

Vanguard Baillie Gifford Global Positive Impact Stock Fund

Annual Impact Report | July 2024



The Vanguard Baillie Gifford Global Positive Impact Stock Fund seeks capital appreciation, with an emphasis on investing in businesses that deliver positive change by contributing toward a more sustainable and inclusive world. The Annual Impact Report contains reporting from the fund's advisor, Baillie Gifford Overseas Limited (Baillie Gifford), on the positive change achieved by the strategy.

Baillie Gifford believes that monitoring, measuring, and reporting on the impact of portfolio companies is a fundamental requirement of impact fund investing. Impact reporting not only holds a fund's managers accountable to the fund's objectives, it helps investors understand the effect of their capital.

Notes: All information contained herein, including past performance data, is for the Baillie Gifford Positive Change Strategy and not Vanguard Baillie Gifford Global Positive Impact Stock Fund. The strategy's performance is represented by Baillie Gifford's Positive Change Composite, an aggregation of one or more accounts managed according to the Baillie Gifford Positive Change Strategy, and should not be considered a proxy for the fund's performance. The performance of Vanguard Baillie Gifford Global Positive Impact Stock Fund may differ significantly from that of the Composite.

The views in this report represent those of Baillie Gifford Overseas Limited (Baillie Gifford), and not necessarily those of Vanguard.

Vanguard's externally managed portfolios are managed by unaffiliated third-party investment advisors, and proxy voting and engagement for those portfolios are conducted by their respective advisors.

The Baillie Gifford Positive Change Equities Fund (the predecessor fund) was reorganized into the Vanguard Baillie Gifford Global Positive Impact Stock Fund on July 18, 2022, and retains the same investment objective and portfolio management team.

Positive Change Impact Report

Risk factors

The views expressed should not be considered as advice or a recommendation to buy, sell or hold a particular investment. They reflect opinion and should not be taken as statements of fact nor should any reliance be placed on them when making investment decisions.

This communication was produced and approved in July 2024 and has not been updated subsequently. It represents views held at the time of writing and may not reflect current thinking.

Potential for profit and loss.

All investment strategies have the potential for profit and loss, your or your clients' capital may be at risk. **Past performance is not a guide to future returns.**

This communication contains information on investments which does not constitute independent research. Accordingly, it is not subject to the protections afforded to independent research, but is classified as advertising under Art 68 of the Financial Services Act ('FinSA') and Baillie Gifford and its staff may have dealt in the investments concerned.

All information is sourced from Baillie Gifford & Co and is current unless otherwise stated.

The images used in this communication are for illustrative purposes only.

Annual past performance to 30 June each year (net%) US dollars

	2020	2021	2022	2023	2024
Positive Change Composite	47.5	65.7	-38.4	24.3	1.9
MSCI ACWI Index	2.6	39.9	-15.4	17.1	19.9

Annualised returns to 30 June 2024 (net%) US dollars

	1 year	5 years	10 years	Since inception
Positive Change Composite*	1.9	13.8	N/A	16.8
MSCI ACWI Index	19.9	11.3	N/A	11.2

Annual past performance to 30 June each year (net%) sterling

	2020	2021	2022	2023	2024
Positive Change Composite	51.9	48.2	-29.9	18.7	2.5
MSCI ACWI Index	5.7	25.1	-3.7	11.9	20.6

Annualised returns to 30 June 2024 (net%) sterling

	1 year	5 years	10 years	Since inception
Positive Change Composite*	2.5	13.9	N/A	16.8
MSCI ACWI Index	20.6	11.4	N/A	11.1

*Inception date: 31 January 2017.

Source: Revolution and MSCI. Returns have been calculated by reducing the gross return by the highest annual management fee for the composite.

Past performance is not a guide to future returns.

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Baillie Gifford™

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Letter from our managers

We are delighted to welcome you to our seventh annual impact report for Positive Change.

Seven years of investing for Positive Change has taught us many things. Perhaps the most important lesson has been to remain resolute on our two objectives and consistent in our investment approach, however unsettling the backdrop or gloomy the day's news.

This has been our focus in 2023, a year in which global crises compounded and market headwinds endured for growth stocks.

Now more than ever, we need companies with novel solutions to persistent global challenges to be ambitious and allocate capital to innovations that can shift the world onto a more sustainable and equitable pathway.

We also need investors who care about profit and impact equally, advocate for long-term thinking and encourage responsible business practices. More details of our approach to company engagement in 2023 can be found in this year's **Positive Conversations**.

From vaccines to smart water meters, digital platforms and electric vehicles, this impact report showcases the portfolio of companies whose products tackle global issues within our impact themes. The challenges being addressed by these themes range from climate change to environmental sustainability, healthcare and social inequality. Most are leveraging the latest technological advances, such as artificial intelligence, and are pioneering mega-trends, such as digitisation and the energy transition.

In this report, we explain why we believe each company in our portfolio is poised to address the world's most pressing challenges in the coming years and how they are performing against both our impact and investment objectives. Short-term pressures have hit the impact of some, but most portfolio companies continue to perform well on our impact objectives and on business fundamentals.

With 2023 marking the midpoint in the global 2030 Agenda for Sustainable Development and the UN Sustainable Development Goals (SDGs), their fulfilment is 'in peril', according to the UN General Assembly. Conflict, geopolitics and self-interest have directed attention away from some of the greatest struggles of our time, and decades of societal progress are at risk of reversal.

Our attention is unwavering and the beliefs that underpin our strategy are unchanged – companies which make it their business to address some of the greatest environmental and social challenges of our time will be rewarded.

We welcome the opportunity to share our Impact Report. Every year, we endeavour to improve our reporting and better understand the positive change companies can create in the world. We hope you find the report enlightening.



Kate Fox



Lee Qian



Thaiha Nguyen



Edward Whitten



Apricot Wilson

Our beliefs

Businesses and investors have the ability – indeed, the responsibility – to help steer our world onto a more sustainable path. Government funding and philanthropic donations, though hugely welcome, will be insufficient: trillions, not billions, of investment will be required to address the numerous challenges our world is facing.

We believe that inclusive capitalism is a part of the solution which can improve lives. In our bid to help our clients make attractive investment returns, we seek to harness the beneficial impact of human entrepreneurial spirit, while contributing towards a better world for current and future generations.

Change takes time. Social and environmental challenges such as persistent poverty and climate change cannot be solved with a short-term mindset. If the financial capital required to solve these issues is to be effective, we will need to be patient. By taking a long-term approach to investing we aim to support companies in making decisions and taking actions that will be beneficial for their business, society and the environment in the coming decades. That's why we believe:

- companies whose core business activities are addressing global challenges will experience rising demand for their products and services: they will be growth businesses.
- that a subset of those companies will enjoy sustainable competitive advantages such as loyal customers and motivated employees: they will be high-quality companies.

- that owning shares of exceptional businesses whose products and services are having a positive impact on society is a more effective way of delivering positive change than avoiding those doing harm: we take a positive and proactive approach.

- Based on these beliefs, the Positive Change Strategy has two objectives of equal importance:

1. To deliver attractive long-term investment returns (2 per cent per annum ahead of the MSCI ACWI net of fees over rolling five-year periods)
2. To contribute towards a more sustainable and inclusive world.

There are no compromises – each holding must be able to deliver on both objectives. We pursue these objectives in line with the active, long-term growth investment philosophy that has been tried and tested over Baillie Gifford's history since 1908.

Core to our philosophy is a belief that investment returns and impact are complementary, so both are considered throughout our decision-making process.

Over the past seven years, we have enhanced our process and continue to seek ways to improve, but one thing that won't change is our philosophy. Our team is passionate about our dual objectives and the role that our investment strategy has in helping drive positive change.

What's in our report?

In this seventh annual impact report, we illustrate portfolio companies' contribution to addressing some of the world's greatest challenges across our four impact themes:

Social inclusion
and education

Environment
and resource
needs

Healthcare
and quality
of life

Base of the
pyramid

We introduce each of the portfolio's four themes, identifying some of the persistent challenges within them. In these introductions, we also seek to put the portfolio companies into the context of these challenges, summarising their contribution to solutions.

Within each theme section, we include **company pages** for the companies held in the Positive Change portfolio on 31 December 2023. These company pages form the main part of this report and reflect our impact monitoring process. They illustrate some of the evidence we gather each year to test and measure our 'Positive Change hypothesis' for each company's products and services. Additional commentary is provided for companies held for five years or more.

To supplement the company pages, this report also provides further detail on the impact of companies in the Positive Change portfolio, including:

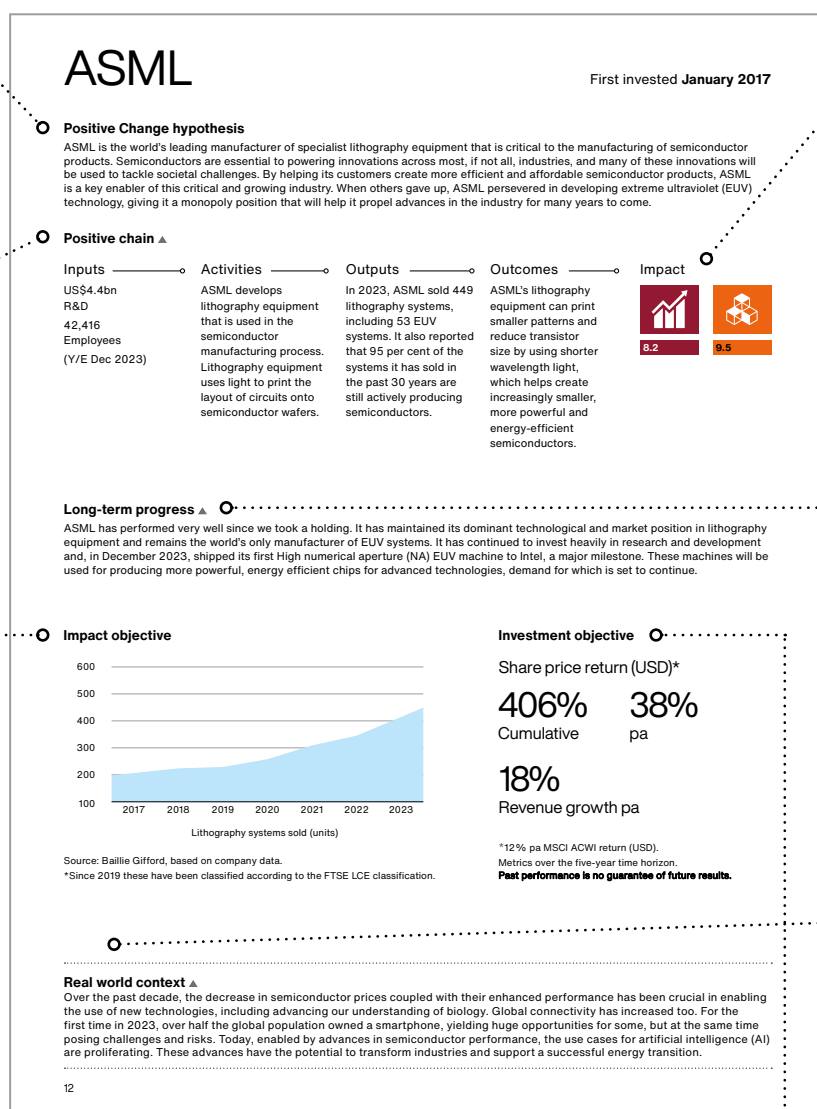
- where monitored impact metrics are comparable, we aggregate data for multiple portfolio companies to produce **Headline impact data** (page 06). This data gives an indication of the scale of impact delivered by portfolio companies' products and services.
- for each company we identify the UN Sustainable Development Goal (SDG) targets that they contribute to through their products and services. These can be found in each of the company pages, but we also provide a portfolio snapshot of how companies map to the SDGs on the **Significant SDG contributions** (page 54). This assessment is independent from how companies report their own SDG contributions.
- considering companies' negative contributions to the SDGs is an important part of our impact analysis. Where we have identified companies whose negative contributions we deem significant in our monitoring, we list these in the **Negative SDG contributions** (page 55).

Baillie Gifford seek independent limited assurance on some aspects of this report. Sections marked with a ▲ are under assurance standard ISAE (UK) 3000 which is the assurance standard for nonfinancial information.

A guide to company pages

The **Positive Change hypothesis** outlines how we expect companies' products and services to deliver a positive impact and to be a good investment opportunity.

The **Positive Chain** is a logic model based on the Theory of Change, which we use to evidence a company's progress in delivering positive change. Data in this report are based on companies' publicly reported data for the financial year 2023 or through company engagement.



Company impact through products and services is rigorously mapped to relevant **UN Sustainable Development Goals (SDGs)** and underlying targets.

Long-term progress
For companies held longer term in the portfolio, we provide a brief commentary on how the company is progressing in achieving both the impact and investment objectives.

Real World Context
Here, we put the global challenges companies' are helping to solve into context and illustrate progress in addressing them, including any ongoing challenges.

Long-term progress

Impact objective

Performance metrics reported by the company which we monitor as evidence of positive impact. We monitor a variety of metrics for each company and include only the most relevant and comprehensive.

Investment objective

Five-year metrics for each company to illustrate the fundamental growth of the business alongside share price performance. Share price return is calculated from 01/01/2019 to 31/12/2023 (or since inception to 31/12/2023). Revenue growth metrics cover five years to 31/12/2023 using the most recently available sales figures reported prior to the report date.

Further detail about how we analyse and report on our data is included under the 'Important Notes' and in our supplementary methodology paper, which forms the Reporting Criteria for the report, and is available on our website.

Headline impact data[^]

In 2023, in their provision of products and services, companies that Positive Change has invested in are estimated to have:

Provided access to education and/or training to

227 million
registered learners

Coursera 142m

Duolingo 85m

Allowed customers to save close to

1.7 trillion
litres of water

Ecolab 856bn

Xylem 800bn

Provided access to online marketplaces for more than

10 million merchants

MercadoLibre 10m

Shopify*

Allowed customers to save over

210,000
tonnes of waste

Ecolab 29.0k

Chr. Hansen 181.4k

Helped farmers engage in better farming practices on close to

163 million
hectares of land

Chr. Hansen 5.8m

Deere 157m

Through products in use and/or sold during the year, enabled the avoidance of close to

33 million tonnes of CO₂e

Ecolab 3.8m

Novozymes*

Ørsted*

Tesla 20m

Umicore 8.7m

*In compiling our headline impact data, we have included all relevant companies, recognising their contributions to the overall highlighted impact. However, due to year-on-year variations in reporting by companies, we were unable to obtain precise figures for some entities, indicated in grey. This approach ensures our estimates remain conservative while highlighting the impact all portfolio companies are delivering. In time we hope to be able to encourage companies to increase their reporting.

Contributed to healthier lifestyles for close to
41 million people

Discovery 40.5m

Enabled

5.2 million people

to send, save and spend money on healthcare services

Safaricom 5.2m

Provided treatment and disease management solutions to over

2.3 million patients

Alnylam 5.1k

Dexcom 2.3m

Moderna*

Provided close to

31,000 instruments for scientific research

10x Genomics 6k

Illumina 25k

Provided access to financial services to close to
523 million people

Bank Rakyat Indonesia 173m

HDFC Bank*

MercadoLibre 218m

Nubank 93.9m

Remitly 5.9m

Safaricom 32.1m

Enabled borrowing for over

95m borrowers

Bank Rakyat Indonesia 36.9m

HDFC Bank*

MercadoLibre 45m

Nubank*

Safaricom 13.4m

Data for carbon dioxide equivalent (CO₂e) saved is based on company reporting which is either in CO₂ or CO₂e; the aggregate data is presented as CO₂e as this is the most conservative approach.

Data related to healthier lifestyles, healthcare services including treatment and disease management and instruments for scientific research is presented to date, covering multiple years.

Social inclusion and education



Introduction

‘Leave no one behind’ – that’s the pledge adopted by the United Nations’ 193 member states in the 2030 Agenda for Sustainable Development.

This commitment highlights the importance of addressing social exclusion. While living standards, literacy rates and life expectancy have been improving for centuries, they are not evenly distributed across the globe or within countries.

Communities, governments, international agencies and institutions each have a part to play in improving how people and groups participate in society.

Unaddressed, social exclusion can result in limited education, poor employment outcomes and mental and physical ill health. As well as affecting people’s quality of life, at a national level it can constrain economic growth and lead to social unrest.

It can be challenging to determine which groups benefit from the products and services of the companies we analyse and to measure the long-term effects on people’s lives. However, as company reporting improves, assessing and identifying which companies are providing solutions to reduce inequalities becomes easier.



Positive Change — part of the solution

Positive Change aims to improve how people and groups participate in society by investing in companies that drive social inclusion through their products and services. This could be through removing barriers, enabling connectivity, and providing education and training.

The Challenges

The United Nations Development Programme (UNDP) identifies five key factors contributing to social exclusion. These are:

- **Discrimination** based on gender, religion, age, disability, sexual orientation, ethnicity or migratory status contributes to social exclusion. In 2022, a staggering 129 million girls globally are out of school, and 17.1 per cent of black people in the US were below the poverty line.
- **Geographic location** affects access to essential services and infrastructure, leading to inequality. It can lead to differences both between and within countries. For example, the number of people with income below the poverty line in Mexico is 20 per cent higher in rural areas than in urban areas.
- **Socio-economic status** can lead to deprivation and disadvantages in income, life expectancy and education. In Brazil, healthy life expectancy in the wealthiest quintile is 20 per cent longer than for those living in the poorest quintile.
- **Governance structures** can hinder social inclusion if they are ineffective, unjust or unaccountable. While a company cannot address global or national governance structures directly, its business practices should not exacerbate them.
- **Shocks and fragility:** From Covid-19 to extreme heatwaves and conflicts across the globe, climate change, natural disasters and health emergencies exacerbate inequalities. For example, Covid-19 pushed 47 million more women and girls into extreme poverty.

Removing barriers

Providing affordable housing and accessible finance are two means by which companies can remove barriers to social inclusion in underserved communities or identity groups.

Reducing inequalities in home ownership can make a significant contribution to good health and wellbeing. We previously held Indian mortgage lender **HDFC Corp.** This year it merged with **HDFC Bank**, significantly expanding the potential of the combined company to enable quality home ownership in India.

The high fees and poor customer service of Brazil's traditional banks have created barriers to financial inclusion. In contrast, **Nubank**, a Brazilian digital bank, offers free bank accounts on an efficient digital platform to 93.9 million customers. For nearly six million of its customers, this is their first credit card or bank account.

In Latin America, **MercadoLibre's** payments ecosystem is helping drive financial inclusion. The United Nations (UN) believes that financial inclusion is crucial to achieving at least eight of its 17 SDGs, citing its potential positive impact on gender equality, poverty, health and education.

Enabling connectivity

Approximately 5.5 billion people (67 per cent of the global population) had access to the internet in 2023, leaving 2.6 billion behind. Reducing this figure will help more people access information, services and commerce to improve their lives.

ASML manufactures the high-end extreme ultraviolet (EUV) lithography systems used in the world's most powerful semiconductor chips, such as those produced by **TSMC**, the world's largest chipmaker. These two companies play a crucial role in lowering the cost and increasing the accessibility and functionality of modern technologies, such as smartphones.

Digital connectivity is the bedrock by which our holdings in companies such as **Shopify** and **MercadoLibre** drive change.

For example, Shopify provides merchants, primarily small- and medium-sized enterprises (SMEs), with access to payments and inventory management and many other online business services. Doing so enables them to compete with larger, established players and supports the livelihoods of their owners and employees.

MercadoLibre is committed to fostering entrepreneurship and social mobility through its ecommerce platforms which enables millions of SMEs to reach customers across Latin America.

Education and training

According to UNICEF, in 2021, only two in three children globally attended lower or upper secondary education, and only one in two children attended upper secondary or higher education. Companies that can facilitate low-cost, high-quality, accessible learning could, therefore, radically transform individuals' prospects.

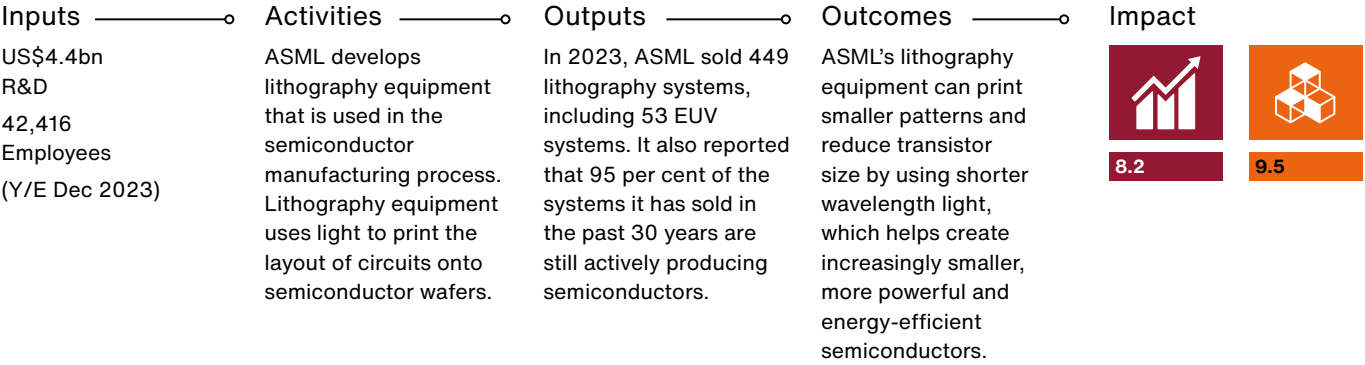
Coursera is an online platform that hosts various educational content, from massive open online courses (MOOCs) to guided projects, professional certifications and online degrees. In an ever-changing job market, the company has an important role to play in providing affordable, accessible and relevant qualifications.

Language learning app **Duolingo's** mission is to develop the best education platform and make it universally available. Learning a language can improve people's economic and cultural prospects. The company has also launched literacy, maths and music apps and today it has 85 million active learners using its platform.

Positive Change hypothesis

ASML is the world's leading manufacturer of specialist lithography equipment that is critical to the manufacturing of semiconductor products. Semiconductors are essential to powering innovations across most, if not all, industries, and many of these innovations will be used to tackle societal challenges. By helping its customers create more efficient and affordable semiconductor products, ASML is a key enabler of this critical and growing industry. When others gave up, ASML persevered in developing extreme ultraviolet (EUV) technology, giving it a monopoly position that will help it propel advances in the industry for many years to come.

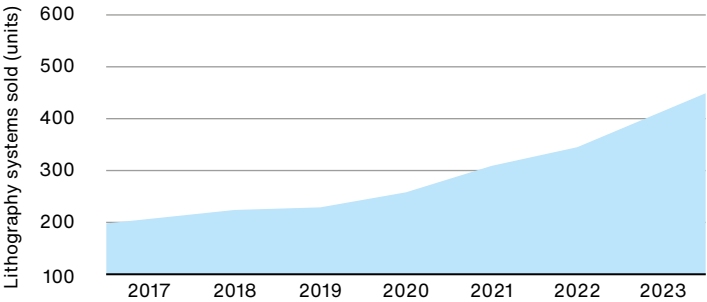
Positive chain ▲



Long-term progress ▲

ASML has performed very well since we took a holding. It has maintained its dominant technological and market position in lithography equipment and remains the world's only manufacturer of EUV systems. It has continued to invest heavily in research and development and, in December 2023, shipped its first high numerical aperture (NA) EUV machine to Intel, a major milestone. These machines will be used for producing more powerful, energy efficient chips for advanced technologies, demand for which is set to continue.

Impact objective ▲



Source: Baillie Gifford, based on company data.

*Since 2019 these have been classified according to the FTSE LCE classification.

Investment objective ▲

Share price return (USD)*

406% **38%**
Cumulative pa

18%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Over the past decade, the decrease in semiconductor prices coupled with their enhanced performance has been crucial in enabling the use of new technologies, including advancing our understanding of biology. Global connectivity has increased too. For the first time in 2023, over half the global population owned a smartphone, yielding huge opportunities for some, but at the same time posing challenges and risks. Today, enabled by advances in semiconductor performance, the use cases for artificial intelligence (AI) are proliferating. These advances have the potential to transform industries and support a successful energy transition.

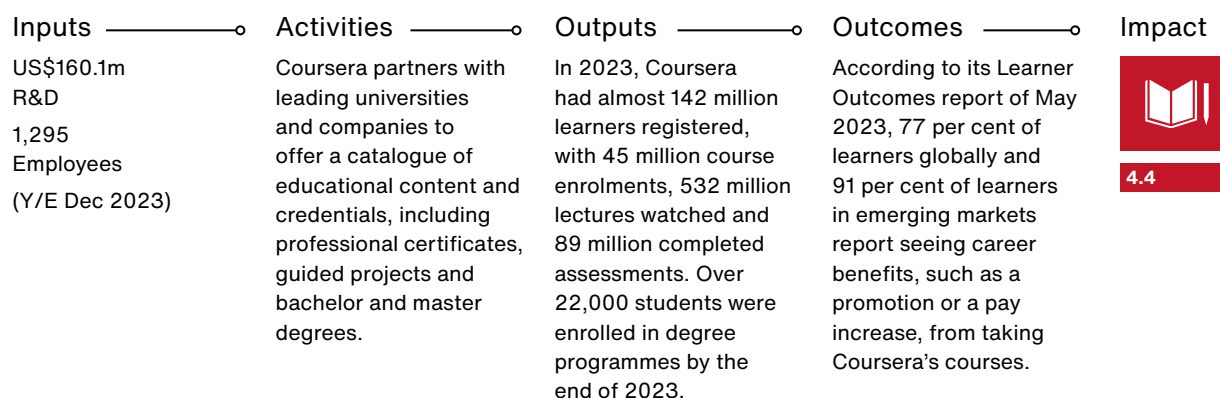
Coursera

First invested **March 2021**

Positive Change hypothesis

Coursera is an online learning platform hosting education content including short courses, guided projects, professional certification and online degrees. Coursera will benefit from network effects, as its large user base will help to attract more academic and corporate partners, which in turn attracts more learners. The company's innovative products should engage learners and overcome resistance in the slow-moving education market. Success should lead to significant value for society by improving the accessibility of education and providing learners with relevant skills for an ever-changing job market.

Positive chain ▲



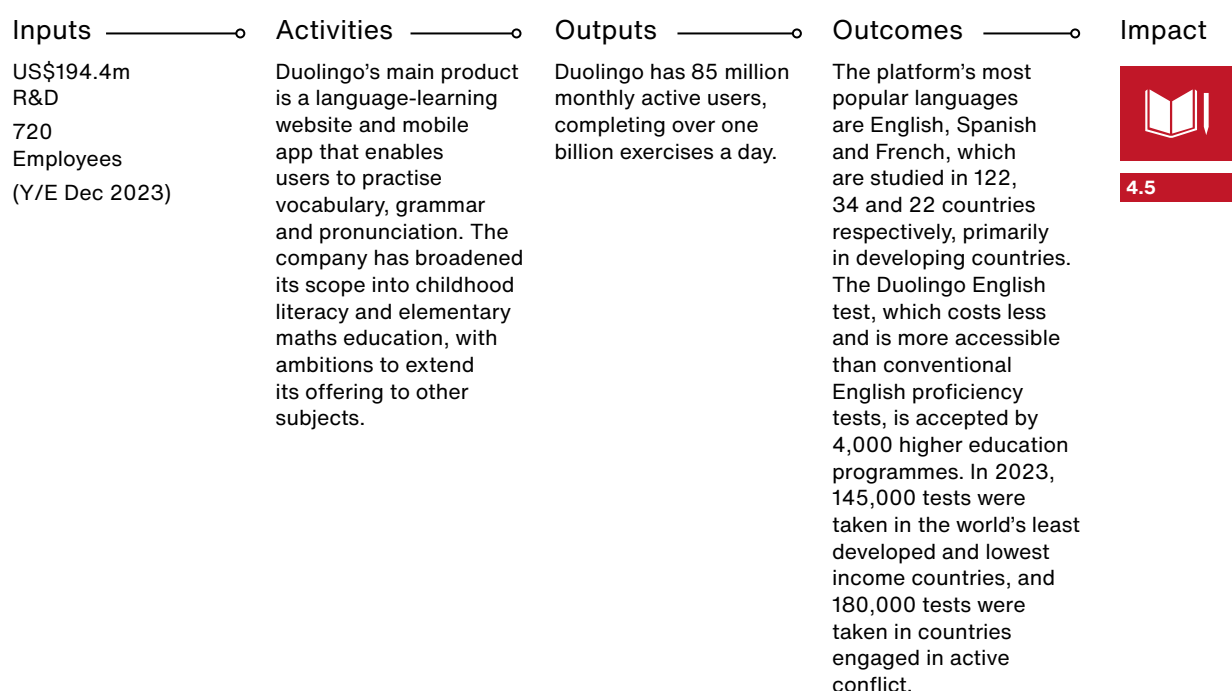
Duolingo

First invested **November 2021**

Positive Change hypothesis

Duolingo's mission is to develop the best education in the world and make it universally available. Having started with a fun and engaging app to help people learn languages, it has since moved into English language testing, and recently launched separate literacy and maths apps. Through further content and product developments as well as new pricing strategies, it will be able to grow the user base and importantly, increase the paid conversion rate. Duolingo is run by a thoughtful and mission-obsessed co-founder, Luis von Ahn, who we believe will manage to strike the right balance between delivering on the mission and improving monetisation.

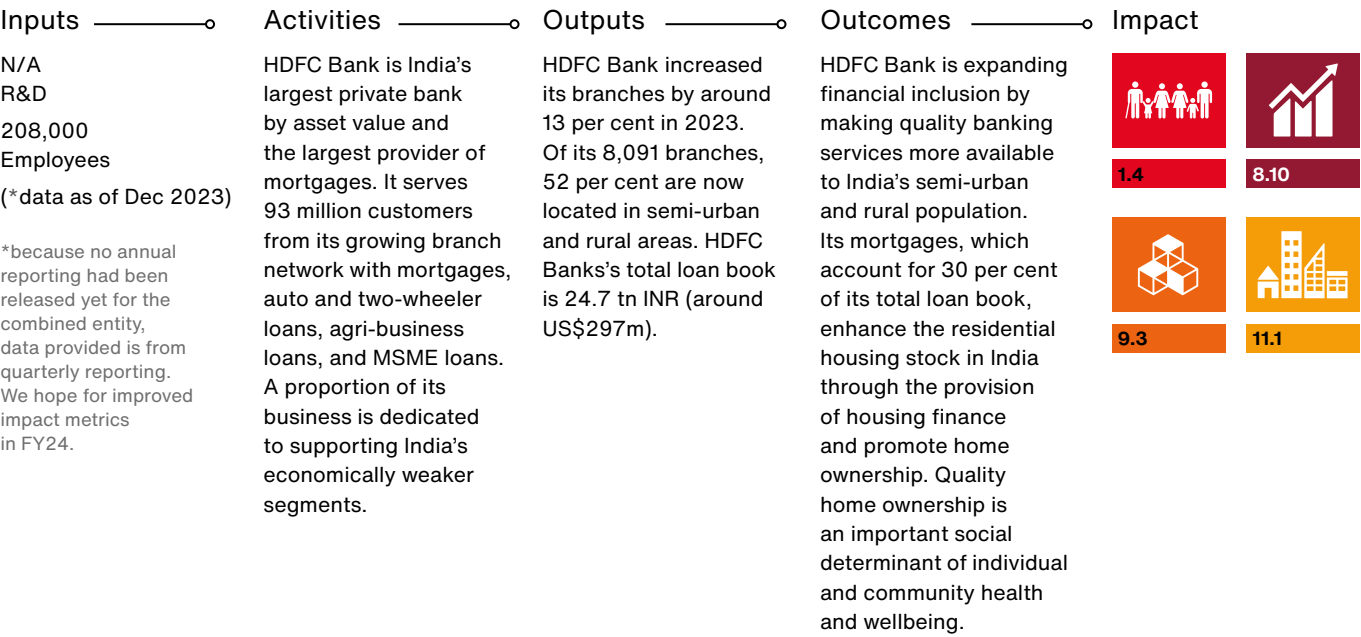
Positive chain ▲



Positive Change hypothesis

Following the merger of HDFC Bank with its parent company, HDFC Ltd, the combined bank will leverage its long-held reputation for quality lending to support the financial needs of India's emerging middle classes. The merger will accelerate the distribution of housing finance, which will deliver positive social outcomes, such as improved health and wellbeing. The bank's products include everything from savings accounts to education and small agricultural business loans. These products will support households and micro-, small- and medium-sized enterprises (MSMEs) in improving their financial resilience and capturing the economic opportunities that come from financial inclusion. HDFC Bank continues to expand its footprint, especially in semi-urban and rural areas, which will distribute its products to new populations and take share from inefficient state banks. At the same time, the Bank is leaning into digital banking to meet the demands of India's growing digital natives.

Positive chain ▲



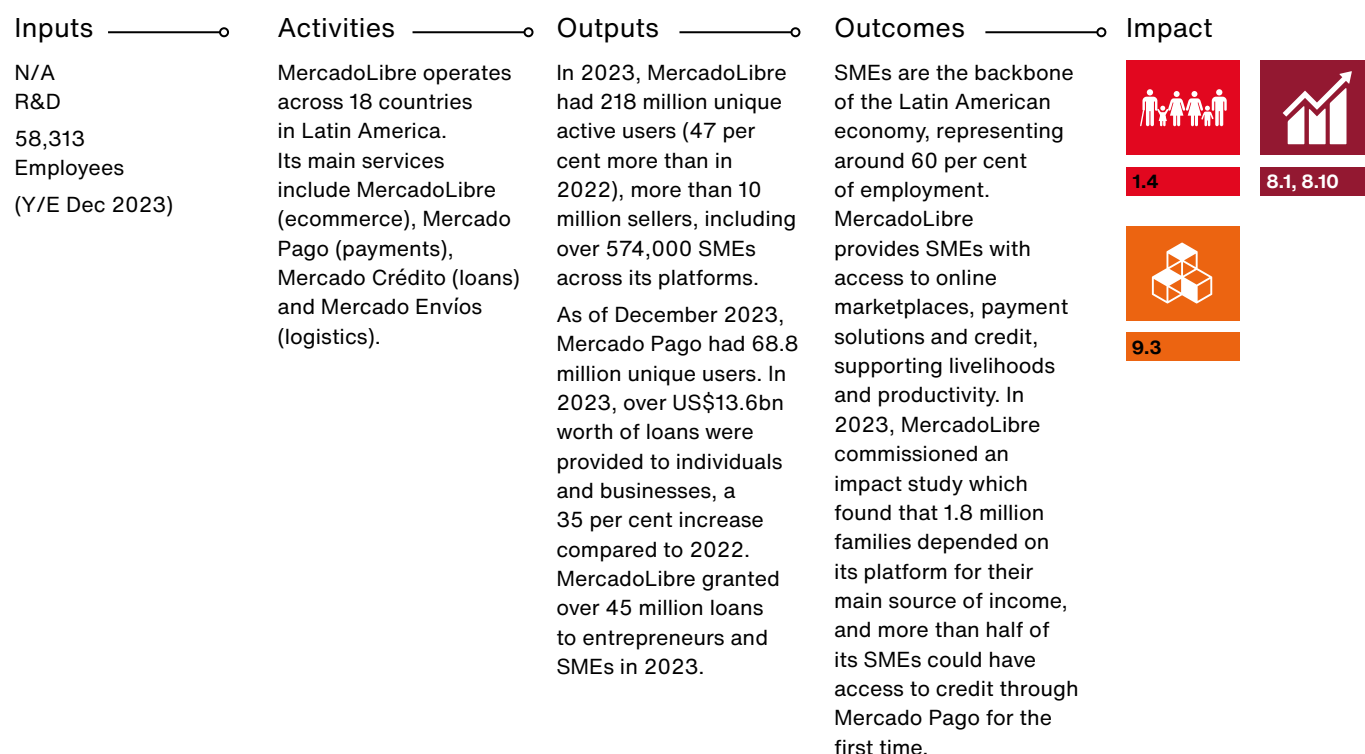
MercadoLibre

First invested **March 2020**

Positive Change hypothesis

MercadoLibre is Latin America's largest ecommerce platform and is emerging as a leader in the region's financial technology (fintech) industry. Ecommerce penetration is still low in Latin America, which should support high growth for some years. MercadoLibre provides a range of online and mobile payment solutions and financial services. These enable small businesses and consumers to access and transact financial services more easily and affordably than before, supporting economic resilience and opportunity. The fintech market is nascent, but MercadoLibre has enormous potential to contribute to supporting livelihoods and financial inclusion for millions, and we believe it has a competitive advantage by leveraging its ecommerce business.




Positive chain ▲



Positive Change hypothesis

Nubank is a Brazilian digital bank that aspires to reshape the Latin American financial system. In Latin America, many customers are poorly served by traditional banks which have been able to earn far higher returns than in many markets – a consequence of the historically volatile conditions and a degree of regulatory capture. Nubank has managed to acquire tens of millions of customers across Brazil, Colombia and Mexico through simple but desirable products and importantly at lower costs. Growth will come from continuing to grow its customer base and building deeper relationships with them to extract higher wallet share. We believe that Nubank’s long-term and customer-oriented culture, along with durable cost and underwriting advantages, and a highly motivated and experienced leadership team will lead to high growth and profitability in the next five years.

Positive chain ▲

Inputs	Activities	Outputs	Outcomes	Impact
N/A R&D 7,700 Employees (Y/E Dec 2023)	Nubank operates primarily in three countries — Brazil, Colombia and Mexico — and provides various financial services, such as credit and debit cards, savings accounts, insurance, payments and loans.	Nubank has 93.9 million customers and 78 million monthly active users on its mobile app-based financial services. In addition, Nubank provided 3.6 million SMEs with business accounts in 2023, 47 per cent more than in 2022.	Access to financial services can promote household resilience to shocks and create opportunities to improve well being. In early 2024, Nubank and Mastercard published a study that found that 60 per cent of Nubank customers moved from gaining access to financial services to intensive use of basic financial products and credit within two years, regardless of income level. Increasing usage is one indicator for customers increasing ability to meet their financial needs.	<div> 1.4</div> <div> 8.3, 8.10</div> <div> 10.2</div>



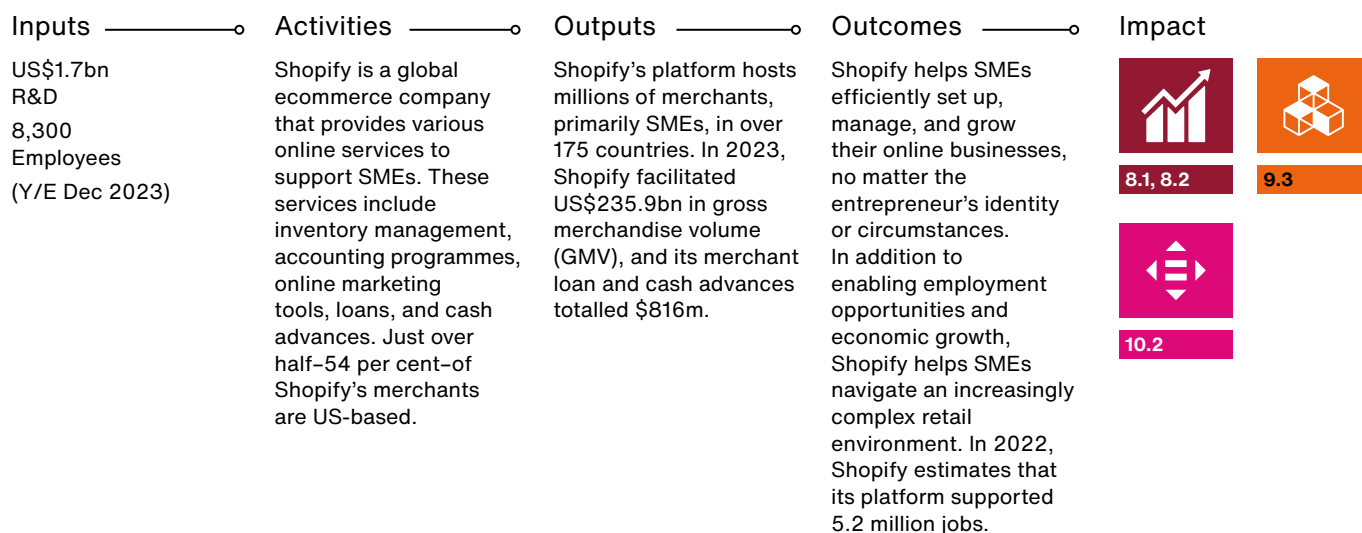
Shopify

First invested **October 2019**

Positive Change hypothesis

Shopify enables small businesses to set up and sell products online by providing a one-stop shop of simple-to-use and low-cost tools including hosting, fulfilment, advertising and payment services. Integrating these tools with each other and across platforms and channels can enable entrepreneurs from all backgrounds to start businesses, compete and expand quickly. This reduces inequalities of opportunity, promoting economic diversity and job creation. The company has grown rapidly in recent years but still appears to be at the very early stages of tapping into the huge opportunity ahead of it.

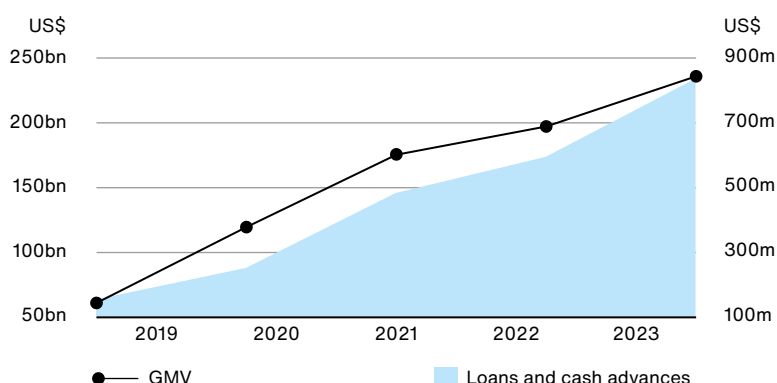
Positive chain ▲



Long-term progress ▲

We have now held Shopify in the portfolio for almost five years, during which time its shares have performed relatively well following noteworthy revenue growth and almost 300 per cent GMV growth. Shopify has continued to provide more services and add more value to its merchants, the majority of which remain SMEs. Between 2019 and 2023, merchants using Shopify grew sales by circa 40 per cent, compared to overall global retail growth of 5 per cent.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

463% **24%**
Cumulative pa

49%
Revenue growth pa

*11% pa MSCI ACWI return (USD).

Metrics cover period since inception to end Dec 2023.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

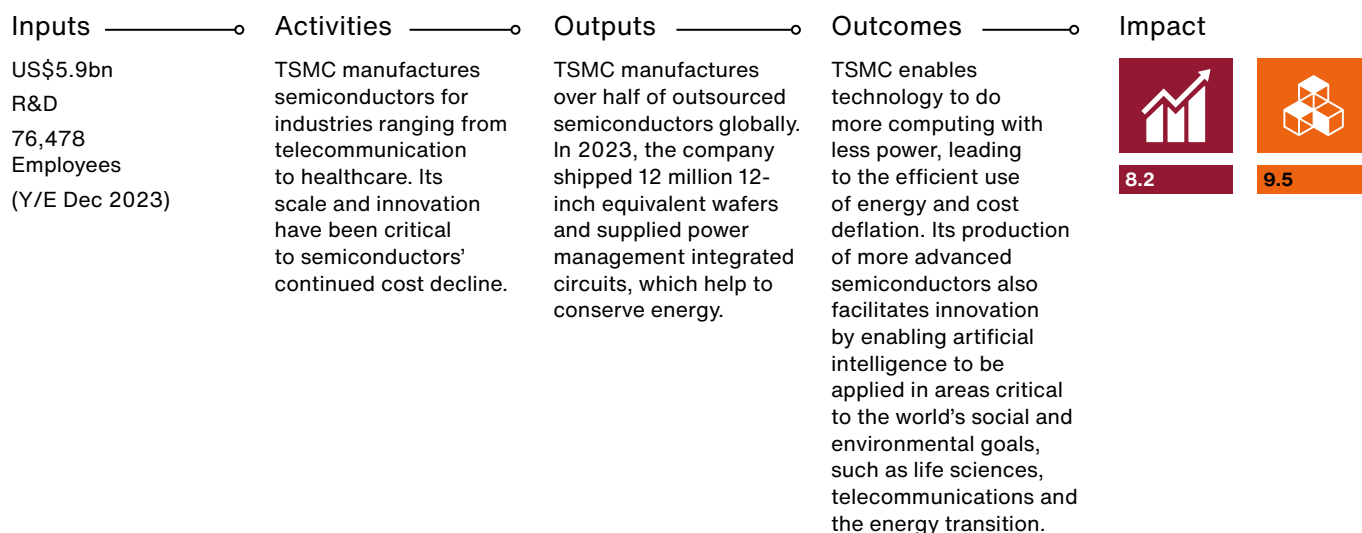
Real world context ▲

In the US, Shopify's largest market, 2023 saw a record number of newly registered small businesses, almost a million of which were in retail. According to a recent US Chamber of Commerce (USCC) study, 95 per cent of small businesses use at least one technology platform. Due to the availability of technology, it has never been easier to set up a company in much of the world. However, in the US and elsewhere, small businesses run by certain groups, such as women and ethnic-minority groups, still face hurdles to growth, such as access to capital. The USCC study found that women- and minority-owned businesses with high adoption of technology were more profitable and had more employees than low adopters. While inconclusive, this suggests that technology platforms can help address some of the challenges for these groups to grow their businesses.

Positive Change hypothesis

TSMC is the world's largest integrated circuit foundry. The company's scale, technology and efficiency will continue to enable price declines for semiconductors, enabling innovation and environmental and social impact across many industries. The capital intensity of the foundry industry is continually increasing, and TSMC, being a trusted long-term partner and the largest company, can invest in the latest equipment to maintain its cost advantage. These advantages should enable TSMC to benefit from the long-term growth of the semiconductor industry while generating attractive returns.

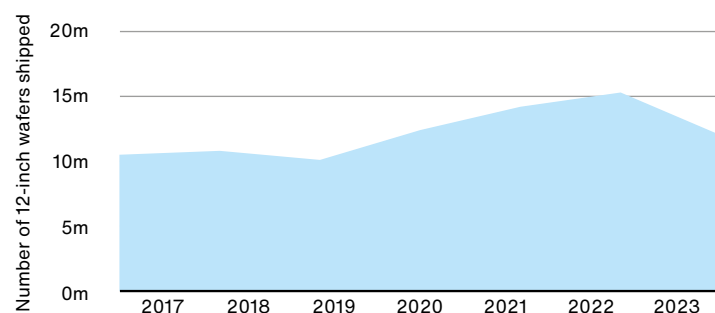
Positive chain ▲



Long-term progress ▲

To meet growing customer demands for semiconductors, TSMC has expanded its manufacturing capacity and continued to invest in innovation. While its production volumes and revenues fell in 2023 due to an industry-wide temporary inventory correction, its five-year revenue growth and share price performance have been strong. A large part of TSMC's business remains manufacturing semiconductors for personal electronic devices. In 2023, 58 per cent of total wafer revenue came from advanced technologies, many of which will be used for high-performance computing and artificial intelligence.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

202% **25%**
Cumulative pa

15%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

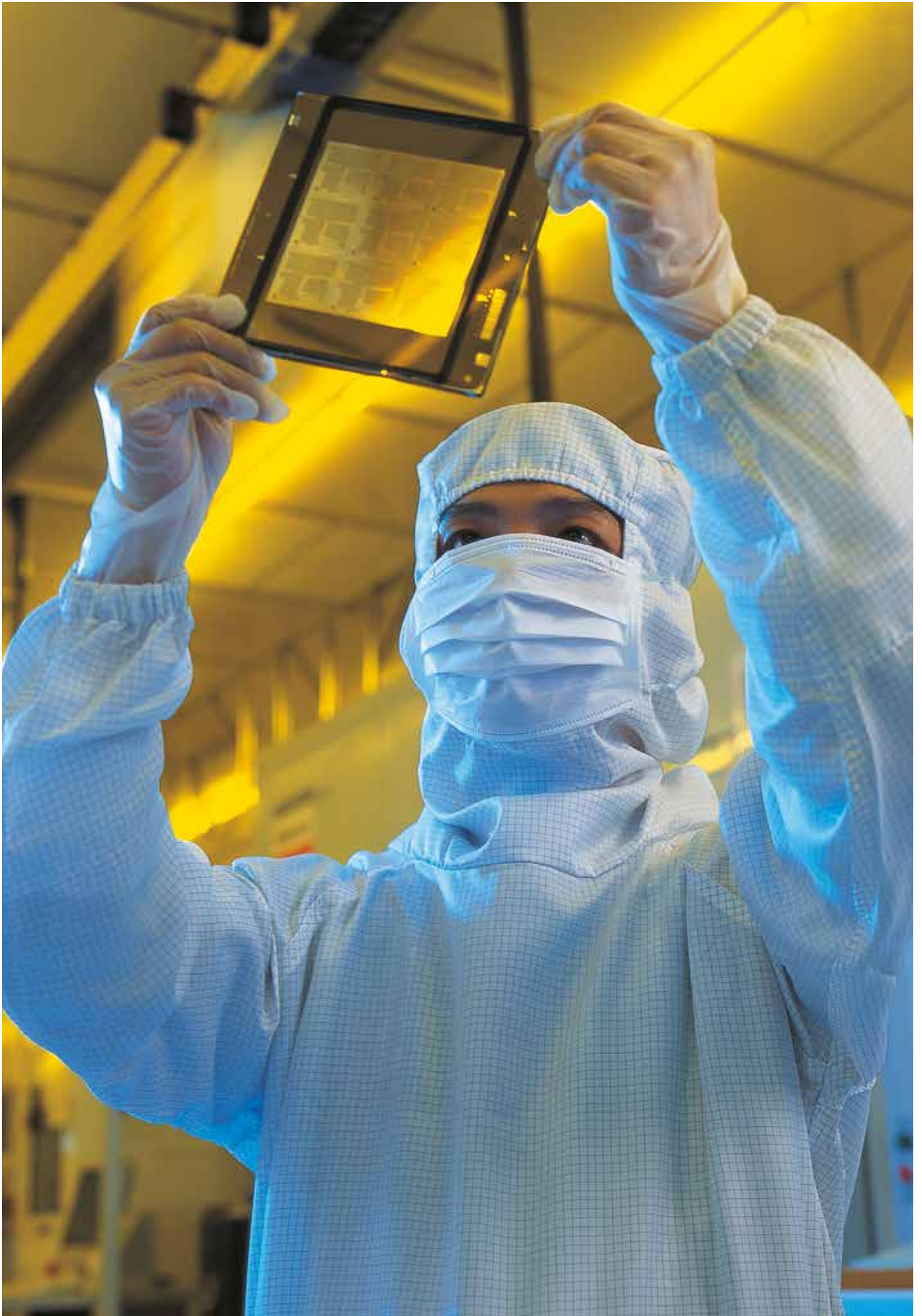
Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Not all, but many of the environmental and social challenges the world faces today have known and yet-to-be-discovered technological solutions. Indeed, many of the products and services and research and development (R&D) of companies in the Positive Change Strategy rely on modern semiconductor designs, and their accessibility depends on technological price deflation and further innovation. The Global Innovation Index 2023 shows that the growth in key indicators of technological innovation, such as microchip transistor count, has been accompanied by increases in patent filings, scientific publications and R&D spending in recent years.



Environment and resource needs



Introduction

Human activity has significantly impacted our planet, increasing greenhouse gas (GHG) emissions and stress on the Earth's systems.

Despite the challenges, we are optimistic that human ingenuity and business leadership can address these issues, promoting a sustainable future.

Over the coming decades, every sector of the economy will need to decarbonise and rebalance its relationships with nature. This will bring enormous opportunities to scale the past decade's emerging technologies, revolutionise existing industries and commercialise new ones.



Positive Change — part of the solution

The Positive Change portfolio focuses on three key areas to address environmental and resource challenges: the energy transition, sustainable resource use and transforming agriculture. These areas will support a sustainable future for our planet and its inhabitants.

The Challenges

- Since 1990, GHG emissions have surged by 54 per cent. Therefore, to achieve the Paris Agreement's goal of limiting global warming to 1.5C, emissions will need to be reduced by 45 per cent from their 2022 levels.
- As we transition to renewable electricity generation, the 'energy trilemma' involves finding a balance between the sustainability, affordability and reliability of energy supply.
- Human activity is causing the most extensive loss of plant and animal life since the dinosaurs, necessitating solutions to prevent habitat destruction from industrial activities.
- Resource efficiency is critical for addressing environmental challenges, with a need for technological, digital and behavioural solutions to conserve and preserve water, food, energy and minerals.

The energy transition

Recent years have seen remarkable advances in renewable energy development, marking a shift from traditional fossil fuel dependency to a more varied and sustainable global energy mix. At the same time, technological advances are also playing a crucial role in the electrification of energy demand, paving the way for a cleaner, more sustainable future.

Transport is one of the largest sources of energy use in the economy. **Tesla** helps to tackle this, with its best-selling Model Y, and more than five million electric vehicles (EV) on the road. The company's commitment to reducing prices and expanding its product range into pickup trucks and lorries is encouraging greater EV adoption.

Yet cars are not the only form of transport that can contribute to the energy transition. **Joby** is producing innovative electric vertical take-off and landing (eVTOL) aircraft (helicopters) and is involved in the development of hydrogen aircraft to replace medium- and long-haul flights.

Ørsted is a pioneer in renewable energy, covering everything from offshore wind to green hydrogen. In 2023, Ørsted generated over 13.1 terawatt-hours (TWh) of power from wind and solar.

These renewable energy sources only generate electricity when conditions are right and solutions are required to store energy when it's generated and release it when demanded. Here, Tesla's battery storage systems make it possible to store energy for the grid and the home, safely and reliably.

Autodesk's architecture, construction and engineering design software enables engineers and architects to make informed decisions on the energy use and embedded environmental footprints of buildings and infrastructure. Addressing GHG emissions from the built environment – responsible for almost 40 per cent of global energy-related carbon emissions – is an enormous challenge.

Sustainable resource use

Addressing the over-exploitation of natural resources is essential and fundamental to sustaining life and socioeconomic progress.

Global water demand will exceed supply by 40 per cent by 2030. While few companies improving water efficiency are household names, their leadership and commitment to innovation are impressive.

Xylem addresses the water challenge by manufacturing equipment that is critical infrastructure for water transportation, treatment and testing.

Ecolab is a one-stop shop that provides speciality chemical products, such as hand sanitiser, through wastewater treatment. Its customers have improved operational efficiency by conserving over 856 billion litres of water annually.

Umicore is a leading manufacturer of battery cathodes, a critical component in EVs. It also operates the world's largest precious metals recycling plant and electric vehicle battery recycling plant, building a path to a closed-loop metals system.

Autodesk's products empower engineers and designers to do more with less. Generative design and predictive analytics can improve workflows and avoid rework, thereby reducing waste and raw material use. It's design software also enables engineers and architects to make informed decisions that can reduce the energy use and embedded carbon footprints of buildings and infrastructure.

Transforming agriculture

Food systems contribute more than one-third of total global GHG emissions each year. We must find a way to balance the world's need for food production with environmental conservation and limiting biodiversity loss.

Deere is an agricultural equipment company. Its precision technologies help farmers increase their yields while cutting their negative environmental impact. In 2023, the company's See & Spray technology helped farmers reduce their herbicide use by over two-thirds.

By 2030, Deere has set a target for 75 per cent of the acres being actively farmed by its customers to be farmed using sustainable practices. That includes the use of fully autonomous, battery-powered electric tractors, which also help address other negative consequences of farming, such as soil compaction.

Novozymes, the world's largest manufacturer of industrial enzymes, creates biological products, which enhance crops' access to nutrients in the soil, meaning farmers can use less artificial fertilisers while maintaining, or even improving, yields.

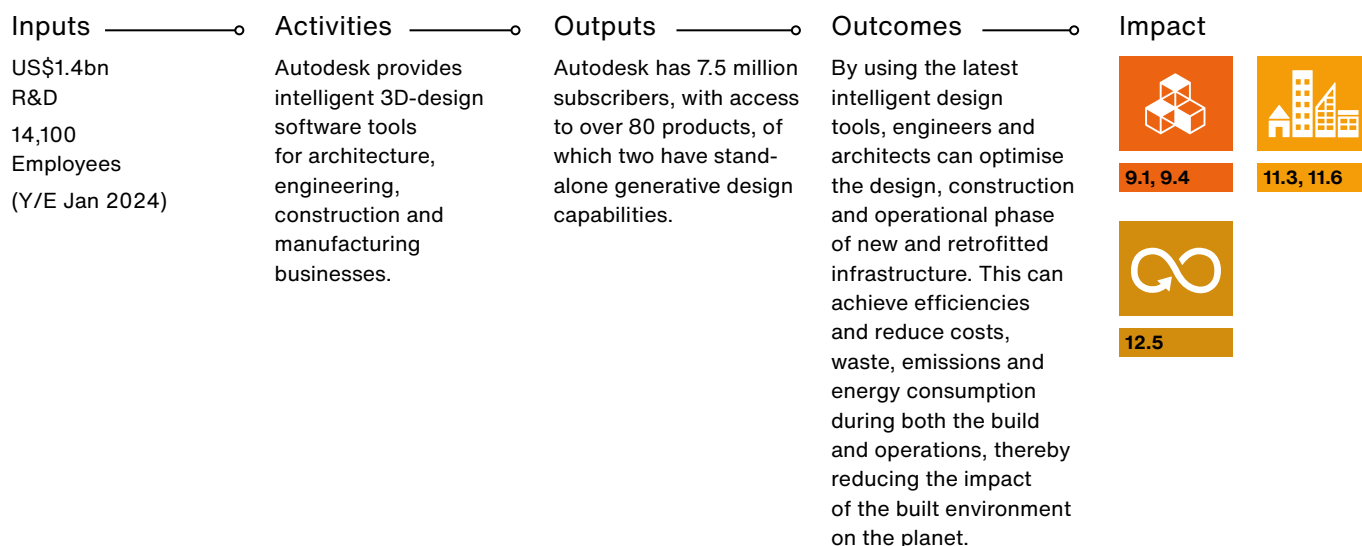
Autodesk

First invested **December 2022**

Positive Change hypothesis

Autodesk is a leading 3D design software provider. It provides the latest digital design and building information modelling (BIM) tools for the manufacturing and construction industries. Using intelligent generative design, its cloud-based tools enable architects and engineers to make better, more informed designs in less time and at a reduced cost. In turn, this can reduce the amount of resources needed during the construction and manufacturing stage and the amount of energy consumed during an asset's operational and use phase.

Positive chain ▲



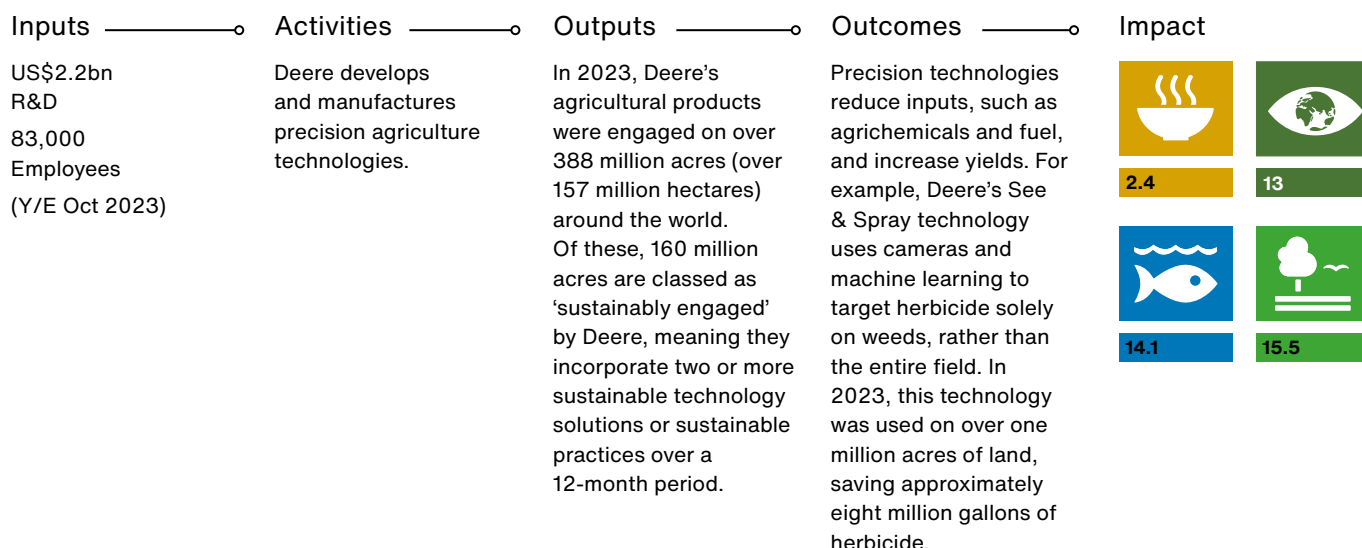
Deere

First invested **February 2020**

Positive Change hypothesis

There is an urgent need to address the harmful environmental impact of industrial farming while increasing agricultural output to feed a growing global population. Precision agriculture technologies will be an essential part of the solution, driving higher farming productivity and reducing the negative environmental impacts of agriculture. As the largest farming equipment manufacturer, Deere will use its scale, the vertical integration of its technology development, and its close relationships with dealers and farmers to encourage the uptake of precision agriculture technologies. In doing so, Deere will emerge as the leader in precision agriculture, driving profitable growth and helping improve the sustainability of farming.

Positive chain ▲



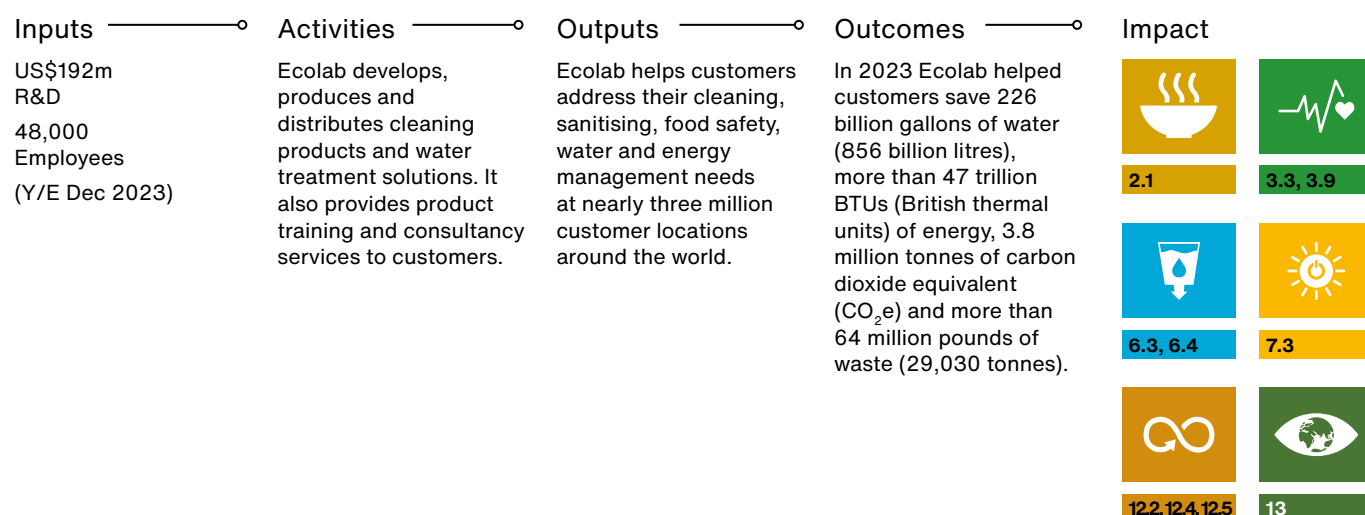
Ecolab

First invested **January 2017**

Positive Change hypothesis

Across hundreds of industries, Ecolab's thousands of products help minimise harm to human health from infection, protect local water resources and mitigate climate change. Ecolab is the partner of choice for millions of companies striving to achieve safer, more efficient and more sustainable operations. This trend will continue to be a tailwind for Ecolab's growth for many years, supported by share gains in growing markets, further acquisitions, digitalisation and innovative product lines.

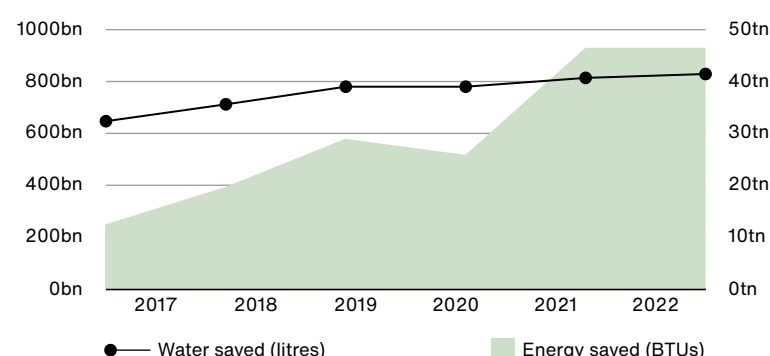
Positive chain ▲



Long-term progress ▲

Since we took a holding, Ecolab has continued to build on its very large customer base and has also increased the amount of energy and water it helps them save. It is making great progress towards its 2030 impact targets, having made significant advances in digitalising its services to support customers and prove the value of its services. This has yet to translate into accelerated growth in revenues or share price. However, Ecolab remains very well placed to help a huge range of companies in their efforts to reduce their environmental footprint. This trend is firmly accelerating across a growing number of sectors.

Impact objective ▲



Source: Baillie Gifford, based on company data.

*Since 2019 these have been classified according to the FTSE LCE classification.

Investment objective ▲

Share price return (USD)*

42% **7%**
Cumulative pa

0.6%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Between two and three billion people experience water shortages for at least one month each year, and global demand for freshwater is expected to outstrip supply by 40 per cent by 2030, which could lead to a humanitarian and economic catastrophe. It is estimated that the industrial and energy sectors account for 17 per cent of all freshwater withdrawals, and climate change is an exacerbating factor. Reducing water and energy intensity across the economy is one important way that the world can mitigate climate change and ensure the availability of water.

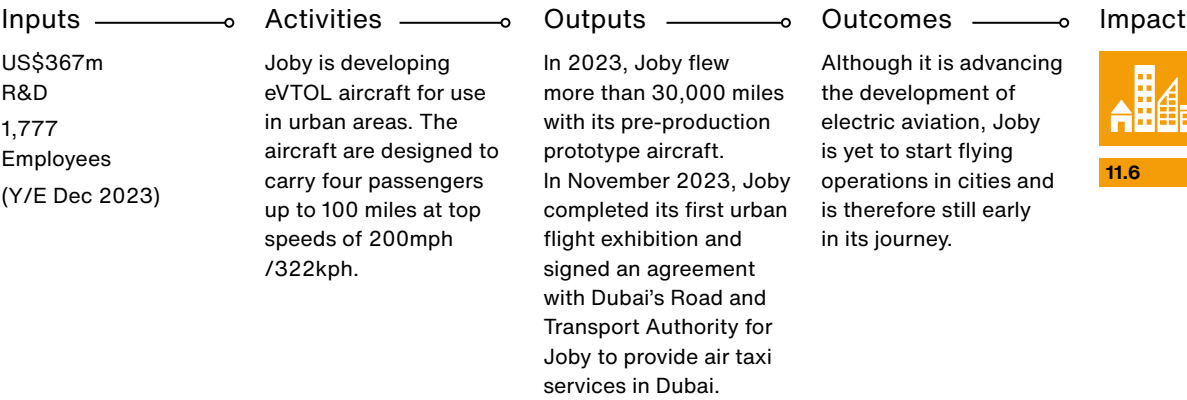
Joby Aviation

First invested **October 2023**
New

Positive Change hypothesis

Joby develops electric vertical take-off and landing (eVTOL) aircraft. This new form of transport could bring substantial environmental benefits by bypassing fossil fuel-powered transport systems and social and economic improvements by reducing congestion. Joby aims to make its service cost-competitive relative to transit and on-demand transportation, which could unlock a market worth hundreds of billions of dollars annually. Achieving this vision will require Federal Aviation Administration (FAA) certification, scaling manufacturing, building infrastructure and designing front-end service.

Positive chain ▲



© Joby Aviation.

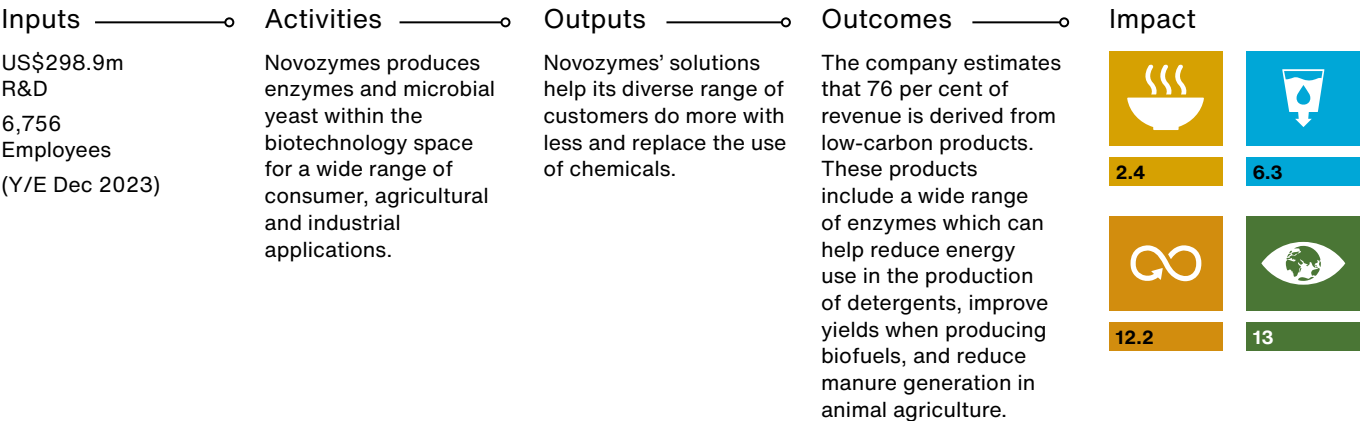
Novozymes

First invested **January 2017**

Positive Change hypothesis

Novozymes is the world’s largest manufacturer of industrial enzymes. Its products are used across numerous end markets, aiming to make products or processes more effective, efficient, durable and less resource-intensive. Novozymes’ scale, focus, and commitment to long-term innovation present substantial hurdles to new market entrants and should support superior performance compared with peers, generally divisions of larger organisations. Improved versions of existing products and new applications for enzyme technology mean that Novozymes’ products can continue to make the world a better place while growing revenues and profits at an attractive rate.

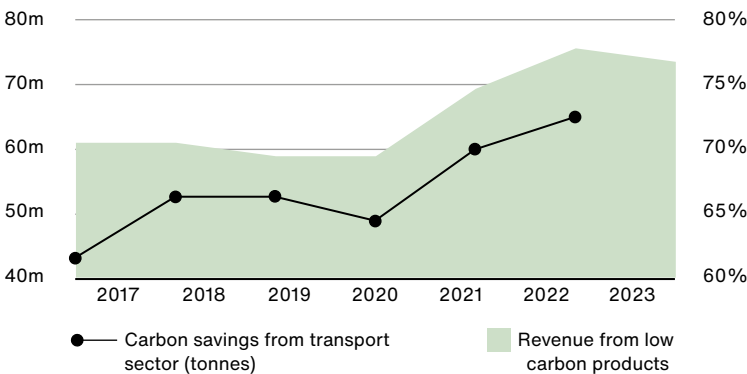
Positive chain ▲



Long-term progress ▲

Novozymes has maintained its position as a global leader in the enzyme industry and has continued to invest in new products and solutions designed to meet the needs of its diverse customer base. In 2023, the company announced its merger with Chr. Hansen, a leading bioscience company, and formed a new company called Novonesis. This merger has strengthened the company’s ability to benefit from growing demand in bio-health, sustainable agriculture and bioenergy.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

35% Cumulative

6% pa

2% Revenue growth pa

*12% pa MSCI ACWI return (USD).
Metrics over the five-year time horizon.
Past performance is no guarantee of future results.
Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

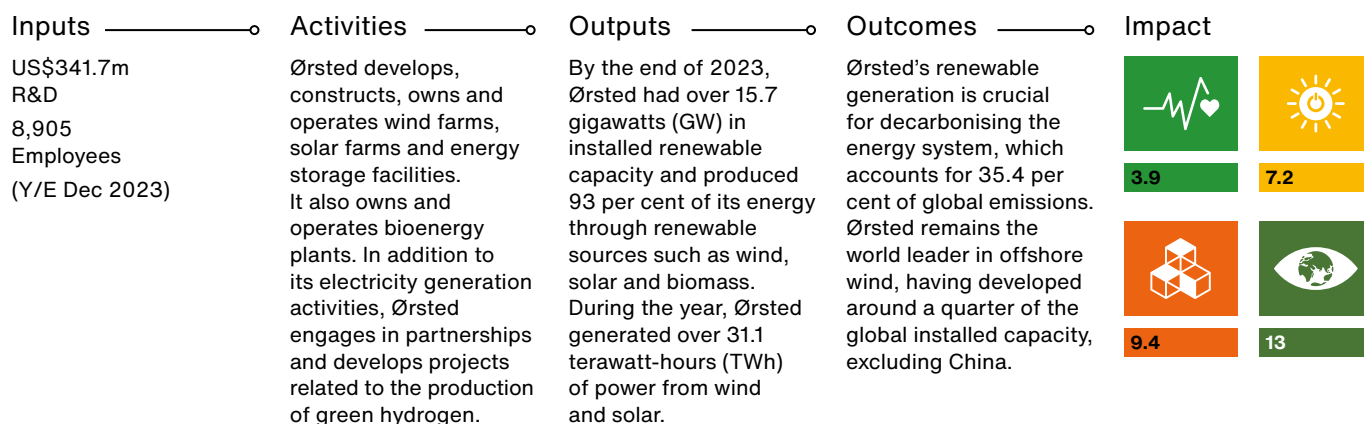
Real world context ▲

The transition to the circular economy has been slow, but some areas where Novozymes is dominant have progressed faster than average. For instance, enzymes which have enabled consumers to wash clothes at lower temperatures are estimated to have reduced energy use in the EU by 12 million megawatt hour (MWh) per year. Novozymes is working on more nascent areas, such as second-generation biofuels, plant-based foods and agricultural biologics, all of which hold great potential for reducing resource use.

Positive Change hypothesis

Ørsted is a renewable energy developer and a global leader in offshore wind energy. Continuing to build out renewable energy infrastructure will be an essential part of tackling climate change, where Ørsted can play a significant role. We believe Ørsted's reputation and expertise in managing large projects and working with different stakeholders will enable it to earn a return on investment. New growth opportunities, such as green hydrogen, could provide further upside.

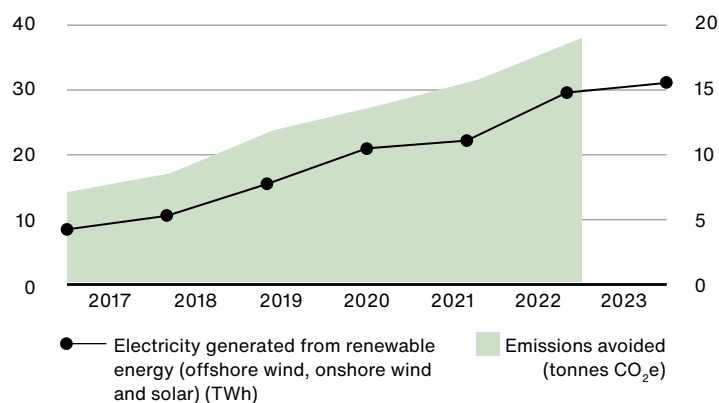
Positive chain ▲



Long-term progress ▲

Since Positive Change first took a holding in 2017, Ørsted has steadily and consistently increased its renewable energy capacity. Increasing the clean energy it generates ultimately helps decarbonise energy grids worldwide. Ørsted's green energy generation has increased from 64 per cent of its total energy generation in 2017 to 93 per cent today. Due to a significant financial impairment on its US offshore wind projects, induced by complex operational and industry challenges, the company has since reshaped its business and reduced its target to produce 50GW of renewable energy capacity by 2030 to a target of 35-38GW.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

-10% Cumulative
-2% pa

5%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

According to the International Energy Agency (IEA), the deployment of wind power from 2019 to 2023 has prevented approximately 830 million tonnes of CO₂ emissions annually, which is more than the yearly emissions of Germany. This significant reduction underscores the critical role of wind power in mitigating climate change. In 2023, for the first time, wind power surpassed both natural gas and coal in electricity generation within the EU. To meet the IEA's net-zero emissions target, continued growth in wind generation is necessary over the coming decade, at an average rate of 17 per cent per annum between 2022 and 2030, with offshore wind experiencing a more rapid increase than onshore wind.

Update

Our original investment thesis for Ørsted is that offshore wind will become an important source of energy generation for many countries and that Ørsted's scale and expertise will enable the company to profitably capitalise on this growth opportunity. Unfortunately, recent events have reduced our conviction in Ørsted's ability to execute. The company incurred significant losses in 2022 due to poor hedging policies and recognised a large impairment in 2023 on its US business. While the growth opportunity remains, we have lost confidence in the management's ability to allocate capital effectively and generate long-term value for shareholders.

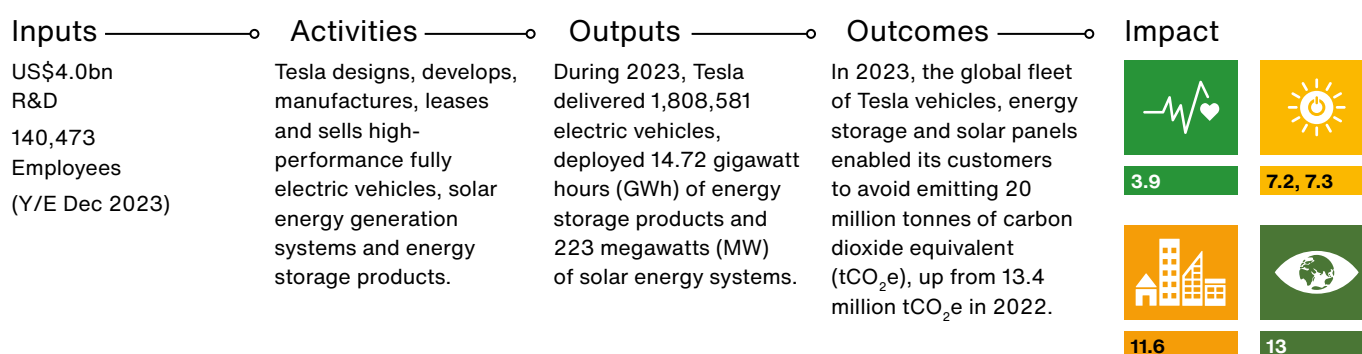
Tesla

First invested **January 2017**

Positive Change hypothesis

Tesla aims to accelerate the transition towards a sustainable energy system by developing and commercialising EVs, solar and storage products. The adoption of EVs is rising, driven by decreasing costs, an improved driving experience, regulatory support and consumer awareness of climate change. Similarly, solar energy generation and storage is being driven by technological improvements and economics. We believe Tesla has strong competitive advantages which will enable it to emerge as a winner in the energy transition and generate shareholder value along the way.

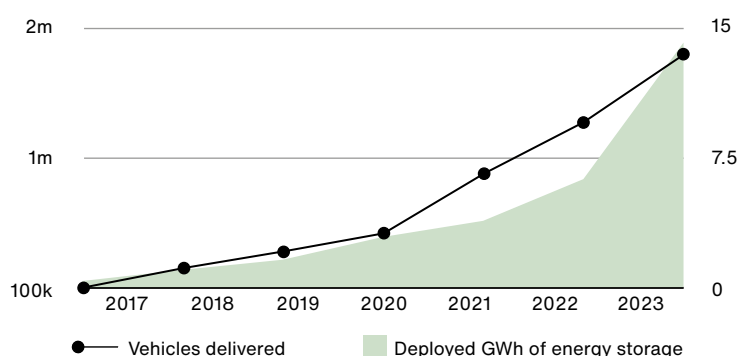
Positive chain ▲



Long-term progress ▲

For a relatively young company in a complex and well-established industry, Tesla's operational progress has been noteworthy. Since we took a holding, we have seen an increase in vehicles delivered from around 100,000 in 2017 to over 1.8 million in 2023. There has been an over 40-fold increase in deployment of energy storage solutions in the same period. Solar deployment has slowed (around -57 per cent in the same timeframe), but it remains an area of future growth potential and a vital part of the complete solution to renewable power and automation that Tesla provides. The company has continued to innovate around its core products. Its high level of vertical integration ensures it is a key driver of innovation and change within the industry.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Since 2019 these have been classified according to the FTSE LCE classification (Financial Times Stock Exchange-Low Carbon Economy Industrial Classification System).

Investment objective ▲

Share price return (USD)*

1020% **62%**
Cumulative pa

40%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

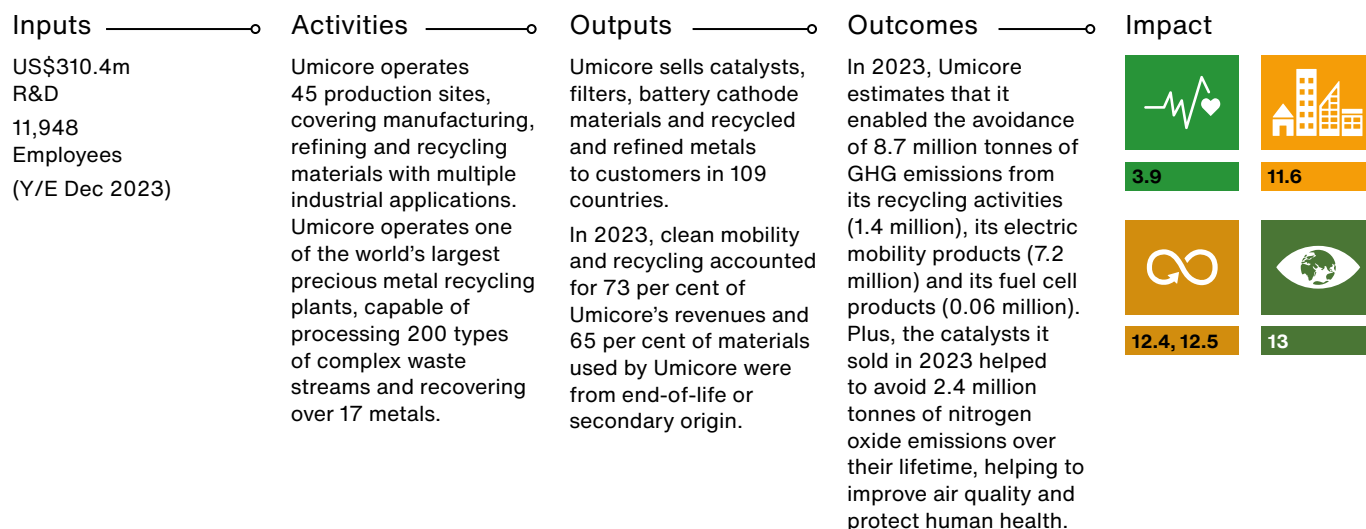
Real world context ▲

There has been significant growth in electric car sales globally, from 1.2 million new registrations in 2017, representing 1.4 per cent of new vehicle registrations, to nearly 14 million in 2023, representing approximately 18 per cent of global car sales. Capacity additions in battery storage are increasing globally; 1GW of additions were made in 2017 compared to 28GW in 2022. Yet more is needed to support an economy that relies on intermittent renewable power. The IEA estimates that a 35-fold increase in grid-scale battery storage to nearly 970GW by 2030 will be required, with almost 170GW required additions in 2030 alone.

Positive Change hypothesis

Umicore is one of the world's largest manufacturers of automotive catalysts and lithium-ion battery cathodes. These are essential for reducing the negative impacts of poor air quality and electrifying the transport sector. The rising adoption of electric vehicles will support significant growth in demand for cathode materials. The company's process know-how and relationships with automotive manufacturers should enable Umicore to earn a return in this growing market. This will offset a longer-term decline in the automotive catalysts business. Metal recycling and opportunities in hydrogen fuel cells – both critical enablers of the energy transition – should provide additional upside in investment returns and climate impact.

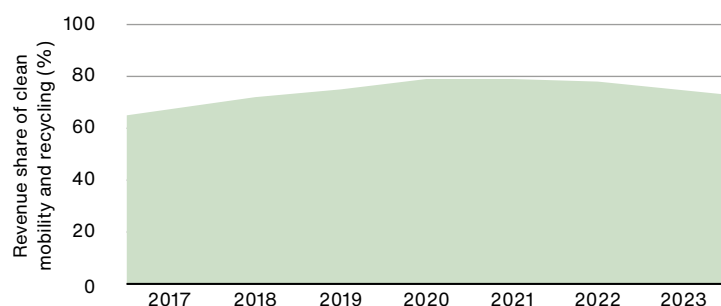
Positive chain ▲



Long-term progress ▲

As Umicore is playing a more important role in the EV value chain, the share price has increasingly traded on EV sentiment, which has disappointed recently. Despite this, Umicore has continued to grow revenues robustly at 10 per cent per annum and its products continue to help avoid a significant amount of GHG emissions and harmful pollutants. It has been investing heavily in its metals recycling and, in the last two years, has expanded its cathode manufacturing to Poland and Canada. From these facilities, Umicore expects demand to be high for its range of cathode materials.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

-26% **-6%**
Cumulative pa

10%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

According to the World Health Organisation (WHO), every year seven million people die prematurely from exposure to air pollution and, in 2022, 99 per cent of the world's population lived in places where the WHO's safe air quality guidelines were not met. With more cars on the road, catalytic converters have limited the harm and improved air quality in certain cities. But a far more fundamental solution is to replace them with alternative fuel vehicles. Under the IEA's net zero scenario, transport emissions must fall by more than 3 per cent every year to 2030, yet they are still growing. Accompanying this transition will be an unprecedented demand for battery metals. The World Economic Forum estimates that battery recycling capacity needs to grow 25-fold from 2019 to 2030.

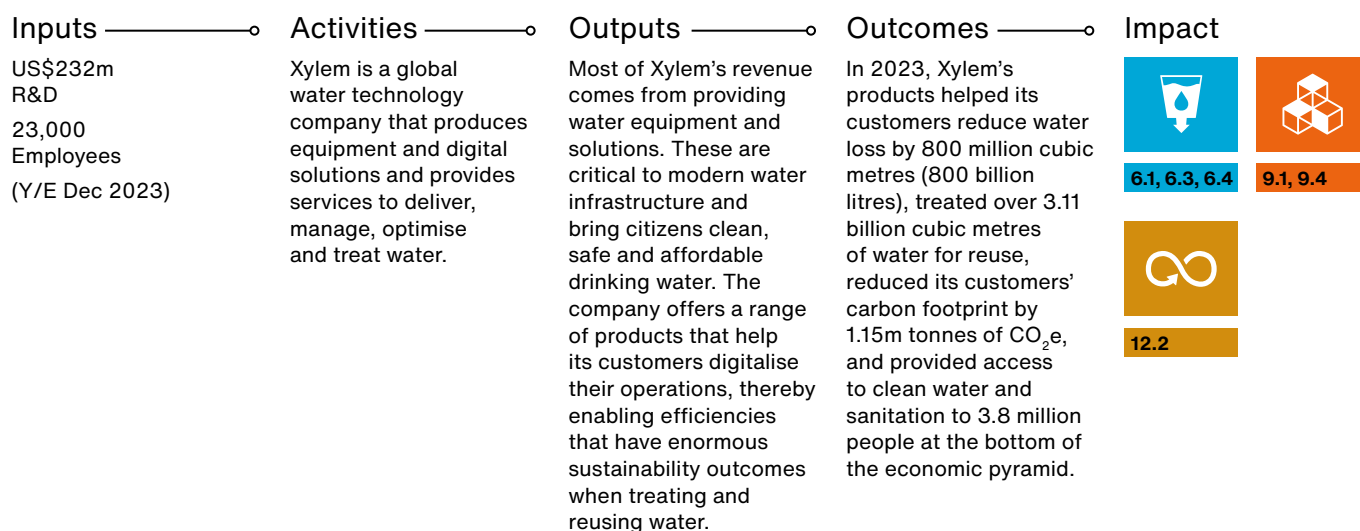
Xylem

First invested **January 2017**

Positive Change hypothesis

Xylem manufactures pumps, filters, and treatment and testing equipment for modern water infrastructure. As a very large water company, Xylem's scale in distribution, research and development, and reputation should give the company an advantage as utilities and governments look for more efficient ways to address water challenges. The need to improve access to clean sanitation, reduce water pollution and upgrade aging infrastructure should support attractive long-term growth prospects for Xylem.

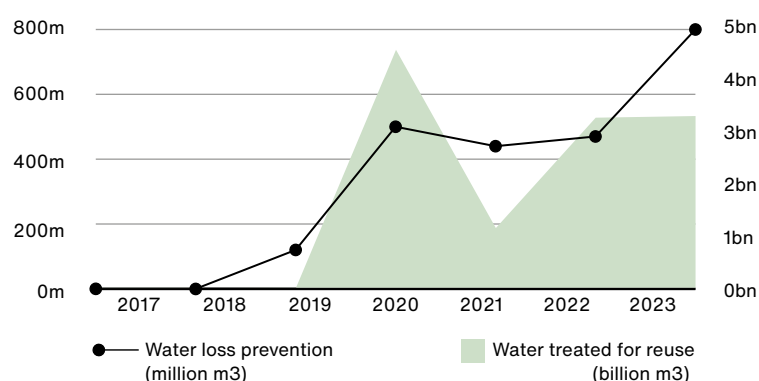
Positive chain ▲



Long-term progress ▲

Xylem has continued to invest in research and development, and its business lines have grown to include an enhanced digital package, which is the key to unlocking more value for customers. Xylem's targeting and monitoring of its societal and environmental impact have matured, with greater ambition to provide the base of the pyramid with access to clean water and sanitation. In 2023, Xylem acquired Evoqua, a leading innovative water and wastewater treatment solution provider. This acquisition increased Xylem's portfolio of products, which will be used to treat per- and poly-fluoroalkyl substances (PFAs) and other emerging contaminants in water.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Since 2019 these have been classified according to the FTSE LCE classification. Data not available for 2017 or 2018.

Investment objective ▲

Share price return (USD)*

82% **13%**
Cumulative pa

6%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

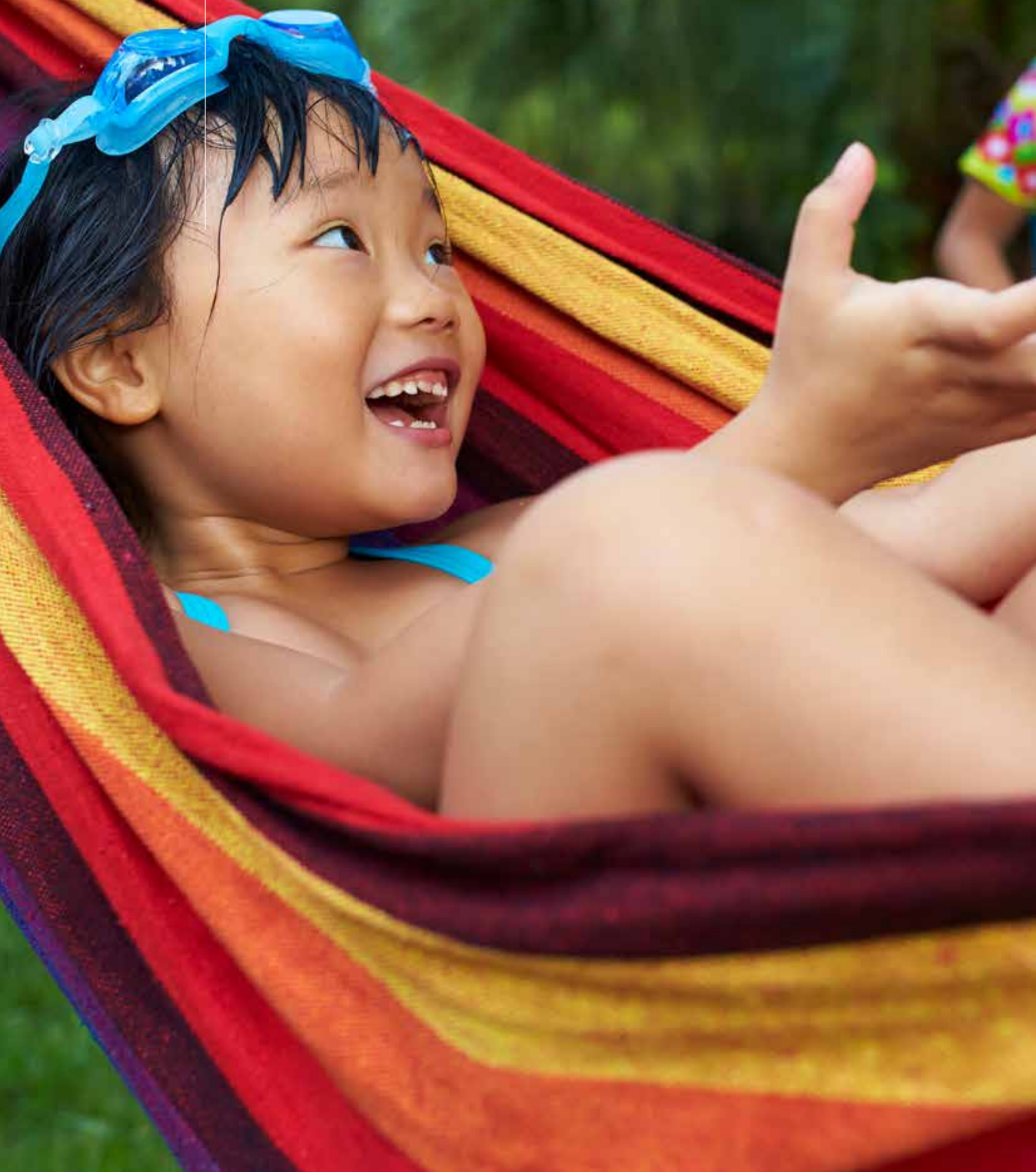
Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

The need for effective and efficient management of water resources is evident. Currently, 2.4 billion people live in areas of high water stress, which has devastating impacts on public health and economic development. Global water and wastewater management contributes 10 per cent of global greenhouse emissions. While progress is being made on water-use efficiency and access globally, efforts need to accelerate across all parts of the economy, especially in areas prone to water stress.

Healthcare
and quality
of life



Introduction

The rise in lifestyle and age-related diseases and the challenges associated with complex healthcare systems, rising costs and inequalities mean that there are large opportunities for companies to address.

Despite the significant challenges remaining healthcare access and the global disease burden, there is much to be positive about. Advances in technology, our understanding of biology, personalised treatments and disease prevention provide reasons for optimism.

The Positive Change Team aims to support innovative companies pioneering new technologies designed to improve health outcomes around the world, as well as those helping to make quality healthcare and treatments available to more people.



Positive Change — part of the solution

The Positive Change portfolio includes companies contributing to improved health outcomes in five ways: improving our understanding of diseases, diagnostics, treatment, disease prevention and efficiency (system enablers).

The Challenges

- Lifestyle and age-related diseases are on the rise. Each year, 17 million people die from non-communicable diseases before age 70, predominantly in low- and middle-income countries.
- Millions of people still suffer from incurable diseases. For example, over 55 million people globally are living with Alzheimer's, for which there is no known cure. Continued research and innovation are essential to find better treatments and cures for such diseases.
- Rising healthcare costs are a significant concern. The financial strain of healthcare can prevent people seeking the necessary care and medical debt can trap individuals, and their families, in a cycle of financial hardship. Healthcare costs cause financial hardship for around two billion people each year.
- Many people around the world lack access to essential medications and basic healthcare services. The Covid-19 pandemic highlighted the extent of global health disparities and in some cases further exacerbated them.

Improving our understanding of diseases

Biology is complex, but a convergence of technologies is helping to explore it in increasing detail. Single-cell analysis platforms, advances in imaging and the advent of artificial intelligence are helping scientists to make rapid progress in their understanding of diseases and their root causes.

We invest in **Illumina**. Its genome sequencing technology enables the identification and, in some cases, preventative or targeted treatment of many diseases, including rare cancers.

We also invest in **10x Genomics**, whose machines can be used with Illumina's technology, providing a more detailed analysis of single cells than previously possible. This type of research supports developing of new drugs and treatments for diseases.

Diagnostics

Our improving understanding of biology enables earlier diagnosis and treatment of disease.

Previously, it might only have been possible to detect a disease when the patient was displaying later-stage symptoms.

In some instances, we can now diagnose disease before a patient is aware of symptoms or when the disease progression is still in its early stages. As well as the obvious benefits for individuals, this can also save costs for the healthcare system from reduced hospitalisations and misdiagnosis, for example.

One example of the progress being made is Illumina's blood test. It can detect over 50 types of cancer at an early stage, making early diagnosis and treatment more feasible.

Treatment

Treatments should either lead to a cure or substantially improve patient outcomes without compromising their quality of life.

Historically, drug development has taken about 10 years and costs \$1bn per drug, with only a 9 per cent chance of it being approved and commercialised successfully; the process starting again for the next drug.

In contrast, **Alnylam**, whose RNA-interference-based drugs identify and silence faulty genes for rare and more common diseases, has enjoyed a 60 per cent track record of success.

AbCellera's portfolio of technologies and services help scientists discover better antibody-based medicines and get them to patients faster.

We also invest in **Dexcom**, whose continuous glucose monitoring (CGM) devices enable diabetic patients to manage their glucose levels better, reducing the risk of complications and preventing more serious disease.

Disease prevention

Diseases have a negative impact on both individuals and society. One way to reduce harm and save costs is to prevent them occurring in the first instance.

In the face of the world's growing burden of non-communicable diseases caused by environmental and lifestyle factors, a healthy diet and exercise are essential for maintaining good health.

As such, companies that provide products and services that remove the barriers to leading a healthy lifestyle can contribute to disease prevention.

Discovery's shared value insurance products incentivise healthy behaviours, such as exercising, healthy eating and moderating alcohol consumption to help prevent illness.

Meanwhile one billion people consume a product with **Chr. Hansen's** ingredients every day – although Chr. Hansen manufactures a range of products, they generally, most of them help to promote good health, such as its microbiome-based probiotic health solutions.

Another method of disease prevention, which has historically proved very successful for certain diseases, is vaccination. **Moderna's** application of mRNA technology within its vaccines under development has huge potential to prevent over twenty diseases and potentially many more in the future.

Efficiency (System enablers)

As the global population ages, healthcare systems must adapt to rising demand while containing costs.

Systemic inefficiencies include the time it takes to develop new drugs, ineffective treatments with severe side effects, misdiagnosis, operational complexity and long waiting times.

Sartorius provides single-use equipment for manufacturing biological products such as antibodies and vaccines. It enables the biotechnology industry to operate with greater flexibility, lower costs and to lower the environmental impact of drug development and manufacturing.

Meanwhile, **Wuxi Biologics** supports biotechnology firms in their development of new biologic treatments by providing an outsourced research, development and manufacturing platform – by doing so, it facilitates time and cost savings for its clients.



10x Genomics

First invested **September 2020**
Sold **May 2024**

Positive Change hypothesis

10x Genomics develops tools for single-cell analysis. When combined with next-generation sequencing, these tools provide a far more granular view of biology by enabling researchers to measure and interpret differences between individual cells in a sample. Although still in the early phases of adoption by the medical research community, we believe researchers will increasingly adopt single-cell analysis, thanks to the precision with which it can target individual cells. The company's competitive advantage comes from microfluidic, engineering and software expertise and a culture that emphasises a multidisciplinary approach and closeness to customers.

Positive chain ▲

Inputs	Activities	Outputs	Outcomes	Impact
US\$270.3m R&D 1,259 Employees (Y/E Dec 2023)	10x Genomics develops machines and software that enable scientists to gain a better understanding of biology through single-cell analysis.	By December 2023, 10x Genomics had sold 5,966 instruments to researchers around the world.	The information gained from using 10x Genomics' products has expanded our understanding of biology. More than 7,200 peer-reviewed articles have been published using data generated by the company's technology, and more than 690 of these articles have appeared in three highly regarded journals: <i>Cell</i> , <i>Nature</i> and <i>Science</i> .	 3.3, 3.4  9.5

Update

Operational progress has been disappointing since we took a holding in 10x Genomics. There were macro challenges related to the Covid-19 lockdown, a slowdown in China and a constrained academic research budget. The company has also struggled internally to commercialise its single-cell sequencing technology and bring it to smaller and mainstream biology labs. While 10x continues to innovate rapidly and has made significant progress in spatial biology, we are concerned that the competitive landscape is evolving rapidly and it may be difficult for the company to maintain its leading position. We therefore decided to sell our holding to fund other more attractive investment opportunities.


AbCellera

First invested **March 2021**

Positive Change hypothesis

AbCellera performs antibody discovery services for pharmaceutical and biotechnology partners. The company has a differentiated technology stack consisting of proprietary immunisation methods, single-cell screening, bi-specific engineering, continuous process improvements, and data and software. This enables AbCellera to speed up the discovery process and develop drugs that have proved hard to develop using traditional methods. The global antibody therapeutics market is expected to reach US\$250–300bn by 2025. As AbCellera monetises, mainly through high-margin milestone and royalty payments, it can capture a meaningful share of the antibody therapeutic market, which could lead to a very attractive investment outcome.

Positive chain ▲

Inputs	Activities	Outputs	Outcomes	Impact
US\$175.7m R&D 600 Employees (Y/E Dec 2023)	AbCellera's artificial intelligence powered services include technologies that source, search, decode, analyse and engineer antibodies.	AbCellera has entered contracts for 203 antibody discovery and development programmes that are either completed, in progress or under contract with 46 partner companies. This has resulted in 13 molecules being discovered using AbCellera's technology that are either available to patients today or in clinical trials.	Antibody therapeutics have the potential to treat a variety of human diseases including many cancers, autoimmune, metabolic and infectious diseases. In addition to discovery of an antibody used to treat Covid-19, the therapeutic areas of AbCellera's programmes include oncology, neurology and other infectious diseases.	 3.3, 3.4

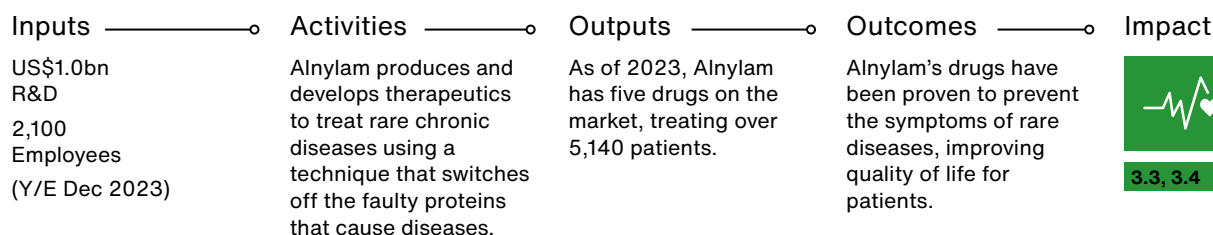
Alnylam

First invested **January 2017**

Positive Change hypothesis

Alnylam is an early-stage biotechnology company. It is developing a new class of highly innovative drugs based on a breakthrough biological discovery known as RNA interference (RNAi). In addition to developing its own RNAi drugs, Alnylam has an extensive technology and patents portfolio, which it licenses out to other pharmaceutical companies. The cash associated with these upfront license payments helps fund Alnylam's new treatment pipeline. Early proof of concept data regarding RNAi drugs has been encouraging and significant upside might exist as Alnylam uses the technology for future drug approvals.

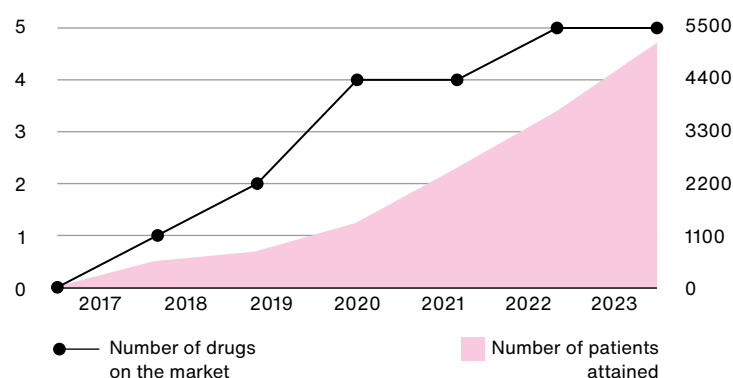
Positive chain ▲



Long-term progress ▲

Alnylam has been significantly de-risked since we first took a holding in 2017, achieving impressive revenue growth. The company now has five approved RNAi therapeutics on the market compared to none in 2017. With a range of ongoing clinical trials, the company is expanding its drug development efforts beyond genetic diseases and into much more common diseases, such as hypertension and Alzheimer's. This should expand Alnylam's breadth of impact over time, compared to the relatively low numbers of patients its drugs have treated to date.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Patients attained are as reported in Alnylam's FY report; Alnylam reaches more patients indirectly through partnerships, but since these are not included in the annual reporting, they are not included in the numbers shown above.

Investment objective ▲

Share price return (USD)*

163% **21%**
Cumulative pa

80%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

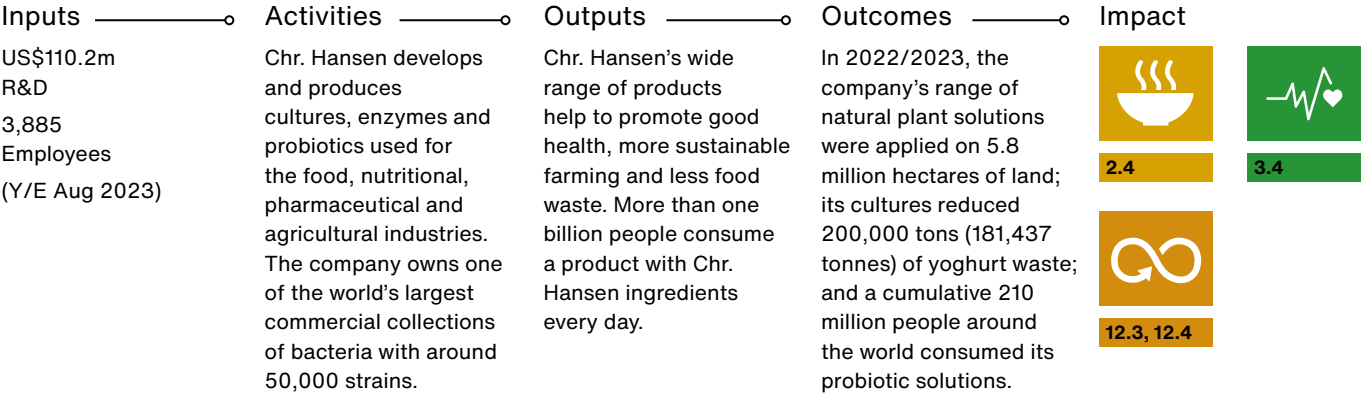
Real world context ▲

Their innovative mechanism of action, their ability to target a wide range of diseases at the genetic level, their potent and durable effects has meant there is increased excitement about RNAi therapeutics, with potential being seen in a wide range of illnesses beyond genetic disease. The pipeline for RNAi therapies has more than doubled over the past five years, and, although vaccines have led the way, treatments beyond vaccines are receiving increased attention.

Positive Change hypothesis

Chr. Hansen is a life sciences business that develops and produces nature-based solutions (such as cultures, enzymes and probiotics) to improve our food, our health (human and animal) and agricultural productivity. We expect growing demand for products that will enhance the nutritional content and expand food's shelf life, reduce our antibiotic dependence and the associated increase in antimicrobial resistance and enable us to grow more food using fewer and better inputs. Chr. Hansen has a vast library of microbial strains from which it can identify and develop products. With over 145 years of experience, it can optimise production and consistently manufacture at scale, earning the company a strong reputation and loyal customers.

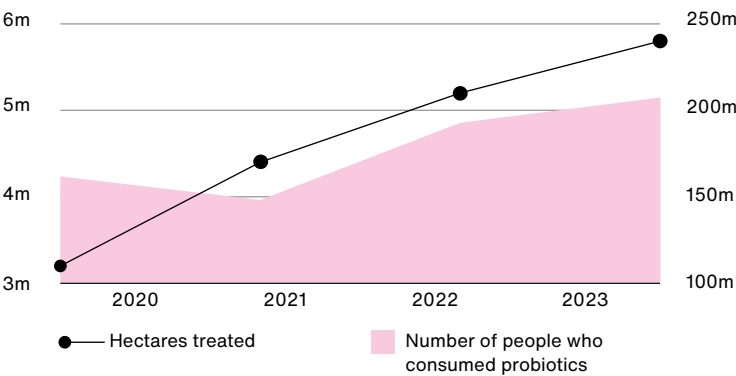
Positive chain ▲



Long-term progress ▲

Chr. Hansen's impact has grown across every impact metric it measures since we took a holding. Acquisitions, as well as underlying growth in demand for health products, has boosted the number of people who consume Chr. Hansen's probiotics. In 2021, there was a noticeable uptick in the hectares of farmland treated with natural solutions which was achieved through successful expansions into new geographies and partnerships with agricultural suppliers. Its product range has expanded too, and now includes offerings for plant-based foods, human milk oligosaccharides, an important group of sugars in breast milk which can be added to infant formula, and live biotherapeutics through a joint venture with Lonza. Shares rose dramatically towards the end of 2023 on account of the implied premium Novozymes paid ahead of the companies' merger in early 2024. Within the merged entity, Chr. Hansen will benefit from the increased scale and scientific know-how, boosting its ability to support human health and sustainable agriculture.

Impact objective ▲



Source: Baillie Gifford, based on company data.

*Chr. Hansen's reporting of its products' impact on human health is in its early stages, as such we include environmental figures here only.

Investment objective ▲

Share price return (USD)*

3% **1%**
Cumulative pa

1.6%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

There is increasing evidence linking gut health to many diseases and health conditions, including increasingly common diseases such as diabetes, obesity, cancer, anxiety and depression, reinforcing the importance of probiotic solutions for preventative healthcare. Chr. Hansen has been working to increase the scientific evidence base for the link between probiotics and better health outcomes and communicate this to health professionals and the public. In agriculture, natural plant solutions are being increasingly viewed as a more sustainable alternative to some agricultural chemicals. While awareness is high, penetration is low at the moment, with more effective treatments, farmer education and sustainability tailwinds driving greater adoption.

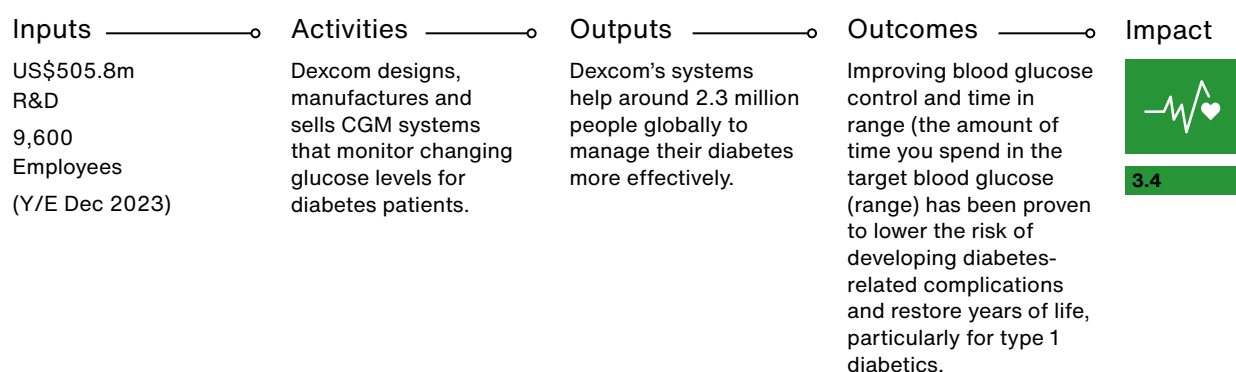
Dexcom

First invested **January 2017**

Positive Change hypothesis

Dexcom's CGMs empower diabetic patients, particularly type 1, to manage their condition. Diabetes is a chronic and life-threatening condition that millions of people around the world suffer from. By helping patients manage their glucose levels more effectively than traditional finger prick tests allow, Dexcom is both improving patient lives and helping lower the cost of treating the disease and its associated health complications. We expect CGMs to become the standard of care for insulin-intensive patients and believe that they could also play an important role in the prevention of type 2 diabetes onset. Greater penetration of existing patient cohorts globally and expansion into other patient cohorts provide a terrific growth opportunity for the company. This is a competitive market, but we believe Dexcom's technological leadership, distribution capabilities and growing brand awareness provide an edge.

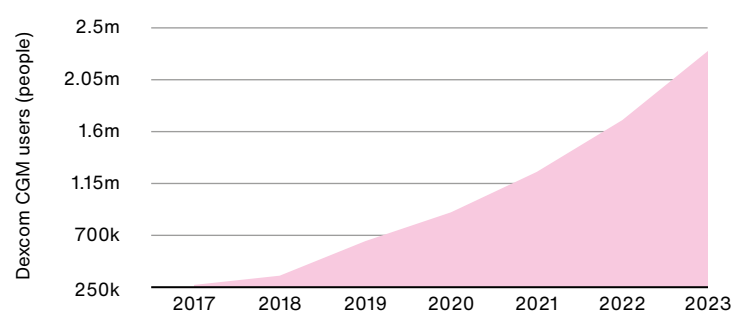
Positive chain ▲



Long-term progress ▲

Since 2017, the company has continued to make its devices smaller, lighter and more accurate, helping to improve users' health outcomes. Since then, two new iterations of the technology have been launched, and the newest G7 device is the most accurate CGM cleared by the FDA and can be worn for up to 10 days. As a result of an increased product offering and expansion in markets outside of the US, revenues have more than quadrupled since we first invested in 2017, and the number of CGM users has increased by over eight times. In the past two years, Dexcom has entered new markets, giving it access to an additional four million diabetic people. Dexcom continues to serve type 1 users while expanding into both type 2 intensive and type 2 non-intensive insulin therapy users. Dexcom's impact on society and healthcare systems could grow considerably by supporting pre-diabetics.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

314% **33%**
 Cumulative pa

30%
 Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

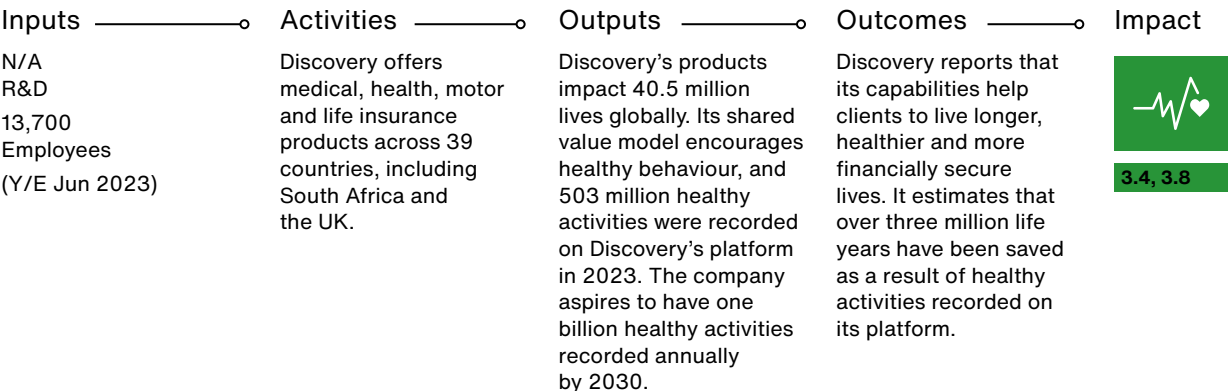
Real world context ▲

It is estimated that 537 million adults are living with diabetes, the majority of whom are in low- and middle-income countries that Dexcom has little exposure to. The number of people with diabetes is expected to grow to 643 million by 2030. Studies have found that, on average, globally, a type 1 diabetic loses around 32 years of healthy life when their diabetes is not managed, and in the United States, around 7.3 healthy years can be restored if type 1 diabetics have access to diabetes management systems with a CGM.

Positive Change hypothesis

Discovery provides shared-value insurance policies that reward customers for healthy behaviours. This should incentivise activities that lead to better well-being and improved customer health, lower Discovery's claim expenses, and reduce the pressure on healthcare systems. Demand for Discovery's policies should grow as more people pay attention to their health. In addition to selling policies in South Africa, the UK and China (in partnership with Ping An), Discovery also licenses its shared-valued platform to insurance companies globally, resulting in high-margin fee income.

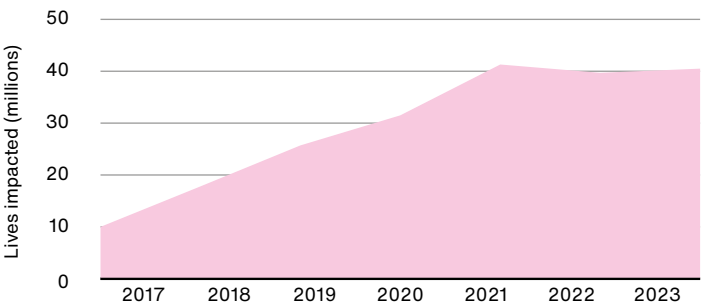
Positive chain ▲



Long-term progress ▲

Since 2017, Discovery has expanded to 23 new countries and grown its membership by over 300 per cent. The company has a growing number of successful partnerships, particularly in Asia. Although shares have suffered due to the Covid-19 pandemic, some geopolitical risks and an accounting change, we believe that recent performance may overlook the long-term potential. Discovery's investment and impact cases should be strengthened through its highly scalable Vitality platform.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

-26%	-6%
Cumulative	pa

2%

Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Since taking a holding in Discovery, the encouraging research in this area has supported our conviction in incentive-based insurance schemes. Over the past seven years, the prevalence of non-communicable diseases, such as type 2 diabetes, obesity and cancer, has been rising in almost all countries, partly caused by increasingly unhealthy lifestyles. This is troubling but makes the need for business models to stem this trend more stark.

Update

Based in South Africa, Discovery provides shared-value insurance policies, where policyholders are rewarded for healthy behaviours such as exercising and eating well. The original investment case was based on the hypothesis that a profitable South African business could fund Discovery's international expansion, where it partners with global insurance companies to offer insurance policies that embed Discovery's shared-value features. However, a weak macroeconomic backdrop in South Africa and the increasing risk of regulatory intervention from the proposed National Health Insurance (NHI) scheme have created headwinds for Discovery's domestic business. Furthermore, international expansion is progressing slower than expected, partly driven by the difficulties of navigating the bureaucracy of its global insurance partners. As a result, Discovery is unlikely to offer the attractive levels of growth that Positive Change looks for and we decided to sell the holding.

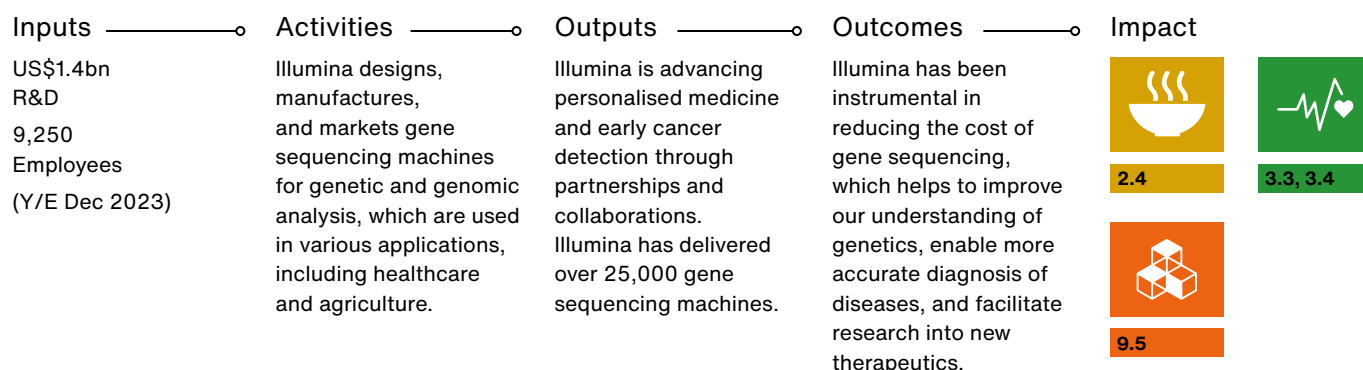
Illumina

First invested **January 2017**

Positive Change hypothesis

Illumina sits at the centre of the genomics revolution. We believe the company's products are transitioning from being used primarily as research tools to being the foundation that supports the development of a whole host of new clinical applications. These include disease surveillance, therapy selection, pre-natal and genetic disease testing, and cancer screening. Through innovation, the price of sequencing will continue to fall, albeit at a measured pace. This will unlock future demand for genomic testing, especially as our understanding of the human genome improves.

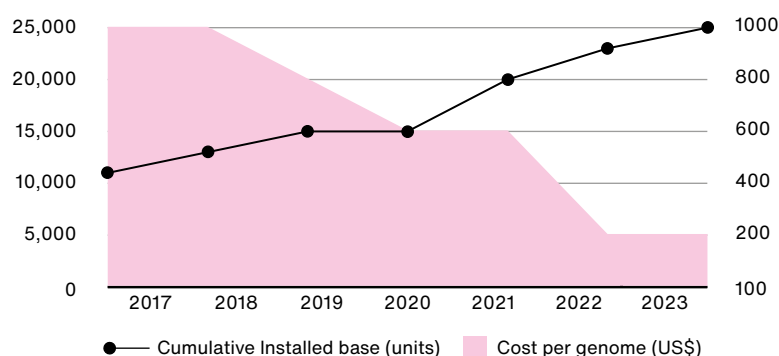
Positive chain ▲



Long-term progress ▲

Illumina has steadily increased the number of machines installed over the past seven years while reducing sequencing costs. While revenue growth has been relatively strong, this is not reflected in the share price, which has been underwhelming over our holding period. New products announced recently with increased throughput, integrated software, and a new sequencing chemistry promise to lower the cost of sequencing even more and help Illumina achieve its objective to drive down the cost of sequencing.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

-54%

Cumulative

-14%

pa

7%

Revenue growth pa

*12% pa MSCI ACWI return (USD).

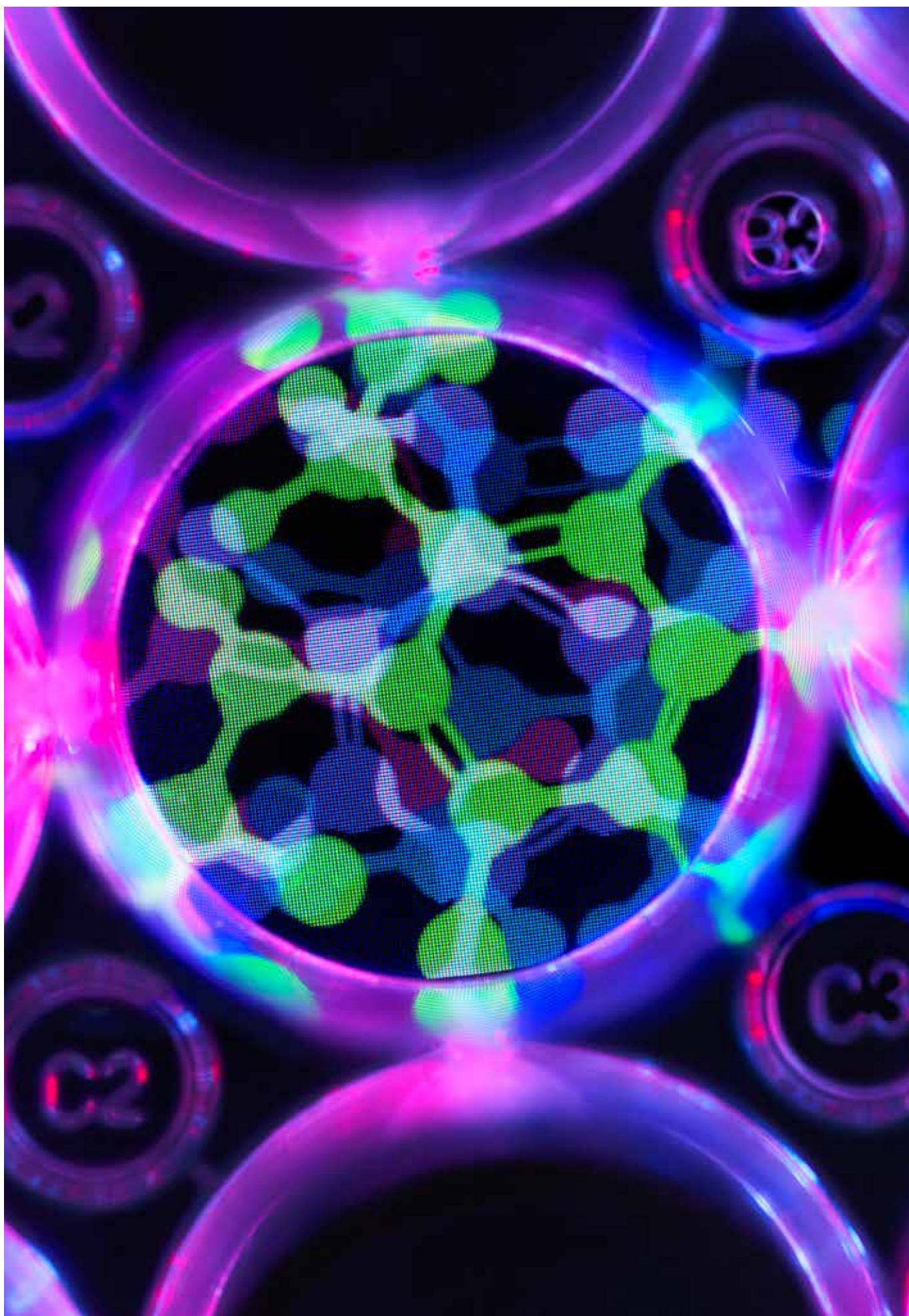
Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Illumina has played a pivotal role in driving down the cost of gene sequencing, reducing costs from approximately \$100m per human genome in 2001 to just around \$200 per genome in 2022. This significant reduction has made genomic sequencing technology far more accessible and unlocked new opportunities for research and clinical applications. We believe that some of the most exciting applications include personalised medicine, and the early detection and diagnosis of cancer.



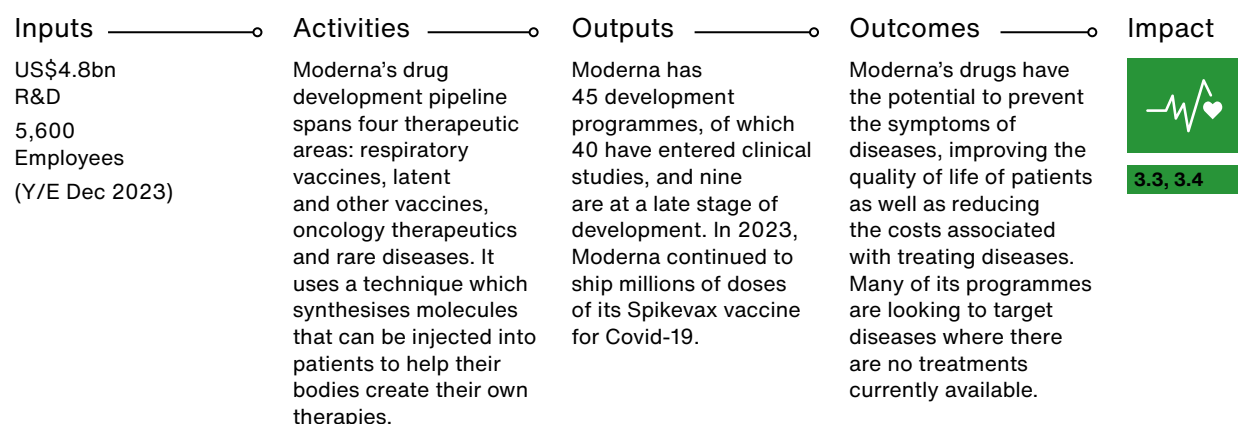
Moderna

First invested **December 2018**

Positive Change hypothesis

Moderna is creating a new category of medicines by harnessing the power of mRNA technologies. mRNA molecules can teach the body how to make a specific protein to help our immune systems prevent or treat certain diseases. Moderna's Covid-19 vaccine has proven that mRNA is a safe and effective way of protecting against disease, de-risking the technology and providing significant cash flows that can be used to continue investing in the company's platform. Through harnessing mRNA's programmability, Moderna is investing in its technology platform to develop vaccines and treatments for a wide range of viruses and diseases from influenza to cancer. Moderna can potentially improve human health outcomes globally through this new category of medicine.

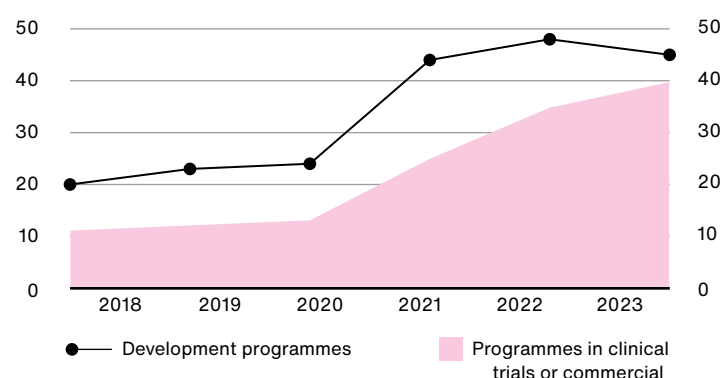
Positive chain ▲



Long-term progress ▲

At the time of investing, we could not have foreseen that Moderna's mRNA platform would be at the centre of the fight against a global pandemic. Hundreds of millions have benefited, and many lives have been saved by Moderna's first commercial drug – its Covid-19 vaccine – which propelled the company to substantial revenues in a very short space of time. The boost to its balance sheet has allowed Moderna to double down on research and development, to expand and develop more drug candidates into clinical trials and to launch an ambitious strategy to tackle diseases which affect millions of people around the world.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

551% **45%**
Cumulative pa

116%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

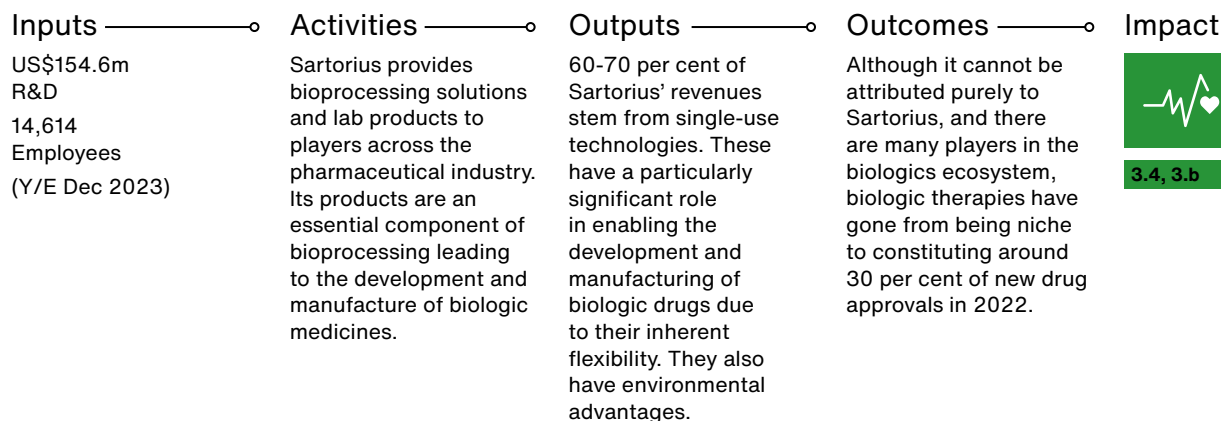
Real world context ▲

The Covid-19 pandemic drew the world's attention to the unmet need to prevent viral and bacterial infections. Ageing, more vulnerable populations and the pathogenic risks from climate change may exacerbate their impact. There are 220 viruses known to infect humans, only 18 of which have available vaccines today. Diseases such as RSV, influenza and HIV cause millions of deaths each year and are a considerable cost to health systems and society. Similarly, cancer, which mRNA therapeutics have great potential to target, remains a leading cause of death worldwide.

Positive Change hypothesis

Sartorius supplies single-use equipment to biopharmaceutical companies and research laboratories, ranging from bioreactors to storage bags. The company will benefit from growth in the biotechnology industry (across an increasing number of new medicines) and greater adoption of single-use products. Single-use products lower the upfront capital costs for biotechnology businesses, bring productivity gains (shorter set-up times) and require fewer resources (eg energy and water) than stainless steel products. Sartorius is a leading player due to its deep understanding of customer needs and willingness to invest (both organically and through mergers and acquisitions) to ensure it is innovating to meet customer needs. Sartorius is an enabler of the biology revolution.

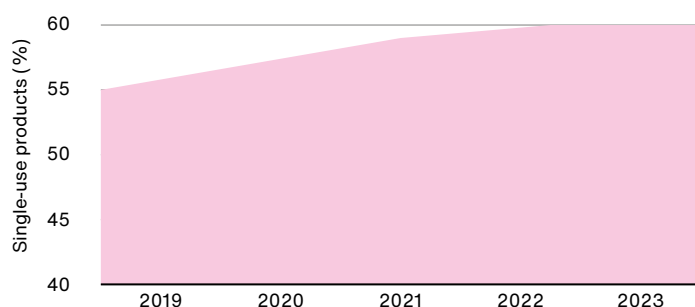
Positive chain ▲



Long-term progress ▲

Since we invested, we have seen the fundamental growth drivers for Sartorius play out: a healthy pipeline of innovation in biologic drugs, a growing market in biosimilars, and an increasing understanding of the benefits of single-use technologies for bioprocessing. However, we have also seen volatility, with the Covid-19 pandemic accelerating exceptional growth, followed by a less favourable post-pandemic backdrop. Despite this uncertainty, Sartorius' capital allocation demonstrates a long-term view with notable investments in bioanalytics, downstream processing and cell and gene therapies. The long-term drivers for Sartorius remain intact and the biopharmaceutical industry is showing signs of recovery; most importantly, we are also seeing a continued expansion in the biologic pipeline, which gives the best indication of Sartorius' future growth.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

200% **19%**
Cumulative pa

16%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics cover period since inception to end Dec 2023.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Sartorius equipment has facilitated the development and commercialisation of biological drugs – these were considered niche therapies in the twentieth century, but by 2028, they are forecast to constitute 44 per cent of the drugs market. Biologics are more targeted drugs, typically with fewer side effects for patients, that have enabled considerable advances in treating many categories of disease, notably autoimmune diseases, cancers and genetic conditions.

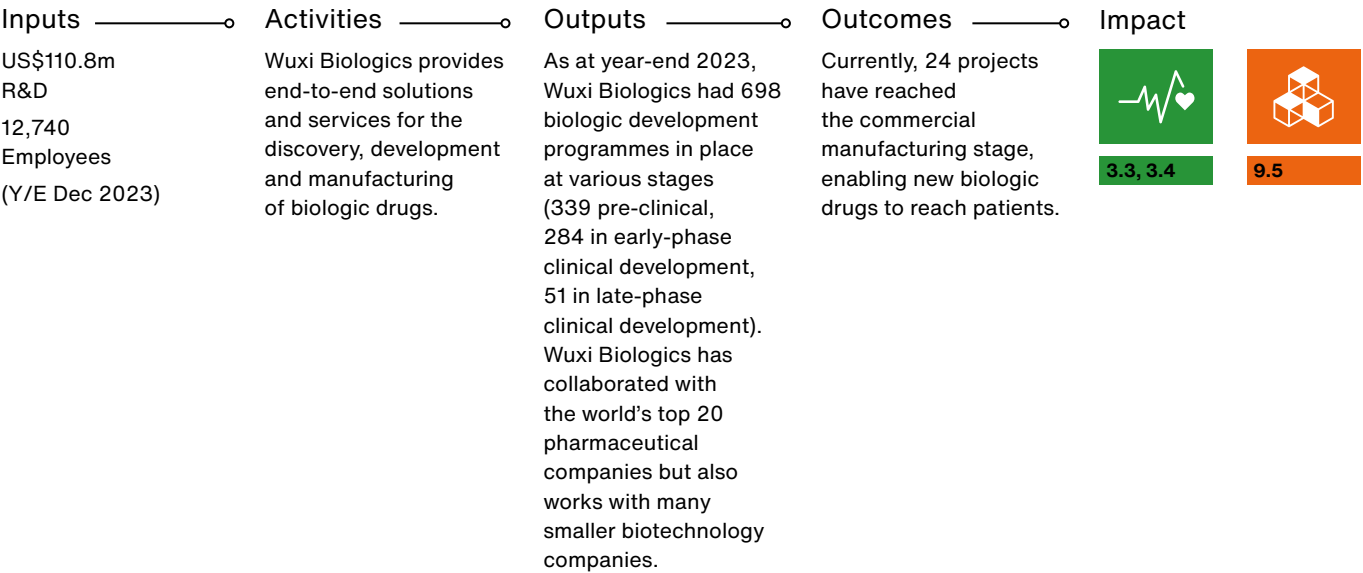
Wuxi Biologics

First invested **August 2023**
Sold **June 2024**

Positive Change hypothesis

Biologic drugs are expected to grow significantly over the next decade. Drug companies increasingly outsource biologic drug development and manufacturing to contract development and manufacturing organisations (CDMOs) to leverage their expertise and save development time and costs. Wuxi has the potential to gain market share and become the leader in the biologics CDMO industry, thanks to its differentiated business model and its culture that emphasises speed, customer service, lean operations and innovation.

Positive chain ▲



Update

We invested in Wuxi because we believed in the growth opportunity of biologics drugs and the outsourcing trend from biotech and large pharma companies to CDMO. We also believed in Wuxi's strengthening competitive advantage and its agile, innovative and entrepreneurial culture. We were aware of the potential geopolitical risks between China and the US but thought that Wuxi's aggressive international expansion strategy could help mitigate the risks. However, since investing, the geopolitical risks have intensified to the point that Wuxi could potentially be sanctioned completely by the US towards the end of the decade. This is hugely unfortunate as we still like the fundamentals of the business, however no longer believe that Wuxi can control its own destiny so decided to sell the holding.

Base of the
pyramid

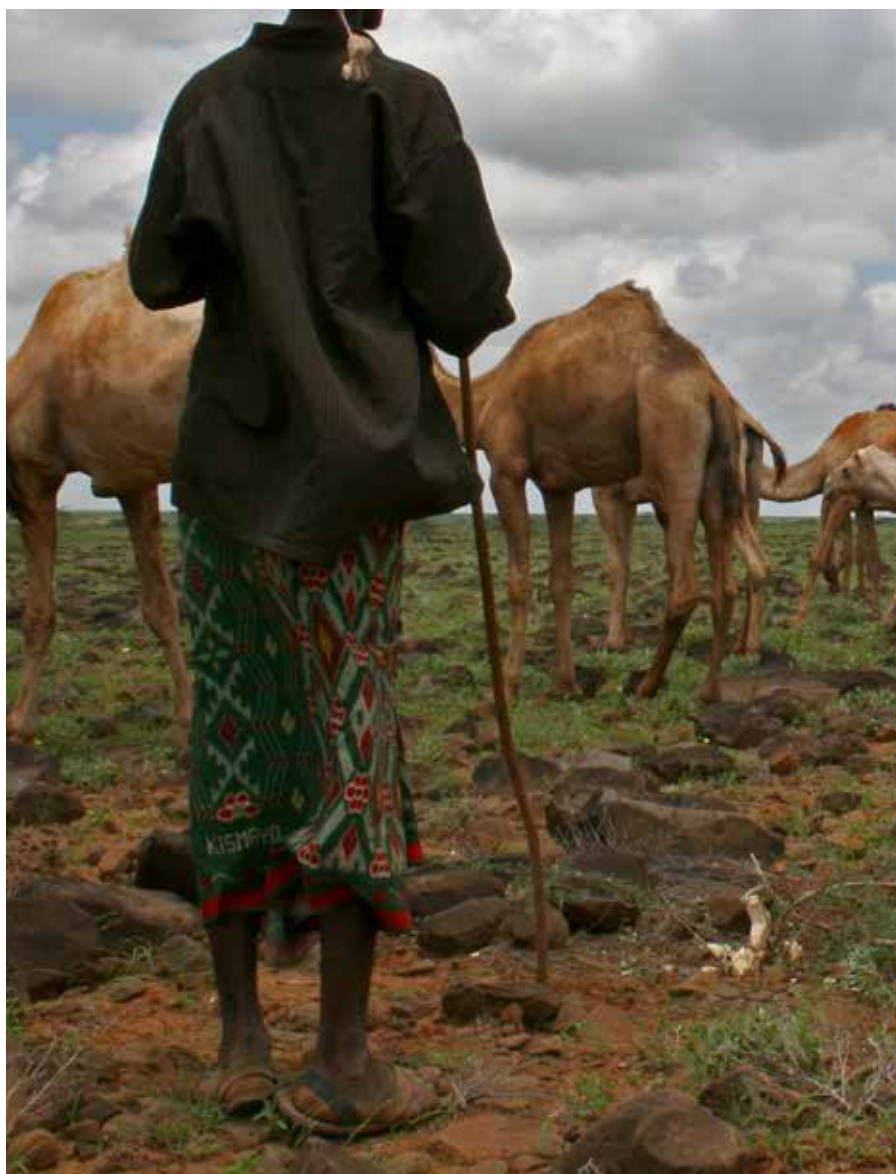


Introduction

Despite the significant reduction in poverty over the past two centuries, progress has slowed recently, disrupted by the Covid-19 pandemic, climate change and ongoing conflicts.

Approximately four billion people, over half of the world's population, live on less than US\$3,000 per year when measured using purchasing power parity (PPP). This socioeconomic population is known as the global base of the pyramid.

Being part of the base of the pyramid will significantly impact the stability, security, safety and quality of an individual's life. Meeting their needs is vital for creating a prosperous and inclusive world.



Positive Change — part of the solution

Within the Base of the pyramid theme, Positive Change aims to invest in companies whose core mission is to address the challenges faced by those at living on some of the lowest incomes around the world. However, companies in the portfolio categorised within other themes also contribute to improving the lives of this population and are considered here.

The challenges

- Many low-income individuals reside in countries with limited socio-economic development. Historically, inclusive economic growth has been essential for alleviating poverty.
- Persistent poverty is a result of a multitude of factors that include geography, poor governance, inadequate infrastructure and connectivity, and barriers to education and healthcare.
- Physical and economic shocks trap people in poverty. Climate change poses significant risks to low-income populations, especially due to increased extreme weather events.
- Poverty is multi-dimensional, with affected individuals facing deprivations such as poor health, lack of education and inadequate living conditions. Low-income individuals often pay more for basic resources and services, including higher credit costs.

Financial resilience

Some people experience persistent poverty and others transient poverty which may be due to:

- changes in their personal circumstances, such as job loss or ill health
- having a cyclical income, such as a smallholding farmer
- or more widespread economic factors, such as a recession or pandemic.

In such circumstances, the individual's ability to meet their basic needs during an income drop is easier if they have access to financial resources such as credit, savings and insurance.

Two companies that are providing essential financial services to low-income individuals, enhancing their ability to withstand economic shocks, are **Bank Rakyat Indonesia (BRI)** and **Safaricom**.

BRI is Indonesia's largest microfinance provider. With half of adults in Indonesia unbanked, it provides savings, borrowing, insurance and payment services to millions of low-income individuals at a reasonable cost and interest rate.

Safaricom is a Kenyan telecommunications company. It provides a range of financial services including insurance and M-Tiba, a service that allows low-income users to save for healthcare costs. Medical events are one of the most common reasons for people to fall into poverty.

Financial inclusion

Financial inclusion is seen as critical for reducing poverty and boosting shared prosperity in at least eight of the 17 UN SDGs.

Internet connectivity and mobile phones are expanding first-time access and increasing the range of financial services available to those living on low incomes. Both BRI and Safaricom are benefiting from this trend and are providing inclusive financial services through mobile platforms.

Safaricom's M-Pesa mobile money ecosystem allows over 32 million customers to send and receive money globally. M-Pesa launched in Ethiopia in 2023 but is ubiquitous in Kenya and has had a significant impact on enabling millions to access additional financial services for the first time.

MercadoLibre, in the Social inclusion and education theme, enables access to financial services that facilitate transactions, savings and access to credit, creating opportunities for those at the base of the pyramid.

Nubank, the Brazilian digital bank, has brought six million Brazilians into the formal financial system. Customers can build their credit history responsibly, with a low spending limit on its starter credit card that gradually increases and allows them access to an increasing menu of financial services.

Remittances

Remittances are a vital source of income for over a billion people worldwide, with an estimated US\$656bn sent to low- and middle-income countries in 2023. On average, remitters send around 15 per cent of their earnings, and recipient households typically spend this income on meeting their basic needs, such as on food and bills.

At a macro level, remittances help to stabilise household consumption, and correlations have been identified with increased economic growth, reduced poverty and income inequality. Today, the value of global remittances is consistently higher than that of international aid and foreign direct investment, meaning they are a vital source of income for many developing economies.

While remittances can promote financial inclusion, remittance services have historically served users poorly with high and opaque fee structures, slow payments, inconvenient methods and insecure transactions.

Remitly is an online remittance company which enables money transfers in over 170 countries. It aims to solve these challenges by offering an affordable, secure and convenient remittance service.

Customers send money digitally via Remitly's app to their choice of bank account, mobile money account or paid as cash. In 2023, Remitly enabled the transfer of \$39.5bn, over 90 per cent of these transactions occurred within one hour of the request being made.

Access to basic services

Many basic services remain inaccessible or too costly for low-income populations, but companies are improving access to them through new technologies and business models.

In the Environment and resource needs theme, **Xylem** manufactures pumps, filters and testing equipment used in modern water infrastructure in low-income countries. Its goal is to provide at least 20 million people living at the base of the pyramid with access to clean water and sanitation.

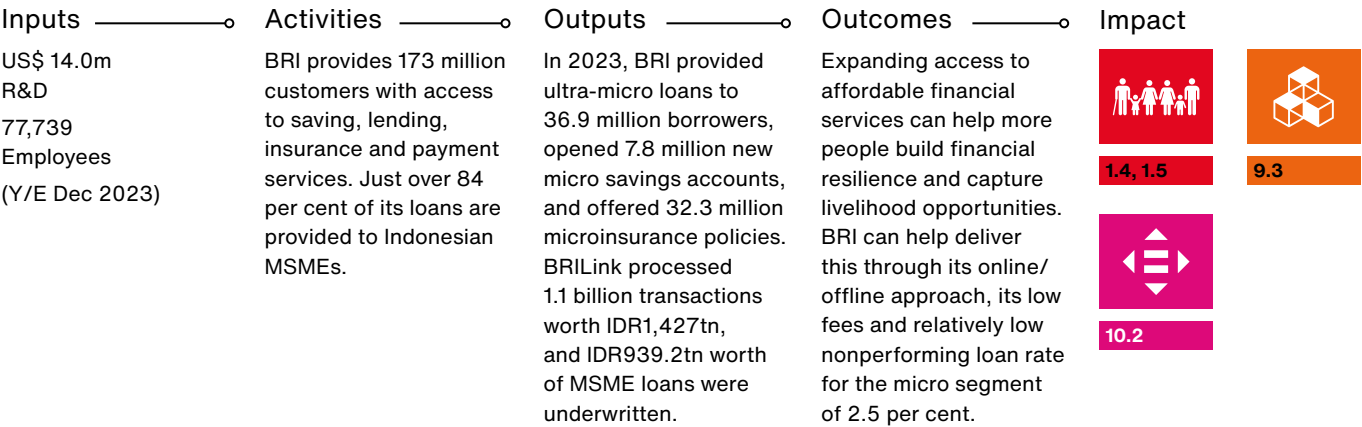
Moderna, in the Healthcare and quality of life theme, is developing vaccines for some of the diseases that disproportionately affect people experiencing poverty, such as Zika and HIV.

In the Social inclusion and education theme, **Coursera** and **Duolingo** are working towards providing universal access to high-quality, low-cost education. Online education removes some of the barriers to traditional education in low-income settings and can help improve people's employment prospects and increase their economic participation. In 2023, 145,000 of Duolingo's English tests were taken in the world's least developed and lowest income countries.

Positive Change hypothesis

Bank Rakyat Indonesia (BRI) offers microfinance in Indonesia, where roughly half of the adult population remains unbanked. BRI's competitive advantage in microfinance stems from its vast network of rural branches. Its investment in mobile and agent-based banking increasingly enables it to build trust and customer relationships while providing financial services at low cost. Financial services, which can transform social outcomes, are underpenetrated in Indonesia, offering a long runway for growth and impact.

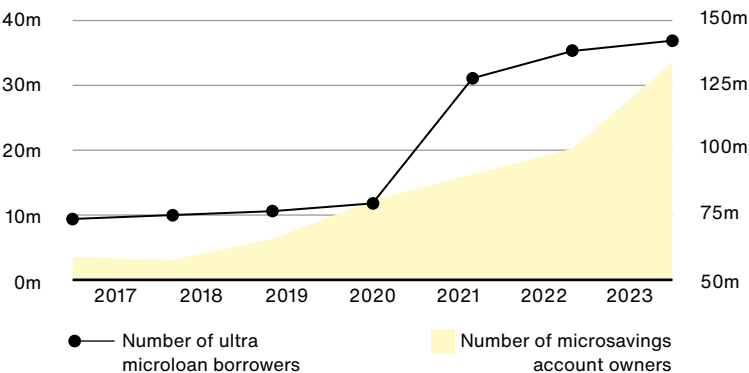
Positive chain ▲



Long-term progress ▲

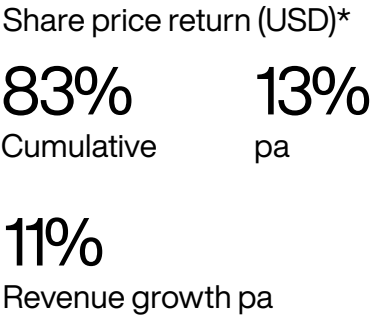
Since we took a holding, BRI has expanded its services and increasingly focuses on serving lower-income consumers and micro enterprises. BRI has expanded its microloan borrowers by almost 293 per cent, supported by acquisitions and has expanded its agent network to almost 741,000 agents to enable greater rural penetration and support the roll-out of its digital services. It remains the largest microfinance provider in Indonesia.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲



*12% pa MSCI ACWI return (USD). Metrics over the five-year time horizon.
Past performance is no guarantee of future results.
 Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Since we first took a holding in 2017, the percentage of the population in poverty, in Indonesia, has reduced from just over 10 per cent to 9.4 per cent, and its score on the Human Development Index has increased. In 2023, according to the World Bank income classification system, Indonesia regained its status as an upper-middle-income country after falling out in 2020 due to the impact of Covid-19 on the economy. Bank Rakyat Indonesia's growth has coincided with these improvements in Indonesia. While we cannot attribute these developments to one company, it provides evidence that Bank Rakyat Indonesia supports positive social change. Despite this, income inequality has been rising and is something we and BRI must continue to monitor.



Remitly

First invested **December 2022**

Positive Change hypothesis

Remitly provides mobile-based remittance services for migrants. The global remittance market is large and moving online rapidly. Remitly can provide superior services by leveraging mobile technologies, offering peace of mind and contributing to lowering fees. As an early mover in mobile remittances and with a strong operational track record, Remitly has gained market share quickly. Remitly plans to expand to more remittance corridors over the coming years and build out financial services beyond remittances, helping the company to serve more customers and drive strong revenue growth.

Positive chain ▲

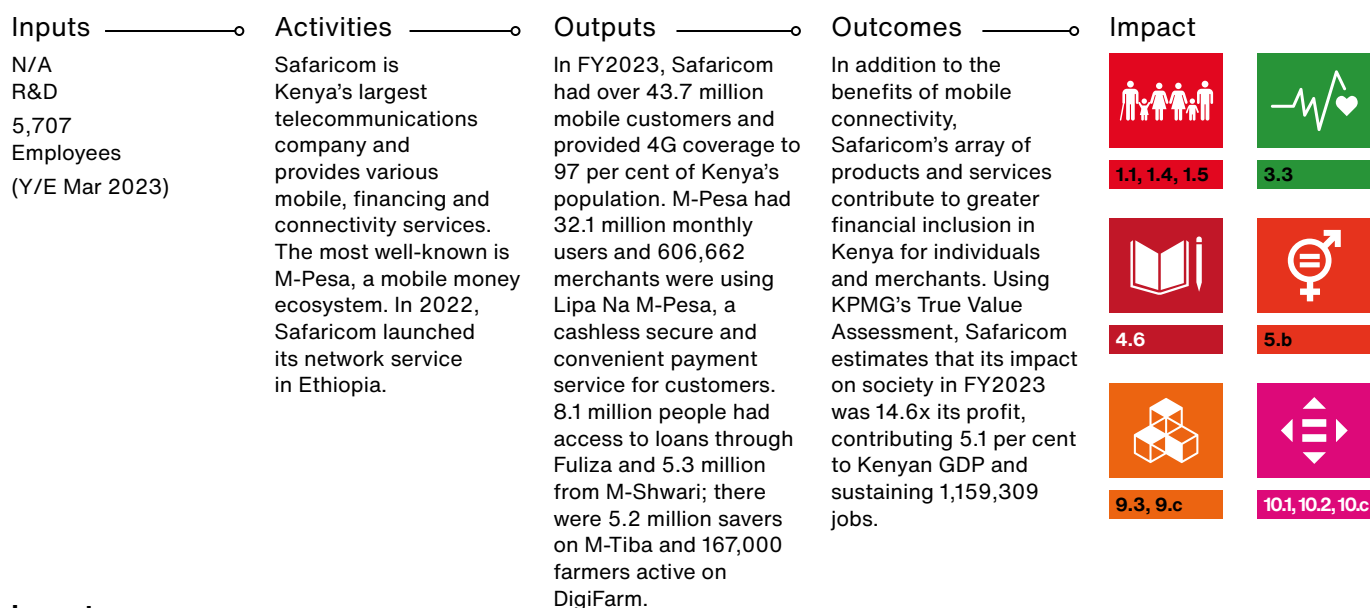
Inputs	Activities	Outputs	Outcomes	Impact
N/A R&D 2,700 Employees (Y/E Dec 2023)	Remitly enables its 5.9 million quarterly active customers to make person-to-person money transfers in more than 170 countries worldwide and between over 5,000 transfer corridors.	Remitly allows money to be sent securely to over 4.2 billion bank accounts, over 1.2 billion mobile wallets and approximately 460,000 cash pick-up locations.	In 2023, Remitly enabled the transfer of US\$39.5bn, over 90 per cent of which was dispersed within one hour.	<div> 1.4, 1.5</div> <div> 10.b, 10.c</div>



Positive Change hypothesis

Safaricom is contributing to improving lives in East Africa. First, through its construction and provision of mobile networks in Kenya, providing access to information services; second, through the provision of M-Pesa, which promotes financial inclusion; and finally, through the development and provision of complementary services to M-Pesa and Safaricom's data package, such as microcredit and online commerce. Safaricom has an impressive record of designing financial products that work for its customers, supporting its strong brand and making it uniquely placed to grow in a region with a massive opportunity for rapid digitisation.

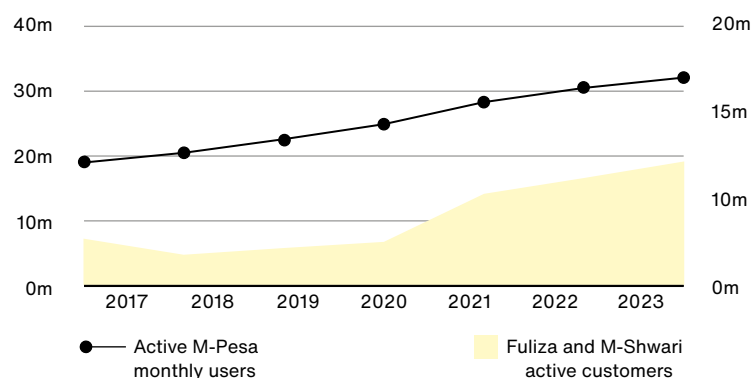
Positive chain ▲



Long-term progress ▲

Amid a challenging backdrop that included a pandemic, political instability and several natural disasters, Safaricom has executed its strategy well. The company is maintaining its dominance in traditional telecommunications and is profitably growing other revenue streams. Unfortunately, its share price remains depressed by challenging macroeconomic factors and currency headwinds. Its impact on society, nevertheless, has been growing with the increasing use of its digital products by more people every year and the introduction of new products for farmers and small businesses. Since 2022, Safaricom has entered the Ethiopian market and is progressing well with building its telecommunications infrastructure. It launched its mobile money service there in 2023.

Impact objective ▲



Source: Baillie Gifford, based on company data.

Investment objective ▲

Share price return (USD)*

-47%
Cumulative

-12%
pa

0.17%
Revenue growth pa

*12% pa MSCI ACWI return (USD).

Metrics over the five-year time horizon.

Past performance is no guarantee of future results.

Source: Revolution, Factset and MSCI. US dollars. As at 31 December 2023.

Real world context ▲

Since the introduction of M-Pesa in 2007, the percentage of Kenyans with access to formal financial services increased from around 27 to 84 per cent in 2021, the gender access gap has also fallen, and phone ownership and mobile money have acted as a gateway to greater financial inclusion. Poverty rates, however, remain persistently high. Several studies have found a negative trend in financial health among Kenya's population, something Safaricom hopes to help reverse. Regarding financial inclusion, Ethiopia is behind Kenya, with only 46 per cent having access to a formal account in 2022.



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Significant SDG contributions[^]

We analyse each holding in the portfolio and map significant contributions from products and services to the UN SDGs. This allows us to represent the overall contribution of the portfolio to the SDGs.

Positive contributions



**SUSTAINABLE
DEVELOPMENT
GOALS**

Negative SDG contributions[▲]

Just as important as identifying positive impacts from portfolio companies' products and services, is identifying potentially negative contributions. This is a fundamental part of our impact analysis. Here, we highlight company products and services which we deem to be significantly negatively contributing to the Sustainable Development Goals.

Autodesk 13

A proportion of Autodesk's revenue comes from industries with a negative environmental impact such as the fossil fuel industry. By providing industry-leading software to these companies, they can develop and implement the latest technologies to improve their efficiency and profitability. It can therefore be argued to have a negative contribution to climate change. Autodesk's positive impact on the construction industry and the built environment more than compensate for the negative impacts it enables.

Bank Rakyat Indonesia 13 15

Bank Rakyat Indonesia (BRI) has been criticised by NGOs in recent years for its involvement in financing palm oil plantations and coal-fired power plants. However, it must be acknowledged that the extractive and agricultural sectors in Indonesia are extremely large, therefore, it is unrealistic to expect that it would not have any exposure given its role as a state-owned enterprise. We have engaged with BRI regarding its approach to environmental and social due diligence. It has confirmed that it follows government guidelines regarding sustainable banking, which include avoiding companies who are on various government 'black lists', ensuring environmental permitting is in place, and ensuring companies engaged in palm-oil activities have an 'Indonesian Sustainable Palm Oil' or a 'Roundtable on Sustainable Palm Oil' certificate. The amount the bank loans to large corporates is much smaller than the micro loans (RM 1,000 - RM 50,000) it provides for lower-income customers (about two-thirds), and it is the latter that drives the positive change case for the company.

Deere 13 14.1 15

Modern agricultural practices have been linked to climate change and biodiversity loss through chemical fertilisers, pesticides and equipment emissions. Deere is complicit in enabling these impacts as a producer of agricultural equipment. However, industrial agricultural systems are central to feeding the world. We acknowledge the positive change Deere is bringing through its new technologies, which limit these impacts, and commend the company for the direction it is taking.

Important notes

Our SDG mapping is underpinned using the 169 targets below the 17 SDGs. SDG mapping is the output of our philosophy and process and will change as the composition of the portfolio changes. We assess that portfolio companies' products materially address 15 SDGs.

Our SDG mapping incorporates significant contributions that companies are making via their products and services only. It does not encompass the business practices of our holdings.

Our aim is to identify and hold companies for their positive contributions. Accordingly, the number of holdings we found to be making a significant negative contribution to the SDGs through their products and services is less than those holdings making positive contributions.

Ecolab 13

Ecolab no longer provides services for customers in energy exploration and production or any other upstream hydrocarbon processes. However, a proportion of Ecolab's revenues come from its Global Industrial segment, which includes serving customers in the downstream energy, refining and petrochemical industries. In many cases, Ecolab's contribution to these industries is to improve energy, water management and sustainability, and minimise pollution, therefore providing a positive environmental contribution. In some cases, products are process aids that enable customers to refine fuels and process petrochemicals profitably and reliably. It can therefore be argued as having a negative contribution to climate change by supporting the fossil-fuel industry. The breadth of the positive impact that Ecolab has across the remainder of industries that it works with is considered to more than compensate for the proportion of activities within the energy industry that could be regarded as negative.

HDFC Bank 13

HDFC Bank is exposed to the thermal coal value chain and petroleum products through the loans and credit it provides. Today the majority of India's energy needs comes from coal as it is the most abundant fossil fuel and this is followed by petroleum-based products. By financing these industries HDFC Bank is directly financing emissions which is negatively impacting efforts to combat climate change. It is estimated that less than 1 per cent of HDFC Bank's loan book is linked to fossil fuels and around a quarter of its wholesale lending is electrical power and oil.

Ørsted 3 13

While the forward-looking goals of the business are wholly positive, Ørsted currently still operates some fossil fuel facilities given that its transition to renewable power is underway. The green share of energy generation is now at 93 per cent, and Ørsted has a target to eliminate coal-fired power generation by 2025. At this point, its green share of energy generation will be equal to or above 99 per cent of generation. Given the progress that Ørsted has already made, its strong targets for decarbonisation of its energy generation, and the small contribution to revenues that fossil-fuel-fired power generation makes, we are comfortable that Ørsted's overall contribution to the SDGs is positive.

Sartorius 13

Most of Sartorius's products are single-use and used within the pharmaceutical and laboratory industries. These products are produced with polymers and plastics typically derived from oil. To prevent cross-contamination, normally single-use products are incinerated, emitting pollutants into the atmosphere that can contribute to climate change.

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