

## Impact Report 2023

Measuring contributions to the transition to a more sustainable economy

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# Introduction

The effects of economic activities on the environment and society are highly complex, but increasingly important to understand.

We believe that measuring and reporting on companies' impacts on the environment and society – positive and negative – is essential to tackling the greatest challenges facing the planet and humankind.

Great strides have been made in the quantity and quality of corporate measurement and disclosure. But it remains patchy and inconsistent, especially beyond greenhouse gas (GHG) emissions reporting.

We are only beginning to understand the impacts of economic activity on nature, for instance. Unlike climate change, where atmospheric damage is global irrespective of the source of emissions, ecosystems are local or multi-local. They are also highly complex, making the what as well as the how aspects of impact reporting a challenge.

## Our impact reporting

Given the importance of overcoming these obstacles, we continue to advance our proprietary impact reporting through the development of new metrics and the refinement of our methodology to ensure it is robust. We know this is paramount to our clients.

**In this, our ninth annual Impact Report, we continue to build on our strategy-level reporting of the environmental and social benefits delivered by the companies held in Impax portfolios.**

One of our areas of focus this year has been sustainable food production. Resource-intensive food production can have vast negative environmental impacts, but the sector plays a vital role in feeding a growing global population. We are delighted to have introduced a new metric for quantifying the positive impacts associated with investee companies that supply consumers with healthy and nutritious food, from alternative proteins to fruit and vegetables.

In this report, we are pleased to report on our progress in developing a metric for reducing the agriculture sector's environmental impact, as well as our ongoing work to develop new metrics for social impact. We also share an update of our long-term project to develop a clearer understanding of the biodiversity-related impacts of our investee companies.

Our impact reporting shows the environmental and social benefits contributed by Impax's portfolio companies.



## Climate solutions and avoided emissions

Addressing the drivers of climate change is one of the most important environmental challenges facing global society. The acceleration and rapid scaling of climate solutions is critical in combating climate change and abating GHG emissions. Yet a recent study has shown that GHG emissions reduction must be five times greater than current levels of abatement.<sup>1</sup> Climate diplomacy and political processes aimed at agreeing economy-wide emissions targets are, alone, not delivering results quickly enough. Instead, focus should be on building political support and providing incentives for accelerating investments into climate solutions.

Increased deployment of climate solutions, such as renewable energy, energy efficiency and sustainable transport, will lead to reduced levels of GHG emissions.


We believe the concept of ‘avoided emissions’ – which allows us to calculate the positive impact that a product or service has on society, by

comparing the GHG emissions arising from its use compared with the emissions in a world where that product does not exist – is a useful one. It is a highly relevant metric for measuring the real-world impact of climate solutions through the use of products or services that either fully substitute higher-emitting alternatives, such as renewable energy displacing coal generation, or through products or services that provide incremental energy or resource efficiency gains. Examples here include circular business models that reduce materials use, such as sustainable packaging, or computer-aided design tools that optimise materials used in construction. In April 2023, G7 nations affirmed the usefulness of the avoided emissions concept to mobilise capital to climate solutions.<sup>2</sup>

We have been measuring the environmental impact, including emissions and avoided emissions, associated with the activities of companies held in Impax portfolios since 2015. We continue to evolve and refine our impact reporting to align with emerging best practice, and work closely with expert organisations and peers to try to improve standardisation of reporting.

1 Sharpe, S., 2023: Five Times Faster: Rethinking the Science, Economics and Diplomacy of Climate Change.

2 G7 Ministers’ Meeting on Climate, Energy and Environment, April 2023: G7 Climate, Energy and Environment Ministers’ Communiqué.



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Over the past year, we have reviewed our approach to reporting GHG emissions in order to improve transparency and reflect the latest industry guidance. As part of the evolution of our reporting, we now report gross emissions and avoidance data separately based on the activities of companies held in Impax strategies.

### A permanent work in progress

We continue to make the case for stronger reporting of environmental and social impacts through our engagement with companies, regulators and standards setting bodies. We firmly believe that definitions of materiality should include 'double materiality' – a concept that recognises how companies both impact and are impacted by their operating environment.

Enhanced disclosures ultimately enable investors like us – and our clients – to make better informed, risk-adjusted investment decisions and to target our stewardship and company engagement activities where we believe they can have the greatest effect. Over time, they also enable us to continue improving the breadth and depth of our impact reporting.

The investment strategies we manage are designed to intentionally allocate our clients' capital towards those companies which are expected to benefit as the global economy transitions to a more sustainable model. The impact metrics we report relate to the benefits that the products and services of those companies are enabling. We believe that our impact reporting is a concrete demonstration that our investments are strongly aligned to companies benefiting from, and contributing to, the transition to a more sustainable economy.



**Lisa Beauvilain**  
Global Head of Sustainability & Stewardship





# Evaluating the transition to a low carbon economy

To mitigate the risks posed by climate change to the health and prosperity of global society, the scientific consensus is unequivocal: GHG emissions must urgently be reduced.

If global temperature rises are to be limited to 1.5°C, in line with the Paris goals, emissions must roughly halve this decade en route to the target of net-zero emissions by 2050.

Research has found that global temperatures have risen by 1.14°C, averaged over the 2013 to 2022 period, and emissions continue to rise.<sup>3</sup> Global carbon dioxide (CO<sub>2</sub>) emissions from energy combustion and industrial processes grew to a new high in 2022.<sup>4</sup> Emissions of methane – a highly potent GHG – also remain near record levels, even though existing technologies could cut methane emissions from oil and gas production by three-quarters.<sup>5</sup>

We believe that the asset management sector can contribute to meeting the Paris goals through the accurate pricing of climate risk in investment decisions, through engagement and advocacy work with companies and policymakers, and by investing in climate solutions. Impax is considered a specialist in the latter given our conviction that

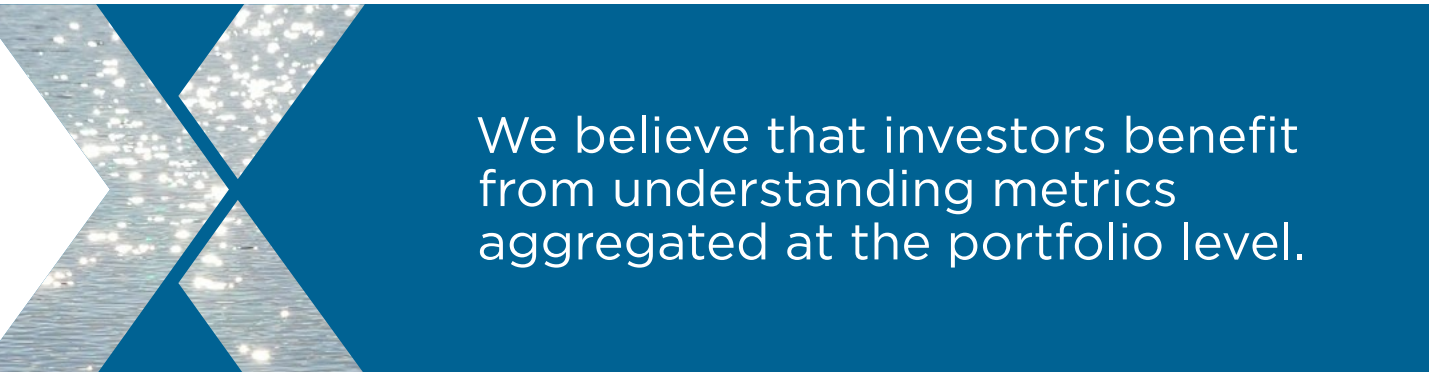
considerable investment opportunities will be created as society looks to mitigate and adapt to the consequences of climate change.

In this context, measuring the GHG emissions – and avoided emissions – associated with the products and services of companies held within Impax portfolios helps us demonstrate their contribution to the transition to a lower-carbon economy.

## Our emissions reporting

We believe that investors benefit from seeing metrics aggregated at the portfolio level. We therefore summarise the GHG emissions impact of companies held in Impax strategies in 2022, based on US\$10mn invested in each respective strategy, in Figure 1. Our reporting captures GHG emissions and avoidance reporting for investment strategies that account for 90% of Impax's assets under management, as of 31 December 2022.

As in previous years, these are CO<sub>2</sub> equivalent (CO<sub>2</sub>e) figures that capture GHG emissions in the form of methane and nitrous oxide, as well as CO<sub>2</sub>, where data is available.<sup>6</sup> In line with best practice for impact reporting, selected figures in this report have been subjected to third party assurance (see page 50).



We believe that investors benefit from understanding metrics aggregated at the portfolio level.

3 Forster, P.M., et al., June 2023: Indicators of Global Climate Change 2022: annual update of large-scale indicators of the state of the climate system and human influence. Earth System Science Data.

4 IEA, 2023: CO<sub>2</sub> emissions in 2022.

5 IEA, 2023: Methane emissions remained stubbornly high in 2022 even as soaring energy prices made actions to reduce them cheaper than ever.

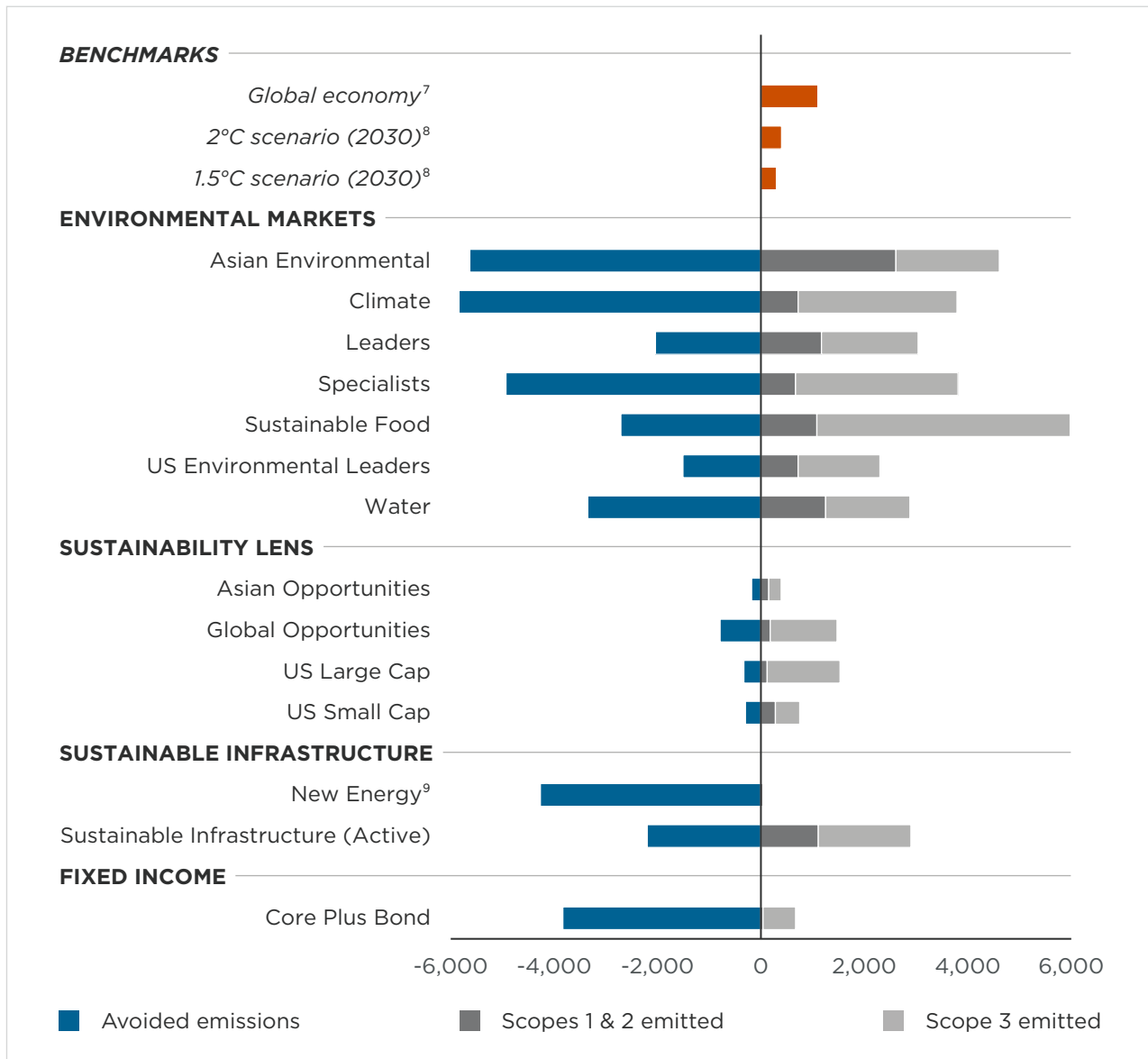
6 Previous reporting used CO<sub>2</sub>/carbon emissions as shorthand for GHG emissions, as is commonplace. For clarity and accuracy, we now make clear that our reporting reflects all GHG emissions.





**Figure 1: GHG emissions impact by strategy in 2022 (tCO<sub>2</sub>e)**

Based on US\$10mn invested, companies held in Impax strategies contributed to:



**There can be no assurance that impact results in the future will be comparable to the results presented herein.**

Impax impact calculations are based on strategy AUM and portfolio holdings as at 31 December 2022. Please refer to our Methodology (page 40) for details.

- 7 Source: Impax calculations based on estimated global assets under management in 2021 (source: Financial Stability Board, 2022: Global Monitoring Report on Non-Bank Financial Intermediation 2022) and estimated global GHG emissions in 2021 (source: Our World in Data, 2023: Greenhouse Gas Emissions). The emissions intensity figure is derived by dividing the adjusted global GHG emissions figure by the global AUM figure.
- 8 Source: Impax calculations based on estimated global assets under management (AUM) in 2030 and estimated global GHG emissions in 2030 compatible with the 1.5°C and 2°C alignment scenarios. The 2030 global AUM figure is calculated by extrapolating the 2021 global AUM figure (source: Financial Stability Board (FSB), 2022: Global Monitoring Report on Non-Bank Financial Intermediation 2022) using the compound annual growth rate in global AUM between 2002 and 2021. The 1.5°C-aligned and 2°C-aligned global GHG emissions figures are calculated by reducing 2010 global emissions (source: Our World in Data, 2023: Greenhouse Gas Emissions) by 45% (1.5°C) and 25% (2°C) respectively. The 45% and 25% reduction needed by 2030 are internationally accepted figures (IPCC, 2018: Global Warming of 1.5°C Summary for Policymakers). The emissions intensity figure is derived by dividing the estimated global GHG emissions figure by the estimated global AUM figure.
- 9 Reporting for the New Energy strategy considers the Scope 1, 2 and 3 lifecycle emissions of investments in New Energy Investors (NEF) II, NEF III and NEF IV. The source for solar and wind emissions factors is Annex II: Metrics & Methodology, in “Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change”, except where turbine-specific data is available for wind projects. For hydropower, we use hydroelectric emissions factors published by the Norwegian Water Resources and Energy Directorate (NVE).





Impax is part of several industry initiatives seeking to standardise the measurement and reporting of avoided emissions.



We continue to provide detailed information by strategy on the GHG emissions of the companies in which we invest, as well as the avoided GHG emissions arising from the portfolio companies' products and services.

Historically, we also reported a net GHG emissions and avoidance metric for each strategy. We now favour reporting gross GHG metrics – emissions and avoidance – separately. This approach aligns with guidance that Scope 1, 2 and 3 GHG emissions should be separated from avoided emissions in reporting.<sup>10</sup>

Emissions are separated into Scopes 1 and 2 – which include direct and indirect emissions from energy produced and consumed by portfolio companies – and Scope 3 – which includes indirect emissions from portfolio companies' supply chains and products in use. Typically, we gather Scope 1, 2, and 3 GHG emission data directly from company disclosures and/or via CDP (formerly known as the Climate Disclosure Project). Where sufficient information is not available, we contact companies to request additional information, which in some cases produces enhanced data. For all except the New Energy strategy, Impax uses third-party estimates for missing Scope 1 and 2 GHG emissions. Impax does not use estimates for Scope 3 GHG emissions.

Our GHG emissions impact reporting continues to focus on impacts arising from investee companies' products and services. Although carbon offsets can play a part in abating emissions, we do not include them in our methodology.

Impax is part of several industry initiatives seeking to establish standardisation of the measurement and reporting of avoided emissions. Data is sourced from the company directly or is calculated at the relevant individual company product level using a number of inputs to produce a conservative avoidance of GHG emissions figure. Such inputs may include volumes of products sold, product-level efficiency indicators versus regional baselines, and regional grid efficiency factors.

### Real-world comparators

We believe that including a real-world comparator can provide helpful context and challenge. As in previous years, we include a 'global economy' GHG intensity figure in Figure 1 that represents estimated emissions from US\$10mn of investment in the global economy. This has been calculated by dividing estimated total global emissions in 2021 by the value of total global financial assets.<sup>11</sup>

For additional context, we again include estimates of the GHG emissions intensity of the global economy under scenarios compatible with limiting temperature rise to 1.5°C and 2°C, respectively. The 1.5°C bar is based on the IPCC target of reducing global emissions by 45% from 2010 levels by 2030, to limit global warming to 1.5°C, and the 2°C bar indicates emissions reduction of 25% by 2030, to limit global warming to below 2°C. These comparisons demonstrate the scale of the challenge ahead.<sup>12</sup>

Clients and regulators are increasingly calling for evidence of investment portfolio alignment with the transition to a lower-carbon economy.

<sup>10</sup> See World Business Council for Sustainable Development, March 2023: Guidance on Avoided Emissions – Helping business drive innovations and scale solutions towards Net Zero.

<sup>11</sup> Sources of data for global emissions and financial assets are outlined in footnotes 7 and 8 accompanying Figure 1 on page 5.

<sup>12</sup> We note that the growth of global financial assets has been relatively steady over the long-term, even during years of financial or economic downturn. As a result, the carbon intensity of financial assets will need to be reduced by even more than 45% to account for the expected continued growth of financial assets over time.



## Trends in measuring GHG impact

We have reported on the GHG impact of investee companies' products and services since 2015. There are two trends that, other things being equal, put upward pressure on the portfolio company emissions and downward pressure on the avoided emissions that we report, year-on-year.

First, as companies continue to gain more clarity regarding the environmental data over more of their value chains, the Scope 3 emissions reported for our portfolio companies continue to rise.

Second, renewables' rising contribution to the global energy mix means the equivalent positive impact of certain portfolio holdings, in terms of avoided GHG emissions, is lower than in previous years when electricity grids were more carbon intensive. While this is very positive overall from an environmental perspective, of course, a greener grid makes a more challenging baseline for companies to demonstrate as large an environment impact for their products and services.

A year-on-year comparison of the GHG emissions and avoided emissions by portfolio companies, by strategy, is published in the Appendix on pages 48 and 49. It is worth bearing in mind that changes in portfolio composition, as well as changes in company reporting, can have a significant impact on these figures year-to-year. Where portfolios are relatively concentrated, individual stocks in certain sectors can skew portfolio-level figures.

When comparing emissions data across strategies, it is important to consider the nature of our strategies. Some are more exposed to higher emissions by the nature of the companies and industries they invest in.

Impax's thematic Environmental Markets strategies target investments in companies that provide solutions to environmental challenges, whether through accelerating the clean energy transition or advancing resource efficiency. Through their products and services, many portfolio companies contribute to the avoidance and abatement of GHG emissions.

An outlier is the Sustainable Food strategy, where investments are focused on sustainability challenges facing the food sector, which generates relatively high GHG emissions. Additionally, reported Scope 3 emissions at the strategy level are more likely to include double counting, which is inherently difficult to calculate and eliminate.

The Impax Sustainability Lens is designed to highlight sub-industries within global equities that are expected to benefit from tailwinds or face lower levels of disruption risk in the transition to a more sustainable economy. By fully integrating analysis of sustainability risks and opportunities, the Sustainability Lens-related strategies typically seek to prioritise investments in less carbon-intensive sectors.

The Impax New Energy strategy meanwhile develops, constructs, operates and sells wind, solar, small-scale hydropower and adjacent renewable energy infrastructure projects, predominately in Europe. Rather than simply purchasing operating assets, an investment in the New Energy strategy helps to take assets into and through construction, bringing new renewable energy capacity into the grid. This enables investors to displace fossil fuel energy and deliver positive environmental impact through their investment in the strategy. In the long term, expanding renewable capacity can also improve the security – and reduce the marginal cost – of electricity supplies in the context of geopolitical unrest.

Finally, we also report on GHG emissions and avoidance associated with issuers held in one of Impax's fixed income portfolios. We believe bond issuance is an important source of capital driving the transition to a more sustainable economy. Unlike investments in equities, which are inherently tied to general corporate activities, investments can be made in specific issuances of fixed income securities where the proceeds are directed towards a pre-defined use. In addition to labelled bonds with assurance of the use of proceeds, there is a breadth of fixed income securities – including asset-backed and mortgage-backed securities – issued by companies, supranational bodies and government-backed entities like local municipalities and state-owned companies.





Through their products and services, many portfolio companies contribute to the avoidance and abatement of GHG emissions.

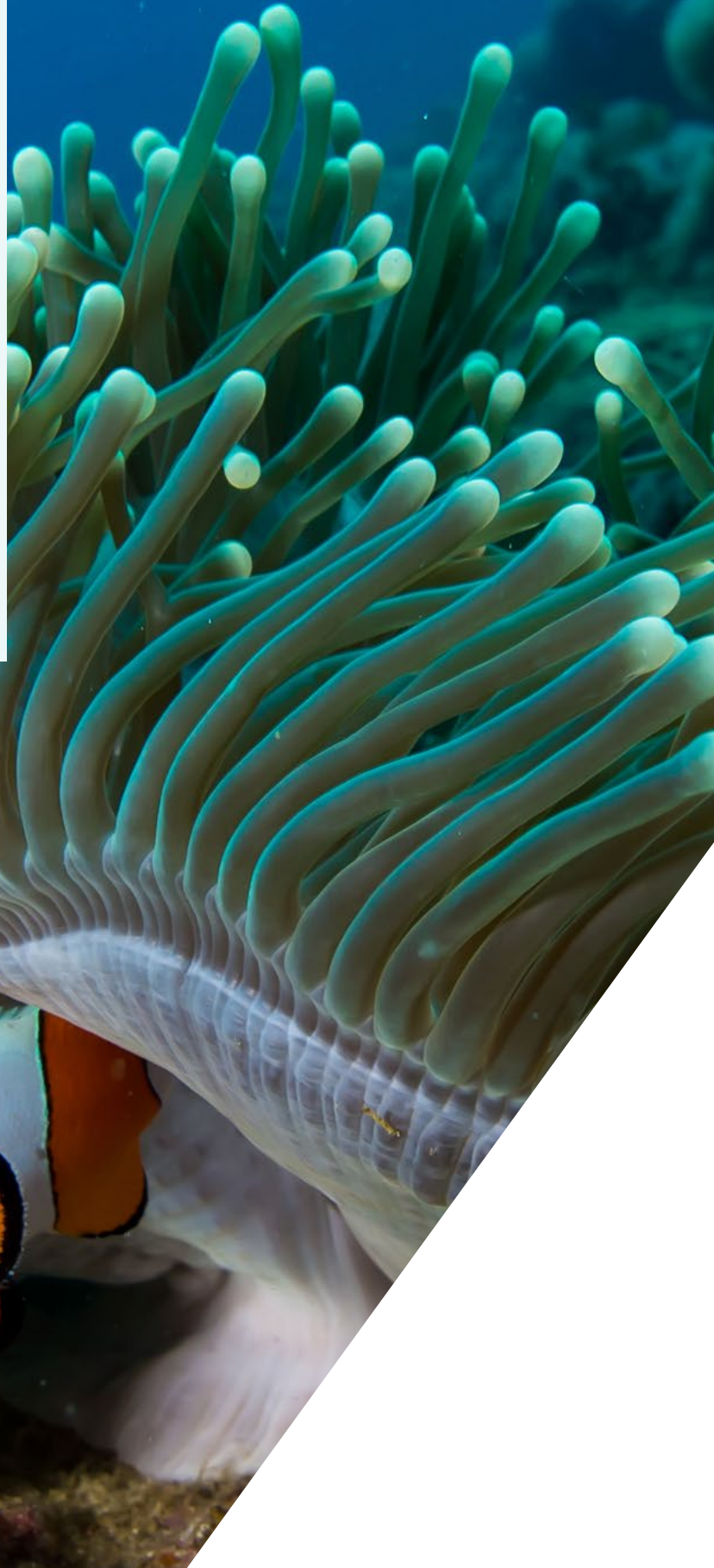




## Impax New Energy: Engaging on emissions

As small and medium-sized renewable energy businesses, our investee companies have a relatively low carbon footprint. However, regulatory requirements to report on GHG emissions are becoming increasingly common – and in some cases mandatory. In 2022, we supported investee companies' reporting on GHG emissions through the introduction of a carbon calculator which enables standardisation of data and ease of reporting.

We found that the majority of energy consumption came from investee companies' office buildings. Whilst their consumption was relatively low, we noted there was room for improvement as many of our investee companies do not use renewable energy tariffs. We are encouraging investee companies to switch tariffs which will help to decrease their carbon footprint.





## Collaborating to accelerate progress towards net zero

Climate-related risks and opportunities are likely to be significant drivers of investment performance across the global economy for decades to come. Climate risks are systemic for all companies, so both transition and physical climate risks are important topics of our stewardship and advocacy activities.

Impax is a member of several organisations where we work collaboratively, in many cases with peers in the investment management industry, to contribute to meeting the goals of the Paris climate agreement.

One of these is the Glasgow Financial Alliance for Net Zero (GFANZ), a coalition of financial institutions committed to accelerating the decarbonisation of the global economy. We have played an active role, contributing to its guidance on Financial Institution Net-zero Transition Plans published in November 2022. We have also contributed to a second workstream that advocates for the public policy needed to help build a net-zero economy. We are currently part of three further GFANZ work streams, focused on the effective implementation of transition plans.

Since 2022, we have also contributed to the work of the Transition Plan Taskforce (TPT) established by the UK Treasury. In October 2023, the TPT published the final version of its Disclosure Framework which provides the basis for companies to set out credible and robust climate transition plans. Impax is currently co-chairing the working group that is developing detailed guidance for the asset management sector on how to implement the main Disclosure Framework.

Within both GFANZ and TPT, we have continued to advocate for a focus on how to accelerate the transition in the real economy – as opposed to simply decarbonising investment portfolios.

In November 2022, we also made our initial target disclosure under the Net Zero Asset Managers (NZAM) initiative, which reflects the commitment by asset manager signatories to support the goal of net-zero GHG emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5°C. We believe NZAM's objectives are well aligned with our investment philosophy and our experience as a specialist investor in climate solutions for more than two decades. Under our initial target disclosure, we aim for 100% of 'committed' assets under management (AUM) to be 'transition aligned' or 'transition aligning' by 2030.<sup>13</sup> We are pursuing this target through our stewardship and advocacy activities and have committed to engage with all in-scope companies and incorporate climate-related voting guidelines for companies not yet transition aligned.

We encourage companies to hone their management of and transparency around climate-related risks within the transition to a more sustainable economy. As part of our net-zero target, we have also committed to reporting the proportion of our 'committed' AUM that is invested in climate solutions.

<sup>13</sup> Aim for 100% of committed AUM being climate resilient and within the categories 'transition aligned' or 'transition aligning' related to climate management and processes by 2030. Impax's initial commitment under the NZAM initiative consists of all actively managed listed equities and private equity investments, which represented 92% of assets under management (AUM) as of 31 December 2021.



# Beyond GHG emissions

The world's environmental challenges extend beyond the dangers posed by climate change. Pressure is mounting to also tackle other systemic issues including water pollution and waste created by unsustainable economic processes.

Impax's thematic Environmental Markets strategies invest in companies that deliver environmental solutions beyond avoiding GHG emissions.

The products and services of their portfolio companies deliver materially positive water and waste impacts that we quantify by strategy – as we have each year since our first impact report.

In Figure 2, on pages 16 and 17, we report on the water treated, saved or provided, and the materials recovered and waste treated through portfolio companies' activities, for each Impax Environmental Markets strategy, based on US\$10mn invested for one year.

Water impact is typically delivered by holdings in water utilities and water technology companies. Recycling and waste management companies are typically major contributors to portfolios' materials recovered and waste treated impact figures.

We also report the total renewable electricity generated by each strategy's portfolio companies – as well as the Impax New Energy strategy, based on its projects – as an indicator of their contribution to the clean energy transition. By generating renewable electricity, demand for fossil fuel-fired generating capacity can be reduced, thereby lowering CO<sub>2</sub> emissions in markets where companies operate and delivering progress towards national net-zero targets.

To provide real-world context, we include equivalencies for each of these three environmental impact metrics in Figure 2. Our calculations are based on data for UK households (which serve as a proxy for developed markets). There is one exception, the Asian Environmental strategy, for which data is based on local (Chinese household) equivalencies. Details are included in the Appendix on page 43.

Please see pages 48 and 49 for a year-on-year comparison by strategy. Like GHG emissions data published in this report, these figures have been subject to third party assurance (see page 50).

**Environmental challenges extend beyond climate change.**





## Recovering materials for re-use: Graphic Packaging



Graphic Packaging is the largest North American manufacturer of paperboard and paper-based packaging. The US company makes folded cartons, cups, trays and other packaging for clients across the beverage, food and consumer goods sectors. Graphic's packaging design and production solutions enable companies to meet ever more ambitious sustainability goals by replacing plastic packaging and single use tableware with recyclable, fibre-based materials.

In 2022, Graphic Packaging's recycling and milling operations diverted 1.1mn metric tons of waste that would have otherwise gone to landfill. Of this, 85% was recovered pre- and post-consumer paper waste that was repurposed into coated recycled board.<sup>14</sup>

Case studies are provided for illustrative purposes only.

14 Graphic Packaging, 2023: 2022 Environmental, Social and Governance report.

The securities mentioned in this document should not be considered a recommendation to purchase or sell any particular security and there can be no assurance that any securities discussed herein are or will remain in strategies managed by Impax. Impax makes no representation that any of the securities discussed were or will be profitable, or that future investment decisions will be profitable. The selection criteria for case study examples is not based on performance.





## Generating clean renewable electricity: Terna Energy



Terna Energy is the largest Greek-listed renewable energy producer. The company is a major producer of wind energy and also operates solar and hydroelectric plants, predominantly in its home country. Terna's installed generation capacity, of 1,141 MW, is set to almost double as projects that are in construction or ready-to-build – including a 680 MW pumped storage hydro project – come onstream.<sup>15</sup> The company's expanding renewable generation contributes to the displacement of fossil fuels, which still account for roughly 60% of Greece's electricity production.<sup>16</sup>

In 2022, the company generated approximately 2.4mn MWh of renewable electricity, preventing the emission of approximately 1.1mn tCO<sub>2</sub>e of GHG by energy consumers.<sup>17</sup>

Case studies are provided for illustrative purposes only.

<sup>15</sup> Terna Energy, as at 14 August 2023.

<sup>16</sup> IEA, 2022: Electricity generation by source, Greece.

<sup>17</sup> Terna Energy, 2022: Sustainable Development Report 2022.

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## Providing clean and safe water: Sabesp



Cia de Saneamento Basico do Estado de Sao Paulo (or Sabesp) collects, treats and distributes water in the Sao Paulo region of Brazil. It is one of the world's largest sanitation companies by population served, supplying over 28 million people with water and 25 million with wastewater collection using its 88,900km water pipeline network. Effective management of water resources is imperative in a water-stressed region with a growing population, and that experienced a severe drought between 2013 and 2015. Sabesp has been responsible for approximately 30% of all investments in sanitation in Brazil over the past decade.<sup>18</sup>

In 2022, Sabesp provided 2,858mn cubic meters of water and treated 1,884mn cubic meters of wastewater in the region.<sup>19</sup>

Case studies are provided for illustrative purposes only.

<sup>18</sup> Sabesp, 2022: 2021 Sustainability Report.

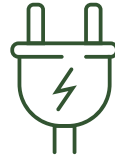
<sup>19</sup> Sabesp, 2022: 2022 Sustainability Report.


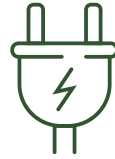
















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**Figure 2: Environmental impact of portfolio companies in 2022**

Based on US\$10mn invested, companies held in Impax strategies contributed to:



			
<b>Asian Environmental<sup>20</sup></b>  Recovered/ treated  Generated  Provided, saved or treated	Total materials recov- ered/waste treated <b>80 tonnes</b> Equivalent to <b>300 households' waste output for a year</b>	Total renewable electricity generated <b>2,770 MWh</b> Equivalent to <b>1,330 households' electricity consumption for a year</b>	Total water provided, saved or treated <b>190 megalitres</b> Equivalent to <b>1,390 households' water consumption for a year</b>
<b>Climate</b>   	<b>950 tonnes</b> <b>470 households</b>	<b>1,820 MWh</b> <b>170 households</b>	<b>600 megalitres</b> <b>1,450 households</b>
<b>Leaders</b>   	<b>1,360 tonnes</b> <b>670 households</b>	<b>530 MWh</b> <b>50 households</b>	<b>200 megalitres</b> <b>480 households</b>
<b>Specialists</b>   	<b>240 tonnes</b> <b>120 households</b>	<b>1,280 MWh</b> <b>120 households</b>	<b>200 megalitres</b> <b>480 households</b>
<b>Sustainable Food</b>   	<b>420 tonnes</b> <b>210 households</b>	<b>50 MWh</b> <b>0 households</b>	<b>600 megalitres</b> <b>1,450 households</b>

There can be no assurance that impact results in the future will be comparable to the results presented herein.

Impax impact calculations are based on strategy AUM and portfolio holdings as at 31 December 2022. Please refer to our Methodology (pages 40 to 43) for details including sources for the household equivalencies data used in our calculations.

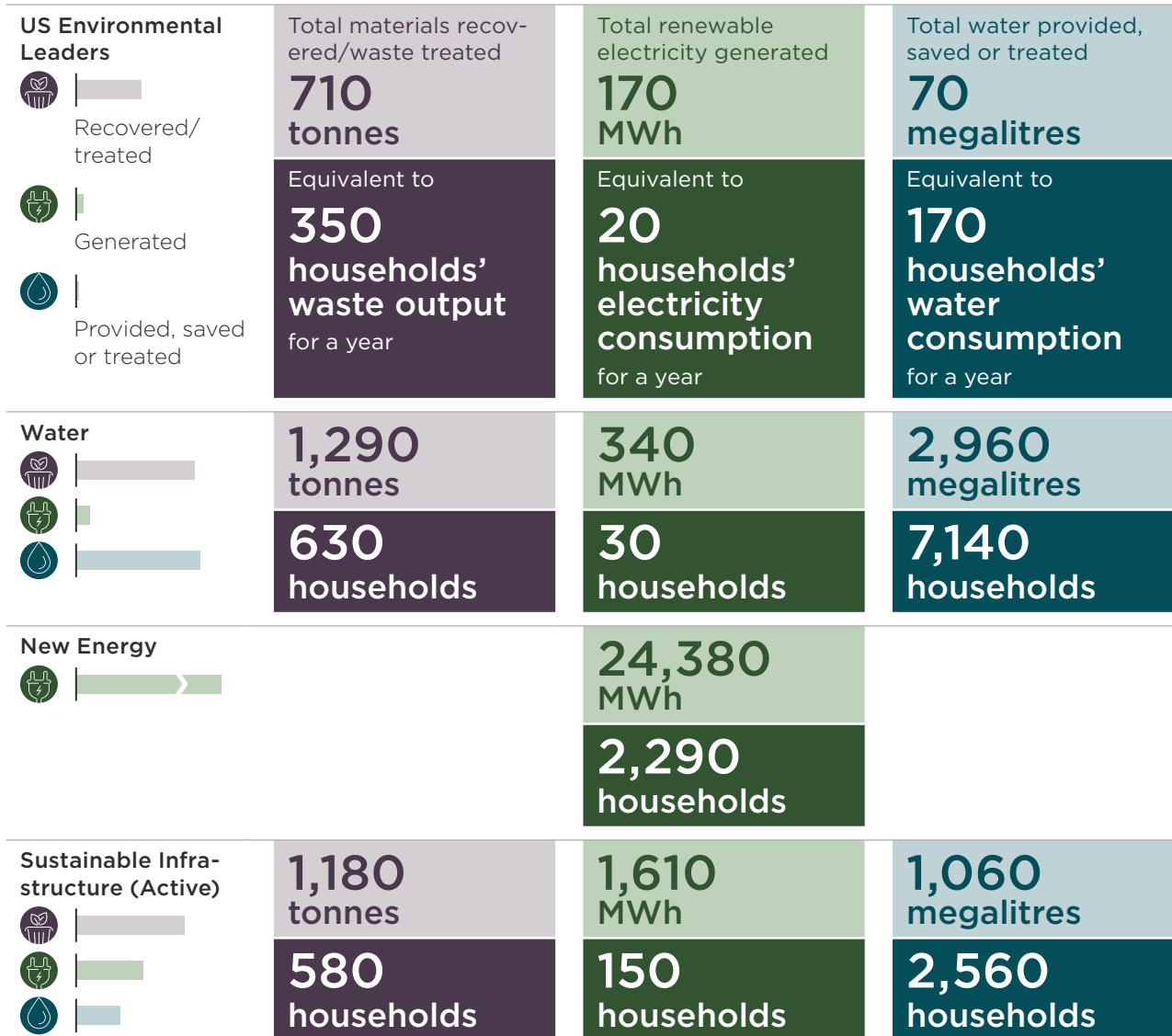
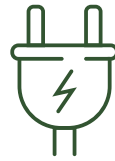
20 Asian household equivalencies. UK household equivalencies are used for other strategies (refer to page 43 for details).





**Figure 2: Environmental impact of portfolio companies in 2022 (continued)**

Based on US\$10mn invested, companies held in Impax strategies contributed to:



**There can be no assurance that impact results in the future will be comparable to the results presented herein.**

Impax impact calculations are based on strategy AUM and portfolio holdings as at 31 December 2022. Please refer to our Methodology (pages 40 to 43) for details including sources for the household equivalencies data used in our calculations.

UK household equivalencies are used (refer to page 43 for details).



# Innovations in impact reporting

The measurement of impact is an evolving discipline. At Impax, we continue to develop our approach through our own research and in response to feedback from our stakeholders.

Last year, for the first time, we reported two metrics of portfolio holdings' positive social impact – student loans and affordable housing units financed – for one of our fixed income portfolios. We continue to develop relevant social impact metrics in advance of the planned launch of a new investment strategy on this theme. We include an update on our progress below.

For each strategy, we consider its specific investment objectives when identifying the most relevant impact metrics to measure and report.

**Our reporting expands again this year to include a new impact metric for our Sustainable Food strategy: healthy and nutritious food produced.**

We also report on progress being made on an environmental impact metric relevant to this strategy.

We meanwhile continue to refine our reporting of the environmental impact of portfolio companies. Over the past year, we have developed a new methodology for calculating the avoided GHG emissions by the equipment rental businesses held across several Impax strategies.







For each strategy, we consider its specific investment objectives when identifying the most relevant impact metrics to measure and report.





# Measuring the impact of sustainable food production

## Introducing a new impact metric

The food and agriculture sector is in the early stages of a far-reaching transition towards more sustainable food production and consumption.

Growing environmental and resource pressures, changing consumer demands, technological innovation and ever-tightening regulatory interventions are disrupting existing depletive practices and unhealthy preferences.

The aim of the Impax Sustainable Food taxonomy is to help identify the most innovative and responsibly managed leaders in sustainable food supply, resource efficiency and nutrition. Within this taxonomy there is a focus on companies that grow, manufacture or distribute high quality, natural foods.

As part of ongoing efforts to expand our impact reporting, we have quantified the volume of **healthy and nutritious food produced** by companies in the Impax Sustainable Food strategy (as at the end of 2022).

In the absence of a globally agreed definition, we define the scope and definition of healthy and nutritious' food as follows:

Impax considers as nutritious foods that are generally regarded as forming part of healthy, balanced diets. These foods should provide nutrients needed for optimal health, without

excess calories, saturated fats, sodium or added sugars.

Examples of healthy foods include fruits, vegetables, whole grains, lean and minimally processed meat (excluding beef), nuts, seeds and healthy oils, as well as healthy dairy products such as whole milk and yoghurts, alternative proteins and child and adult nutritional supplements.

Based on our analysis, eight portfolio companies contributed to this metric. These included five producers of fresh food, two global food and beverage companies (whose businesses include healthy food production) and a producer of plant-based food and drinks.

For each, we calculated the percentage of company revenues aligned with our Sustainable Food taxonomy. We chose to use alignment with our own taxonomy, rather than use companies' own estimates, as our estimates proved more conservative. Multiplying these respective alignment figures by companies' total food production volumes (as reported by the companies) provided us with estimated volumes of healthy and nutritious food produced, in tonnes.



# 3,335 tonnes

Healthy and nutritious food produced by portfolio companies in 2022, based on US\$10mn invested in the Impax Sustainable Food strategy









## Gauging the impact of precision agriculture

Alongside this new impact metric of healthy and nutritious food produced, we are also working to develop our reporting of a metric for environmental impact within the area of sustainable agriculture: **agricultural inputs avoided**.

The application of synthetic fertilisers and pesticides has enabled sustained increases in global agricultural output over the past century. Yet there are major long-term environmental impacts arising from the roughly 200mn tonnes of nitrogen, phosphorus and potassium fertilisers that are applied worldwide each year.<sup>21</sup> Over-use of fertilisers reduces soil fertility and accelerates ecosystem degradation, including in waterways where excess nitrogen levels lead to algal blooms that suffocate aquatic life. Inappropriate use of agricultural pesticides meanwhile adversely affects biodiversity, contributing to the loss of species like earthworms that are critical to long-term soil health.<sup>22</sup>

These negative environmental impacts can be reduced through the adoption of precision agriculture techniques. By enabling farmers to plant crops more precisely and apply fertilisers and pesticides more accurately, and in the right amounts, agricultural inputs – and their adverse environmental impact – can be reduced without reducing yields. Indeed, the efficiency of farming operations can be significantly improved: studies have indicated

that as much as 90% of all pesticide spraying does not affect targeted areas.<sup>23</sup>

Many precision agriculture techniques leverage digital technology to connect ‘smart’ machines to the cloud. Farm management software – which can take into account real-time weather information and historical local crop information – has the potential to optimise farm operations, from before seeds are planted, through crop management, to harvest time. Smarter planting and the more precise application of agricultural inputs ultimately reduces the resource intensity and environmental impact of each calorie of food produced.

We are working with our investee companies to develop their reporting so that we are able to report on agricultural inputs avoided through their products and services in the years ahead. We outline how one of these companies, AGCO, is delivering a positive environmental impact through its products on page 23.

21 Food and Agriculture Organization of the United Nations, 2019: World fertilizer trends and outlook to 2022.

22 Gunstone, T., 2021: Pesticides and Soil Invertebrates: A Hazard Assessment. *Frontiers in Environmental Science*.

23 FAO study (2009) cited by European Parliament, 2016: Precision agriculture and the future of farming in Europe.



## Reducing inputs through precision farming: AGCO



AGCO is one of the world's largest makers of agricultural equipment, with products ranging from tractors to tillage implements. The US company has a particular focus on precision agriculture solutions, which it is growing through recent acquisitions and innovations. Its products include precision seed planting equipment and nozzles for more targeted application of fertilisers, as well as software-based solutions for connected farm machinery. In 2022, four-fifths of the agriculture fleet that rolled off its production lines were connected machines.<sup>24</sup>

The company has calculated the input savings delivered by several of its most widely sold products based on the example of a typical customer: a large US Midwest corn farm. In its case study, AGCO's targeted spraying and nozzle control products respectively reduced fertiliser and herbicide use by 5% compared to earlier products. One of its intelligent farm equipment guidance technologies reduced diesel consumption by 10% through route optimisation. The company says that a new product for targeted weed spraying reduces herbicide use by as much as 30%.

The potential for enabling the avoidance of agricultural inputs is enhanced by the company's 'retrofit-first' approach, whereby its precision tools can be added to almost any brand of existing equipment – not only new machines. Given that only 7% of planters and sprayers are replaced each year, this expands the commercial opportunity for AGCO as well as the potential environment impact of its products.<sup>25</sup>

Case studies are provided for illustrative purposes only.

<sup>24</sup> AGCO, 2023: AGCO 2022 Sustainability Report.

<sup>25</sup> AGCO, 2023: AGCO 2022 Sustainability Report.

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# Developing new metrics for social impact

Given Impax’s history of investing in environmental markets, our impact reporting has naturally focused on metrics for environmental impact. In 2022, for the first time we extended our reporting to include two social impact metrics for one of our fixed income portfolios. As we prepare for the launch of a new investment strategy that focuses on trends shaping society as the transition to a more sustainable economy continues, we are developing metrics for positive social impact.

Generally speaking, metrics for social impact delivered by portfolio companies are harder to aggregate than environmental impact metrics like GHG emissions. There is a very broad and nuanced set of solutions to the challenges facing global society. Company reporting on social impact can therefore be relatively specific to their own products and services. The data often reflects positive outcomes, rather than end impacts. Both these factors can pose a challenge when attempting to aggregate impact in meaningful ‘units’ of social impact.

This notwithstanding, we find that portfolio companies focused on addressing social challenges are reporting on positive outcomes arising from use of their products and services

in a detailed and useful way. Especially so in the areas of healthcare, access to finance and digital inclusion.

It is our aspiration to report social impact using meaningful metrics that align with the Impax Social Taxonomy, a proprietary framework that has been developed over recent years.

Our taxonomy classifies companies that we believe are benefiting from long-term societal secular trends under three pillars.

The first – meeting basic needs – captures companies providing the products and services that are necessities for our safety and wellbeing. The second – broadening economic participation – captures companies enabling access to opportunities and financial safety. The third – improving quality of life – captures companies supporting health, happiness and prosperity.

In the graphic below, we include illustrative examples of relevant metrics that could reflect positive impact delivered by portfolio companies aligned with thematic sectors that sit conceptually under each of these pillars.

## Examples of social impact metrics

Taxonomy pillar	Thematic sector	Impact metric
Broadening economic participation	Access to finance	Individuals provided with enhanced access to financial services (number)
Improving quality of life	Health innovation	Patients treated (number)
Meeting basic needs	Nutrition	Healthy and nutritious food produced (tonnes)
Broadening economic participation	Equitable connectivity	Individuals digitally connected (number)

As we work to group social impact into relevant categories and sub-categories against which we can report in a useful way to clients, we continue to engage with our investee companies

to overcome the related challenges of reporting. We look forward to reporting on our progress next year.

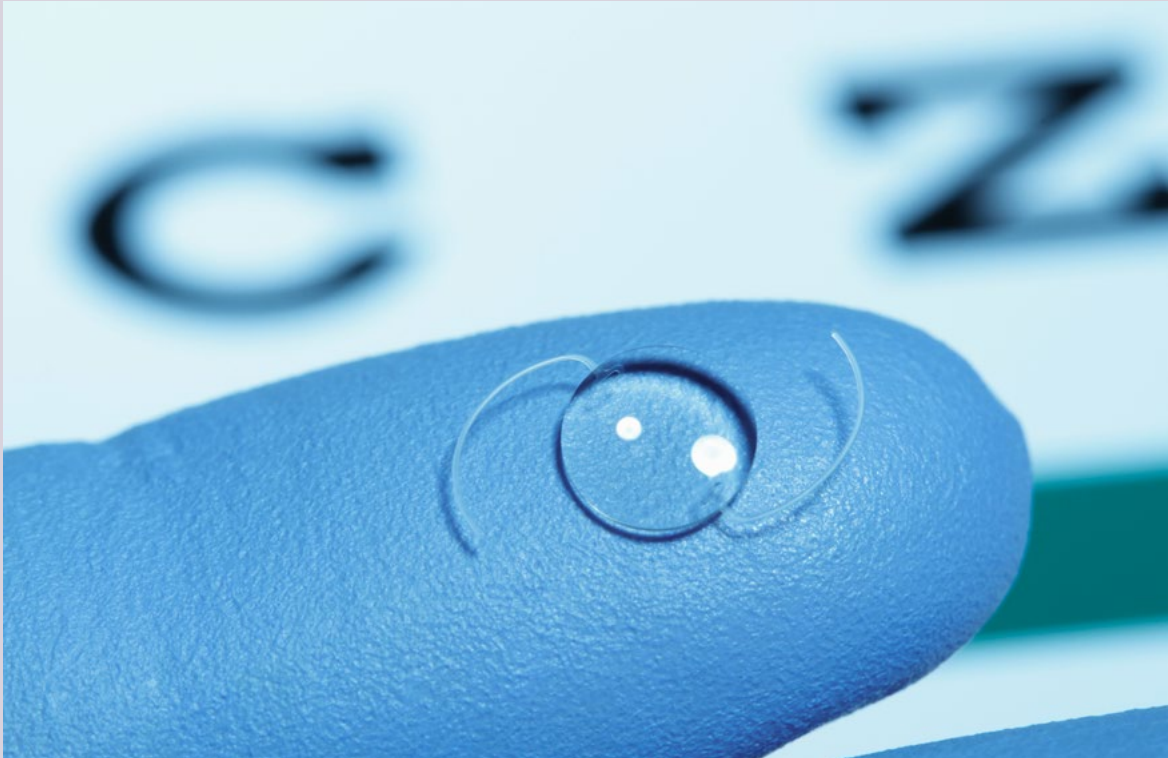




Metrics for social impact delivered by portfolio companies are harder to aggregate than environmental impact metrics like GHG emissions.



## Addressing preventable health issues: Alcon



Vision is an essential aspect of physical and mental health and wellbeing. Left untreated, poor eye health can exacerbate social isolation and inhibit physical activity. Further, it can lead to or intensify poverty and limit economic opportunity. Research estimates that vision loss is responsible for an annual global economic productivity loss of US\$410bn.<sup>26</sup> Yet more than 1.1bn people worldwide live with uncorrected vision impairments, most of which could be treated affordably.<sup>27</sup>

Alcon is one of the world's largest eye care device companies, serving more than 260mn people with vision problems each year.<sup>28</sup> In addition to making contact lenses and consumer ocular health products like eye drops, the company has a portfolio of technologies and devices for ophthalmic surgery like cataract removal. Through a surgeon training programme, the Swiss-listed company aims to broaden treatment of cataracts, which are a leading cause of blindness in developing economies, according to the World Health Organization. In 2022, Alcon trained 580 doctors in phacoemulsification who, in turn, provided more than 1.6mn procedures.<sup>29</sup>

Case studies are provided for illustrative purposes only.

<sup>26</sup> The Lancet Global Health Commission, 2021: The Lancet Global Health Commission on Global Eye Health – vision beyond 2020.

<sup>27</sup> International Agency for the Prevention of Blindness, 2023: Vision Atlas.

<sup>28</sup> Alcon, 2022.

<sup>29</sup> Alcon, 2023: 2022 Social Impact and Sustainability Report.

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## Connecting people to opportunities: T-Mobile



Digital connectivity is a key element of advancing equitable inclusion in the modern global economy. Access to fast, reliable broadband provides access to vital services – including remote healthcare – and also helps democratise access to opportunities by enabling remote and hybrid working and learning. Yet even in developed economies with extensive fibre-optic networks, rural communities often go unconnected or have no competition among internet providers. Roughly one in seven US households only has one choice of provider for their internet connection.<sup>30</sup>

T-Mobile is the largest 5G network provider in the US by geographical coverage and connects over 113mn mobile and broadband customers to digital services.<sup>31</sup> Its high-speed 5G network covers 98% of the US population.<sup>32</sup> In 2020, the US company launched a programme aimed at providing free internet services and mobile hotspots to 10mn under-connected households with school-aged children by 2025. As of the end of 2022, T-Mobile has connected a total of 5.3mn students through this initiative.<sup>33</sup>

Case studies are provided for illustrative purposes only.

30 T-Mobile, 2023: 2022 Corporate Responsibility Report.

31 T-Mobile, January 2023.

32 T-Mobile, 2023: Q2 2023 Factsheet.

33 T-Mobile, 2023: 2022 Corporate Responsibility Report.

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# Estimating avoided emissions through equipment rental

Calculating the avoided GHG emissions attributed to our investee companies' products and services has always been a core aspect of our impact reporting. Yet there are inevitably some business models for which it has historically been more challenging to arrive at robust estimates.

Over the past year we have developed an in-house methodology for calculating the avoided GHG emissions by equipment rental businesses held in Impax strategies.

It might seem counterintuitive that companies leasing out construction and industrial equipment, like diggers and telehandlers, play an important role in the transition to a more sustainable economy. But over the life cycle of these assets, rental models can reduce emissions compared to traditional, private ownership in three ways.

First, leasing out assets to different users maximises their utility, meaning the overall asset base can be smaller – reducing emissions from their production. Second, operational efficiencies can be achieved through dense branch networks, which allow equipment to be rented locally so reducing travel to projects, and through proper maintenance, which minimises operational emissions and extends assets' working lives. Third, large rental businesses are much more likely to recycle assets at the end of their useful lives.

To calculate avoided emissions for investee companies in this sector we have used independent research that compares the estimated life cycle emissions of rental models with typical private ownership patterns, for different types of industrial equipment.<sup>34</sup> The analysis finds that in a scenario where equipment is rented efficiently, life cycle emissions can be significantly lower per hour of usage – by 54% and 47% for excavators and forklifts respectively, for example.

Based on companies' respective inventories of assets we combine this analysis with our own to estimate the annual avoided GHG emissions through their operations.

<sup>34</sup> European Rental Association and Climate Neutral Group, 2019: Carbon Footprint of Construction Equipment.



## Achieving efficiencies and avoiding emissions: Ashtead



Ashtead, which operates under the Sunbelt brand in the US, the UK and Canada, is a global leader in equipment rental. It boasts a 13% share of the US construction and industrial equipment rental market. By generating economies of scale in the management of resource-intensive assets, Ashtead contributes to a more circular economy. Around one-fifth of the company's fleet is now powered by alternative fuels to diesel power, including batteries, electric and solar – a share that is set to rise as older equipment is retired and replaced, typically every seven to eight years.<sup>35</sup>

Based on our calculations, we estimate that Ashtead's services helped avoid approximately 7.1 million tCO<sub>2</sub>e of GHG emissions in 2022.

Case studies are provided for illustrative purposes only.

35 Ashtead, 2023: Annual Report.

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# UN Sustainable Development Goal alignment

The UN Sustainable Development Goals (SDGs) encompass 17 sets of targets to be met by the world's economies by 2030.<sup>36</sup> The SDGs have been increasingly adopted by investors as a tool for evaluating funds' impact outcomes.

The nature of Impax's investment philosophy results in meaningful exposure to the SDGs as a by-product of the investment process. Figure 3 on page 33 summarises portfolio company exposure to the UN SDGs by strategy, as at the end of 2022.

Impax's investment process does not analyse alignment with SDGs as an investment objective or component of portfolio construction. Instead, we use the SDG framework to understand which portfolio companies are involved in activities that contribute towards addressing these critical global challenges, as a mapping and reporting exercise.

We evaluate alignment with this framework by identifying the proportion of portfolio companies' activities that contribute to the achievement of the SDGs. We map 70 categories of business activities linked to 11 of the 17 SDGs and their underlying targets and indicators (see mapping on page 32).

We focus on those SDGs where the underlying targets are relevant to private sector investment opportunities, rather than public funding or policy action. For example, we ascertain that our portfolio companies – even those held within the Climate strategy – have no exposure to SDG 13, climate action. While this may seem counterintuitive given our focus on the transition to a more sustainable economy, this is because we consider most of the Goal's sub-targets to be aimed at, and implemented by, governments. There is similarly limited exposure to SDGs 14 and 15, life below water and on land.

Our methodology for measuring SDG-related exposure does not differentiate between geographic regions, with two exceptions: in the case of financial services and telecom companies where their business activities relate to SDG 8 (decent work and economic growth) and SDG 9 (industry, innovation and infrastructure), we only focus on company activities in less developed countries.

Over time, portfolio companies' exposure to SDGs will vary with the composition of individual product portfolios across sectors and the broader economy.

<sup>36</sup> For further information, please visit [www.un.org/sustainabledevelopment/sustainable-development-goals](http://www.un.org/sustainabledevelopment/sustainable-development-goals).





# Impax mapping of company exposures to UN SDGs



- Sustainable agricultural inputs
- Growers & operators
- Sustainable agricultural products
- Natural food ingredients
- Agricultural machinery & equipment
- Food processing equipment
- Healthy/nutritious foods
- Efficient food distribution
- Healthy/nutritious food distribution
- Fresh food distribution
- Access to safe food



- Prevention of disease (diagnostics, testing, vaccines)
- Bio-pharmaceuticals (innovation, drug discovery)
- Medical technology



- Access to quality education
- Provision of technical, vocational & tertiary education/training
- Services facilitating inter-cultural exchange



- Water distribution & infrastructure
- Water treatment
- Water efficiency
- Water utilities



- Renewable energy developers & independent power producers
- Biofuels
- Hydrogen infrastructure
- Solar energy generation equipment
- Wind power generation equipment
- Other renewables equipment
- Cleaner energy



- SME lending revenues from the least developed countries (LDC) & emerging market (EM) regions
- Insurance revenues from LDC & EM regions
- SME insurance revenues (global)
- Payment infrastructure & technology revenues from LDC & EM regions



- Smart & efficient grids
- Power storage & uninterrupted power supply
- Industrial energy efficiency
- Consumer energy efficiency
- Buildings energy efficiency
- Efficient lighting
- Advanced road vehicles & devices
- Advanced aviation
- Advanced shipping
- Railways
- Efficient IT
- Cloud computing
- Digital collaboration solutions
- Environmental R&D & consultancies
- Supply chain logistics
- Activities linked to R&D (to capture the innovation enabling further efficiency gains through technology)
- Activities directly linked to digital infrastructure or operations relating to telecoms in LDC & EM regions



- E-bikes & bicycles
- Buses & coaches
- Shared mobility
- Transport pollution reduction
- Pollution control solutions
- General waste management
- Hazardous waste management
- Environmental testing & monitoring
- Safe & affordable housing



- Sustainable agriculture
- Sustainable aquaculture
- Organic & alternative foods
- Technology & logistics
- Food safety & packaging
- Recycling & waste technologies
- Recycled, recyclable products & biomaterials
- Resource circularity & efficiency
- Environmental resources



- Finance & investment



- Sustainable forestry
- Sustainable land management

The UN SDGs encompass 17 goals. For further information, please visit [www.un.org/sustainabledevelopment/sustainable-development-goals](http://www.un.org/sustainabledevelopment/sustainable-development-goals).



**Figure 3: Portfolio company revenue alignment to the UN SDGs by strategy (%)**

		2	3	4	6	7	8	9	11	12	15
Asian Environmental	<b>60%</b>				2	5		36	9	8	
Climate	<b>74%</b>		1		13	15		28	3	13	1
Leaders	<b>53%</b>				8	4		20	12	9	
Specialists	<b>80%</b>				14	13		22	8	23	1
Sustainable Food	<b>57%</b>	40						1		12	4
US Environmental Leaders	<b>48%</b>				11			18	10	9	
Water	<b>67%</b>				47	1		12	2	5	
Asian Opportunities	<b>67%</b>	1	14	4	1		18	19	1	9	
Global Opportunities	<b>54%</b>	2	19		1	1	9	15	1	7	
US Large Cap	<b>26%</b>	1	6		3		1	12		3	1
US Small Cap	<b>36%</b>	2	13	1	2			6	3	8	1
New Energy	<b>100%</b>					100					
Sustainable Infrastructure (Active)	<b>49%</b>				14	8	1	17	5	5	
Core Plus Bond	<b>40%</b>		1	5	2	12	1	13	5	1	

**These figures refer to the past. Past performance is not a reliable indicator of future results.**

The UN SDGs encompass 17 goals. For further information, please visit [www.un.org/sustainabledevelopment/sustainable-development-goals](http://www.un.org/sustainabledevelopment/sustainable-development-goals).

Impax impact calculations are based on strategy AUM and portfolio holdings as at 31 December 2022. Figures are based on Impax internal data. Impax’s investment process does not identify alignment with SDGs as a specific objective. Instead, the nature of Impax’s investment philosophy results in some meaningful revenue exposure within the Environmental Markets strategies, as well as the Sustainability Lens strategies with emerging market exposure. Data rounded to nearest full percentage point, therefore weightings less than 0.5% are not included. Individual revenue alignment numbers may not add up to total revenue alignment numbers, by respective strategy, due to rounding.

Please note that data in Figure 3 was not subjected to third party assurance (see page 50).





# The challenge of reporting nature-related impact

Measuring companies' myriad impacts on biodiversity and natural capital remains highly complex. Unlike climate change, for which GHG emissions and avoided emissions are measurable indicators of a company's impact, biodiversity has no simple global metrics. Impacts are also typically local and habitat specific.

This complexity contributes to a lack of understanding of nature-related impacts which results in scarce reporting. Yet the risks that a biodiversity crisis could pose for the global economy are staggering given our dependencies on nature.

The concept of double materiality presents impacts of nature loss on the economy as mutually inclusive. With over half of global GDP moderately or highly dependent on biodiversity, the health of the natural world impacts companies just as company operations impact nature.<sup>37</sup>

We believe bridging the information gap is a crucial step and is part of emerging efforts to shape the reporting landscape and advocate for enhanced disclosure requirements. We have maintained ongoing dialogue with the Task Force for Nature-related Financial Disclosures

(TNFD) to create useful metrics for measuring biodiversity impacts.

In May 2023, we hosted a roundtable with the Green Finance Institute and the TNFD to discuss and feedback on the latest draft sector guidance. We continue to advocate that the framework focus on opportunity-based metrics, such as the mitigation of nature-related risks, rather than solely focusing on biodiversity risk metrics.

Developing a clear understanding of the biodiversity-related impacts of our investee companies is a complex long-term project. We are evaluating the extent to which the activities of companies held in our Environmental Markets strategies contribute to addressing the five direct drivers of biodiversity loss, as identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). We include examples of products and services that can mitigate biodiversity loss in the table below.

So far, we have completed the preliminary mapping of company activities for some of our strategies and will continue to refine and expand this work. We aim to report on our findings in future Impact reports.

Direct drivers of biodiversity loss <sup>38</sup>	Environmental solutions mitigating biodiversity loss <sup>39</sup>
Changing use of sea and land (such as deforestation)	Food waste reduction, plant-based proteins, alternative feeds, circularity, computer-aided design (CAD)
Direct exploitation of organisms (such as overfishing)	Sustainable aquaculture (esp. in-land), alternative and plant-based food proteins (human and animal feeds)
Climate change	Renewables, energy and resource efficiency, alternative fuels for transport
Pollution	Testing, water treatment, soil remediation, sustainable materials (circular solutions including alternatives to single-use plastic)
Invasive non-native species	Ballast water treatment, testing, sensors and monitoring technology

37 World Economic Forum, 2020: The Future of Nature and Business.

38 The direct drivers of biodiversity loss are those identified by IPBES.

39 The examples of environmental solutions cited are based on Impax classifications.

The background of the page is an underwater scene featuring a large school of fish, likely salmon, swimming upwards. The water is a clear, deep blue. A large, semi-transparent blue diamond shape is overlaid on the left side of the image, pointing towards the center. The text is placed within this diamond.

Unlike climate change, biodiversity has no simple global metrics. Impacts are typically local and habitat specific.



## Avoiding land use change: Trex



Global demand for timber products is driving the conversion of land, including natural forests, into fast-wood plantations. According to the WWF, roughly 2.5 million acres are converted each year – an area larger than the islands of Cyprus or Puerto Rico.<sup>40</sup>

Trex is a leader in the growing market for wood-plastic composite decking and railings. Its decking products – which provide an alternative to virgin timber – are comprised of a blend of 95% recycled and reclaimed content, primarily reclaimed wood fibres and recycled plastic bags (polyethylene). As such, the US company not only prevents the logging and deforestation associated with virgin wood use, but also contributes to the transition to a more circular economic model. The company's upcycling of waste products diverts plastics from landfills to create a low-maintenance consumer product that can last up to twice as long as timber decking.<sup>41</sup>

In 2022, Trex diverted over 150,000 metric tonnes of plastic film, bags and wraps from landfills and reclaimed over 300,000 metric tonnes of wood from the likes of lumberyards, sawmills and wood flooring companies.<sup>42</sup>

Case studies are provided for illustrative purposes only.

40 World Wildlife Fund, 2023: Timber.

41 Trex, 2023: Trex Composite Decking vs Timber.

42 Trex, 2023: 2022 ESG Report.

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## Improving water quality: Xylem



Water quality and the state of biodiversity are intimately connected. The effective treatment of water to make it usable for drinking, bathing or discharge back into the natural environment is vital to avoiding harm to nature downstream.

Xylem designs and manufactures water pumps, valves and testing equipment. Its products and services are focused on water infrastructure – enabling the delivery of clean water, wastewater transport and water treatment in industrial, residential, commercial and agricultural applications. The US company is helping address and solve global water distribution and water scarcity issues. Only 1% of world's water is accessible fresh water and, by 2025, two-thirds of the global population may face shortages.<sup>43</sup>

In 2022, Xylem's products and services contributed to the treatment of around 3.1mn megalitres of water for re-use.<sup>44</sup> They also reduced the loss of 'non-revenue' water – water treated by utilities that did not reach end customers due to undetected leaks, theft or inadequate metering – by a further 0.5mn megalitres.<sup>44</sup>

Case studies are provided for illustrative purposes only.

<sup>43</sup> World Wildlife Fund 2023: Water Scarcity.

<sup>44</sup> Xylem, 2023: 2022 Sustainability Report.

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# Impact methodology

The relevant environmental and social metrics for all portfolio companies and issuers were measured where data was available or could be estimated. The analysis included all companies and issuers in which the strategies were invested as at 31 December 2022.

At the time of preparing the report, we aimed to obtain the most recently available and commonly collected environmental data from our investee companies and issuers.

For the calculation of impact attribution for the listed companies we invest in, Impax's methodology is based on equity value. Under this approach, we use the percentage of the equity owned in each underlying company by Impax (based on its proportion to total outstanding shares) to measure the environmental benefit attributable to each relevant strategy.

For our private market infrastructure investments, we base our impact calculations on the percentage of each project owned by Impax. Our avoided GHG emissions calculation is based on carbon avoided relative to country-specific grid electricity generation. For realised 'exited' assets, annual avoided carbon is calculated using the P50 annual electricity production values based on our most recent yield studies. Data is as at 31 December 2022 using the IEA emission factors database, except for Norwegian assets where the source is NVE.

For the calculation of impact attribution for the fixed income issuers we invest in, equity value would be unsuitable. The impact attributed to each relevant strategy is instead based on the percentage owned in each underlying issuer, calculated by dividing the value of the bonds by the company's enterprise value (the sum of its equity value and net debt). For certain government-related issuers, enterprise value was substituted with total assets in our calculations. For labelled bonds, such as social and green bonds, the impact attributable to a strategy is based on the percentage ownership of that issuance. Generally, we only consider bonds which have been held for over one year in our fixed

income reporting because funds raised through an issuance will take some time to be deployed and deliver any social or environmental benefit.

We started by identifying the metrics against which we would measure the impact of the listed companies and issuers. These included:

- GHG emissions, Scope 1, 2 and 3 (tonnes of CO<sub>2</sub> equivalent)
- Avoided GHG emissions (tonnes of CO<sub>2</sub> equivalent)
- Renewable electricity generated (MWh)
- Water treated, saved or provided (megalitres)
- Materials recovered/waste treated (tonnes)
- Healthy and nutritious food provided (Sustainable Food only)
- Affordable housing units financed (Core Plus Bond portfolio only)
- Education loans financed (Core Plus Bond portfolio only)

## Avoided GHG emissions

To evaluate the real-world impact of climate solutions, we look to compare the GHG emissions arising from the use of companies' products or services with the GHG emissions generated in a world where that product does not exist. We look to use companies' own estimates of avoided emissions as a starting point, where available. We mostly rely on companies' own reporting assumptions and methodologies on avoided emissions, where disclosed, but evaluate whether they are rigorous in their use of baseline scenarios, life cycle emissions approaches and value chain attribution method. Where we estimate companies' avoided emissions ourselves, our assumptions broadly align with the five steps highlighted by the recently published guidelines on assessing avoided emissions by the World Business Council for Sustainable Development (WBCSD). Given the full guidance was only released in early 2023, we may aim for deeper implementation of the WBCSD guidance in our impact analysis next year.



We recognise that the methodology for avoided emissions is evolving and therefore seek to collaborate with investors and industry groups (such as the Glasgow Financial Alliance for Net Zero (GFANZ)) to improve transparency and credibility around future avoided emissions methods and reporting standards.

### Relevance and availability of metrics

We also assessed the relevance of each metric for each company based on their business activities:

- We created a heat map (see Figure 4) which provided a qualitative indication for the impact of each company
- We collected relevant data from company and issuer disclosures, including sources such as annual reports, CDP and sustainability reports. Where information was not available, we contacted companies to request additional disclosure, which in some cases produced additional relevant data
- However, some companies and issuers could not/did not provide information on several metrics. We therefore created estimates, where robust data was obtained for these metrics:

- For missing Scope 1 and 2 GHG emissions data, we used a Bloomberg methodology that estimated emissions based on a precise peer grouping of companies
- For missing environmental impact data, industry or academic data was sought to set robust assumptions, including baselines relating to environmental performance and impact. In cases where robust data could not be found, zero impact was reported for a company or issuer

The table on pages 46 and 47 summarises the proportion of data that was available and estimated. Note that the impact reported will always depend on the mix of underlying holdings and so is subject to change. The information contained in this report is therefore specific to the reporting date.

Impax strives to be conservative with estimates in an effort to ensure that the positive impact is not overstated.

**Figure 4: Illustrative indication of companies (from our environmental strategies) with their relevant impact metrics**

Company	1	2	3	4	5	6	7	8	9	10
Materials recovered/ waste treated (tonnes)	+				+	+				
Water treated, saved or provided (megalitres)	+			+	+	+		+		+
Renewable electricity generated (MWh)		+			+	+				+
CO <sub>2</sub> avoided (tonnes)	+	+			+	+		+	+	+
CO <sub>2</sub> emitted (tonnes)	×	×	×	×	×	×	×	×	×	×

Please note that this is an illustrative example of portfolio company impact metrics.





## Exclusions and limitations

Although we have made investments in companies providing pollution control solutions, including air pollution mitigation technologies (for example, the avoidance of sulphur dioxide and nitrogen oxides), we have so far been unable to meaningfully quantify their environmental impact. This also applies to some energy efficiency investments and solutions related to food waste avoidance. These are all important environmental solutions in our investments, however the quantification of related impact metrics remains difficult.

Direct GHG emissions (Scope 1) and indirect GHG emissions (Scope 2) were included in our analysis. Scope 2 emissions included in analysis are market-based where this information is available. Other indirect emissions (Scope 3, for example, air travel and waste) were also included where available. GHG emissions were measured in CO<sub>2</sub> equivalents, which includes GHG emissions from methane and nitrous oxide, or CO<sub>2</sub> depending on data availability.

We found that several companies (particularly in the water sector) reported that the positive impact of their products largely depends on the way in which end users utilise them and therefore we could not quantify their impact information.



**We found that several companies reported that the positive impact of their products largely depends on the way in which end-users utilise them.**



# Household equivalencies data used in Figure 2

## UK household equivalencies

**Average annual UK household electricity usage** of 3.60 MWh. Source: Department for Energy Security and Net Zero.<sup>45</sup>

**Average annual UK household water usage** of 134,904 litres. Source: Impax calculations, based on an average of the most recent water usage data from 12 different sources, including regional UK water companies, and average household size data from the Office for National Statistics.<sup>46</sup>

**Average annual UK household waste** of 982kg. Source: Impax calculations based on data from the Department for Environment, Food & Rural Affairs and average household size data from the Office for National Statistics.<sup>47</sup>

## US household equivalencies

**Average annual US household electricity usage** of 10.63 MWh. Source: US Energy Information Administration.<sup>48</sup>

**Average annual US household water usage** of 414,502 litres. Source: Impax calculations, based on water usage data from the US Environmental Protection Agency.<sup>49</sup>

**Average annual US household waste** of 2,030kg. Source: Impax calculations based on data from the US Environmental Protection Agency and average household size data from the US Census Bureau.<sup>50</sup>

## Asian household equivalencies (used only for Impax Asian Environmental strategy)

**Average annual China household electricity usage** of 2.09 MWh. Source: Impax calculations, based on electricity usage per capita and average household size data.<sup>51</sup>

**Average annual China household water usage** of 136,916 litres. Source: Impax calculations, based on water usage per capita, the proportion of water used by households and average household size data.<sup>52</sup>

**Average annual China household waste** of 269kg. Source: Impax calculations based on UK equivalencies (see footnotes), due to a lack of data, and adjusted using a GDP per capita ratio.<sup>53</sup>

45 Department for Energy Security and Net Zero, 2023: Annual domestic energy bills.

46 Impax water usage estimate based on data from Cambridge Water, Consumer Council for Water, Hart Water, Harvey Water Softeners, Onaverage.co.uk, Southern Water, South Staffordshire Water, South West Water, Statista, University of Sheffield, Uswitch and Water UK.

Office for National Statistics, 2022: Household and resident characteristics, England and Wales: Census 2021.

47 Department for Environment, Food & Rural Affairs, 2023: Local authority collected waste management – annual results 2021/22.

Office for National Statistics, 2022: Household and resident characteristics, England and Wales: Census 2021.

48 US Energy Information Administration, 2022: How much electricity does an American home use?

49 US Environmental Protection Agency, 2023: How We Use Water.

50 US Environmental Protection Agency, 2020: Advancing Sustainable Materials Management: 2018 Fact Sheet.

US Census Bureau, 2022: Historical Households Tables.

51 Statista, 2021: Household electricity consumption per capita in China from 2000 to 2019.

Statista, 2022: Average number of people living in households in China from 1990 to 2021.

52 Statista, 2021: Average per capita water consumption in China between 2010 and 2020.

Overseas Development Institute, 2014: Growing more with less – China’s progress in agricultural water management and reallocation.

Statista, 2022: Average number of people living in households in China from 1990 to 2021.

53 CEIC, 2022: China GDP per Capita/World Bank, 2022: GDP per capita.

Average annual UK household water usage of 134,904 litres – Source: Impax calculations, based on an average of the most recent water usage data from 12 different sources, including regional UK water companies, and average household size data from the Office for National Statistics (2022).





# Summary of Impax strategies

## Environmental Markets strategies

- The **Impax Asian Environmental strategy** seeks to invest in companies providing solutions to resource scarcity and environmental pollution within the Asia-Pacific region. Investee companies must generate at least 20% of their revenues from sales of environmental products or services in the energy efficiency, renewable energy, water, waste or sustainable food markets.
- The **Impax Climate strategy** seeks to invest globally in companies providing solutions to resource scarcity and environmental pollution. Investee companies must be 'pure plays' generating at least 50% of their revenues from products and services related to climate mitigation or adaptation.
- The **Impax Leaders strategy** seeks to invest globally in companies providing solutions to resource scarcity and environmental pollution. Investee companies must generate at least 20% of their revenues from sales of environmental products or services in the energy efficiency, renewable energy, water, waste or sustainable food markets.
- The **Impax Specialists strategy** seeks to invest globally in companies providing solutions to resource scarcity and environmental pollution. Investee companies must be 'pure plays' generating at least 50% of their revenues from sales of environmental products or services in the energy efficiency, renewable energy, water, waste or sustainable food markets.
- The **Impax Sustainable Food strategy** seeks to invest in companies helping to address the sustainability challenges facing the food sector. Investments are made in companies that generate more than 20% of their revenues from sustainable food activities.
- The **Impax US Environmental Leaders strategy** seeks to invest in US-listed companies that are developing innovative solutions to resource challenges. Investee companies must generate at least 20% of their revenues from sales of environmental products or services in environmental markets.
- The **Impax Water strategy** seeks to invest in a universe of companies addressing increasing water scarcity and ageing infrastructure issues across the globe. Eligible companies must generate at least 20% of their revenues from sales of water infrastructure solutions, water treatment products or water utilities.

For important risk information, please refer to “Key strategy risks” on page 52.

We have reported on the GHG impact of investee companies' products and services since 2015.

### Sustainability Lens strategies

- The **Impax Asian Opportunities strategy** seeks to invest regionally in Asia-Pacific companies possessing sustainable competitive advantages, across listed equities markets and sectors.
- The **Impax Global Opportunities strategy** seeks to invest globally in companies possessing sustainable competitive advantages, across listed equities markets and sectors.
- The **Impax US Large Cap strategy** is an equities strategy that fully integrates analysis of sustainability risks and opportunities and invests in a portfolio of US listed companies that we believe have strong prospects and attractive valuations.
- The **Impax US Small Cap strategy** is an equities strategy that fully integrates analysis of sustainability risks and opportunities and invests in a portfolio of smaller US listed companies that we believe have strong prospects and attractive valuations.

### Sustainable Infrastructure strategies

- The **Impax New Energy strategy** develops, constructs, operates and sells wind, solar and small-scale hydro electricity generation projects in Europe. As such these projects displace fossil fuel-fired generating capacity, contributing to the reduction of CO<sub>2</sub> emissions of the local power network.
- The **Impax Sustainable Infrastructure (Active) strategy** seeks to invest globally in companies that provide the resource, economic and social infrastructure essential for the transition to a more sustainable economy. Eligible companies must generate at least 20% of their revenues from providing access to vital resources or societal well-being.

### Fixed Income strategies

- The **Impax Core Plus Bond portfolio** seeks to deliver current income and strong risk-adjusted total returns with a focus on capital preservation by investing in a diversified portfolio of fixed income holdings that are well-positioned to both minimise risks and benefit from opportunities arising from the transition to a more sustainable global economy.

For important risk information, please refer to “Key strategy risks” on page 52.







# Strategy data availability by impact metrics

KPIs estimated/disclosed by portfolio company as at 31 December 2022	Companies for which the KPI is relevant	Companies for which the KPI was available	Companies for which the KPI was estimated	KPI not relevant/not available/not estimated
<b>ENVIRONMENTAL MARKETS STRATEGIES</b>				
<b>Asian Environmental</b>				
GHG emissions avoided	41	12	7	25
GHG emissions emitted	44	34	10	0
Materials recovered/waste treated	6	2	0	40
Renewable electricity generated	9	7	0	37
Water treated, saved or provided	6	4	1	39
<b>Climate</b>				
GHG emissions avoided	52	29	11	16
GHG emissions emitted	56	54	2	0
Materials recovered/waste treated	13	11	0	43
Renewable electricity generated	16	15	0	41
Water treated, saved or provided	16	9	6	40
<b>Leaders</b>				
GHG emissions avoided	48	21	9	18
GHG emissions emitted	48	48	0	0
Materials recovered/waste treated	7	6	0	41
Renewable electricity generated	16	15	1	32
Water treated, saved or provided	9	3	4	41
<b>Specialists</b>				
GHG emissions avoided	57	29	15	14
GHG emissions emitted	58	53	5	0
Materials recovered/waste treated	13	11	0	45
Renewable electricity generated	15	14	0	44
Water treated, saved or provided	14	6	6	44
<b>Sustainable Food</b>				
GHG emissions avoided	49	19	18	13
GHG emissions emitted	50	44	6	0
Materials recovered/waste treated	7	6	1	42
Renewable electricity generated	9	9	0	40
Water treated, saved or provided	10	4	6	38
Healthy/nutritious food provided	8	0	8	37
<b>US Environmental Leaders</b>				
GHG emissions avoided	32	10	9	14
GHG emissions emitted	33	33	0	0
Materials recovered/waste treated	7	6	0	26
Renewable electricity generated	9	8	1	24
Water treated, saved or provided	7	2	3	28

KPIs estimated/disclosed by portfolio company as at 31 December 2022	Companies for which the KPI is relevant	Companies for which the KPI was available	Companies for which the KPI was estimated	KPI not relevant/not available/not estimated
<b>ENVIRONMENTAL MARKETS STRATEGIES, continued</b>				
<b>Water</b>				
GHG emissions avoided	45	20	5	25
GHG emissions emitted	50	47	3	0
Materials recovered/waste treated	17	15	0	35
Renewable electricity generated	17	14	0	36
Water treated, saved or provided	29	18	7	24
<b>SUSTAINABLE LENS STRATEGIES</b>				
<b>Asian Opportunities</b>				
GHG emissions avoided	28	4	1	33
GHG emissions emitted	38	28	10	0
<b>Global Opportunities</b>				
GHG emissions avoided	29	12	9	20
GHG emissions emitted	41	41	0	0
<b>US Large Cap</b>				
GHG emissions avoided	32	9	9	31
GHG emissions emitted	49	49	0	0
<b>US Small Cap</b>				
GHG emissions avoided	19	6	2	46
GHG emissions emitted	54	30	24	0
<b>SUSTAINABLE INFRASTRUCTURE STRATEGIES</b>				
<b>New Energy</b>				
GHG emissions avoided	70	70	0	0
Renewable electricity generated	70	70	0	0
<b>Sustainable Infrastructure (Active)</b>				
GHG emissions avoided	30	19	7	10
GHG emissions emitted	36	35	1	0
Materials recovered/waste treated	11	10	0	22
Renewable electricity generated	17	16	1	17
Water treated, saved or provided	13	10	2	21
<b>FIXED INCOME STRATEGIES</b>				
<b>Core Plus Bond</b>				
GHG emissions avoided	146	57	37	52
GHG emissions emitted	191	142	3	46
Affordable housing units financed	26	14	0	12
Educational/graduate loans financed	18	15	0	3

Impax data as at 31 December 2022.





# Strategy summary, 2022 vs 2021

## Environmental Markets strategies summary 2022 vs 2021

Based on US\$10mn invested, companies held in Impax strategies contributed to:

2022	Asian Env	Climate	Leaders	Special-ists	Sustaina-ble Food	US Env Leaders	Water
GHG emitted (tCO <sub>2</sub> e)	4,620	3,780	3,040	3,810	5,980	2,300	2,880
GHG avoided (tCO <sub>2</sub> e)	5,630	5,840	2,040	4,930	2,710	1,510	3,350
Total water treated, saved, or provided (megalitres)	190	600	200	200	600	70	2,960
Total renewable electricity generated (MWh)	2,770	1,820	530	1,280	50	170	340
Total materials recovered/waste treated (tonnes)	80	950	1,360	240	420	710	1,290
Total water provided (megalitres)	-	-	-	-	-	-	305
Total water saved (megalitres)	-	-	-	-	598	-	395
Total water treated (megalitres)	-	-	-	-	-	-	2,231

2021	Asian Env	Climate	Leaders	Special-ists	Sustaina-ble Food	US Env Leaders	Water
GHG emitted (tCO <sub>2</sub> e)	4,500	2,000	1,600	2,400	4,700	1,600	1,900
GHG avoided (tCO <sub>2</sub> e)	6,000	3,500	1,700	3,700	2,300	1,300	2,100
Total water treated, saved, or provided (megalitres)	100	400	100	500	700	100	2,400
Total renewable electricity generated (MWh)	1,870	660	190	980	60	120	370
Total materials recovered/waste treated (tonnes)	990	90	450	210	490	520	1,200
Total water provided (megalitres)	-	-	-	-	-	-	340
Total water saved (megalitres)	-	-	-	-	680	-	620
Total water treated (megalitres)	-	-	-	-	-	-	1,430

These figures refer to the past. Past performance is not a reliable indicator of future results.



### Sustainability Lens strategies summary, 2022 vs 2021

Based on US\$10mn invested, companies held in Impax strategies contributed to:

2022	Asian Opportunities	Global Opportunities	US Large Cap	US Small Cap
GHG emitted (tCO <sub>2</sub> e)	400	1,470	1,530	760
GHG avoided (tCO <sub>2</sub> e)	180	790	330	300

2021	Asian Opportunities	Global Opportunities	US Large Cap	US Small Cap
GHG emitted (tCO <sub>2</sub> e)	200	600	500	-100
GHG avoided (tCO <sub>2</sub> e)	100	500	300	600

### Sustainable Infrastructure strategies summary, 2022 vs 2021

Based on US\$10mn invested, companies held in Impax strategies contributed to:

2022	New Energy <sup>53</sup>	Sustainable Infra (Active)	2021	New Energy
GHG emitted (tCO <sub>2</sub> e)	36	2,900	GHG emitted (tCO <sub>2</sub> e)	36
GHG avoided (tCO <sub>2</sub> e)	4,265	2,200	GHG avoided (tCO <sub>2</sub> e)	4,265
Total renewable electricity generated (MWh)	24,380	1,610	Total renewable electricity generated (MWh)	24,380
Water treated, saved or provided (megalitres)	-	1,060		
Total materials recovered/waste treated (tonnes)	-	1,180		

Please note that the Sustainable Infrastructure (Active) strategy was launched in October 2022. Data is therefore not included for 2021.

### Fixed Income strategies summary, 2022 vs 2021

Based on US\$10mn invested, companies held in Impax strategies contributed to:

2022	Core Plus Bond	2021	Core Plus Bond
GHG emitted (tCO <sub>2</sub> e)	670	GHG emitted (tCO <sub>2</sub> e)	250
GHG avoided (tCO <sub>2</sub> e)	3,830	GHG avoided (tCO <sub>2</sub> e)	2,170
Affordable housing units financed	8	Affordable housing units financed	2
Student loans financed	11	Student loans financed	11

**These figures refer to the past. Past performance is not a reliable indicator of future results.**

Impax impact calculations for 2022 are based on strategy AUM and portfolio holdings as at 31 December 2022. Impax impact calculations for 2021 are based on strategy AUM and portfolio holdings as at 31 December 2021. Figures are based on Impax internal data.

<sup>53</sup> Gross CO<sub>2</sub> avoided per US\$10mn invested for assets still owned by the New Energy Fund is 802 tCO<sub>2</sub>e, and for exited assets it is 7,359 tCO<sub>2</sub>e.

Total renewable energy generated per US\$10mn invested for assets still owned by the Fund is 7,031 MWh and for exited assets it is 39,877 MWh.





# Third party review of impact data

## Independent Limited Assurance Report to Impax Asset Management LLC

ERM Certification and Verification Services Limited (“ERM CVS”) was engaged by Impax Asset Management LLC (“Impax”) to provide limited assurance in relation to the selected information set out below and presented in Impax’s Impact Report 2023 – 170NHL/w (the “Report”).

Engagement summary	
Scope of our assurance engagement	<p>Whether the data for the following selected disclosures are fairly presented on pages 20, 48 and 49 of the Report, in all material respects, in accordance with the reporting criteria.</p> <p><b>Environmental Markets strategies: Leaders, US Environmental Leaders, Specialists, Climate, Asian Environmental, Water and Sustainable Infrastructure</b></p> <ul style="list-style-type: none"> <li>• GHG emissions emitted [tCO<sub>2e</sub> per US\$10 million invested]</li> <li>• GHG emissions avoided [tCO<sub>2e</sub> per US\$10 million invested]</li> <li>• Total water treated, saved, or provided [megalitres per US\$10 million invested]</li> <li>• Total renewable electricity generated [MWh per US\$10 million invested]</li> <li>• Total materials recovered / waste treated [tonnes per US\$10 million invested]</li> </ul> <p><b>Environmental Markets strategies: Sustainable Food strategy</b></p> <ul style="list-style-type: none"> <li>• Healthy and nutritious food produced [tonnes per US\$10 million invested]</li> </ul> <p><b>Sustainability Lens strategies: Global Opportunities, Impax Asian Opportunities, US Large Cap and US Small Cap</b></p> <ul style="list-style-type: none"> <li>• GHG emissions emitted [tCO<sub>2e</sub> per US\$10 million invested]</li> <li>• GHG emissions avoided [tCO<sub>2e</sub> per US\$10 million invested]</li> </ul> <p><b>Impax Fixed Income strategies: Core Plus Bond</b></p> <ul style="list-style-type: none"> <li>• GHG emissions emitted [tCO<sub>2e</sub> per US\$10 million invested]</li> <li>• GHG emissions avoided [tCO<sub>2e</sub> per US\$10 million invested]</li> <li>• Affordable housing units financed [# of units per US\$10 million invested]</li> <li>• Student loans financed [# of loans per US\$10 million invested]</li> </ul> <p>Our assurance engagement does not extend to information in respect of earlier periods or to any other information included in the Report.</p>
Reporting period	2022 (1 January 2022 to 31 December 2022).
Reporting criteria	Impax’s Impact Methodology as described throughout the Report.
Assurance standard and level of assurance	<p>We performed a limited assurance engagement, in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised) ‘Assurance Engagements other than Audits or Reviews of Historical Financial Information’ issued by the International Auditing and Assurance Standards Board.</p> <p>The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement and consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.</p>



## Engagement summary

### Respective responsibilities

Impax is responsible for preparing the Report and for the collection and presentation of the information within it, and for the designing, implementing and maintaining of internal controls relevant to the preparation and presentation of the Report.

ERM CVS' responsibility is to provide conclusions to Impax on the agreed scope based on our engagement terms with Impax, the assurance activities performed and exercising our professional judgement.

### Our conclusion

Based on our activities, as described below, nothing has come to our attention to indicate that the 2022 data for the disclosures listed under 'Scope' above are not fairly presented in the Report, in all material respects, in accordance with the reporting criteria.

### Our assurance activities

Considering the level of assurance and our assessment of the risk of material misstatement of the selected disclosures, a multi-disciplinary team of sustainability and assurance specialists performed a range of procedures that included, but was not restricted to, the following:

- Assessing the appropriateness of the reporting criteria for the selected disclosures.
- Interviews with management representatives responsible for managing the selected issues.
- Interviews with relevant staff to understand and evaluate the relevant management systems and processes (including internal review and control processes) used for collecting and reporting the selected disclosures.
- A review at corporate level of a sample of qualitative and quantitative evidence supporting the reported information, which included testing the completeness and mathematical accuracy of conversions and calculations, and consolidation in line with the stated reporting boundary.
- Assessing conversion and emission factors and assumptions used.
- Reviewing the presentation of information relevant to the scope of our work in the Report to ensure consistency with our findings.

### The limitations of our engagement

The reliability of the assured data is subject to inherent uncertainties, given both the available methods for determining, calculating or estimating the underlying information and the dependence on individual companies within Impax's investment holdings to provide relevant and accurate performance information. Our assurance activities did not include assessing or auditing any financial information relating to the value of Impax's investments or individual holdings. It is important to understand our assurance conclusions in this

context. Our work was undertaken virtually at Impax's Head Office in the UK. We did not undertake source data verification at any of the individual companies within Impax's investment holdings.

### Our independence, integrity and quality control

ERM CVS is an independent certification and verification body accredited by UKAS to ISO 17021:2015. Accordingly we maintain a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements. Our quality management system is at least as demanding as the relevant sections of ISQM-1 and ISQM-2 (2022).

ERM CVS applies a Code of Conduct and related policies to ensure that its employees maintain integrity, objectivity, professional competence and high ethical standards in their work. Our processes are designed and implemented to ensure that the work we undertake is objective, impartial and free from bias and conflict of interest. Our certified management system covers independence and ethical requirements that are at least as demanding as the relevant sections of Parts A & B of the IESBA Code relating to assurance engagements.

ERM CVS has extensive experience in conducting assurance on environmental, social, ethical and health and safety information, systems and processes, and provides no consultancy related services to Impax Asset Management LLC in any respect.

Gareth Manning  
Partner, Corporate Assurance  
London, United Kingdom

27 October 2023

ERM Certification and Verification Services Limited  
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# Key strategy risks

Ref.	Risk	
a.	<b>Market risk</b>	Investments are subject to market fluctuations, so they can fall as well as rise in value and investors may not get back the amount invested.
b.	<b>Currency risk</b>	Fluctuation in exchange rates may reduce investment gains or income and increase losses. Additional risk should be considered where the fund's base currency differs from the currency of your own investments.
c.	<b>Emerging market risk</b>	Strategies proposing investments in newly established companies in the Asia Pacific Region carry additional risk, as companies may be dependent on (i) widespread adoption of their products and services and (ii) timely implementation of anticipated changes in local governmental policies; investments in companies in emerging markets or less developed countries in the region may face more political, economic or structural challenges than developed countries, putting your money at greater risk, and may be negatively impacted by changes in government policies, changes in taxation, restrictions in foreign investment and the movement of money from one country to another, currency fluctuations and other developments in the laws and regulations of countries in which investments may be made.
d.	<b>Liquidity risk</b>	Substantial selling by shareholders may result in selling investments and incurring losses that would otherwise not have arisen.
e.	<b>Investment risk</b>	Any investment is subject to investment risk, including delays on the payment of withdrawal proceeds and the loss of income or the principal invested. While any forecasts, estimates and opinions in this material are made on a reasonable basis, actual future results and operations may differ materially from the forecasts, estimates and opinions set out in this material. No guarantee as to the repayment of capital or the performance of any product or rate of return referred to in this material is made by Impax. Funds may invest in Participatory Notes (an instrument that is similar to owning shares) which may expose investors to losses where the issuer of the Participatory Note becomes insolvent or defaults on their obligations.

Ref.	Risk	
f.	<b>Sustainability risk</b>	Sustainability risks are environmental, social and governance events or conditions whose occurrence could have an actual or potential material negative impact on the value of the fund and all known types of risk of the fund. Sustainability risks may result in a material negative impact on the value of an investment and performance of the portfolio. Governmental liberalisation of basic services and increased environmental legislation may not occur at the anticipated rate. The costs of technology in environmental markets may not continue to fall or may not maintain price competitiveness.
g.	<b>Expenses charged to capital</b>	Expenses may be charged to the capital of a fund in order to enhance distribution levels. This will have the effect of lowering the capital value of an investment in a fund.
h.	<b>Substantial repurchases</b>	Substantial repurchases by shareholders may necessitate liquidation of investments. It is possible that losses may be incurred due to such liquidations that might otherwise not have arisen.
i.	<b>Temporary suspension</b>	In certain circumstances investors' right to redeem or convert shares may be temporarily suspended.
j.	<b>Dependence on the principals of the Investment Manager</b>	The principals of the Investment Manager have authority to control the investment management process. If, for any reason, the Investment Manager were to lose the services of these individuals, funds might be adversely affected.
k.	<b>Performance fee</b>	If Performance Fees are paid to the Investment Manager, this may create an incentive for the Investment Manager to cause a fund to make investments that are riskier or more speculative than would be the case if there was no Performance Fee in place.
l.	<b>Political or regulatory risks</b>	The value of a fund's assets may be affected by uncertainties such as international political developments, changes in government policies, changes in taxation, restrictions in foreign investment and currency repatriation, currency fluctuations and other developments in the laws and regulations of countries in which investments may be made.
m.	<b>Capital risk</b>	The value of your investment will vary and is not guaranteed. It will be affected by changes in the exchange rate between the base currency of the portfolio and the currency in which you subscribed, if different.
n.	<b>Equities</b>	Equities may decline in value due to both real and perceived general market, economic and industry conditions. Investing in foreign-denomination and/or domiciled securities may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets.
o.	<b>Diversification</b>	Diversification does not ensure against loss.





We believe that our impact reporting is a concrete demonstration that our investments are strongly aligned to companies benefiting from, and contributing to, the transition to a more sustainable economy.









# Important information

This document has been issued by Impax Asset Management (“Impax”) which means one of the following entities depending on the location of the recipient:

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- **For recipients based outside the European Economic Area (the “EEA”):** Impax Asset Management Limited (FRN 197008) and/or Impax Asset Management (AIFM) Limited (FRN 613534) which are authorised and regulated by the Financial Conduct Authority.
- **For investors in the UK:** Investors are advised that all, or most of, the protections offered by the UK regulatory system are not available and that compensation will not be available to them under the UK Financial Services Compensation Scheme.

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It is not possible to invest directly in an index. **There is no guarantee that any forecasts made will come to pass.** There is no guarantee that the investment objective will be achieved or that return expectations will be met. **There can be no assurance that net impact results in the future will be comparable to the results presented herein.**

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## Important information (continued)

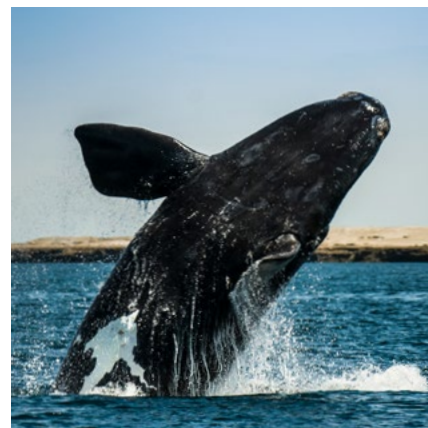
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## Impact Report 2023

Measuring contributions to the transition to a more sustainable economy

Southern right whale populations are showing a slow increase since international protection in 1935, when over-exploitation nearly eradicated the species. There are estimated to be approximately 3,000 to 4,000 currently living in the southern hemisphere.

The MarineBio Conservation Society

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