ILIM

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD) REPORT 2020

CONTENTS

FOREWORD:
A LETTER FROM OUR MANAGING DIRECTOR

Patrick Burke
Managing Director,
Irish Life Investment Managers

The sustainability of our global economies, our natural resource consumption, and the imbalance of fairness and equality are the biggest challenges our society has ever had to face.

Capital markets are critical to this change. As trustees, employers, consultants, financial advisers, insurers and asset managers, we are all aware of the responsibility we have to deliver a better future for this generation and the next.

There is global acceptance that today's sustainability challenges require urgent action. Progress needs to be strong and significant. But progress does not mean success, and there is a long, uncertain road ahead before success comes into view. Future generations will complete the task, but it is our generation that must set the direction and take the first step.

At Irish Life Investment Managers (ILIM), our primary objective is to deliver investment solutions that meet our clients' risk-and-return objectives in a sustainable way. We are a global asset management firm entrusted with over €91bn for a range of institutional clients, based principally in Europe and North America. We are also the principal investment manager for Ireland's leading life and pensions provider – Irish Life Assurance Company.

Since adopting the UN Principles for Responsible investment in 2010, we have operated with a vision of building innovative investment solutions that support a more sustainable future.

Through education, leadership and pro-active investment policies, we are committed to incorporating Environmental, Social and Governance (ESG) factors into our investment management processes. We aim to use our significant influence, talented workforce and market-leadership position to build better futures for all.

Our sustainability strategy leads from the top, forming a critical part of the objectives of our Board and Executive Leadership. But more importantly, it permeates the entire organisation, with continuous professional development available to all and specialists in every function, every discipline and every team.

At the end of quarter one of 2021, we were entrusted with c€27bn of mandates that had specific sustainable investing – including climate-related objectives (up from c€15bn at the end of 2019). We will continue in these efforts, and we regard it as a privilege to be able to support our clients on their own sustainability journeys.

Focusing specifically on climate change, we have also committed to supporting the Task Force on Climate-Related Financial Disclosures (TCFD) and promoting the adoption its climate-related financial disclosure framework in our own business and within the companies in which we invest.

I am pleased to share ILIM's first report on climate-related risks and opportunities, aligned to the TCFD recommendations. This is an important element of our sustainable investment commitment, providing greater transparency to our stakeholders on key sustainability issues within our business and our investment portfolios.

On behalf of all the team at ILIM, I would like to thank you for your continued support and welcome your feedback.

Patrick Burke
Managing Director, Irish Life Investment Managers

EXECUTIVE SUMMARY

Kathy Ryan
Head of Responsible Investment

ILIM is committed to sustainable investment, recognising how our actions and our decisions affect the environment, society and the assets our clients have entrusted to us. Recognising the significant impact that climate change risk can have on our clients' portfolios, as well as the opportunities presented, we have embedded addressing climate change within our investment approach. To meaningfully do this, we need firstly to understand and quantify this risk, and secondly to manage and mitigate this risk.

Considering climate transparency as a crucial factor for the stability of financial markets, the Task Force on Climate-related Financial Disclosures (TCFD) was launched with the goal of improving climate disclosure through specific recommendations.

This report presents our progress to the end of 2020 and provides a framework for measuring and monitoring our actions in managing climate-related risks and opportunities across our client portfolios. The key findings of this report are:

- There is a core focus on climate risk – it is embedded in the strategies and operations of our business, as well as embedded across our proprietary solutions and overall investment risk oversight and management.
- Our proprietary solutions exhibit strong climate-related characteristics with a materially lower implied warming potential than the broader market. However, a significant portion of our assets are in client-directed mandates which remain broadly invested in market-capitalisation weighted benchmarks and which carry an exposure to climate risk and an implied warming potential in line with the broad market.
- We have an ongoing commitment to enhance our reporting and disclosures and to further strengthen our approach for the benefit of our clients' longer-term interests.

ABOUT THE TCFD

TCFD is an evolving reporting structure and a 'best endeavours' analysis. It is not yet clear where the financial sector will eventually align in terms of metrics and calculation methodology, time frame and scenario definition. Despite this, urgent action needs to be taken for us to tackle the climate crisis. TCFD reporting is still voluntary, though the Irish government's strong endorsement of the adoption of the TCFD recommendations by companies in the context of achieving its own Climate Bill ambitions is very clear.

It is our view that the sooner we move to mandatory climate reporting, the better. ILIM, as a leader in sustainable investing, is pleased to be one of the early adopters of TCFD reporting in Ireland.

READING THIS REPORT

The structure of this report follows the four pillars recommended by the TCFD (Governance; Strategy; Risk Management; Metrics and Targets) and is focused on the activities to December 2020.

ILIM has direct control and investment discretion of our proprietary investment solutions. It is important to distinguish these assets from client-directed assets. In the latter case, the investment strategy is subject to the agreed mandate determined by our Institutional clients. Considering that we can only directly control and implement the climate lens over what we have full discretion over, this report focuses on the positions adopted within ILIM's proprietary investment solutions from a climate-related perspective.

The standard market indices are on an emissions trajectory that implies temperature rises in excess of 3 degrees. According to MSCI, the ACWI IMI index had an aggregate warming potential of approximately 3.6 °C, as of Nov. 30, 2020, which is less "hot" than the approximately 4.0 °C projected path of the global economy today. The societal and portfolio construction challenges involved in achieving the required reductions in greenhouse gas emissions are significant. For our market-capitalised standard indexes/funds, we have also measured the temperature alignment of these investments.

There are large expectations for the COP26 to address the state of play with regard to decarbonisation, with the need to set concrete plans to reach the Paris Agreement targets. The decarbonisation challenge will need to involve business actions, at a sector, industry and company level. Our ability to analyse and measure climate risk within portfolios helps us to structure investments that are more aligned with the Paris Agreement. ILIM is committed to working in partnership with asset owner clients to support them on their own sustainability journeys and achieve their climate ambitions.

GOVERNANCE AND OVERSIGHT

As part of the Great-West Lifeco group of companies, and the Irish Life Group, ILIM's approach to sustainable investment reflects Great-West Lifeco's strong commitment to corporate social responsibility with collaborative ESG cross-group initiatives in place globally, and at a regional level.

The Irish Life Group and ILIM boards have expressly adopted sustainability principles, goals and strong governance structures that position sustainability, including climate change, as a key objective within the strategies and operations of the group businesses. From ILIM's perspective, this includes strong board governance and executive commitment to ensure sustainability is embedded across the full breadth of investment capabilities of ILIM.

STRATEGY

ILIM's approach to addressing climate change is embedded in sustainable investment and integrates ESG factors across 100% of our proprietary investment solutions. We also provide a range of sustainable ideas, analysis and solutions to clients to enable them to transition their directed mandates to achieve a more sustainable range of investment outcomes.

ILIM's proprietary investment solutions explicitly incorporate sustainability, including climate change, as a core objective alongside other risk and return factors. ILIM provides a range of sustainable solutions across asset classes, including its own Sustainable Indexed Equity and Corporate Credit solutions, to provide a full breadth of options for clients. As at March 2021, these funds have a SFDR (Sustainable Finance Regulatory Disclosures) Article 8 categorisation.

ILIM also has a longstanding focus on active ownership, certain in the knowledge that active ownership has a key role to play in supporting and encouraging changes to corporate behaviours which contribute to sustainable returns. Our active ownership programme extends across our proprietary and client-directed publicly quoted asset base. It follows a systematic approach to identifying climate-related risks and opportunities, by conducting both a materiality assessment and a risk-management assessment. It also actively advocates for enhanced disclosure and action around climate change.

RISK MANAGEMENT

ILIM believes that consideration of ESG factors is an integral part of the risk-management process and that systematically considering ESG issues will lead to more informed investment decisions.

In accordance with Sustainable Finance Disclosure Regulation (SFDR) requirements, ILIM has set up a Sustainability Risks Policy and a Principal Adverse Impacts (PAI) Policy, which considers climate-related indicators and metrics.

METRICS AND TARGETS

An increasing focus for ILIM and for our clients is the impact of the investment decisions we make on their behalf. In this regard, ILIM discloses climate-related metrics varying per asset class. The most comprehensive set of climate metrics are disclosed for our main asset classes, equity and corporate credit.

Specifically for our proprietary investment solutions, which follow our sustainable investment approach, ILIM targets greater exposure to companies with stronger sustainable business practices and a better alignment with the carbon transition. This currently results in approximately 30% lower carbon intensity levels compared to the benchmark. By design, our proprietary solutions exhibit a materially lower potential warming impact (2.3 degrees by 2050) compared to the broad market (which exhibits a target of 2.9 degrees).

Since the end of the reporting period, we have expanded our sustainable investment approach to our proprietary corporate credit solutions.

For our property portfolios, ILIM participates in the Global Real Estate Sustainability Benchmark (GRESB) and is committed to minimising the impact of real estate operations on climate change by reducing greenhouse gas (GHG) emissions. For this benchmark, GHG emissions are quantified on an annual basis and reduction plans related to energy, water, and waste management are created. ILIM has set a specific target to reducing direct landlord energy use by 5% based on a 2018 baseline.

COMMITTING TO FURTHER IMPROVEMENT

ILIM is committed to our sustainable investment journey and to further strengthening our approach for the benefit of our clients' longer-term interests.

As new regulations such as the Sustainable Finance Disclosure Regulations (SFDR) take effect over 2021, our experience to date is that they are triggering positive engagement, a strong appetite for information and better choices from our clients.

Over the course of 2021, we will make further strides in our journey and will be making more commitments, converting further proprietary assets to our sustainable investment approach and broadening our range of sustainable solutions to support and work with our clients on their climate journeys.

ABOUT IRISH LIFE INVESTMENT MANAGERS

Irish Life Investment Managers (ILIM) is a global asset management firm managing over €91 billion for a range of institutional clients based principally in Europe and North America and is the leading fund manager in Ireland. Our core investment capabilities extend across indexation, quantitative active strategies, active fixed income, property and alternative asset classes.

As universal owners, overall economic performance will influence the future value of client portfolios more than the performance of individual companies or sectors, incentivising ILIM to support sustainable growth and well-functioning financial markets. Furthermore, ILIM believes that investing client money in a responsible way is more likely to create and preserve long-term investment growth. ILIM joined the United Nation's Principles for Responsible Investment (UNPRI) in 2010.

With a business built on putting clients first and delivering high-quality and innovative investment solutions, ILIM understands that climate change can represent material risks and opportunities.

As a manager who prides itself on providing solution to our clients' needs, ILIM has designed and launched a range of sustainable solutions across different asset classes and management styles based on alignment criteria and climate solution revenue metrics. ILIM is committed to working in partnership with asset owner clients to support them in their own climate ambitions and enable them construct portfolios which align with their own decarbonisation goals.

WHAT IS THE TCFD?

To encourage company disclosure of material climate-related risks and opportunities, the Financial Stability Board created the TCFD. In 2017, the TCFD published its recommendations for all sectors, with additional disclosures for asset managers. This framework encourages action and transparency in the following areas: governance and oversight, strategy, risk and opportunity management, and metrics and targets to assess progress. Each category has sub-categories with specific approaches for assessment and disclosure of the associated climate risks and opportunities.

In addition to the general recommendations applicable to all companies, the TCFD provides specific guidance for companies in the financial sector (e.g. banking, insurance, asset management) as well as for companies in the non-financial sector covering energy, transportation, materials & buildings, agriculture and food & forestry industries. This report is in line with both the general recommendations and the specific guidance for asset managers and owners.

Appendix 1 shows the 11 general recommendations applicable to all sectors and the recommendations specific for asset managers and owners.

ILIM is a strong supporter of the TCFD recommendations. This document sets out how we are applying them. We also encourage the application of the TCFD framework when engaging with investee companies. We believe companies must be transparent about the financial implications of climate change to their business and clearly set out the actions they are taking to manage climate-related risks and opportunities and improve their resilience.

GOVERNANCE:

DISCLOSE THE ORGANISATION'S GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES

ILIM'S BOARD AND EXECUTIVE OVERSIGHTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES

Governing Body	Sustainability related responsibilities	Frequency of review/meeting
Board of Directors	Engages with senior leaders on near-and long-term business strategy and reviews management's performance in delivering the sustainability investment strategy, that includes climate change as one of its priority topics, and approval of key sustainability-related policies.	Quarterly
Responsible Investment Governance Committee	Responsible for reviewing and monitoring adherence to the Responsible Investment Strategy, including climate change, and policy implementation.	Quarterly
Risk Committee	Reviews and discusses with management levels of risk, risk assessment, risk management and related policies, including those related to ESG risks, among which climate change is considered.	

BOARD OVERSIGHT

The Board of Directors is ILIM's decision-making body and accountable for the company's sustainable investment strategy, which includes climate change. On group level, ILIM has adopted policies and procedures from its parent Great-West Lifeco. The mandate of Great-West Lifeco's Board of Directors is the oversight of climate-related risks, including monitoring and risk mitigation and opportunistic strategies.

ILIM's responsible investment strategy includes a set of policies, that consider climate change among a broader set of ESG topics, including the Responsible Investment Policy, Sustainable Risks Policy, Engagement Policy, Voting Policy and Principal Adverse Impacts (PAI) Investment Due Diligence Policy that are approved by the ILIM Board of Directors, at least on an annual basis. The Board has the responsibility of monitoring the policies to ensure its ongoing appropriateness.

SENIOR MANAGEMENT'S ROLE

ILIM has established the Responsible Investment Governance Committee. The Committee meets quarterly and is comprised of the Chief Investment Officer (CIO), the Head of Responsible Investing (Chair), the Deputy CIO, the Head of Indexation, Fixed Income and Credit Solutions, the Senior Property Asset Manager, Director Wealth and Corporate Distribution, and the Asset Servicing Manager. The Committee is responsible for reviewing and monitoring adherence to the Responsible Investment Strategy and policy implementation.

The Head of Responsible Investment is responsible for developing the RI strategy and oversees ESG integration methodologies, engagement, voting, and portfolio screening activities. The CIO is also responsible for approving any decisions or actions with regards to active ownership, screening or integration of ESG or climate metrics into portfolios which may have a material impact on the valuation of investments.

STRATEGY:

HOW ARE CLIMATE-RELATED RISKS AND OPPORTUNITIES FACTORED INTO INVESTMENT STRATEGIES?

Our most material climate-change risk is the potential for climate change to negatively affect the performance of investments on behalf of our clients. But the impact of climate change goes beyond performance alone.

Stakeholder expectations of our role in tackling climate change are ever-increasing. ILIM is committed to contributing to a lower-carbon economy as set out in the Paris Agreement. As the effects of climate change become more apparent, clients want to ensure that how they are investing meets their core values and reflects their expectations. We aim to provide the investment solutions to meet these changing demands.

IDENTIFYING CLIMATE-RELATED RISKS AND OPPORTUNITIES

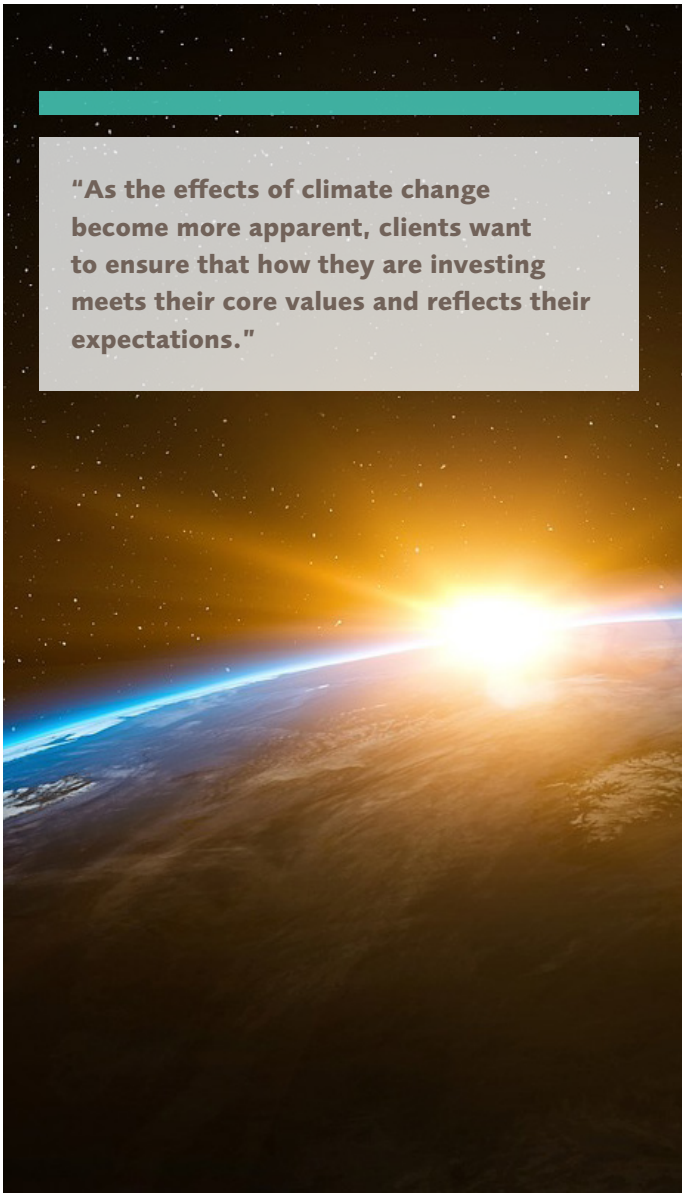
ILIM works extensively with third-party service providers to access market-leading research to help identify climate-related risks and opportunities.

ESG and climate data: We use Sustainalytics to provide ESG and climate data across the investment universe. In 2020, we expanded these data sets to include sustainable products research, carbon transition risk rating, broader emissions information as well as more granular, and revenue-based, product involvement to identify fossil-fuel-derived revenues.

This data helps us to identify climate-related risks and opportunities in liquid assets and enables ILIM to construct portfolios with specific ESG and climate outcomes.

Responsible Ownership: ILIM has appointed ISS – an expert in proxy voting – to provide advisory services to identify climate-related risks and opportunities in its voting activities. ILIM has also appointed Vigeo Eiris, an expert in ESG research and engagement, to help identify and support climate-related risks and opportunities in its engagement activities with investee companies.

For further information, here are our **engagement** and **voting** policies.



INCORPORATING CLIMATE-RELATED RISKS AND OPPORTUNITIES INTO INVESTMENT STRATEGIES

ILIM's strategy in terms of incorporating climate-related risks and opportunities into investments is implemented across all investment functions.

For our proprietary equity and corporate credit solutions, ILIM combines both exclusions and integration, which is further supplemented by our approach to responsible ownership.

- **Exclusions:** ILIM applies screening using a set of filters to determine which companies or activities are eligible or ineligible to be included in a specific portfolio. We identify ineligible investments by applying the concept of "Do No Significant Harm" (DNSH). This excludes companies whose products or services cause harm when used as intended, or companies where there is a persistent breach of international standards on company behaviour.

  Climate-specific screens are used to screen out companies that are significantly involved in carbon-intensive activities. Exclusions are applied to all proprietary equity and corporate credit strategies.

  In 2020, we strengthened fossil fuel screening, i.e. the exclusion of companies that rely on carbon-intensive fossil fuels. We also exclude thermal coal extractors with more than 10% share of revenues, power generation that's responsible for more than 25% of a company's profits, and companies with involvement in arctic oil & oil sands that represents 10% or more of their revenue.

- **ESG integration:** ILIM systematically includes ESG and climate metrics in investment analysis and decisions, to better manage related risks. We work with third-party data providers and have built an ESG infrastructure to integrate ESG factors in portfolio construction and management systems. This includes climate-specific factors such as associated carbon- emission intensities and stranded asset risk, to increase allocations to companies that support the transition to a low-carbon economy and align portfolios' carbon footprints reduction with decarbonisation targets.

  We increased exposure to companies that are better aligned with the energy transition by reducing allocations to companies with a higher exposure to fossil fuel reserves and increasing allocations to companies with a higher exposure to revenues from carbon solutions and integrating the carbon risk rating metric to create a decarbonisation tilt within portfolios.

  Investment integration is underpinned by rigorous risk analysis. We use the standard risk dashboard to assess ESG and climate-related risk in investment strategies as well as reporting under TCFD and using the Paris Agreement Capital Transition Assessment (PACTA) tool to run scenario analysis.

- **Responsible ownership on climate change issues:** For our engagement activities, ILIM follows a systematic approach to identifying climate-related risks and opportunities by conducting a materiality assessment and a risk-management assessment.

  In addition to a targeted direct voting and engagement campaign, our stance on climate-related risks and opportunities is also reflected in external initiatives. We engage with other investors on specific ESG themes and are a member of the following initiatives: The Principles for Responsible Investment (PRI), the Carbon Disclosure Project (CDP), the Climate Action 100+ (CA 100+), and the Institutional Investors Group on Climate Change (IIGCC).

Climate Action 100+ Global Investors Driving Business Transition

CDP DRIVING SUSTAINABLE ECONOMIES

IIGCC Institutional Investors Group on Climate Change

PRI Principles for Responsible Investment

SIF IRELAND SUSTAINABLE & RESPONSIBLE INVESTMENT FORUM

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

PROPERTY ASSETS

For our property assets, ILIM seeks to minimise the impact of real estate operations on climate change by reducing its GHG through environmental management procedures and planning, focusing on energy-efficiency opportunities.

ILIM participates in the Global Real Estate Sustainability Benchmark (GRESB) across a number of our funds. ILIM has set specific targets related to several aspects, including energy targets related to emission reduction, to monitor performance against targets, and provide a basis for engagement with tenants and other stakeholders across the property portfolio. This process is implemented for acquisitions, refurbishments and new developments and ongoing asset management.

For new developments, LEED platinum certifications are targeted across commercial property and 'Near Zero Energy Building' (NZEB) is targeted on all new development. ILIM conducts comprehensive due diligence assessments that include sustainability considerations in order to minimise the exposure of property assets to environmental and climate risks.

ALTERNATIVE ASSETS

For alternative assets, ESG factors, including climate change, are included as part of the due diligence process.

- For investments in **liquid alternative funds**, both the fund strategy and the investment manager are given an ESG rating based on a number of metrics. These include, but are not limited to, climate change, diversity and inclusion, and integration of ESG factors into portfolio construction. These ratings are updated annually for invested funds and as a part of the due-diligence process for new funds.
- The Irish focused private Infrastructure fund is rated annually by GRESB, a firm that is dedicated to the assessment of sustainability in real assets.
- ESG within derivatives is an ongoing area of research but is still at its early stage on a market-wide level and as a result, with respect to derivatives strategies managed within alternatives.

USING CLIMATE-RELATED SCENARIOS TO INFORM INVESTMENTS

ILIM has already taken initial steps to inform clients about how well client-directed portfolios are aligned with decarbonisation trends, using tools such as the Paris Agreement Capital Transition Assessment (PACTA) as well as carbon portfolio assessments. Additional scenario analyses have been performed, with the aim of analysing direct emission intensity and to better understand climate scenarios to which a portfolio is aligned.

The following scenario alignment aims at analysing the current and future emission intensity from the direct and indirect emissions of ILIM's proprietary investment solutions against the broad market.

MODELLING CLIMATE RISK

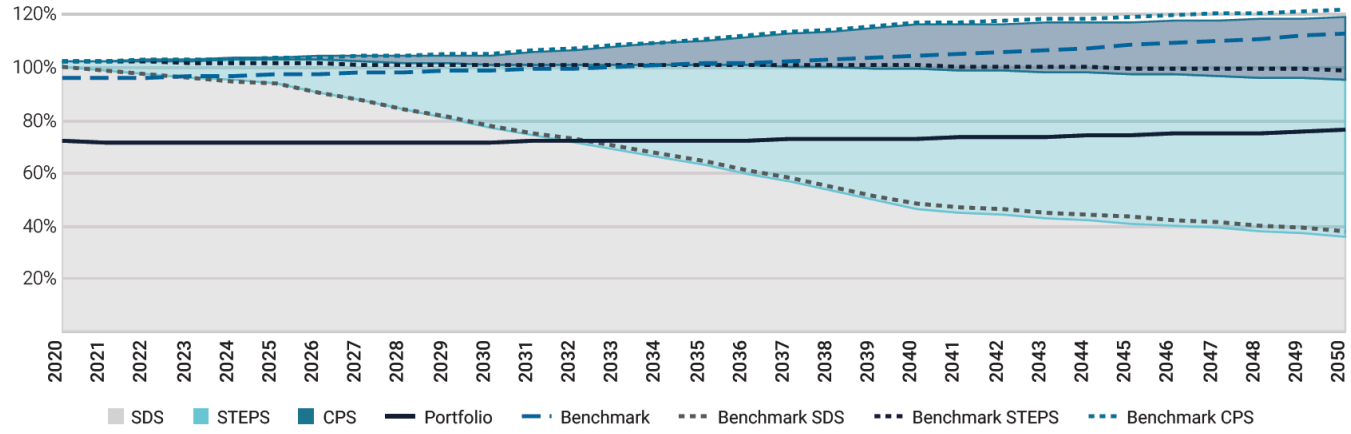
ILIM engages with ISS ESG scenario analysis, which combines three climate scenarios. Each scenario expects a certain level of carbon budget and temperature increase in 2050. For further details on the methodology, please refer to Appendix 2 – Methodology[1].

- **Sustainable Development Scenario (SDS)** – the Sustainable Development Scenario pathway is fully aligned with the Paris Agreement by holding the rise in global temperatures to "well below 2°C ... and pursuing efforts to limit [it] to 1.5°C" and meets Sustainable Development Goals (SDGs) objectives related to achieve universal access to energy (SDG 7), to reduce the severe health impacts of air pollution (part of SDG 3) and to tackle climate change (SDG 13).
- **Stated Policy Scenario (STEPS)** – the Stated Policies Scenario pathway assumes today's policy intentions and targets and considers only specific policy initiatives that have already been announced.
- **Current Policy Scenario (CPS)** – the Current Policies Scenario displays the current pathway if the world continues without any additional changes in policy.

Another way of looking at transition risk is to look at the implied warming potential of our proprietary equity investment solutions and compare it to well-known indices that serve as a proxy for 'the world as it is'. Figure 1 gives us a sense of where we are compared to both the three carbon budgets of the IEA-derived climate scenarios and the world as it currently stands in terms of carbon intensity.

[1] https://www.iea.org/reports/world-energy-outlook-2019 (IEA World Energy Outlook 2019 report published 13th November 2019).

FIGURE 1: PROPRIETARY EQUITY INVESTMENT SOLUTIONS – GHG EMISSION PATHWAY VS. CLIMATE SCENARIOS



Source: ISS, 31 December 2020

The black continuous line represents the projected Portfolio GHG emission pathway, while the dashed dark blue line represents the benchmark. Performance is shown as the percentage of assigned budget used by the Portfolio and benchmark. The y-axis indicates the alignment in % for both the portfolio and the benchmark with the respective climate scenarios. The % alignment is normalized at 100% for the portfolio-specific SDS carbon budget for the current year.

The lower the 'implied warming' compared to the chosen benchmarks, the better the strategy is positioned with respect to transition risk.

Comparing the scenario alignment of ILIM's proprietary equity solutions to the broad market indices indicates that ILIM's solutions exhibit a better performance, by being more highly weighted in stocks transitioning more quickly than the average in the relevant sector of the chosen indices.

- The proprietary equity investment solutions stops are aligned to the sustainable development goals (SDGs) until 2032 and exhibit a potential temperature increase of 2.3 degrees, while the broad market indices exceeds its carbon budget by 2027 and exhibit a potential temperature increase of 2.9°C.
- In addition, of the three climate scenarios, ILIM's proprietary equity investment solutions are aligned with both STEPS and CPS, whereas the broad market index only aligns with CPS.

The fact that the proprietary equity investment solutions are not aligned with SDS for the period analysed is mainly the result of the overshoot of respective carbon budgets in investments related to oil & gas in 2020.

While the implied warming is clearly above 'Paris' defined as targeting 1.5 degrees of warming at this point in the energy transition, this isn't a surprising result. 'Paris' is a desired future outcome, whereas the current proprietary equity investment solutions largely reflect the opportunity set connected to the 'world as it is'. That investment universe does not yet contain all the renewable assets and green technologies required to deliver 'Paris' and not all companies are evidencing a future strategy that is consistent with 'Paris'. We know that to mitigate transition risk our proprietary investment solutions must align with the fall in carbon emissions required to deliver the 'Paris' objective. The policies and procedures we have in place to drive that change are described in the Risk Management section.

RISK MANAGEMENT:

HOW DOES ILIM IDENTIFY, ASSESS AND MANAGE CLIMATE-RELATED RISKS AND OPPORTUNITIES?

Climate change may impact on equity, credit and property risk. This may be through asset values being exposed to a potentially sudden re-pricing to reflect transition risks to a low or carbon neutral economy, or as a result of more frequent and severe weather events and longer-term shifts in climate affecting asset values. Both of these may be through actual experience, or a change in anticipated future experience. Climate change may also present enhanced asset returns, for example increased equity valuation for a firm enabling transition to a low-carbon economy. Climate change may impact on credit risk both through movements in credit spreads and through credit rating transitions as a result of changes in either actual or anticipated default rates.

ILIM seeks to limit loss from the risks from climate change and deploys a range of risk management strategies to mitigate unforeseen loss. However, we cannot completely eliminate the risks associated with climate change through asset allocation, which is why we have focused on developing our governance, our understanding of the risk and the environmental impact of our investment decisions.

INTEGRATING CLIMATE-RELATED RISKS INTO ILIM'S OVERALL RISK MANAGEMENT

In accordance with Sustainable Finance Disclosure Regulation (SFDR) requirements, ILIM has established a Sustainability Risks Policy and a Principal Adverse Impacts (PAI) Policy.

ILIM's Investment Risk team, independent from fund management, identifies, measures and monitors climate metrics across our investments. The team then reports on the metrics, and any risks emerging from them, to fund management and the Responsible Investment Governance Committee.

- The Sustainability Risks Policy outlines the integration of sustainability risks in decision-making processes, and is overseen by the Board. The objective of this policy is to mitigate ESG risks that are likely to cause material negative impacts on ILIM's clients' investments. For that purpose, ILIM has implemented procedures to identify, measure, manage and monitor these risks, supported by third-party data providers.
- Complementing the Sustainability Risk Policy, ILIM has the Principal Adverse Impacts (PAI) – Investment Due Diligence Policy in place, which builds the framework for considering principal adverse impacts as defined by the PAI metrics specified in the SFDR regulations.

"We have focused on developing our governance, our understanding of the risk and the environmental impact of our investment decisions."

ALIGNING THE PORTFOLIO WITH A LOWER CARBON ENERGY SUPPLY, PRODUCTION AND USE

We've spoken about our focus on climate risk in connection with our proprietary investment assets and the required energy transition. Given this focus, we integrate carbon controls into the investment process as a mitigation strategy.

The processes used to manage transition risks

These mitigations and controls fall into the following categories: carbon intensity targets, climate stock exclusions, high carbon escalation, corporate engagement, investing in renewable infrastructure, carbon neutral transportation, green technology and implementing high energy efficiency standards into our directly owned commercial property and residential investments.

Exclusions

For our proprietary investments we exclude investments in companies that:

Earn more than **10%** or more of revenues from thermal coal mining

Earn more than **25%** or more of revenues from thermal coal power generation

Earn more than **10%** or more of revenue from Arctic oil and oil sands

The carbon footprint of the coal industry makes a disproportionate contribution to the climate crisis. Phasing out investments in the coal industry is the single most important step financial institutions can take to protect our climate.

We focus on coal as thermal coal power generation has a particularly negative impact on the environment, with coal-fired power generation producing 10.1 gigatons of global carbon dioxide emissions in 2018 alone and coal-fired electricity generation accounting for 30% of global CO2 emissions (source: The International Energy Agency). Thermal coal power generation fundamentally contravenes global climate goals.

We believe the companies excluded above based on those revenue limits all have a medium-to-severe risk of experiencing material financial impacts from ESG factors, and a few of them have been involved in ESG-related controversies of different magnitudes of severity.

Integration

In addition to exclusions, we also incorporate a carbon tilt into our proprietary investment solutions. We analyse each company's carbon risk rating (forward looking) and carbon intensity (backward looking). We invest more in companies with favourable scores. In practice, this leads to a green tilt and a brown tilt.

- **Green Tilt:** Assigning more capital to companies with higher 'Green Revenues' that are best best placed to benefit from the transition to a low carbon economy.
- **Brown Tilt:** Reducing exposure to companies with 'stranded asset' risk, by taking underweight positions in companies with large fossil fuel revenues.

As of 31 December 2020, the carbon intensity of ILIM's proprietary equity investment solutions is c30% lower as compared to its benchmark[2].This is mainly achieved through stock selection based on the low carbon intensity scores.

[2] MSCI ESG Discretionary Comp

CASE STUDY

THE IRISH LIFE SUSTAINABLE EQUITY SOLUTION

This strategy underpins the equity exposure across our flagship range of MAPS and Empower multi-asset funds, covering approximately €5 billion in AUM.

OUR APPROACH IN ACTION

This strategy underpins the equity exposure across our flagship range of MAPS and Empower multi-asset funds, encompassing approximately €5 billion in assets under management. The Sustainable Equity Solution is ILIM's flagship proprietary equity indexed solution, which aims to deliver equity market returns with a similar level of volatility, enhanced sustainability characteristics and a specific focus on climate risk.

METHODOLOGY

First, portfolio constituents are screened against the 'ILIM Exclusion List', to minimise company-specific risks arising from climate change as well as other sustainability factors. ILIM's exclusion list adheres to the concept of "Do No Significant Harm" (DNSH). This involves excluding companies whose products or services cause harm when used as intended, or companies where there is a persistent breach of international standards on company behaviour.

Next, a best-in-class approach is applied to identify and exclude ESG laggards and re-assign capital to companies with higher ESG ratings scores (an ESG best-in-class tilt). Finally, carbon tilts incorporating both forward- and backward-looking carbon data (the decarbonisation tilt) are used.

The decarbonisation tilt is targeted to reduce exposure to potential stranded assets and increase exposure to companies which have a better alignment to the low carbon transition. ILIM applies the decarbonisation tilt by using four climate metrics:

- fossil fuel exposures, to tilt away from companies with high fossil fuel reserves to reduce stranded asset risk
- a 'carbon solutions metric' (green revenues) to create a positive tilt to increase allocations to companies with higher green revenues
- a forward-looking carbon risk rating and backward-looking carbon intensity of revenues to tilt the portfolio towards companies with a better alignment to the climate transition.

The strategy is further enhanced by ILIMs approach to active ownership.

METRICS AND TARGETS

This solution exhibits the following key sustainability characteristics versus its global market benchmark:

64%
less exposure to companies with severe carbon risk

30%
improvement in average carbon intensity

21%
less exposure to stranded assets

higher exposure to 'green revenues'

10%
lower exposure to ESG laggards

c9%
improvement in average ESG score

lower exposure to companies with severe ESG risk

Comparing the scenario alignment of ILIM's proprietary equity solutions to the broad market indices indicates that ILIM's solutions **exhibit a better performance** by being more highly weighted in stocks transitioning more quickly than the average in the relevant sector of the chosen indices. This results in an implied warming impact of 2.3 degrees versus 2.9 degrees for the market benchmark.

ACTIVE ENGAGEMENT WITH INVESTEE COMPANIES AND PROXY VOTING

ILIM considers active ownership as the use of the rights and position of ownership to influence the activities or behaviour of investee companies. ILIM exercises voting rights and engages with investee companies, encouraging better standards and management processes covering material ESG risks with a focus on decarbonisation.

- **Engagement:** Concerns about climate change form the backbone of ILIM's engagement activities. In the past, we looked to solicit improvements in terms of basic disclosures and commitments from its investee companies. However, we are now further enhancing our approach to begin targeting and engaging with companies to pursue transitional pathways to a lower-carbon economy. We believe this is necessary if we are to meet the goals of the Paris Agreement, and that by working collectively it is possible to move together down a more sustainable path. Our commitment is evidenced by the launch of nine new climate change engagements in 2020 focused solely on renewable/ alternative energy strategy and coal exposure.

CASE STUDY: CLIMATE CHANGE

During 2020 ILIM conducted twenty-four climate change engagements. It was possible to successfully conclude four of these dialogues over the course of the year as a result of information contained in company responses to engagement requests.

Duke Energy Corporation, the North Carolina-headquartered energy company, was selected for engagement in June 2020 because of its high carbon footprint and continued use of coal-fired generation. Despite the company's substantial environmental impact, it was not reporting transparently on the means and process by which the company is intending to transition to a lower carbon economy.

Duke Energy was asked to provide details and commentary on whether the company was planning to construct new coal-fired units in the future. Duke Energy was also asked to provide additional context in relation to the following statement, found within reporting: 'Duke Energy has an aggressive fleet modernization program underway that has upgraded the larger coal units with sophisticated air quality controls while we begin retiring older, less efficient coal units.' ILIM sought to understand what these air quality controls entail and the factors that determine when a unit is retired.

The company communicated to ILIM a detailed response to all questions. The company confirmed that it does not plan to construct any new coal-fired power stations in the future. Furthermore, the air quality controls in place include flue gas desulphurisation systems for sulphur dioxide (SO2) and selective catalytic reduction or selective non-catalytic reduction for nitrogen oxides (NOx). Duke Energy communicated that it has taken a number of actions over 2019/2020, including setting the following goals:

Case Study: Duke Energy Corporation	
Location of primary listing	**USA**
Industry	Energy
Engagement launch date	Q2 2020
Engagement theme	Climate Change – Coal Involvement
Type of engagement	Direct
Status	Concluded Q4 2020

- Attain at least a 50% reduction in carbon dioxide (CO2) emissions from electricity generation from 2005 levels by 2030;
- Reach net-zero CO2 emissions from electricity generation by 2050;
- Net-zero methane goal from natural gas operations by 2030, which includes significant efforts to ensure that upstream methane emissions are addressed and reduced.

Engagement therefore concluded successfully with the company demonstrating a clear and target-driven approach to decarbonising its generating activities. ILIM will continue to monitor the performance of Duke Energy Corporation.

OUR ENGAGEMENT PROCESS

ILIM uses a two-stage approach to identify targets for climate change engagements, involving both a materiality and a risk-management perspective. Companies are assessed to have a highly material climate change impact if they have annual emissions of over 10,000,000 tCO2 equivalent, or if they derive more than 10% of their total revenue from coal-fuelled power generation. Each company is also assessed and ranked according to how well its business model is prepared for the transition towards a low-carbon economy. For this assessment, company policies, systems and reporting regarding climate change mitigating and adaptation are taken into consideration. Companies that are assessed to have a material negative impact on climate change and exhibit weak energy transition strategies are selected for engagement.

For each engagement specific objectives are set. Objectives focus on encouraging companies to improve their climate-related disclosure, enhance policies and systems, or setting GHG emission reduction targets.

We adopt the Socially Responsible Investing (SRI) voting policy of ISS. When evaluating the merits of a shareholder proposal with requests related to greenhouse gas (GHG) emissions, ISS will look at disclosures and strategies related to direct emissions, emissions from electricity, and emissions related to the company's products and supply chain. We assess whether the company has set emission reductions targets that are aligned with the Paris Agreement goals of limiting warming to well below 2 degrees Celsius and whether the company has realistic strategies and incentives in place to achieve those targets. The company reports are considered according to the TCFD framework and/or whether it answered the CDP climate-related survey, and the company's CDP rating. In the past, ISS has tended not to support requests for companies to align their strategies with Paris Agreement goals by taking a specific action such as by selling assets by a specific date, but it has tended to support requests for analysis and disclosure on whether a company's strategy is realistically aligned with Paris Agreement goals, including requests for disclosure of assumptions and scenario analyses.

Collective Engagement
ILIM also engages collaboratively with other investors on specific ESG themes, including climate change, and is a member of the following initiatives:
Carbon Disclosure Project (CDP),
the Climate Action 100 + (CA100 +) and the
Institutional Investors Group on Climate Change (IIGCC).

Proxy Voting:
ILIM works together with ISS (proxy voting provider) to identify and manage climate-related risks within proxy voting. As proxy voting is concerned, our voting activities are mainly driven by shareholder resolutions. Generally, we vote in favour of social and environmental proposals and support initiatives improving climate-related disclosures.

METRICS AND TARGETS:
HOW WE ASSESS AND MANAGE RELEVANT CLIMATE-RELATED RISKS AND OPPORTUNITIES

ASSESSING CLIMATE-RELATED RISKS AND OPPORTUNITIES

For our proprietary investment solutions, ILIM aims for greater exposure to companies with lower carbon intensity levels. Robust climate-related data is critical for effective investment decisions. Given the wide-ranging scope of climate change risks and opportunities across sectors and regions, extensive qualitative and quantitative metrics are required for investment decisions including input from our research and engagements. We complement the backward-looking data such as carbon emissions with a forward-looking view. Here are some examples of climate change metrics we consider in our investment process:

The **Carbon Risk Rating** quantifies the company's exposure and management of material carbon issues in its own operations as well as its products and services. At each value chain stage, a company's vulnerability to carbon risks is assessed.

Carbon intensity is a relative metric used to compare company emissions across industries. As Sustainalytics divides the absolute emissions by total revenue, the figure is expressed in tonnes of carbon dioxide equivalent per million USD of total revenue.

Fossil Fuel Involvement measures the percentage of revenue that companies derive from thermal coal extraction, coal-based power generation, oil & gas production, oil & gas-based power generation, and oil & gas-related products and services.

The **Stranded Assets Exposure Score** assesses the financial risk associated with fossil fuel production and reserves, and any specific involvement in high-cost fossil fuel projects.

Carbon Solutions Involvement measures the percentage of revenue that companies derive from green transportation and renewable energy.

Alongside the above-mentioned climate metrics, ILIM has established exclusion criteria for carbon-intensive activities, details of which are outlined in the Strategy and Risk Management section.

For **liquid alternatives**, ESG factors, including climate change, are retrieved during the due diligence process for third-party managers. Results are aggregated to an overall rating at a firm or fund level for these managers and are taken into account for the annual assessment of existing investments as well as in the selection process of potential investments.

For our **property assets**, ILIM gathers and reports GHG emissions data at a portfolio and asset-class level using GHG Protocol methodology. Real estate GHG emissions are externally verified on an annual basis in accordance with the ISO 14064-3 standard. Opportunities identified include a replacement plan for low energy equipment and lighting, a reduction of direct landlord energy use, and an increase in the share of renewable energy consumption, where multi-let properties have already achieved the goal of fully relying on renewable energy.

THE WEIGHTED AVERAGE CARBON INTENSITY AND OTHER METRICS

Carbon dioxide is the most significant contributor to anthropogenic global GHG emissions (these consist also of methane, nitrous oxide and fluorinated gases). In order to align all emissions under the same metric, all corporate GHG emissions are measured in CO2e which is carbon dioxide equivalent measured in tonnes. This measures the equivalent warming impact of GHG emissions.

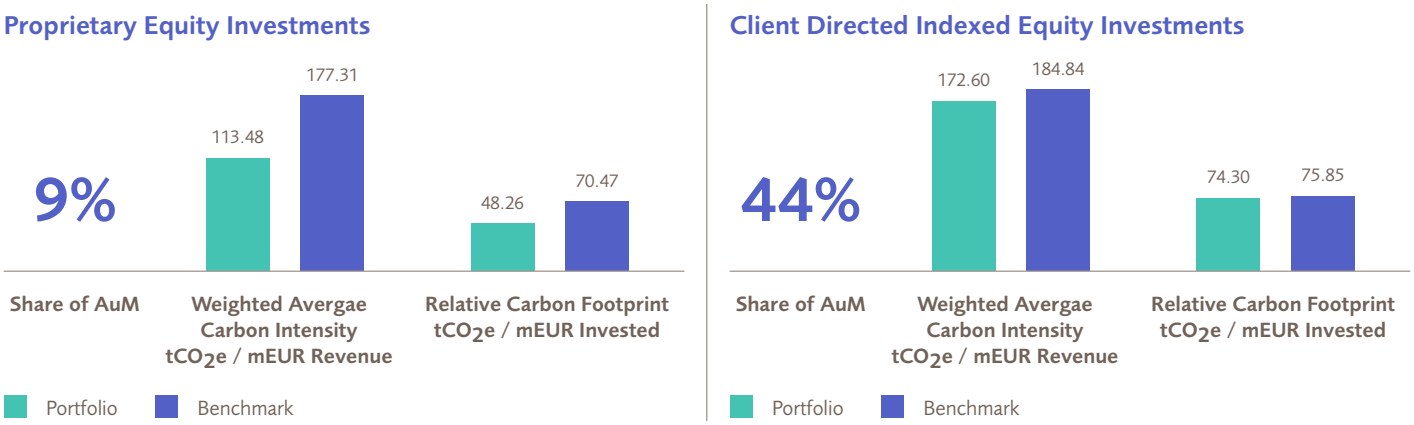
The simplest carbon measure is total carbon emissions expressed in tonnes of CO2e, but this figure is an absolute and not normalised for the size of the company or investor. It is, therefore, reflective of the portfolio or company size rather than a genuine measure of carbon intensity. It does not allow for comparisons across companies, portfolios or against a market benchmark.

Greenhouse gas emissions are categorised into three groups or 'scopes' by the most widely used international accounting tool, the Greenhouse Gas (GHG) Protocol. Scope 1 covers direct emissions from owned or controlled sources (e.g. company vehicles). Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company. Scope 3 includes all other indirect emissions that occur in a company's value chain (e.g. business travel, waste disposal etc.).

The Weighted Average Carbon Intensity (WACI) is the metric explicitly recommended by the TCFD for asset managers and asset owners. This measures in tonnes the CO2e per million EUR revenue. The WACI allocates Scope 1 & 2 GHG emissions based on portfolio weights and can be applied across asset classes without relying on an ownership approach. It allows for blending fixed income and equity holdings as it is only linked to the underlying issuer and not to the security-level valuation. Additionally, the WACI is simple to calculate and easy to communicate to investors. The Relative Carbon Footprint[3] is an additional useful metric based on the ownership principle, which is the key logic of the GHG protocol.

The WACI and the Relative Carbon Footprint for the ILIM proprietary investment solutions and global equity market benchmark, analysed as of 31 December 2020:

FIGURE 2: OVERVIEW OF WACI AND RELATIVE CARBON FOOTPRINT FOR DIFFERENT PORTFOLIO SUBSETS



Source: ISS, 31 December 2020

FIGURE 3: PROPRIETARY EQUITY INVESTMENT SOLUTION AND BENCHMARK[4] CARBON FOOTPRINT OVERVIEW

Disclosure Number/Weight		Emission Exposure tCO2e		Relative Emissions Exposure tCO2e/Mio EUR Revenue		
	Share of Disclosing Holdings	Scope 1 & 2	Incl. Scope 3	Relative Carbon Footprint	Carbon intensity	Weighted Avg Carbon intensity
Portfolio	66.8% / 83.5%	392,095	1,795,247	48.26	107.07	113.48
Benchmark	58.4% / 81.4%	572,549	2,493,065	70.47	202.00	177.31
Net performance	8.4 p.p. / 2.2 p.p.	31.5%	28%	31.5%	47%	36%

Source: ISS, 31 December 2020

[3] The Relative Carbon Footprint is a normalised measure, defined as the total carbon emissions of the portfolio per million EUR invested. For further details please refer to Appendix 2 – Methodology.

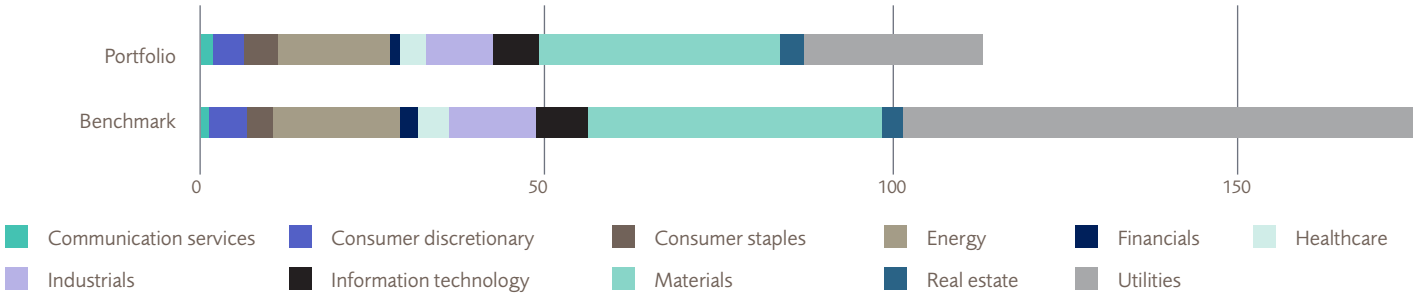
[4] The benchmark used is MSCI ESG Discretionary Comp.

Figure 3 provides further insights into the climate performance of the proprietary equity investment solutions against a market benchmark. It includes absolute and relative carbon emission values as well as its carbon intensity measures. The emission exposure section measures the carbon footprint of a portfolio, taking Scope 1 and 2 as well as Scope 3 emissions into account.

According to Figure 3, 66.8% of the issuers within the proprietary equity investment solutions report on their Scope 1 and 2 GHG emissions. This number rises to 83.5% when considering the value invested into these issuers. Therefore, the overall portfolio scope 1 and 2 emission exposure of 392,095 tCO2e includes both reported and approximated numbers. When including Scope 3, the Portfolio's emission exposure amounts to 1,795,247 tCO2e.

For the proprietary equity investment solutions, both climate metrics WACI and the Relative Carbon Footprint perform strongly compared to the market benchmark. As displayed in Figure 3, the portfolio has a 31.5% lower relative carbon footprint and 36% lower weighted average carbon intensity than the market benchmark. This is mostly driven by the exclusion of investments in high emission sectors.

FIGURE 4: WACI OF PROPRIETARY EQUITY INVESTMENT SOLUTIONS VS. BENCHMARK

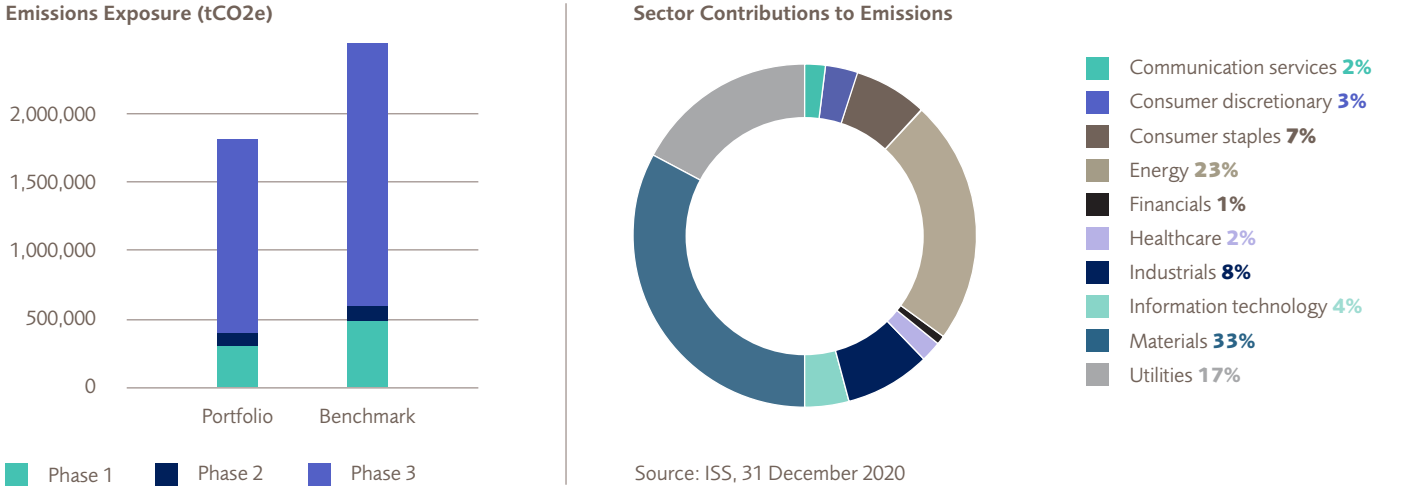


Source: ISS, 31 December 2020

The outcomes above are further supported by Figure 4, illustrating the weighted average carbon intensity broken down to respective sector contributions, comparing the proprietary equity investment solutions against the market benchmark. Fewer investments are made in sectors with higher average GHG emission intensities, such as the utilities, materials, industrials and the energy sector. In addition, stock selection in the utilities sector has a positive effect on the carbon footprint of the proprietary portfolio against the market benchmark, as the utilities portfolio holdings display a notably better carbon intensity profile when compared to their peers in the benchmark.

The chart on the left side of Figure 5 shows the emission exposure of the proprietary investment solutions and the market benchmark, where scope 3 emissions dominate for both cases. The proprietary investment solutions emission exposure is significantly less as compared to the benchmark. On the right side, scope 1 and 2 emission exposure of the portfolio is aggregated by GICS sectors, where the sectors materials, energy, and utilities are identified as the biggest contributors to those emissions.

FIGURE 5: EMISSION EXPOSURE ANALYSIS FOR PROPRIETARY EQUITY INVESTMENT SOLUTIONS

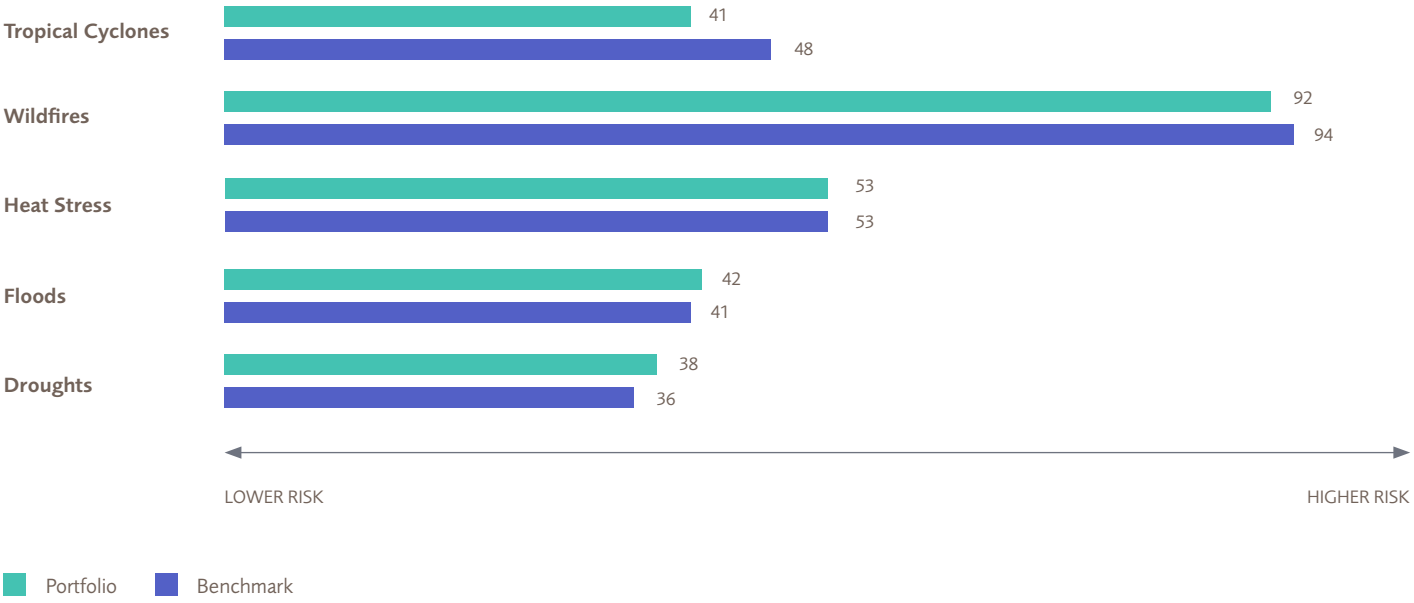


Source: ISS, 31 December 2020

Figure 6 illustrates five physical risks that can have a financial impact on our proprietary equity investment solutions both at the operational and the market level. Operational risks are quantified by considering the costs of repairing assets damaged by tropical cyclones, river floods, and wildfires, and the loss of income due to the associated business interruptions. The impact of heat stress on labour productivity and the resulting increase in production costs are also considered. While the financial impact of an increase in wildfires due to climate change is considered to be very low for portfolio companies compared to their sector median, the exposure to the other four hazards is significantly higher. However, the scores remain not far away from 50 and hence the sector median. The Physical Risk Score[5] of the Proprietary Equity Investment Solutions and the market benchmark are in a similar order of magnitude.

The portfolio is exposed to different natural hazards in different geographies. This can affect the value of the portfolio and the performance between the portfolio and the benchmark. Figure 6 evaluates the scored effect on the portfolio's value from the most impactful hazards under the 'most likely' scenario.

FIGURE 6: PHYSICAL RISK SCORE PER HAZARD FOR PROPRIETARY EQUITY INVESTMENT SOLUTIONS



Source: ISS, 31 December 2020

TARGETS FOR CLIMATE-RELATED RISKS AND OPPORTUNITIES

Regarding its property assets, ILIM participates in the Global Real Estate Sustainability Benchmark (GRESB) and is committed to minimising the impact of real estate operations on climate change by reducing GHG emissions. For that, GHG emissions are quantified on an annual basis and reduction plans related to energy, water, and waste management are created. ILIM has set a target to reduce direct landlord energy use by 5% based on 2018 baseline.

Further objectives aim at improving operational practices by ensuring water use efficiency and by improving waste diversion from landfill. Combining those targets with a robust reporting regime to monitor performance against targets aims to provide a basis for engagement with tenants and other stakeholders across the property portfolio.

[5] The Physical Risk Score is a metric for a portfolio company's risk exposure. It is defined as the overall financial impact of physical risks due to climate change on a portfolio company relative to other companies in its sector.

NEXT STEPS:

ILIM recognises the importance of reporting according to the TCFD recommendations. We are committed to embedding climate-related risks and opportunities in our investment process and strengthening governance oversight, as well as implementing and monitoring climate metrics into our risk framework. We understand we are on a journey, and as next steps, we plan to:

Enhance our stewardship activities by giving them a larger focus on climate action:

- For our **engagements**, we are planning on developing an alignment of our activities and targets with a Net Zero Methodology, working with our engagement provider. Furthermore, we plan to strengthen our participation in collaboration initiatives such as CDP or CA100+ to maximise our impact on our investee companies and getting them to set targets aligned with the Paris Agreement and ensuring their strategies are carried out successfully.
- For our **voting activities**, we plan to have a more proactive approach to key votes on climate by voting on shareholder proposals that seek to promote behaviour that is aligned with a Net Zero transition (e.g. proposals for improving climate disclosures, setting Scope 1, 2 & 3 targets, reporting on climate-related lobbying). We also plan to work with the PRI platform on our voting disclosures.
- **Strengthen decarbonisation integration into portfolio construction** by expanding the climate metrics considered: carbon focus, carbon emissions, carbon risk rating, carbon fossil fuels, carbon sustainable product solutions, and carbon stranded assets risk.
- **Launch a Climate Fund** later in 2021, as well as improve carbon performance in our existing sustainable solutions.
- **Improve our client disclosures** in terms of climate change by including metrics in periodic disclosures, such as the following: Scope 1, 2, and 3 emissions; Carbon intensity; Fossil fuel exposure; Share of non-renewable energy.
- **COP26**, the United Nations Climate Conference taking place in November 2021, will be very important due to the increasing stakes and urgency for fighting climate change. This is the first time that parties are expected to commit to enhanced ambition since COP21. In this context, we plan to release a Climate Statement with our ambitions and commitments in the climate change agenda.

APPENDIX 1: TCFD RECOMMENDATIONS

TCFD GENERAL DISCLOSURE RECOMMENDATIONS FOR ALL SECTORS

GOVERNANCE	STRATEGY	RISK MANAGEMENT	METRICS & TARGETS
(a) Describe the board's oversight of climate-related risks and opportunities.	(a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	(a) Describe the organization's processes for identifying and assessing climate-related risks.	(a) Disclose the metrics used to assess climate-related risks and opportunities in line with its strategy and risk management process.
(b) Describe management's role in assessing and managing climate-related risks and opportunities.	(b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	(b) Describe the organization's processes for managing climate-related risks.	(b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	(c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	(c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	(c) Describe the targets used by the organization to manage climate-related risks and opportunities

Source: TCFD, Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017

TCFD SPECIFIC DISCLOSURE RECOMMENDATIONS FOR ASSET MANAGERS & OWNERS

GOVERNANCE	STRATEGY	RISK MANAGEMENT
(a) Describe how climate-related risks and opportunities are factored into relevant investment strategies. This could be described from the perspective of the total fund or investment strategy or individual investment strategies for various asset classes.	(a) Describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset owners' ability to assess climate-related risks.	(a) Describe metrics used to assess climate-related risks and opportunities in each fund or investment strategy. Where relevant, asset owners should also describe how these metrics have changed over time. Where appropriate, provide metrics considered in investment
(b) Consider providing a discussion of how climate-related scenarios are used, such as to inform investments in specific assets.	(b) Describe how they consider the positioning of their portfolio with respect to the transition to a lower-carbon energy supply, production and use. This could include explaining how asset owners manage their portfolios' positioning relating to the transition.	(b) Provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each fund or investment strategy. In addition, asset owners should provide other metrics they believe are useful for decision making along with a description of the methodology.

Source: TCFD, Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017

APPENDIX 2: METHODOLOGY

1. CLIMATE SCENARIO ANALYSIS

The purpose of the scenario alignment is to analyse the current and future emission intensity from the direct and indirect emission of a company (Scope 1, 2 and 3) to see which climate scenario it is aligned with until 2050. Each company's carbon budget is defined based on its market share.

The approach is based on three climate scenarios provided by the International Energy Agency (IEA) in their report World Energy Outlook 2019[6]. The report presents three scenarios, Sustainable Development Scenario (SDS), Stated Policy Scenario (STEPS) and Current Policy Scenario (CPS). Each scenario expects a certain level of carbon budget and temperature increase in 2050.

Each scenario is tied to a carbon budget. A carbon budget specifies the amount of fossil carbon that can be combusted worldwide to remain within a certain temperature. The carbon budget changes depending on scenario. For example, to remain within the limits of the SDS, less carbon can be combusted compared to the scenarios that expect a significant temperature increase, i.e., the CPS.

- **Sustainable Development Scenario (SDS)** – The Sustainable Development Scenario pathway is fully aligned with the Paris Agreement by holding the rise in global temperatures to "well below 2°C ... and pursuing efforts to limit [it] to 1.5°C" and meets Sustainable Development Goals (SDGs) objectives related to achieve universal access to energy (SDG 7), to reduce the severe health impacts of air pollution (part of SDG 3) and to tackle climate change (SDG 13).
- **Stated Policy Scenario (STEPS)** – The Stated Policies Scenario pathway assumes today's policy intentions and targets and considers only specific policy initiatives that have already been announced.
- **Current Policy Scenario (CPS)** – The Current Policies Scenario display the current pathway if the world continues without any additional changes in policy.

Temperature estimates on issuer and portfolio level can be used as a compliment to other climate-related physical risk and alignment analysis. The temperature score should be used with caution since a single metric cannot explain the full dynamics of an issuer or portfolio contribution to the global temperature increase.

2. CARBON METRICS & DATA ANALYSIS

The data analysis is obtained via the ISS ESG 'Portfolio Climate Impact Report'. ILIM provided holdings for three asset classes (equity, corporate fixed income and sovereign fixed income). Holdings were screened based on ISS ESG's proprietary platform DataDesk, after a mapping ensured that the company identifiers were matched appropriately.

Scope 1 & 2 emissions for companies

The emissions methodology was developed over three years with the Swiss Federal Institute of Technology and includes about 800 sector and sub-sector specific models, allowing ISS ESG's researchers to calculate the GHG emissions of companies based on those criteria that are most relevant to their line of business.

A summary of the process is provided below:

- Self-reported emissions data is collected from all available sources;
- Self-reported numbers are evaluated for trustworthiness and, where necessary, discarded;
- All companies are classified according to the proprietary ISS ESG CICS (Carbon Industry Classification System) – i.e. companies are classified in light of their carbon-profile, allowing ISS ESG to benchmark non-reporting companies against their reporting peers;
- ISS ESG applies its 800 sub-sector specific models to estimate the emissions of non-reporting companies according to sector-relevant financial or operational metrics.

Scope 3 emissions

ISS ESG's methodology conceptually differentiates between two sources of Scope 3 emissions: a.) emissions from a company's upstream and downstream supply chains and b.) emissions from the "use phase" of a company's product or service.

- **Supply Chain:** For supply chain emissions, ISS ESG uses an Economic Input-Output Lifecycle Assessment table that models cash flows between sectors within an economy. The method uses information on industry transactions, such as the purchase of materials, to estimate total emissions throughout the supply chain.
- **Product use phase:** The "use phase" greenhouse gas emissions of representative products per industry are calculated based on Life Cycle Assessments (LCA) available through the Swiss Centre for Life Cycle Inventories (Ecoinvent) and other databases. ISS ESG uses LCA for representative products of the sectors to estimate, in average, the ratio between Scope 1&2 / Use Phase per activity.

[6] https://www.iea.org/reports/world-energy-outlook-2019 (IEA World Energy Outlook 2019 report published 13th November 2019).

For most sectors, Scope 3 emissions are "sector representative" emissions and should not be used for stock picking. They can, however, be used for quantifying the order of magnitude of a full Portfolio assessment. Therefore, considering Scope 3 emissions allows investors to focus their efforts on those sectors where Scope 3 data matters most and that might fall under the radar screen when just looking at Scope 1 and 2 emissions.

Emissions for sovereign fixed income

The methodology was developed in accordance with the indications of the Platform Carbon Accounting Financials (PCAF) and allows ISS ESG's researchers to calculate the GHG emissions attributable to the governmental activities of a specific country.

A summary of the process is provided below:

- Greenhouse gas emissions data are gathered. PCAF separates emissions caused by direct government activity from emissions caused by other sectors. Emissions from government activity is attributed directly to the government.
- The sources of data include the sectoral greenhouse gas emissions for each country published by the United Nations Framework Convention on Climate Change (UNFCCC). This approach allocates emissions to a government using expenditure input-output data from the World Input Output Database (WIOD). To cover countries for which such data is not available, a secondary approach is used, in which a country's greenhouse gas emissions are allocated to the government by using the government's consumption expenditure as part of total GDP.
- The emissions are allocated to the bond based on bond investment as part of total national debt.

Carbon metrics used for the data analysis are described in more detail in the following. For equity and corporate fixed income calculations below, the adjusted enterprise value of a company (AEV) is used to represent the value of a company. For sovereign fixed income, the adjusted enterprise value is replaced by total national debt.

Position Ownership Ratio – Calculated as the aggregated position value / AEV or national debt.

Disclosure (Number/Weight) – Calculates the percentage number and percentage weight of companies that report reliable emissions in the portfolio and benchmark respectively. Net performance is calculated in percentage points.

Emission Exposure – Calculated using the following formula for scopes 1 and 2. The same approach is used for calculating Scope 3 emissions.

$$\sum_{i}^{n} \textit{Position Ownership Ratio} \times \textit{Position Scope 1\&2 Emissions}_i$$

Relative Carbon Footprint

$$\frac{\textit{Emission Exposure}}{\textit{Total Analysis Value}}$$

Carbon Intensity

$$\frac{(\sum_{i}^{n} \textit{Position Ownership Ratio}_i \times \textit{Position Scope 1\&2 Emissions}_i)}{(\sum_{i}^{n} \textit{Position Ownership Ratio}_i \times \textit{Position Revenue}_i)}$$

Weighted Average Carbon Intensity

$$\sum_{i}^{n} \textit{Position Weight}_i \times \frac{\textit{Position Scope 1\&2 Emissions}_i)}{\textit{Position Revenue}_i}$$

Climate Performance – Weighted Average

$$\sum_{i}^{n} \textit{Position Weight}_i \times \textit{Position Carbon Risk Rating}_i$$

Irish Life

This document is intended as a general review of investment market conditions. It does not constitute investment advice and has not been prepared based on the financial needs or objectives of any particular person, and does not take account of the specific needs or circumstances of any person.

The author cannot make a personal recommendation for any person and you should seek personal investment advice as to the suitability of any investment decision or strategy to your own needs and circumstances. Any comments on specific stocks are intended as an objective, independent view in relation to that stock generally, and not in relation to its suitability to any specific person.

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