M&G's definition of 'sustainable' as per the SFDR includes three requirements, all of which need to be met for investment to be sustainable: Do No Significant Harm, Good Governance, and Environmental or Social contribution. Details of the requirements are on page 57 in the appendix.

Reconciling environmental and social issues

A key challenge in investment decision-making is developing a comprehensive approach to the potential negative impacts associated with the products and services of investee companies. There are instances where environmental and social impacts may not align. To address this, Catalyst engaged a specialist consultant on human rights to support the development

A Monarch electric tractor, an Astanor portfolio company of an approach to reconcile this challenge, particularly in relation to allegations of forced labour in solar supply chains. These allegations have prompted investors and companies to evaluate their risk exposure, especially concerning supply chain activities in Xinjiang, China. Efforts to identify and mitigate risks have been driven by a range of factors, including reputational concerns and emerging regulatory requirements. The ability to evaluate and implement appropriate responses is beset by various complexities. Activities giving rise to forced labour allegations are state-sponsored and the notion that they constitute human rights violations is stridently denied. China is a crucial exporter of solar power technologies and is involved in nearly every step of the supply chain. International responses – including legal sanctions – have a geopolitical dimension.

Catalyst has worked with peers to devise principles for investment around: legal minimums, understanding supply chains, assessing risk, efforts to avoid forced labour, and engagement. We also created a list of key questions and guidance for decision-making. This framework is designed to minimise the risk of inadvertently investing in deals that involve forced labour in their supply chains. While it has been designed specifically for the solar supply chain, we see potential applications in other sectors as well.

Conclusion

The core thesis of Catalyst is that combining scale, flexibility, and patience can generate unique impact where it is most needed, alongside potential financial returns for our investors. When we started Catalyst, we believed there was growing need and demand for this kind of capital, particularly due to the transition to a more sustainable economy and the opportunities to improve global health identified during the pandemic – needs that remain equally relevant today, with very few investors able to provide capital for it. While still relatively early in our deployment cycle and in our relationships with many of our investee companies, we believe that our thesis is being borne out. We have been able to deploy or commit over $3.8 billion of capital into high-quality investments globally in our first three years across our themes of focus. Additionally, we have built a strong reputation with intermediaries and investee companies for investing in impact at scale. As we continue to build on our early successes, we remain committed to addressing critical global challenges and fostering long-term value for both our investors and the communities we work with.

[36] M&G Catalyst is not currently a signatory to the Impact Principles. BlueMark's diagnostic verification was undertaken as an independent assessment exercise and does not represent an official verification of the alignment to the Principles.

Kati Blue close up bulk: This is a close up of the harvested blueberries. This variety is called Kati Blue.

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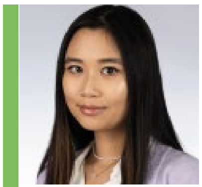
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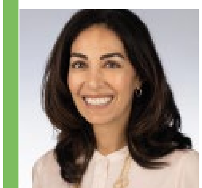
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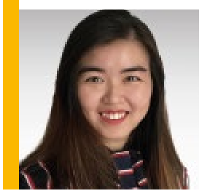
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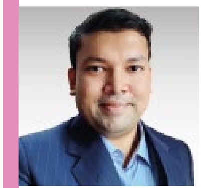

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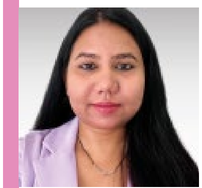

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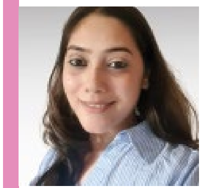

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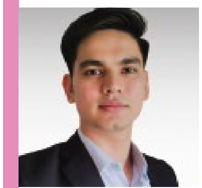

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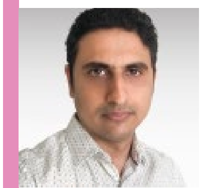

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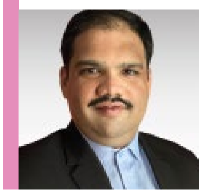

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M&G Catalyst – Impact in Brief

As at 31 December 2023

19.89%
%GAV in investments providing environmental solutions

3.90%
%GAV in investments providing circular economy solutions

6.87%
%GAV in investments providing better health

174,835,912
Number of people reached including people treated, customers served in target services

35.64%
%GAV with know-your-customer and anti-bribery and corruption policies

43.67%
%GAV with diversity policy for workforce

10.58%
%GAV in investments aligned to SDG9 Industry, Innovation and Infrastructure

36.32%
%GAV in investments aligned to SDG11 Sustainable Cities and Communities

12.23%
%GAV in investments aligned to SDG12 Responsible Consumption and Production

26.14%

%GAV in investments providing social inclusion

43,830,600

CO_2eT

Carbon Aggregate Absolute CO_2eT Emissions Saved / Avoided

9.36%

%GAV with committed Science Based Targets

26.88%

%GAV Split CEO and Chairperson role

9.76%

%GAV in investments aligned to SDG3 Good Health and Wellbeing

5.14%

%GAV in investments aligned to SDG7 Affordable and Clean Energy

580,000

Energy Aggregate Renewable energy production (MWh)

11.53%

%GAV board gender female

Appendix A – Catalyst's exclusion list

International standards
Any company or corporation which is listed on an EU or UN sanctions list or is in severe and/or systemic breach of UN conventions and declarations on human rights including child labour and labour rights, on environmental protection and on systemic corruption.

Illegality
Products, activities or materials deemed illegal under host country law or regulation.

Tobacco
Any company or corporation that directly, or through entities it controls, have revenues from producing or processing tobacco into the final product.

Cannabis
Any company or corporate that directly, or through entities it controls, produces or sells cannabis for non-medical or recreational purposes, which shall include production and sale of end products containing cannabis for the same purpose.

Controversial Weapons
Any company or corporation involved in a controversial weapons industry, meaning chemical and biological weapons such as white phosphorus, weapons and armour made from depleted uranium, nuclear weapons (including those outside the Nuclear Non-Proliferation Treaty) as well as cluster bombs and anti-personnel landmines.

Defence and Other Weapons
Any company or corporation which earned more than 5% of its revenues from the manufacturing of weapons or tailor-made components thereof. Weapons are defined as products or basic components of products that have been 'designed to injure/kill'. Tailor-made components are components that are developed primarily in order to be integrated into a weapon system.

Coal
Any company or corporate involved in the extraction of thermal coal.

Unconventional Oil and Gas Extraction
Any company or corporation involved in the unconventional extraction of oil and gas such as shale oil, shale gas, oil sands and Arctic drilling.

Conventional Oil and Gas extraction
Any company or corporation involved in the conventional extraction of oil and gas.

Alcohol
Any company or corporation which earned more than 5% of its revenues from production of alcohol.

Gambling
Any company or corporation that earned more than 5% of its revenues from the provision of gambling services.

Pornography
Any company or corporation that earned revenues derived from producing, directing or publishing adult entertainment materials.

Animal testing on Non-medical Grounds
Any company or corporation that practices animal testing on non-medical grounds.

Carbon-Intensive Power Generation
Any company or corporation that derives more than 0% power production from coal and more than 5% from oil and gas. The Investment Manager assesses the company or corporation's commitment to transitioning to a low carbon pathway by reviewing independently assessed climate risk management, management's approach to decarbonisation commitments and relevant statements made by the company. The Investment Manager engages with company management to help facilitate this transition.

Appendix B – SFDR definition

Sustainable investment means an investment in an economic activity that contributes to an environmental or social objective, provided that the investment does not significantly harm any environmental or social objective and that the investee companies follow good governance practices Catalyst is an Article 8 fund, committed to maintaining a minimum of 51% (NAV) in sustainable investments.

M&G's sustainable definition per SFDR includes three requirements, all of which need to be met for investment to be sustainable: Do No Significant Harm, Good Governance, and Environmental or Social contribution.

1. **Do No Significant Harm (DNSH)**
   a. M&G has developed a list of exclusions that need to be met for investment to be considered sustainable. They exclude activities considered to be harmful to environment and society. While some four of those exclusions are required by the regulation for sustainable investment test (UNGCs, controversial weapons, fossil fuel activities), other ones are selected by M&G (adult entertainment, tobacco, defence and weapons).
   b. SFDR regulation specified that 'Do No Significant Harm' test should be linked to evaluation of Principal Adverse Indicators (PAIs). SFDR defines fourteen mandatory PAIs and M&G has selected further four optional PAIs. Catalyst considers the following indicators as part of **Do No Significant Harm test:**
      1. Greenhouse gas emissions
      2. Carbon footprint
      3. Greenhouse gas emissions intensity
      4. Exposure to companies active in the fossil fuel sector
      5. Share of non-renewable energy consumption and production
      6. Energy Consumption for high impact climate sectors
      7. Activities negatively affecting biodiversity-sensitive areas
      8. Emissions to water
      9. Hazardous waste
      10. Violations of UNGC Principles and OECD ME Guidelines
      11. Lack of processes and compliance to monitor UNGC and OECD ME Guidelines
      12. Unadjusted pay gap
      13. Board gender diversity
      14. Exposure to controversial weapons
      15. Carbon reduction initiatives
      16. Workplace accident prevention policies
      17. Human rights policies
      18. Anti-corruption and anti-bribery policies
2. **Environmental or Social (E/S) Contribution**
   Positive contribution evidenced by investment exceeding pre-defined threshold on one of sustainability metrics:

Metric used for E/S Contribution Test	Test for E/S contribution in sustainable investment test
Circular Economy Solutions	>20% revenue
Environmental Solutions	>20% revenue
Renewable Energy Generation	>20% revenue
Better Health	>20% revenue
Social Inclusion	>20% revenue
Ratified Science-Based Target to reduce Carbon Emissions	Yes
≤1.5°C – Paris Aligned	≤1.5°C
Green Bond / Green Loan	Only if certified
Board gender diversity +33%	≥33%

3. **Good Governance**
   As per SFDR, Good Governance test applies to investee companies and, as per regulation, needs to consider 4 factors: sound management structures, employee relations, employee remuneration, tax compliance. Assessment is qualitative and performed in the context of the investee company and sector it operates in, thus there are not set thresholds to pass the test.

Appendix C – BlueMark impact process verification

BLUE/MARK

Verifier Statement

Independent Verification Report

Prepared for M&G Catalyst: 29/09/23

Introduction

M&G Catalyst engaged BlueMark to undertake an independent diagnostic verification of the alignment of M&G Catalyst's impact management (IM) system with the Operating Principles for Impact Management (the Impact Principles).[1] BlueMark's diagnostic conclusions are intended to provide M&G Catalyst with learning output on the extent of its alignment.

Summary assessment conclusions

BlueMark has independently verified M&G Catalyst's extent of alignment with the Impact Principles. Key takeaways from BlueMark's assessment are as follows:

Principle 1: M&G Catalyst broadly focuses on three impact themes in alignment with the SDGs, leveraging the IMP's ABC classification framework as a basis for portfolio composition. To further align, the firm should add more specificity to its impact objectives and clearly document the logic, assumptions, and evidence behind its thematic focus areas.

Principle 2: M&G Catalyst utilises the IMP+ACT framework to rate and classify the impact proposition of each of its investments and to facilitate portfolio-wide analyses. To further align, the firm should develop cross-cutting impact metrics to facilitate portfolio-level impact comparison and consider aligning staff incentives to the achievement of impact.

Principle 3: M&G Catalyst's contribution to investees' impact achievement aligns with the IMP's framework, clearly defining activities for "Engage" and "Grow" pillars. To further align, the firm should consistently monitor its engagement activities to assess and document results achieved, alongside strengthening its approach to impact signaling.

Principle 4: M&G Catalyst's assessment of expected impact encompasses the IMP's five dimensions and suggested KPIs for monitoring. To further align, the firm should set targets for its impact KPIs in alignment with industry standard metrics, and consistently document the size of the challenge being addressed by the investee in relation to its geographical context.

Principle 5: M&G Catalyst's ESG risk assessment approach includes negative screening, detailed analyses aligned with SASB and proposed mitigation strategies for identified risks. To further align, the firm should consistently monitor ex-post for identified ESG risks and formalise its process for managing ESG underperformance.

Principle 6: M&G Catalyst's monitoring processes include regular reviews and updates to IMP+ACT classifications and a RAG assessment of impact performance primarily informed by qualitative evaluations of impact by the team. To further align, the firm should establish structured data collection protocols, monitor performance relative to targets, and engage with stakeholders to validate the impact that has occurred.

Principle 7: M&G Catalyst should develop a responsible exit framework to document impact considerations related to an exit. This should include actions taken throughout the investment lifecycle to maximise the likelihood of sustained impact.

Principle 8: M&G Catalyst has multiple structured forums to discuss key learnings and monitor investment performance. To further align, the firm should solidify its process for identifying unintended impacts and leverage key learnings to refine its overarching impact strategy and IM system.

[1] M&G Catalyst is not currently a signatory to the Impact Principles. BlueMark's diagnostic verification was undertaken as an independent assessment exercise and does not represent an official verification of the alignment to the Principles.

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Verifier Statement

Independent Verification Report

Prepared for M&G Catalyst: 29/09/23

Assessment methodology and scope

M&G Catalyst provided BlueMark with the relevant supporting documentation for the policies, processes, and tools related to the IM system applicable to the Covered Assets. The scope of BlueMark's work was limited to processes in place related to the Covered Assets as of March, 2023. BlueMark believes that the evidence obtained in the scope of its assessment is sufficient and appropriate to provide a basis for our conclusions.[2]

BlueMark's full assessment methodology, based on its professional judgment, consisted of:

1. Assessment of the IM system in relation to the Impact Principles, using BlueMark's proprietary rubric, and examining processes and policies against the following criteria:
    - *Compliance* of the IM system with a threshold level of practice;
    - *Quality* of the IM system's design in terms of its consistency and robustness; and
    - *Depth* of sub-components of the system, focused on completeness
2. Interviews with M&G Catalyst staff responsible for defining and implementing the IM system;
3. Testing of selected M&G Catalyst transactions to check the application of the IM system; and
4. Delivery of detailed assessment findings to M&G Catalyst, outlining areas of strong alignment and recommended improvement, as well as BlueMark's proprietary benchmark ratings on the extent of alignment to each of the Impact Principles.

Permissions

This statement, including our conclusions, has been prepared solely for M&G Catalyst in accordance with the agreement between our firms. We permit M&G Catalyst to disclose this statement in its entirety online, or to furnish this statement to other interested parties to demonstrate M&G Catalyst's alignment with the Operating Principles for Impact Management. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than M&G Catalyst for our work or this statement except where terms are expressly agreed between us in writing.

About BlueMark

BlueMark, a Tideline company, is a leading provider of impact verification services in the impact investing market. BlueMark was founded with a mission to "strengthen trust in impact investing" and to help bring more accountability to the impact investment process. BlueMark is a wholly owned subsidiary of Tideline Advisors, LLC, a certified women-owned advisory firm in impact investing. Since its founding in 2014, Tideline has become a recognized leader in impact measurement and management, working with leading asset owners and managers to design and implement impact management systems.

BlueMark has conducted this verification with an independent and unconflicted team experienced in relevant impact measurement and management issues. BlueMark has implemented a Standard of Conduct requiring our employees to adhere to the highest standards of professional integrity, ethics, and objectivity in their conduct of business activities.

BlueMark has office locations in London, UK; New York, NY; Portland, OR; and San Francisco, CA and is headquartered at 915 Battery St, San Francisco, CA 94111, USA. For more information, please visit www.bluemarktideline.com.

[2] The scope of BlueMark's assessment procedures does not include the verification of the resulting impacts achieved. BlueMark's assessment is based on its analyses of publicly available information and information in reports and other material provided by M&G Catalyst. BlueMark has relied on the accuracy and completeness of any such information provided by M&G Catalyst. The assessment results represent BlueMark's professional judgment based on the procedures performed and information obtained from M&G Catalyst.