

Impact @ Impax

Environmental Impact Report 2019

For professional investors only - This document is a marketing communication.



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1. INTRODUCTION

This is the fifth year that Impax has published a report quantifying and disclosing the environmental benefit derived from our portfolio companies' activities. Impax's portfolio managers invest to maximise risk-adjusted financial returns – not to maximise the impact metrics that we track. Nonetheless, most of the impact metrics that we track have improved year-on-year – underscoring our conviction that we can deliver competitive financial returns by addressing the world's pressing sustainability challenges.

The one exception was the volume of renewable energy produced in the Leaders strategy where a partial exit from a Chinese renewable energy generator changed the profile of the portfolio. We also report on a fifth metric, net carbon dioxide avoided, in million tonnes of carbon dioxide equivalent (CO₂e), which reflects the positive outcome that investee companies are having on the global climate. This metric is more complex to measure, as it involves calculating not only a company's direct and indirect emissions (from its

“Over the past five years, interest has grown markedly among our clients in understanding the positive effects of their investments.”

In this report we share our data on four environmental outputs per US\$10 million for one year of investment: renewable electricity generated, in megawatt hours (MWh); water treated, saved or provided, in megalitres; materials recovered/waste treated, in tonnes; and tonnes of coal displaced in Asian cities.

We are pleased to report that, across Impax's three main listed equity strategies and our Renewable Energy Infrastructure strategy, all but one of these metrics improved in comparison to last year, reflecting the increased efficiency with which our portfolio companies are providing solutions to environmental pollution and resource scarcity.

operations and energy use), but also the emissions avoided by the use of its products or services compared with conventional alternatives.

This year, the 'CO₂ avoided' metric has improved in our Leaders strategy but declined in the Specialists and Asia-Pacific strategies. This is partly explained by improvement in disclosure by companies who are including a broader scope of emissions (Scope 3). It is also partly due to the progress in decarbonisation of the energy mix. This means that baselines for impact measurement are tougher, good news for the climate, but making it harder to demonstrate a positive impact.



Since starting to report impact metrics we have often been asked to put them 'into context'. Over the past few years there have been a proliferation of impact measurement tools, frameworks and standards. Here we have chosen three which we find insightful in terms of putting our impact metrics into a meaningful context (see page 14).

1. As in prior years, we compare the **climate impact** of our strategies compared with the current global economy, and an economy consistent with 2°C of warming – the upper limit targeted by the Paris climate agreement (see page 15).
2. We also show how our three main strategies, as well as our Water and Sustainable Food strategies, contribute to meeting the **UN Sustainable Development Goals** (see pages 16-17).
3. For the first time, we are also presenting some of our individual portfolio investments in line with the methodology developed by the **Impact Management Project** (IMP). This initiative aims to create consensus among enterprises and investors on how to measure and manage impact.

Throughout this report, anonymised case studies set out the positive impact our portfolio companies create, and we have also mapped our strategies to the IMP Investor's Impact Matrix to show where they fit within the broad spectrum of impact investment products (see pages 20-21).

When we started this process, few of the companies in which we invest had the systems in place to capture and report the data we sought. Today, while data quality varies, it is improving, and we are confident it will continue to do so. In particular, we expect to engage more actively in coming years on water and waste data to encourage companies to begin to match carbon reporting in its scale and rigour.

Delivering meaningful impact reporting is a complex process that requires specialist expertise to understand and scrutinise the data involved. Our methodology has evolved to adapt to the improvements in the data available and will continue to do so. Looking ahead to the next five years, Impax will invest the time and resources to demonstrate the positive impact of our investments as we work to maximise returns for our clients.



Lisa Beauvilain



Meg Brown

2. IMPAX METRICS

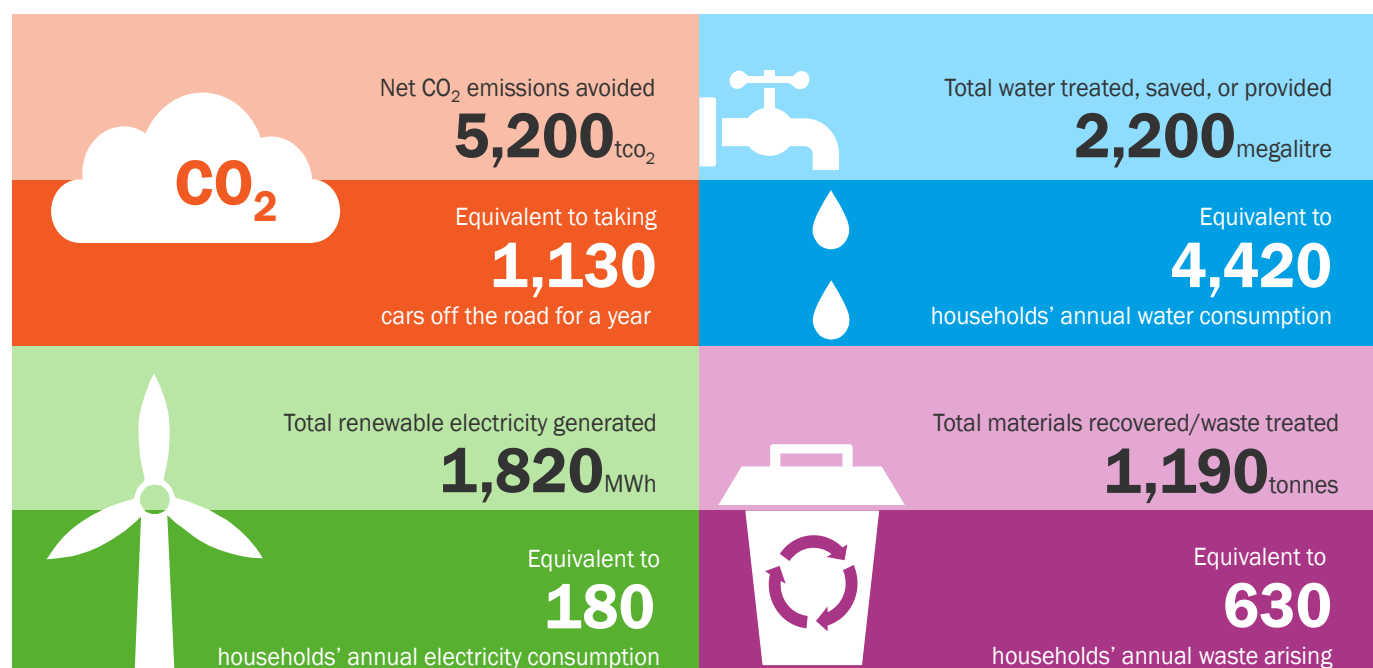
i. Impax Specialists strategy

The Impax Specialists strategy invests 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. Last year, the portfolio's weighted average revenue exposure to these markets was approximately 75%¹. Impax has been investing in the Specialists

strategy since 2002, and the universe of investible companies has grown to over 1,200 companies from 250 over this period.

All Impax strategies are managed to optimise financial return rather than impact metrics. These metrics can vary due to portfolio positioning, more accurate corporate reporting and improvements to Impax's calculation methodologies.

IN 2018, A US\$10 MILLION INVESTMENT IN THE IMPAX SPECIALISTS STRATEGY PRODUCED¹:



Across water, renewable electricity and recovered materials and waste, the metrics all improved in comparison to last year. An increase in the strategy's holdings in key water treatment companies underpinned the increase in water treated, while in renewables, the increase was the result of higher electricity generation by portfolio companies. Similarly, the higher exposure to waste and alternative packaging companies in response

to the plastic crisis, helped boost the materials and waste figure.

A dip in the volume of CO₂ avoided by the portfolio companies was partly driven by a substantial reduction in allocation to a recycling company on valuation grounds, as well as greater transparency of Scope 3 emissions in Asia.

	2017 ²	2018 ¹
Net CO ₂ emissions avoided:	5,800 tCO ₂	5,200 tCO ₂
Total water treated, saved, or provided:	1,770 megalitres	2,200 megalitres
Total renewable electricity generated:	1,540 MWh	1,820 MWh
Total materials recovered/waste treated:	980 tonnes	1,190 tonnes

These figures refer to the past. Past performance is not a reliable indicator of future results. Source: Impax Asset Management. All impact data represents impact of US\$10m invested in the strategy for one year. Based on most recently reported annual environmental data for holdings in the Impax Specialists strategy. The Impax Specialists strategy is a long-only global equity strategy that invests in stocks of small and mid-cap environmental services and technology companies. Impax's impact methodology is based on equity value. ¹As at 31 December 2018. ²As at 31 December 2017.

CASE STUDY 1

Textiles and fibre producer Austria



WHAT

The company produces textiles and fibres from sustainable sources, with high levels of resource efficiency.

CONTRIBUTION

Produces fibres from wood rather than cotton or chemical feedstocks, reducing energy and water use compared with conventional alternatives.

WHO BENEFITS

Its products help to reduce the supply chain impacts of its customers.

HOW MUCH

In 2018 it led to the avoidance of 13 million tonnes of CO₂ and it saved 4.9 megalitres of water by displacing cotton or man-made fibres.

RISK

High water use is creating stress in areas of cotton production.

WHY

Land and water constraints are set to drive demand for the sustainable fibres produced by the company, which has recently undertaken a successful cost-cutting programme.

CASE STUDY 2

Renewable energy developer Portugal



WHAT

The company is one of the world's largest producers of wind energy.

CONTRIBUTION

Develops, builds and operates wind farms, selling the power to local utilities and businesses.

WHO BENEFITS

Its projects in 14 jurisdictions around the world produce electricity without local air pollution or greenhouse gas emissions.

HOW MUCH

Last year it generated 28.4 million MWh of clean power, avoiding 20 million tonnes of CO₂.

RISK

Without this company's projects, global greenhouse gas emissions would be higher.

WHY

A market leader with an excellent operating history, the company has shown an ongoing ability to reduce costs, and has an effective asset rotation strategy to take advantage of demand for operating assets.

2. IMPAX METRICS

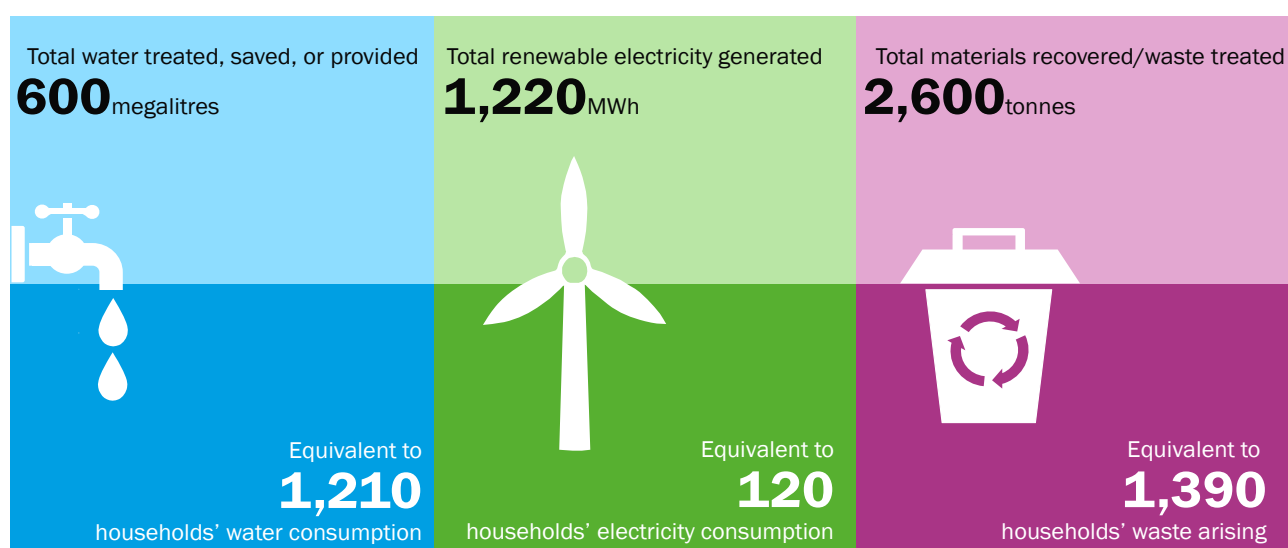
ii. Impax Leaders strategy

Compared with the Specialists strategy, the Impax Leaders strategy invests in a wider universe of companies addressing resource scarcity and environmental pollution. Eligible companies must generate at least 20% of their revenues from sales of environmental products or services. In 2018, the weighted average environmental revenue exposure of the portfolio was approximately 55%³. The strategy offers a lower-risk approach to investing

in global environmental themes than Impax Specialists, with greater large-cap exposure as a result of a larger universe of over 1,500 companies.

All Impax strategies are managed to optimise financial return rather than impact metrics. These metrics can vary due to portfolio positioning, more accurate corporate reporting and improvements to Impax's calculation methodologies.

IN 2018, A US\$10 MILLION INVESTMENT IN THE IMPAX LEADERS STRATEGY PRODUCED³:



A growing number of companies within the Leaders universe are reporting figures for their carbon emissions and those associated with the carbon avoidance of products or services. This has enabled the Leaders strategy to realise a doubling in the volume of carbon avoidance for each dollar of investment.

The volume of renewable energy generated has fallen, however, this is due to a reduction in exposure to a Chinese power company due to changes in regulatory support. Improved operating performance by water and waste management companies thanks to a recovery of recycle end markets has resulted in improvements in these metrics.

	2017 ⁴	2018 ³
Net CO ₂ emissions avoided:	120 tCO ₂	300 tCO ₂
Total water treated, saved, or provided:	475 megalitres	600 megalitres
Total renewable electricity generated:	1,950 MWh	1,220 MWh
Total materials recovered/waste treated:	1,990 tonnes	2,600 tonnes

These figures refer to the past. Past performance is not a reliable indicator of future results. Source: Impax Asset Management. All impact data represents impact of US\$10m invested in the strategy for one year. Based on most recently reported annual environmental data for holdings in the Impax Leaders strategy. The Impax Leaders strategy is a long-only, all-cap global equity strategy investing in Environmental Markets. Impax's impact methodology is based on equity value. ³As at 31 December 2018. ⁴As at 31 December 2017.

CASE STUDY 3

Global positioning systems, sensors and communications equipment manufacturer US



WHAT

This California-based company manufactures global positioning systems, sensors and communications equipment.

CONTRIBUTION

Its products and services increase agricultural productivity and reduce inputs needed.

WHO BENEFITS

Among other market segments, it helps the agricultural sector better target and therefore reduce resource use, as well as reduce pollution from fertilisers.

HOW MUCH

In 2018 it enabled its clients to avoid 8.7 million tonnes of CO₂, through more precise application of fertilisers.

RISK

Production of fertilisers is carbon intensive and can also result in soil and water pollution.

WHY

An example of innovative technology applied to resource optimisation, the company's products are being introduced to new crops and new jurisdictions, as well as new sectors such as water.

CASE STUDY 4

Industrial conglomerate Germany



WHAT

The company is helping clients improve energy and resource efficiency.

CONTRIBUTION

It offers energy and resource efficiency equipment, advisory services, and IT services.

WHO BENEFITS

Its clients are primarily other large businesses and municipalities.

HOW MUCH

In 2018 it helped its customers avoid 73 million tonnes of CO₂ by reducing energy consumption.

RISK

Energy systems are still dominated by fossil fuels creating global greenhouse gas emissions.

WHY

It is well positioned to exploit the industrial megatrends of electrification, automation of production processes and digitalisation of the factory environment.

2. IMPAX METRICS

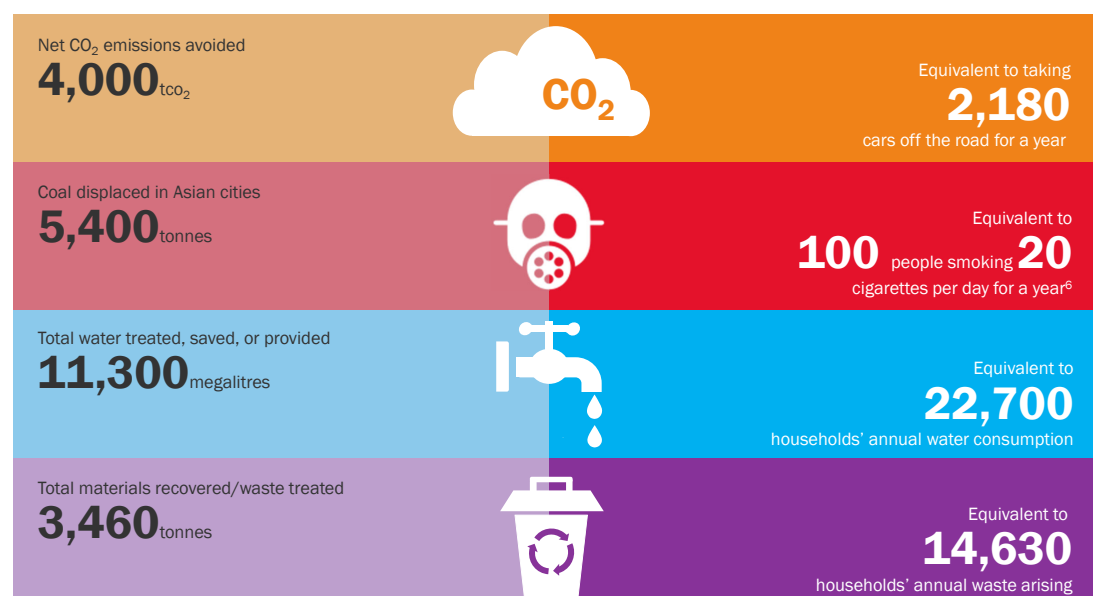
iii. Impax Asia-Pacific strategy

The Impax Asia-Pacific strategy applies the Leaders strategy to companies in the region active in addressing resource scarcity and environmental pollution. Investee companies must generate more than 20% of their revenues from environmental products or services, although the weighted average in 2018 was 67%⁵. Impax has been investing in the region since 2005, while the universe of

investible companies has grown to 650 from 340 over the last decade.

All Impax strategies are managed to optimise financial return rather than impact metrics. These metrics can vary due to portfolio positioning, more accurate corporate reporting and improvements to Impax's calculation methodologies.

IN 2018, A US\$10 MILLION INVESTMENT IN THE IMPAX ASIA-PACIFIC STRATEGY PRODUCED⁵:



The local air pollution challenges of Asian cities are known to be having a detrimental effect on the health of local residents. The Impax environmental strategies invest in companies facilitating the transition of power generation and heating to gas and renewables from coal, thereby reducing particulate air pollutants as well as benefiting climate action.

However, attributing the benefit to human health from an investment of this type remains a challenge. This year we have reported estimated tonnes of coal avoided and 'packets of cigarettes smoked' to symbolise the health impact or 'avoided harm'.

We have also adjusted our methodology for avoided emissions from natural gas suppliers resulting in a change to CO₂ emissions avoided since last year.

All three other metrics – clean power, water and waste – have improved markedly in relation to last year, as companies in the region extend their delivery of environmental services. The Asia-Pacific portfolio companies remain the 'most impactful' of the listed equity strategies Impax offers due to the relatively low baseline against which these environmental metrics are measured.

	2017 ⁷	2018 ⁵
Net CO ₂ emissions avoided:	5,590 tCO ₂	4,000 tCO ₂
Coal displaced in Asian cities:	4,000 tonnes	5,400 tonnes
Total water treated, saved, or provided:	6,660 megalitres	11,300 megalitres
Total materials recovered/waste treated:	2,920 tonnes	3,460 tonnes

These figures refer to the past. Past performance is not a reliable indicator of future results. Source: Impax Asset Management. All impact data represents impact of US\$10m invested in the strategy for one year. Based on most recently reported annual environmental data for holdings in the Impax Asia-Pacific strategy. The strategy aims to achieve sustainable, above market returns over the longer term by investing regionally in Asia-Pacific companies active in the rapidly growing Resource Efficiency and Environmental Markets. Impax's impact methodology is based on equity value. ⁵As at 31 December 2018. ⁶Source: berkeleyearth.org/air-pollution-and-cigarette-equivalence. ⁷As at 31 December 2017.

CASE STUDY 5

A manufacturer of power management electronics and automation equipment Taiwan



WHAT

The company is a leading manufacturer of power management electronics and automation equipment.

CONTRIBUTION

Develops, builds and operates The collection of data, during industrial processes, improves resource efficiency and lowers the volume of inputs required across most sectors.

WHO BENEFITS

The products provide solutions to help minimise inefficiencies and maximise outputs, helping to alleviate resource demands of a rising population.

HOW MUCH

882,640 CO₂ tonnes GHG avoided.

RISK

Without data analysis in industrial processes, inefficiencies and therefore higher volumes of materials in many processes would be consumed.

WHY

Set to benefit from the trend in greater data gathering, cloud computing and industrial automation. With strength in certain niches, diversifying its product offering and impressive sustainability reports.

CASE STUDY 6

Natural gas distributor and seller Hong Kong



WHAT

This Hong Kong-listed company primarily distributes and sells natural gas across China.

CONTRIBUTION

It builds and operates natural gas distribution networks, and sells gas to end-consumers.

WHO BENEFITS

It serves around 12 million customers across China.

HOW MUCH

In 2018 the use of its natural gas avoided the emission of approximately 19 million tonnes of CO₂.

RISK

Without natural gas, customers would use coal or biomass, creating global greenhouse gas emissions and local air pollution.

WHY

The company is well managed by a strong management team with a good execution record, and benefits from high exposure to parts of China with limited gas penetration.

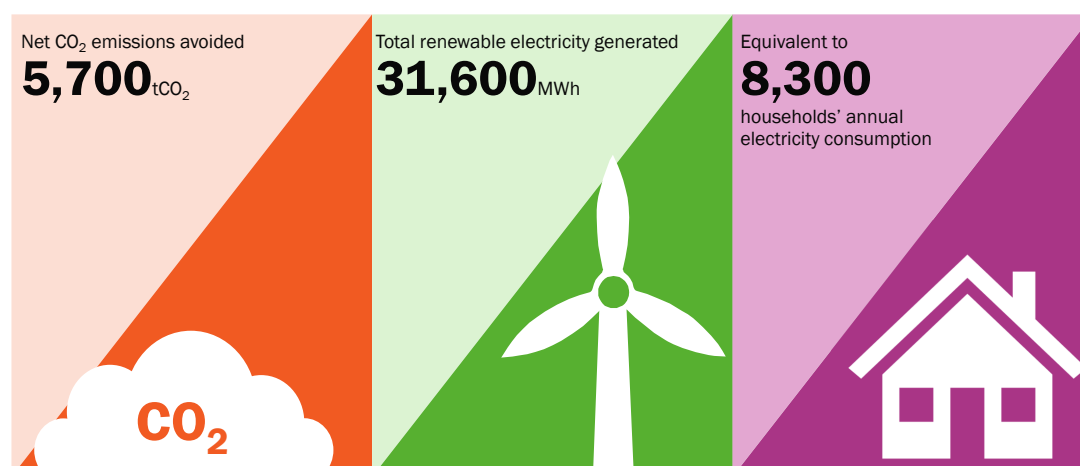
2. IMPAX METRICS

iv. Impax Renewable Energy Infrastructure strategy

The strategy develops, constructs, operates and sells wind, solar and hydro electricity generation projects in Europe. These projects displace fossil fuel-fired generating capacity, contributing to the reduction of the CO₂ emissions of the local power network.

The Impax Renewable Energy Infrastructure strategy has developed 567 MW⁸ of renewable electricity capacity since 2007. Our metrics include sites post exit to the life of the fund.

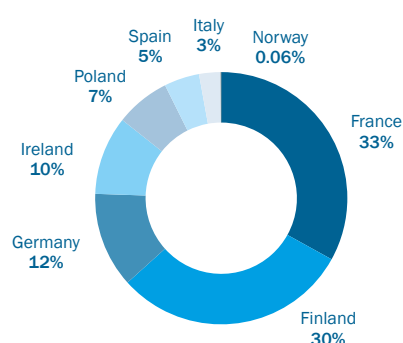
IN 2018, A US\$10 MILLION INVESTMENT IN THE IMPAX RENEWABLE ENERGY INFRASTRUCTURE STRATEGY PRODUCED⁸:



Production of renewable electricity by assets owned or exited within the strategy since 2013 rose 9.6% in 2018 in comparison to last year. Encouragingly, local emission intensities have decreased in all countries in which we invest as lower carbon generation capacity expands across Europe.

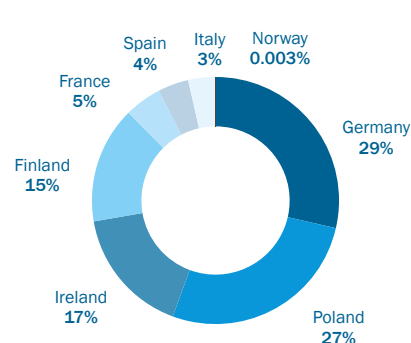
This does however create a tougher baseline comparison for new assets in terms of CO₂ avoided which are calculated in relation to local emission factors.

RENEWABLE ELECTRICITY GENERATED BY COUNTRY⁸



During 2018, 63% of the strategy's electricity generation came from operating wind assets constructed in France and Finland. However, the CO₂ avoidance from these assets represented only 20.1% of the total for the strategy due to the low carbon intensity of electricity networks in these countries. In contrast, the wind assets in

NET CO₂ EMISSIONS AVOIDED BY COUNTRY⁸



Germany and Poland only produced 19.2% of the total renewable electricity generated during the year but contributed a much greater proportion of the strategy's total CO₂ avoidance, 55.6%, as there is greater coal use in these countries and so the benefit of adding renewable energy capacity is amplified.

These figures refer to the past. Past performance is not a reliable indicator of future results. Source: Impax Asset Management. All impact data represents impact of US\$10m invested in the strategy for one year. Based on most recently reported annual environmental data for holdings in the Impax Renewable Energy Infrastructure strategy. Impax's impact methodology is based on equity value. Notes: calculation based on carbon avoided relative to country-specific grid electricity generation. For realised 'exited' assets, annual carbon avoided is calculated using the P50 annual electricity production values based on our most recent yield studies. ⁸Data as at 2018.

CASE STUDY 7

Hydropower joint venture Norway



WHAT

Formation of a Norwegian Hydropower joint venture and purchase of a late stage development and early construction portfolio.

CONTRIBUTION

Investment in a portfolio of 66 MW of small scale hydro assets in Norway, opportunity to add on addition projects.

WHO BENEFITS

The projects will generate renewable energy power for 40 to 60 years for the people of Norway.

HOW MUCH

The current portfolio will produce nearly 155 GWh of production annually, saving an estimated 1,618 tonnes of CO₂ annually.

RISK

Hydropower at small scale avoids the need to dam rivers and flood valleys.

WHY

A joint venture with the opportunity to work with a team of sector experts in Norway building a large portfolio of assets.

CASE STUDY 8

A development business France



WHAT

Acquisition of a local team with a portfolio of late stage development wind projects, ready-to-build solar projects and operating solar and wind farms.

CONTRIBUTION

Increase the generation of electricity from renewable sources to reduce the reliance on fossil fuels.

WHO BENEFITS

The portfolio will generate renewable energy power from solar and wind projects for at least 30 years for the people of France.

HOW MUCH

Wind: 561 GWh, Solar: 74.5 GWh (per annum).

RISK

Repowering existing sites reduces the area of land occupied by renewable energy assets.

WHY

An experienced team with a strong track record sharing our vision of developing, constructing and producing clean renewable energy to meet demands while also providing a strong return to the Fund.





3. IMPACT IN CONTEXT

As interest in measuring impact has grown, techniques and methodologies have proliferated. Alongside excitement over how impact metrics can help individual investors connect with their savings, there is growing confusion over greenwashing and questions on what these numbers really mean. At Impax we continue to report metrics which naturally emerge from our investment philosophy, whilst also identifying external frameworks which we consider to be the most insightful in terms of putting our portfolio companies' impact into a meaningful context.

CO₂ avoided in context of the Paris Agreement

As in prior years, we compare the climate impact of our strategies to the current global economy, and an economy consistent with 2°C of warming – the upper limit targeted by the Paris climate agreement. This year we have also referenced the a 1.5°C science-based target recommended by the Intergovernmental Panel on Climate Change (IPCC), but not yet adopted as a binding policy target within the UN Framework Convention on Climate Change.

We are also keen to see our water and waste metrics considered within a meaningful context and will be researching approaches to this in the coming years.

UN Sustainable Development Goals (SDGs) context

We also show how our three main strategies, as well as our Water and Sustainable Food strategy portfolio companies contribute to meeting the UN Sustainable Development Goals. Here, we continue to be conservative in only including those goals

and sub-targets that can realistically be delivered by private sector, as opposed to those that are in the hands of the public sector. For example, while SDG 13 – Climate Action may appear to be strongly aligned with our investment thesis, its underlying targets are directed towards government.

Impax's thematic strategies map clearly to several of the UN SDGs. Although very useful for asset owners seeking to align their medium-term asset allocations with a positive purpose, we also note that the goals expire in 2030. This may present a challenge to financial products specifically designed to mirror the goals, and/or to the UN who may feel pressured to design future frameworks with private investors in mind.

Investment product context

Asset owners and fund selectors often ask where our strategies sit within the growing universe of impact branded financial products. The Impact Management Project is an industry initiative to create consensus among enterprises and investors on how to measure and manage impact by proposing common frameworks for describing positive impact at individual investment as well as fund level.

In this report we have presented anonymised case studies that set out the positive impact our portfolio companies create in line with the IMP's '5 dimensions of impact' framework. In addition, we have mapped each strategy to the IMP's Investor's Impact Matrix to help asset owners and fund selectors understand their impact characteristics.

THE INVESTOR'S IMPACT MATRIX

		IMPACT OF UNDERLYING ASSETS / ENTERPRISES		
		(A)	(B)	(C)
		ACT TO AVOID HARM		
		BENEFIT STAKEHOLDERS		
		CONTRIBUTE TO SOLUTIONS		
INVESTOR'S CONTRIBUTION	① Signal that impact matters			
	② Signal that impact matters & engage actively			✓ Listed Equity strategies
	③ Signal that impact matters & grow new/undersupplied capital markets			✓ Renewable Energy Infrastructure strategy
	④ Signal that impact matters & engage actively & grow new/undersupplied capital markets			
	⑤ Signal that impact matters & grow new/undersupplied capital markets & provide flexible capital			
	⑥ Signal that impact matters & engage actively & grow new/undersupplied capital markets & provide flexible capital			

Source: www.impactmanagementproject.com.

i. Impax strategies versus a 2°C scenario

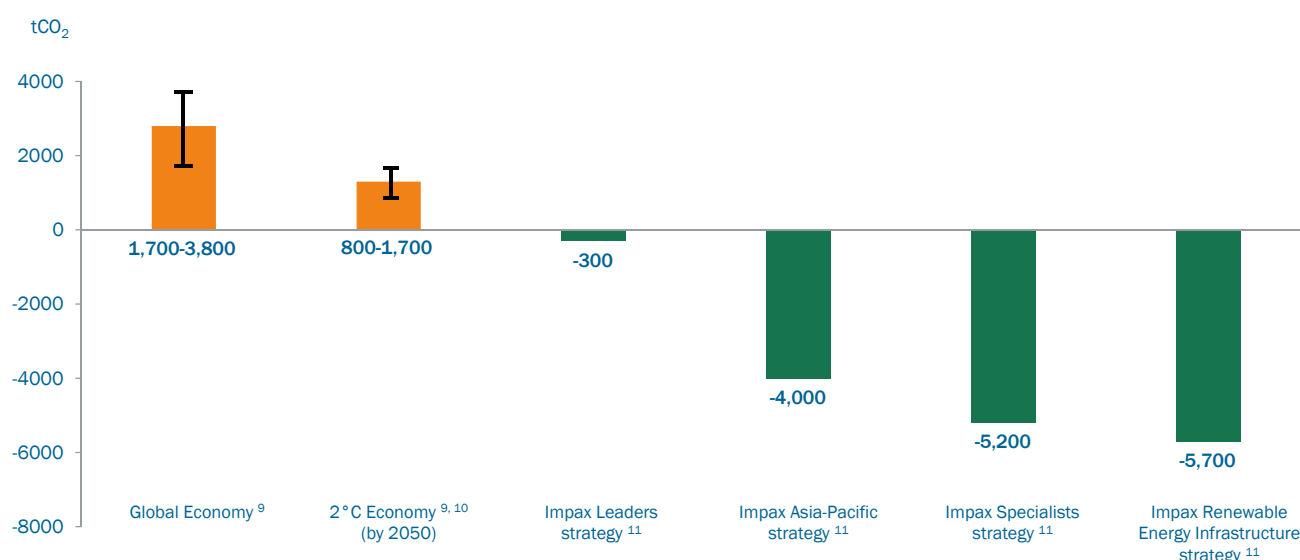
The 2015 Paris Agreement commits the 185 countries which have ratified the climate treaty to hold the rise in average global temperatures to no more than 2°C above pre-industrial levels. Scientific advice from the IPCC has recommended a more ambitious target of 1.5°C. To achieve these goals and prevent catastrophic climate change, the current world economy will need to undergo a radical decarbonisation over the next 20-30 years.

We have estimated that a US\$10m of investment in the global economy today would lead to emissions of between 800 and 1,700 tonnes of CO₂ each year for a 2°C scenario and 700 and 1,500 tonnes of CO₂ each year for a 1.5°C target.

Impax's Leaders, Specialists, Asia-Pacific and Renewable Energy Infrastructure strategies invest in the technology companies, service providers and infrastructure developers and operators that are building the low-carbon economy. By providing products and services that are enabling decarbonisation, these strategies deliver negative carbon emissions.

Comparing the net CO₂ outcome of our portfolio companies' activities with the current economy and 'Paris aligned' economy demonstrates the impact that they are having on delivering the transition to a lower carbon economy, putting the CO₂ metric into context.

NET CO₂ IMPACT PER US\$10 MILLION INVESTED FOR ONE YEAR



These figures refer to the past. Past performance is not a reliable indicator of future results. The value of investments can fall as well as rise and you may get back less than you have invested.⁹Source: United Nations Framework Convention on Climate Change (UNFCCC), 2016. Aggregate effect of the intended nationally determined contributions: an update – synthesis report by the secretariat, McKinsey Global Institute, The Global Carbon Project, Haver, BIS, Deutsche Bank estimates, and IMF, National Central Banks and Statistical Offices, Thomson Reuters. Black bars reflect the range of estimates of value invested.¹⁰The upper limit for global temperature rise targeted by the Paris climate agreement.¹¹Impax Asset Management, 2019. Impax's impact methodology is based on equity value.

ii. Alignment with the UN Sustainable Development Goals

The UN Sustainable Development Goals (SDGs), agreed in 2015, comprise a series of 17 sets of targets to be met by 2030. A growing number of asset owners are seeking to assess how their investments contribute to the SDGs, as a means of measuring their impact.

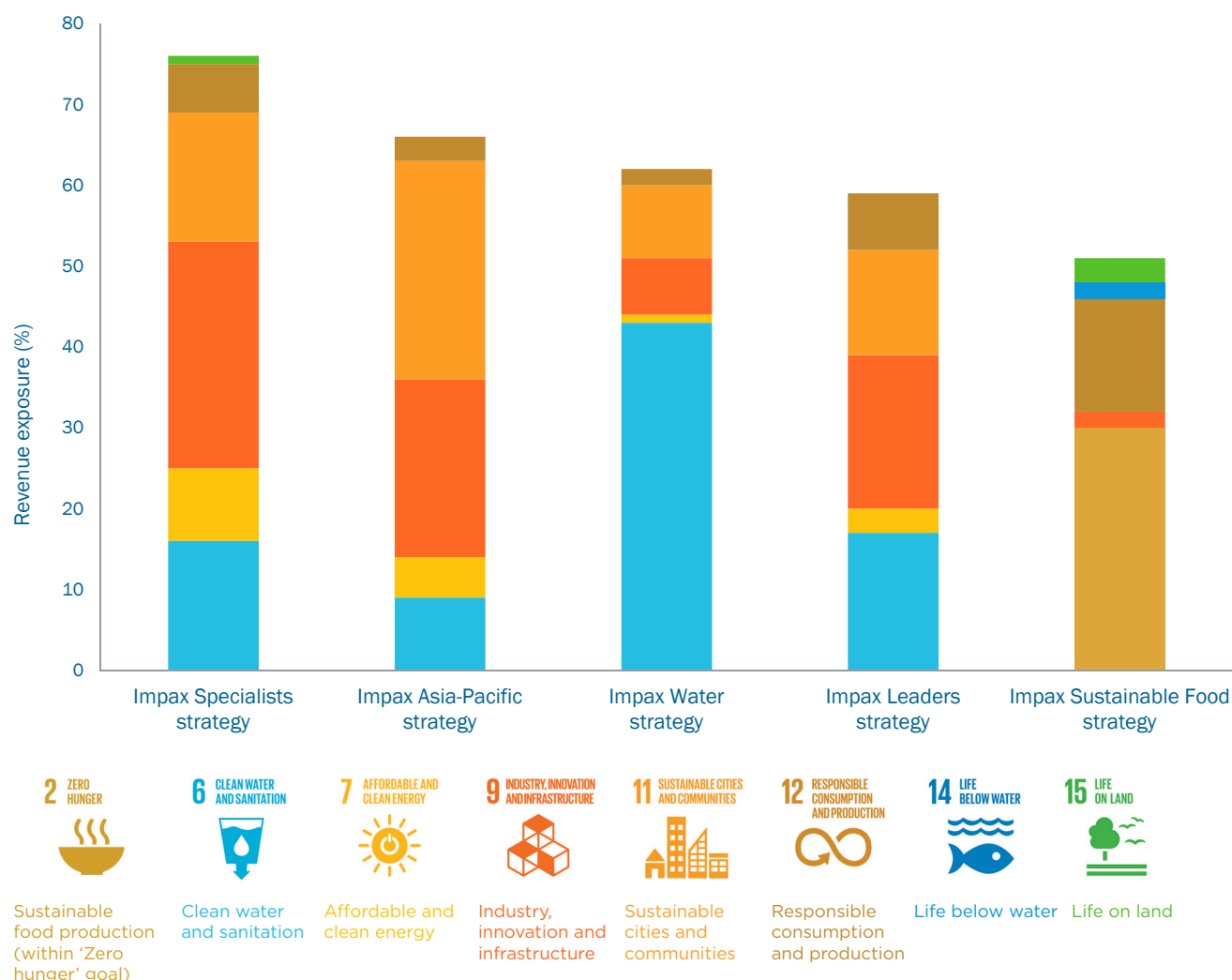
We have undertaken a mapping exercise to show how our listed equity strategies, including our Water and Sustainable Food strategies, align with these goals.

Impax's classification of the Environmental Markets investment universe enables us to link each sub-sector to the most relevant SDG¹².

The mapping exercise shows that:

- Impax's Leaders, Specialists and Asia-Pacific strategies provide exposure to Goals 6, 9 and 11.
- Our Water strategy provides exposure mainly to Goal 6.
- The Food & Agriculture strategy provides exposure primarily to Goals 2 and 12.

MAPPING IMPAX STRATEGIES TO UN SUSTAINABLE DEVELOPMENT GOALS



Source: Data as at 31 December 2018. Figures are based on Impax internal data. Adopted by FTSE as a basis for Environmental Technologies and Environmental Markets index series since 2007. ¹²For our Sustainable Food strategy, we have also mapped to SDG 2, with a focus on sustainable food production and agriculture, not an 'environmental SDG'.

SDG MAPPING METHODOLOGY

We have mapped the 29 Environmental Market and the 17 Sustainable Food sub-sectors, as defined by Impax, to the UN SDGs which relate to environmental objectives. The classification of the universe in this way enables us to link the percentage of revenues of each sub-sector to the most relevant SDGs.

We have focused on those SDGs where the underlying targets of the goal are relevant to private sector investment opportunities, rather than public funding or policy action.

For example, we have no exposure to SDG 13, 'Climate Action', which may seem surprising. This is because we consider the target, and its sub-targets of, for example, climate adaptation awareness raising, to be aimed at and implemented by governments rather than private sectors. In contrast, SDG 9, 'Industry, Innovation and Infrastructure', targeting for instance improved energy efficiency in the built and industrial environments, is very relevant and implementable by private sectors.

IMPAX ENVIRONMENTAL MARKET AND SUSTAINABLE FOOD SUB-SECTORS

- Sustainable agricultural inputs
- Growers and operators
- Sustainable agricultural products
- Natural food ingredients
- Agricultural machinery and equipment
- Healthy/nutritious foods
- Distribution



- Environmental consultancies
- Diversified environmental
- Pollution control solutions
- Environmental testing & gas sensing
- Public transportation
- Waste technology equipment
- Recycling & value added waste processing
- Hazardous waste management
- General waste management



- Water infrastructure
- Water treatment equipment
- Water utilities
- Diversified water infrastructure & technology



- Sustainable & efficient agriculture
- Logistics, food safety & packaging
- Food processing equipment
- Sustainable packaging
- Safe food and water



- Wind power generation equipment
- Solar energy generation equipment
- Other renewables equipment
- Renewable energy developers & IPPs
- Biofuels
- Diversified renewable energy



- Growers and operators



- Power network efficiency
- Industrial energy efficiency
- Buildings energy efficiency
- Transport energy efficiency
- Consumer energy efficiency
- Diversified energy efficiency
- Supply chain logistics



- Sustainable forestry
- Sustainable land management







4. APPENDIX

i. The impact methodology

The relevant environmental metrics for all portfolio companies were measured where data was available or could be estimated. The analysis included all companies in which the strategies were invested as at 31 December 2018. At the time of preparation, we aimed to obtain the most recently available environmental data from our investee companies. For approximately 82% reported information was from 2018 with the remainder of companies using previously reported information.

The percentage owned in each underlying company (calculated based on the proportion of shares owned) as at 31 December 2018 was applied to measure the environmental benefit attributable to the strategies.

We started by identifying the metrics against which we would measure the impact of the companies.

These included:

- Greenhouse gas (GHG) emissions: net impact from GHG emitted less GHG avoided (tonnes of CO₂ equivalent).
- Renewable electricity generated.
- Water treated, saved or provided.
- Materials recovered/waste treated.
- Coal displaced in Asian cities.

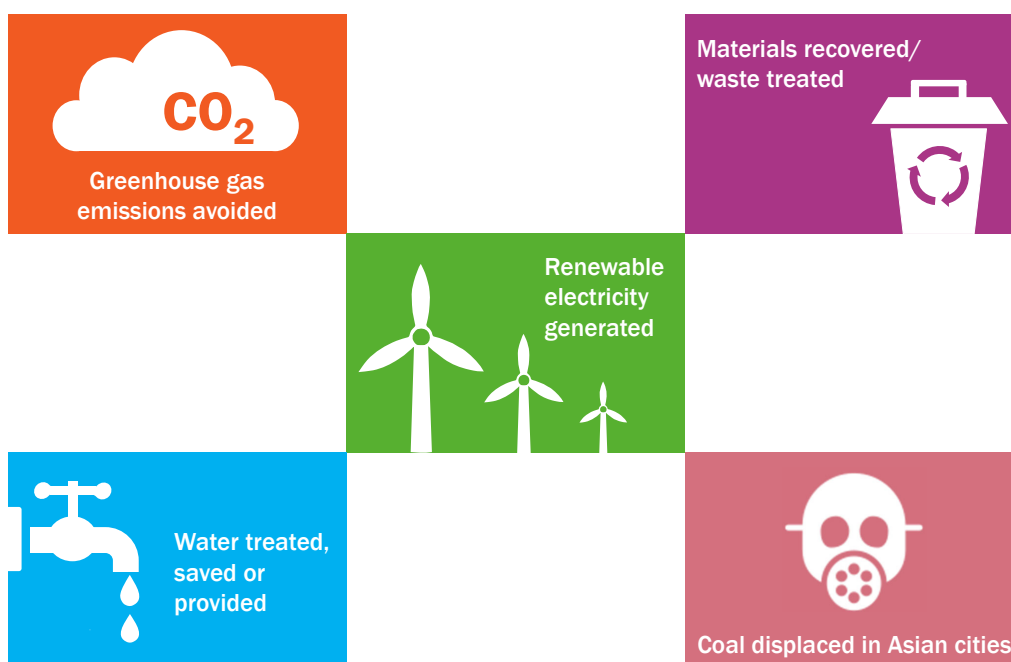
The relevance of each metric was also assessed for each company based on their business activities:

- We created a heat map (page 21) which provided a qualitative indication for the positive impact of each company.
- We collected relevant data from company 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 could not/did not provide information on several metrics. We therefore created estimates for these data points based on relevant peer groups of companies which do disclose this information. We have been conservative with all our estimates to ensure that we do not overstate the positive impact, or in the case of carbon dioxide emissions, the net emissions avoided.
- Where impact metric data is not available and estimates can not be made, we assign a zero-value, even where positive impact is known to be present, but can not be quantified.

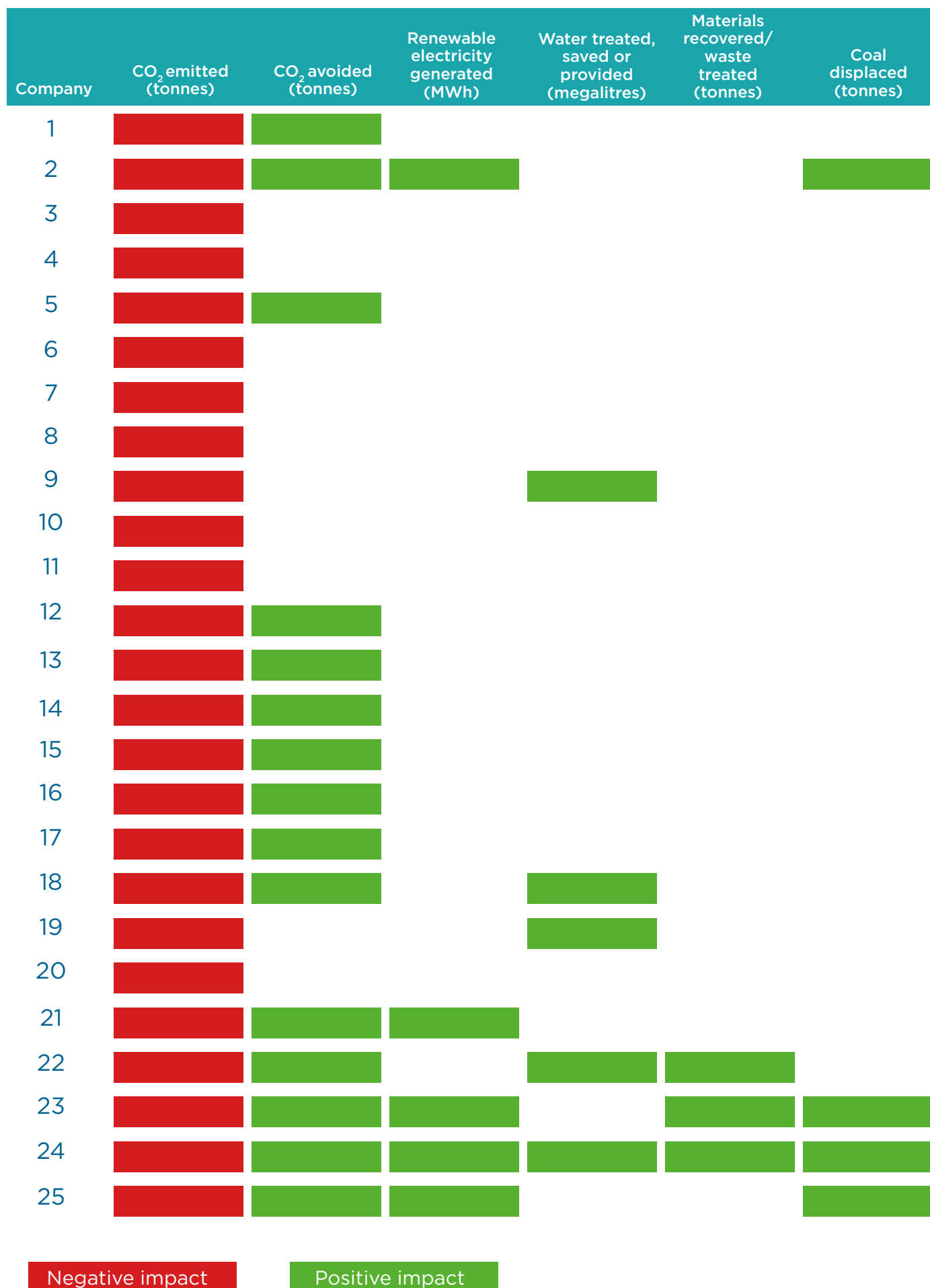
The table on page 22 summarises the proportion of data that was available and estimated.

The environmental impact of our investments will always depend on the mix of underlying holdings and are thus subject to change.

IMPAX METRICS



AN ILLUSTRATIVE INDICATION OF ENVIRONMENTAL IMPACT FOR EACH COMPANY IN THE SPECIALISTS STRATEGY



DATA AVAILABILITY BY COMPANY

KPI's Estimated/Disclosed	Companies for which the KPI is relevant	Companies for which the KPI was available	Companies for which the KPI was estimated	KPI was not available and could not be estimated
Specialists strategy environmental impact				
CO ₂ emitted	67	42	25	0
CO ₂ avoided	56	21	23	12
Renewable electricity generated	6	5	1	0
Water treated, saved or provided	11	7	3	1
Materials recovered/waste treated	6	5	1	0
Leaders strategy environmental impact				
CO ₂ emitted	54	44	10	0
CO ₂ avoided	46	21	17	8
Renewable electricity generated	4	4	0	0
Water treated, saved or provided	11	8	1	2
Materials recovered/waste treated	8	7	1	0
Asia-Pacific strategy environmental impact				
CO ₂ emitted	43	23	20	0
CO ₂ avoided	26	13	10	3
Renewable electricity generated (from which 'coal displaced' metrics calculated)	7	6	1	0
Water treated, saved or provided	6	4	2	0
Materials recovered/waste treated	7	7	0	0
Renewable Energy Infrastructure strategy environmental impact				
CO ₂ avoided	50	50	50	0
Renewable electricity generated	50	50	50	0

Source: Impax Asset Management.

ii. Exclusions and limitations

Although we have made investments in companies in relation to their air pollution mitigation technologies (SO_x and NO_x), we have so far been unable to quantify their environmental outcome. This also applies to some energy efficiency investments.

Direct GHG emissions (Scope 1) and indirect GHG emissions (Scope 2) were included in our analysis. Where available, other indirect (Scope 3, for example, air travel and waste) emissions were also included. GHG emissions were measured in CO₂

equivalents, which includes GHG emissions from methane and nitrous oxide, or CO₂ depending on data availability.

We found that US companies tend to disclose less environmental data (against all metrics), while several companies (particularly in the water sector) claimed 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.

iii. Third party review of impact data

Impax Asset Management Limited (Impax AM) engaged ERM Certification and Verification Services (ERM CVS) to provide limited assurance in relation to the specified impact data as set out below.

Engagement Summary	
Scope of our assurance engagement	<p>Whether the impact data (reported as of 31 December 2018) for the following selected indicators are fairly presented, in all material respects, in accordance with the reporting criteria:</p> <p>Impax Leaders, Specialists and Asia-Pacific Strategy</p> <ul style="list-style-type: none"> Net CO₂ emissions avoided (tCO₂ and tCO₂ per USD 10 million invested) Total renewable electricity generated (MWh and MWh per USD 10 million invested) Total water treated, saved, or provided (megalitres and megalitres per USD 10 million invested) Total materials recovered / waste treated (tonnes and tonnes per USD 10 million invested) <p>Asia-Pacific Strategy only</p> <ul style="list-style-type: none"> Coal displaced in Asian cities (tonnes and tonnes per USD 10 million invested) <p>Renewable Energy Infrastructure Strategy</p> <ul style="list-style-type: none"> Net CO₂ emissions avoided (tCO₂ and tCO₂ per USD 10 million invested) Total renewable energy generated (MWh and MWh per USD 10 million invested)
Reporting criteria	Impax AM Impact Methodology (www.impaxam.com/investment-philosophy/impact-reporting)
Assurance standard	ERM CVS' assurance methodology, based on the International Standard on Assurance Engagements ISAE 3000 (Revised).
Assurance level	Limited assurance.
Respective responsibilities	<p>Impax AM is responsible for preparing the specified information and for its correct presentation in reporting to third parties, including disclosure of the reporting criteria and boundary.</p> <p>ERM CVS's responsibility is to provide conclusions on the agreed scope based on the assurance activities performed and exercising our professional judgement.</p>

Our conclusions

Based on our assurance activities, nothing has come to our attention to indicate that the data for the selected indicators, as listed above, and stated in Appendix 1 are not fairly presented, in all material respects, with the reporting criteria.

Our assurance activities

Our objective was to assess whether the reporting of the impact data is in accordance with the principles of completeness (inclusion of material holdings and the boundary applied), consistency (application of reporting criteria) and accuracy (supporting information reported by individual holdings and collation and aggregation of data)

We planned and performed our work to obtain all the information and explanations that we believe were necessary to provide a basis for our assurance conclusions.

A multi-disciplinary team of sustainability and assurance specialists performed the following activities:

- Interviewing relevant staff to understand the methodology, collection, reporting, internal QA/QC and calculation of the selected data;
- Reviewing documentation related to the methodology, including sources of information and the application of any factors and/or assumptions used to report the selected data;
- Identifying and testing a sample of material data points (and associated data processes and systems) for accuracy and completeness;
- Testing the accuracy of the overall consolidation and aggregation of the reported data; and
- Reviewing the presentation of information relevant to the scope of our work to ensure consistency with our findings.

The limitations of our engagement

Our assurance activities did not include any financial information relating to the value of Impax AM investments or individual holdings. 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 investment holdings to provide relevant and accurate performance information. It is important to understand our assurance conclusions in this context.



Jennifer Larsen-Rogers
Head of Corporate Assurance
ERM Certification and Verification Services
4 July 2019



ERM CVS is a member of the ERM Group. The work that ERM CVS conducts for clients is solely related to independent assurance activities and auditor training. Our processes are designed and implemented to ensure that the work we undertake with clients is free from bias and conflict of interest. ERM CVS employees that have undertaken this engagement have provided no consultancy related services to Impax AM in any respect

CONTACT US

We would be delighted to hear from investors and companies with comments or suggestions to help us develop our environmental impact report.

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