

IRELAND STRATEGIC
INVESTMENT FUND

CLIMATE UPDATE

20
23



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Ciste Infeistíochta Straitéisí d'Éirinn
Ireland Strategic Investment Fund

CONTENTS

3	Executive Summary
4	Introduction
7	ISIF's Climate Goal
10	ISIF's Climate Governance
13	ISIF's Climate Strategy
21	Risk Management
25	Irish Portfolio GHG Emissions Modelling
31	Global Portfolio Climate Analytics
38	Appendix



EXECUTIVE SUMMARY

The urgency of action against climate change has come into even sharper focus throughout 2023. With global emissions continuing to rise, climate change indicators from the World Meteorological Organization (WMO) have shown 2023 to be the warmest year on record, with records broken for ocean heat, sea level rise, Antarctic sea ice loss and glacier retreat¹. Overall, the WMO reported that global average near-surface temperatures were 1.45° Celsius (with a margin of uncertainty of ±0.12 °C) above the pre-industrial baseline; underlining the grave risks of consistently breaching the 1.5°C lower limit of the Paris Agreement going forward. More and more, we are seeing the social and economic effects of our changing climate with more widespread floods, wildfires, drought, and heatwaves over the course of the last year.

In an Irish context, Met Éireann noted that 2023 was the warmest year on record². In terms of emissions, EPA data showed a fall in the state's overall emissions driven by reductions in emissions from the energy and agriculture sectors³. In 2023, Ireland's GHG emissions were estimated to be 55.01 million tonnes carbon dioxide equivalent (Mt CO₂e), which is 6.8% lower than in 2022. However, the EPA also noted that the overall cut to emissions fell short of that required to meet the targets under the Climate Action Plan (to halve emissions by 2030 and reach net-zero no later than 2050). An acceleration in mitigation efforts is required and ISIF is committed to playing its part.

In 2021, ISIF announced its ambition to invest €1 billion in climate-related investments over a five-year period. As at end-2023, ISIF has invested €361m further to this commitment, bringing the overall total of climate-related investments in support of the decarbonisation strategy to over €650m. However, as a responsible investor, we are also actively engaging with investees across our Irish and Global Portfolios to influence the pace of change. We continue to see increasing momentum as companies take action on this critical issue, and we have outlined some specific case studies throughout the report.

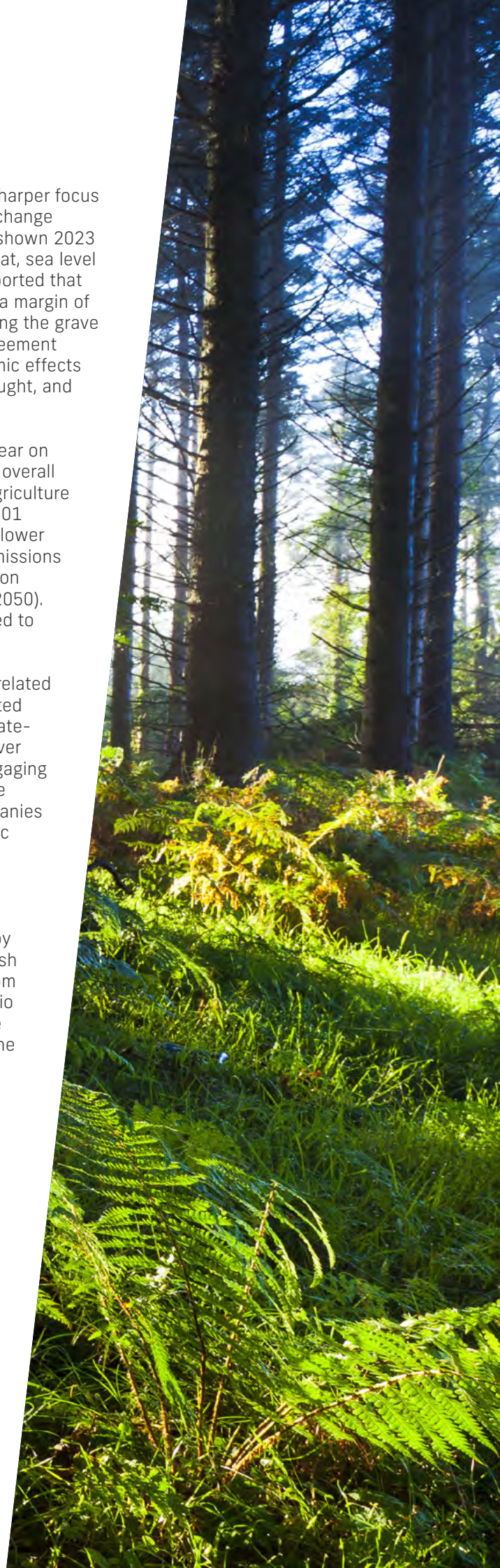
This report also illustrates the progress being made by reducing the emissions intensity of our investment portfolios. We have estimated both absolute emissions data and also intensity data, as captured by the WACI⁴ metric (weighted average carbon intensity), across our Irish and Global Portfolios. In terms of our Irish Portfolio, the WACI fell from 325 tCO₂e to 258 tCO₂e per €1m of revenue in 2023 - as the portfolio pivoted to lower emission sectors (with a similar decline in absolute emissions from 2.2 million tCO₂e to 1.07 million tCO₂e). In terms of the Global Portfolio, while our absolute emissions rose due to growth in invested capital across the portfolio, the WACI intensity metric saw a reduction year-on-year: from 80.01 tCO₂e to 65.32 tCO₂e per €1m of revenue for our Global Equity Portfolio and from 113.19 tCO₂e to 92.06 tCO₂e per €1m of revenue for our Global Bond Portfolio.

¹ "State of the Global Climate 2023". World Meteorological Organization. March 2024.

² "Annual Climate Statement for 2023". Met Éireann. January 2024.

³ EPA Press Release. July 2024.

⁴ WACI is a standard measurement to understand emissions after adjusting for the size of a company. This metric portrays the amount of carbon produced relative to the varying sizes of companies held within the fund.



INTRODUCTION

The Ireland Strategic Investment Fund (“ISIF” or the “Fund”) invests on a commercial basis in a manner designed to support economic activity and employment in Ireland. Responsible investment has been core to its approach from the outset, with a key focus on climate in terms of investment opportunities and managing and mitigating climate risk in both its Irish and Global Portfolios. This report gives a broad overview of the actions and analysis that ISIF has taken to address climate change.



INTRODUCTION AND OVERVIEW

Investing with impact is key to ISIF's mandate. ISIF prioritises using its capital and resources to address strategic challenges and focuses on making transformational investments across its impact themes, including climate. ISIF commenced a €1 billion five-year climate action investment programme in 2021. This will be where ISIF will have its most significant impact. ISIF climate strategy encompasses all areas of the economy where carbon emissions are present such as energy, transport, the built environment, waste, and enterprise, and incorporates other thematic investment areas that will be key to transitioning to a Net Zero economy.

ISIF is a responsible investor, and integrating Environmental, Social and Governance (ESG) factors are core to its investment approach. This report focuses on Climate – a priority issue for the Fund. ISIF has been measuring and monitoring various climate related metrics across its Global and Irish Portfolios for several years. Both climate data availability and methodologies differ across ISIF's portfolios, and ISIF's approach has changed and evolved alongside evolving measurement frameworks. ISIF expects this to continue. Global⁵ and Irish⁶ portfolio metrics are not directly comparable due to the different characteristics of the Irish and Global Portfolios and the different ESG tools required.

TCFD (ISSB) RECOMMENDATIONS ARE STRUCTURED AROUND FOUR THEMATIC AREAS: GOVERNANCE, STRATEGY, RISK MANAGEMENT, AND METRICS AND TARGETS AND ARE THE KEY GUIDANCE INFORMING ISIF'S APPROACH TO CLIMATE REPORTING.

ISIF BELIEVES THAT RESPONSIBLY MANAGED COMPANIES, THOSE THAT ACTIVELY MANAGE ESG ISSUES, ARE BEST PLACED TO ACHIEVE A SUSTAINABLE COMPETITIVE ADVANTAGE AND PROVIDE STRONG, LONG TERM INVESTMENT OPPORTUNITIES.

ISIF is a founding signatory to the Principles of Responsible Investment (PRI), supporter of CDP (formerly the Carbon Disclosure Project) and endorser of the One Planet Sovereign Wealth Fund (OPSWF) initiative, all of which endorse the Task Force on Climate-Related Financial Disclosures (TCFD)⁷, which have since been subsumed by ISSB Standards IFRS S1 and S2. ISIF has been disclosing information on its climate journey annually as part of its ongoing commitments to the PRI and OPSWF. Carbon Emissions data is presented as at year-end, 2023.

TCFD recommendations are structured around four thematic areas: Governance, Strategy, Risk Management, and Metrics and Targets and have informed ISIF's approach to climate reporting. ISIF is working towards improved integration and disclosures on all four elements to become aligned with the TCFD/ISSB.

Finally, this Report focusses on ISIF's investment Portfolio, not the operations of ISIF's business unit. That said, ISIF's emissions are measured as part of the National Treasury Management Agency's (NTMA) carbon footprint. ISIF is committed to the NTMA-wide goal of being an environmentally sustainable and Net Zero emissions organisation by 2030.

ISIF refers to "carbon" and "emissions" interchangeably throughout this report, meaning all Green House Gas (GHG) emissions.

⁵ ISIF's Global Portfolio comprises largely publicly listed assets that are subject to significant disclosure requirements, which supports robust data analytics provided by ISS ESG.

⁶ ISIF's Irish Portfolio comprises largely private unlisted assets. Carbon analysis across this Portfolio is based on averaging methodology.

⁷ Task Force on Climate-Related Financial Disclosures (TCFD) was established to develop a set of climate-related financial risk disclosures which can be adopted by companies to inform investors. Note that, since 2024, TCFD's monitoring responsibilities have been transferred to the ISSB. ISSB Standards—IFRS S1 and IFRS S2—fully incorporate the recommendations of the TCFD.

ISIF'S CLIMATE ACTION AND REPORTING WILL CONTINUE TO EVOLVE

- This report gives a broad overview of the various actions and analyses undertaken by ISIF. ISIF's portfolio and TCFD (now part of the ISSB) recommendations for asset owners are evolving, particularly in the Irish Portfolio, where the investments are primarily in private markets, and data gaps exist. ISIF is on a journey toward full alignment with ISSB.
- ISIF is committed to continuous improvement and some areas where ISIF will focus going forward include:
 - Reassessing current metrics and targets to become future-proofed and fit for this next decade, given the need for a radical reduction in emissions globally.
 - Development of portfolio alignment metrics for the Irish Portfolio.
 - Developing deeper sector or industry expertise in order to allow for robust assessment of climate risk within companies, sectors, and sub-sectors, in line with legislative requirements, EU Taxonomy guidelines, the Climate Action Plan and the Climate Action and Low Carbon Development (Amendment) Act 2021 Carbon Budgeting provisions.
- In 2023, ISIF partnered with Sociovestix, a climate data nonprofit, in analysing climate risk across the Irish Portfolio. This initiative was co-founded by Andreas Hoepner, Professor of Operational Risk, Banking & Finance at UCD. The analysis was used to prioritize engagement activity with investees and fund managers. This work will continue in 2024 as part of ISIF's ongoing climate engagement activity.



ISIF'S CLIMATE GOAL

ISIF is committed to supporting the long-term transition to Net Zero in Ireland before 2050 by driving substantial emissions reductions and increasing ISIF's positive climate impact by 2030.



ISIF CLIMATE GOALS:

- Decarbonise ISIF's investment portfolio in a way consistent with achieving Net Zero emissions before 2050.
- Allocate capital to invest in assets and businesses that lower emissions and facilitate or take action to mitigate the impact of climate change.
- Utilise best practice investment frameworks and guidance to achieve Net Zero.
- Assess the climate commitments of ISIF's investees and asset managers.
- Support companies and sectors that are leaders in emissions efficiency.
- Set emissions reduction targets and measure ISIF's progress against them.
- Conduct climate financial risk assessment in line with TCFD and ISSB recommendations.

ISIF'S CLIMATE GOAL IS TO SUPPORT THE LONG-TERM TRANSITION TO NET ZERO IN IRELAND BEFORE 2050 BY DRIVING SUBSTANTIAL EMISSIONS REDUCTIONS WITHIN ISIF'S PORTFOLIO AND INCREASING ISIF'S POSITIVE CLIMATE IMPACT BY 2030.



ACHIEVING ISIF'S CLIMATE GOAL

ISIF aims to manage the risks and capture the opportunities that climate change presents through climate-positive investments and a whole portfolio approach to engagement and risk mitigation.

Opportunity and Impact: Climate Positive Investment

Investing for a Net Zero World

- Allocating capital to new opportunities across the Irish Portfolio.
- Integrating climate change into investment strategies.
- ISIF's climate strategy is to make investments that help position Ireland for Net Zero.

Engage and Influence

Whole Portfolio Approach

- Engage with external investment managers and investees.
- Improve disclosure and transparency.
- Engage with companies, stakeholders, government agencies and policy makers.
- Climate change is a systemic risk and therefore a whole of Portfolio challenge to be addressed with multiple stakeholders.

Climate Risk Mitigation (including divestment)

Measure, Monitor and Divest

- Divestment from global fossil fuel and high carbon companies, supported by exclusion list of 247 companies in which ISIF will not invest and the Fossil Fuel Divestment Act 2018.
- Develop and measure appropriate climate metrics aligned with best practices.
- Monitor climate related physical risks, transition risk and scenario analysis.
- Ongoing ESG assessment on all investments, including due diligence on climate risks.

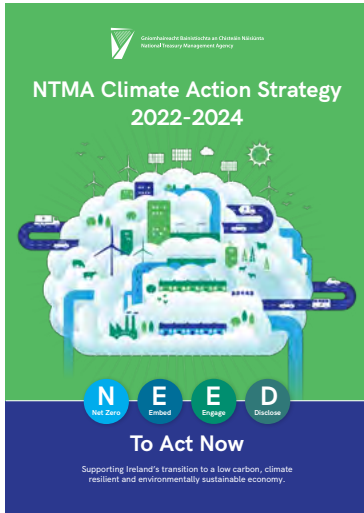


ISIF'S CLIMATE GOVERNANCE

ISIF is committed to climate action at an organisational, Fund and national level through structured decision making.

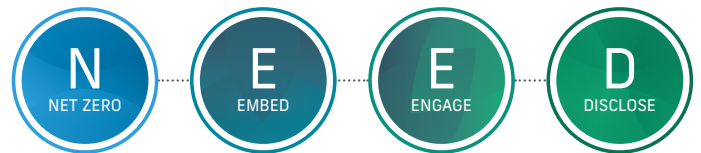


ISIF GOVERNANCE CLIMATE RISKS AND OPPORTUNITIES ARE CONSIDERED AS PART OF ISIF'S OVERALL INVESTMENT APPROACH AND DECISION-MAKING PROCESS.



- The NTMA is the manager and controller of ISIF. The NTMA has responsibility for the implementation of the investment strategy for ISIF including the Sustainability and Responsible Investment Strategy, which focuses on climate. The NTMA consults the Minister for Finance and the Minister for Public Expenditure and Reform when determining and reviewing ISIF's investment strategy and has regard to any views expressed by the Ministers.
- The NTMA's Investment Committee (a sub-committee of the NTMA Board), makes decisions on the investment of Fund assets (including disposal of investments) within the terms of the investment strategy agreed by the Agency, makes recommendations to the Agency on the investment strategy for the Fund and oversees its implementation. The Investment Committee also receives updates on ESG and climate-related matters across the portfolio.
- ISIF has a dedicated Responsible Investment team and separate Climate Investment team. All investment proposals include an assessment of the carbon intensity of the potential investment together with its impact on the overall portfolio carbon intensity.

NTMA GOVERNANCE



- The NTMA supports various actions contained in the Government's Climate Action Plan (CAP) 2024, through the NTMA Climate Action Strategy 2022-2024. The overarching objective of the NTMA's climate strategy is to ensure that the NTMA builds on its leadership role in sustainable finance to support the delivery of the Government's climate action initiatives through its mandates and to be a Net Zero emissions organisation by 2030.
- To do so, the NTMA commits to integrating climate action into its business decisions, including investment, in the context of delivering its mandates and being an environmentally sustainable and impactful organisation. As per the NTMA Climate Action Strategy, the NTMA's climate goals comprise external and internal deliverables to be achieved through its business mandates, processes, and systems. The four goals, Net Zero, Embed, Engage and Disclose, reflect the work currently underway with targets set to further enhance the NTMA's drive to support the government's climate action commitments. The goals also commit the NTMA to be environmentally sustainable, reflecting the "NEED To Act Now."
- The oversight and monitoring of the NTMA's Climate Action Strategy is a priority for the NTMA Board and Executive Management Team (EMT). The Chief Financial and Operating Officer (CFOO) is responsible for coordinating combined climate action efforts across the NTMA.
- The NTMA Head of Sustainability reports to the NTMA CFOO. A key aspect of this role is to enable the NTMA to continue to build its leadership role in sustainable finance, to ensure the integration of climate action into the NTMA's business decision making and oversee the implementation of the NTMA Climate Action Strategy.
- The NTMA Sustainability Group, established in 2019, oversees the delivery of the NTMA Climate Action Strategy while facilitating cross-unit collaboration and information sharing concerning climate-related activities. Alignment with the Public Sector Climate Mandate 2024 is also a key consideration for this group and the NTMA's latest roadmap is available [here](#).
- The NTMA has also established an employee-led Green Team to support the aim of the NTMA to be a recognised leader in sustainable workplace practices in Ireland. The Green Team assists in embedding new environmentally sustainable behaviours among all employees and consists of committed and engaged employees who undertake sustainable initiatives in addition to their other responsibilities.

KEY LEGISLATIVE FRAMEWORKS

Climate Action and Low Carbon Development (Amendment) Act 2021

- It provides, inter alia, for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than year-end 2050, and also provides for carbon budgets to provide for a reduction in greenhouse gas emissions.
- It sets a 'national climate objective' which provides that the State shall, so as to reduce the extent of further global warming, pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy.
- Embeds the process of carbon budgeting.
- Strengthens the role of the Climate Change Advisory Council.
- Public Bodies, including the NTMA, will be required, in so far as practicable, to perform their functions in a manner consistent with, among other things, the most recent approved national climate plan and different strategies and the furtherance of the achievement of the national climate objective.

Fossil Fuel Divestment Act 2018

- This Act was signed into law by the President of Ireland in December 2018. The Act provides for the divestment by ISIF from fossil fuel undertakings (effectively, companies that derive 20% or more of their revenues from the exploration, extraction and/or refinement of a fossil fuel (oil, natural gas, peat, coal, or any derivative thereof intended for use in the production of energy by combustion).
- Ireland was one of the first countries to divest public money from fossil fuel investments. ISIF remains one of the few sovereign development funds globally to implement a fossil fuel divestment strategy.
- ISIF has developed a list of 247 fossil fuel companies in which it will not invest, as determined by criteria within this Act.
- This list is updated on a semi-annual basis in line with a methodology which is aligned with the legislation and is available on ISIF's website.

Sustainable Finance Disclosure Regulation (SFDR)

The Sustainable Finance Disclosure Regulation (SFDR) (Regulation (EU) 2019/2088) came into force on 10 March 2021 and imposes disclosure requirements for financial products as defined under SFDR. These requirements include disclosing sustainability-related information for financial products that (i) promote (among other characteristics) environmental and/or social characteristics (Article 8 products) or (ii) have a sustainable investment objective (Article 9 products), both as defined under SFDR.

(*ISIF is not subject to SFDR, but certain ISIF Investment managers are.)

The Wildlife (Amendment) Act 2023

The Wildlife (Amendment) Act 2023 requires certain public bodies, including government departments, agencies, and local authorities to integrate biodiversity into their plans, policies, and programmes. While not subject to the Act, ISIF recognizes the economic benefits derived from natural capital and considers biodiversity risk in analysing potential investments.

“SUSTAINED IMPROVEMENTS IN THE RESILIENCE OF OUR NATURAL WORLD AND ITS BIODIVERSITY ARE ESSENTIAL TO SECURE THE PROSPERITY OF CURRENT AND FUTURE GENERATIONS”.⁸

⁸ Recommendations of the Taskforce on Nature-related Financial Disclosures (September 2023).

ISIF'S CLIMATE STRATEGY

ISIF's Irish Portfolio climate strategy is to make investments that help position Ireland for the Net Zero carbon economy envisaged under the national Climate Action Plan and improve the resilience of the Irish economy as the global market increasingly pivots towards sustainable business practices.



BREAKING THE LINK BETWEEN ECONOMIC GROWTH AND GHG EMISSIONS

Multi – strand strategy from infrastructure to technology. ISIF will target investments and partnerships that can materially advance the decarbonisation of the Irish economy (and contribute to decarbonisation initiatives throughout the world) in the short, medium, and long term.

2030 TRANSITION PORTFOLIO

Capital Intensive Investments, that will help Ireland achieve the 2030 emissions goal.

Sustainable Infrastructure

- Less carbon

Enabling Ecosystem

- More efficient

- Aligned with the Climate Action Plan.
- Crowd in private capital.
- Partner with strategic players to bring best-in-class expertise to Irish market.

NET ZERO PORTFOLIO

Portfolio of options, investments that will help set Ireland on the path to Net Zero by 2050 or earlier.

New Technologies and Business Models

- Decarbonise 'difficult' sectors
- New energy and economic paradigms
- Resilient to climate

- Invest in global platforms to connect Ireland into a world class climate network and attract top emerging companies to Ireland.
- Leverage 'test bed' size of Irish economy to prove new solutions and deploy in Ireland.
- Big ideas with transformative impact.

OPPORTUNITY AND IMPACT - CLIMATE POSITIVE INVESTMENT

€1bn additional investment is targeted for climate action projects over 5 years.

ISIF's Climate Investment Strategy seeks to fund climate positive initiatives which support Ireland's transition to a Net Zero low-carbon economy. This is a two-pillar approach: Firstly, supporting the sustainable infrastructure requirements of the Irish economy. Secondly, in funding the development of new technologies and business models that will support the longer-term transition of the Irish economy to Net Zero beyond 2030 and before 2050. ISIF has partnered with top-tier international investors with deep expertise in the climate arena, bringing smart capital and world-class talent to focus on Ireland's decarbonisation journey. In 2021, ISIF announced its ambition to invest €1 billion in climate-related investments over a five-year period. As at end-2023, ISIF has invested €361m further to this commitment, bringing the overall total of climate-related investments in support of the decarbonisation strategy to over €650m.

Climate Investments in 2023:



ArcTern Ventures Fund III (NR) L.P.

€28m commitment to a venture capital climate-tech focused fund.



NVC Fund 2 (D) AB

€21m commitment to a female-led, Swedish based, impact venture capital fund focussed on climate-tech and health-tech.



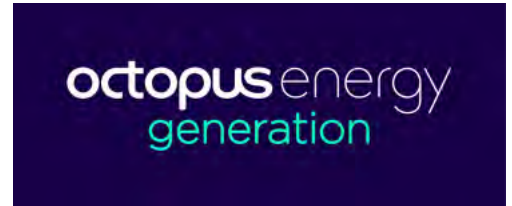
Octopus Renewables Infrastructure SCSp "Sky Fund"

€91m commitment to Octopus Energy Generation's Sky Fund (ORI SCSp) for investment in renewable energy projects.

WHOLE PORTFOLIO APPROACH

Demonstrating impact is not limited to investments made specifically under ISIF's climate strategy. ISIF's other investments also demonstrate strong climate credentials.

Case Study: Octopus Renewable Infrastructure



In November 2023, ISIF announced a €91m commitment to Octopus Energy Generation's Sky Fund for investment in renewable energy projects. As part of the commitment, Octopus Energy Generation plans to establish an office in Dublin, creating a full-time and on-the-ground presence over the coming months as it invests in Irish green energy projects.

This commitment aligns with Ireland's Climate Action Plan 2024 which targets 80pc of electricity to come from renewable sources by 2030.

Octopus Energy Generation is one of Europe's largest investors and managers of renewable energy, with assets under management of around £6bn. It has a track record of deploying capital in Ireland, across Europe and globally in a wide range of solar, offshore wind, onshore wind and broader energy transition technology projects, all delivering green clean infrastructure at scale. To date, Irish

investments include Verde Energy Group and Simply Blue Energy.

Verde Energy Group is a Cork based Energy Services Company specializing in solar energy and LED lighting solutions across a range of sectors. Verde will use the investment from Octopus to develop more than 50 solar projects with a combined capacity of 100MW across the country by 2027.

Simply Blue Group, also based in Cork, is a developer of "blue economy" projects, including: floating offshore wind, e-fuels and energy parks. The company is developing two major projects in Ireland, twin 1.3GW offshore wind farms off the Cork and Clare coasts. Each wind farm would have the potential to power 800,000 homes when developed. This investment supports Ireland's target of 5 GW of offshore wind energy by 2030.

Case Study: D/RES



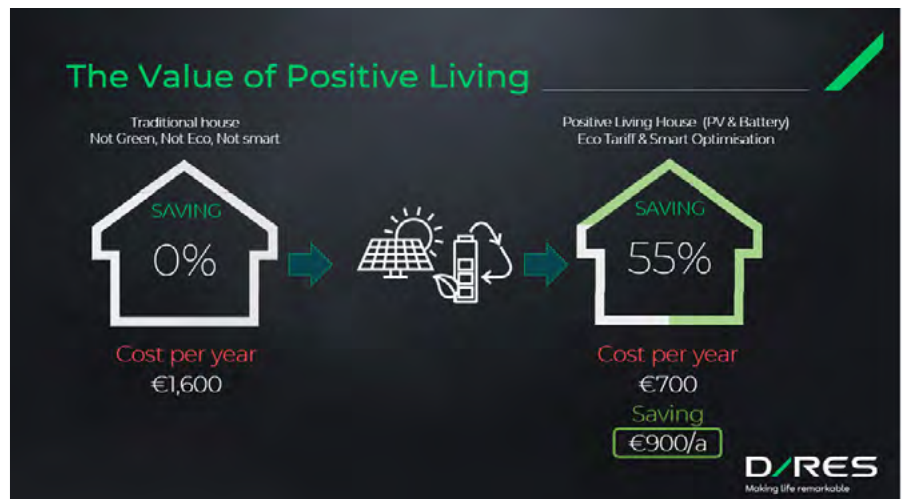
In November 2022, ISIF committed a loan facility of €25m to support D/RES in the delivery of new homes in the greater Dublin area. D/RES Properties is a family-owned property development and construction business established in 2017 that has become synonymous with the delivery of high-quality homes.

With sustainability very much a part of its DNA from the outset, D/RES Properties was responsible for the award-winning Silken Park built in 2017, which at the time was the largest Passivhaus Certified Development in Ireland. In 2022, D/RES Properties launched its Positive Living smart-energy initiative at Tinakilly, Co. Wicklow. This received the prestigious Climate Action & Sustainability Award at the 2022 Property Industry Excellence Awards.

The Positive Living initiative is a ground-breaking partnership, with Pinergy providing smart technology and AIB offering Green Mortgage options to enable residents to upgrade from minimum BER A2 rated homes to BER A1 rated homes.

The Positive Living smart-energy upgrade allows for the utilisation of PV panels, electricity storage batteries and the creation of a renewable energy microgrid where electricity can be traded between neighbours, reducing carbon emissions by over 1.5 tonnes of CO2 per year. The energy generated in Tinakilly can even be fed back into the national grid in a split second to help balance the load on it.

The smart energy hub can manage each house's system to ensure the most efficient usage of energy at any given time with regard to heating water, running washing machines, dishwashers and other home utilities, resulting in significant savings for the customer in the form of reduced energy bills of up to 55% per annum. Moreover, this sophisticated system can even track the energy usage patterns of electric vehicles, utilising car battery power for home appliances on certain days of non-use, but ensuring cars are still fully recharged for their next planned use.

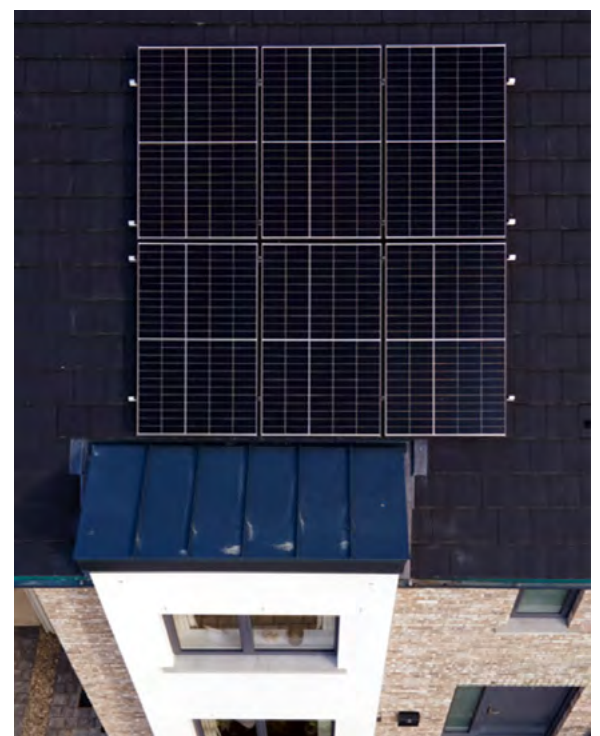


Case Study: D/RES



“Tinakilly Park is the new benchmark for sustainable living, and is the realisation of the D/RES philosophy which is to develop homes of the highest quality that have minimal impact on the environment and climate. Our core proposition as construction-industry leaders is to take action and provide residents with excellence in biophilic design along with best-practice energy efficiency features. This disruption to the market will see our residents potentially join an elite group of homes in Ireland that are A1-rated, thereby reducing carbon emissions, lowering energy bills and providing energy security in the current energy crisis.”

Patrick Durkan, CEO of D/RES Properties



Case Study: Melior Equity Partners – Ohk Energy



Through its investment in Melior Equity Partners Fund II, ISIF has invested in Ohk Energy, one of the largest renewable energy services groups in Ireland. The Fund is managed by Melior Equity Partners, a leading Irish private equity investment firm with a strong track record of supporting Irish management teams and investing in small to medium sized private businesses in Ireland.

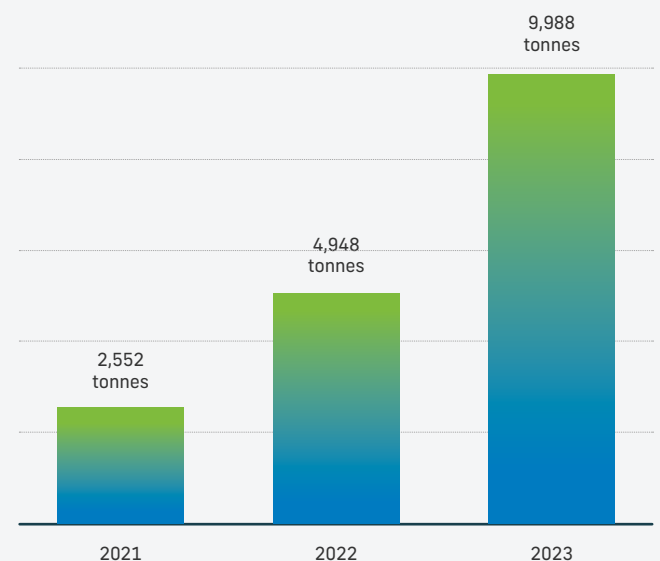
Based on its assessment of several market factors, Melior identified the energy transition as a key investment theme in 2022 and sought to identify a suitable platform to back. These market factors included structurally high energy costs, consumers' increasing climate consciousness, as well as regulatory driven demand resulting from energy security concerns and climate action targets. It is projected that Ireland will achieve a 29% reduction in greenhouse gas emissions by 2030 compared to a 51% reduction enshrined in the Climate Act, which highlights the urgent need for action from both public and private sector.

The energy services market in Ireland is highly fragmented with few players of scale and sophistication, so strategic M&A was core to Melior's investment thesis. By merging a number of high-quality companies with strong individual competencies, attracting management talent, adding innovative services, and diversifying the group's end markets, Melior's ambition is to accelerate the energy transition and develop a trusted national brand in the market.

In October 2023, Melior acquired a majority stake in NRG Panel, a leading installer of solar PV and heat pump systems in Ireland. In April 2024, NRG merged with Galway-based JFW Renewables, an installer of solar PV, battery and EV charging

services, and acquired MK Renewables, a heat pump servicing business. The Group was recently rebranded as Ohk Energy. The increased scale, geographic footprint and product diversity from the merger means the larger Ohk Energy business can better support its residential and business customers on their transition to a lower cost, more sustainable future.

CO2 Emissions Avoided Annually from Renewable Energy Systems Installed by Ohk Energy



*Figures estimated using company data.

Case Study: Melior Equity Partners – Ohk Energy

Ohk Energy employs over 140 people and completed 3,600 installations in the last year, making it one of the largest renewable energy services businesses in Ireland. The board and management team have been enhanced through the addition of experienced industry leaders including Fergal Leamy, Group CEO of Glen Dimplex who has joined as Chairperson and Conor Foley, former MD UK of Circet, who has joined as CEO. An experienced CFO, Head of Safety and HR Director have also been hired. The business aims to scale further by building a state-of-the-art training academy to further develop the skills needed to support Ireland's ambitious energy transition targets.

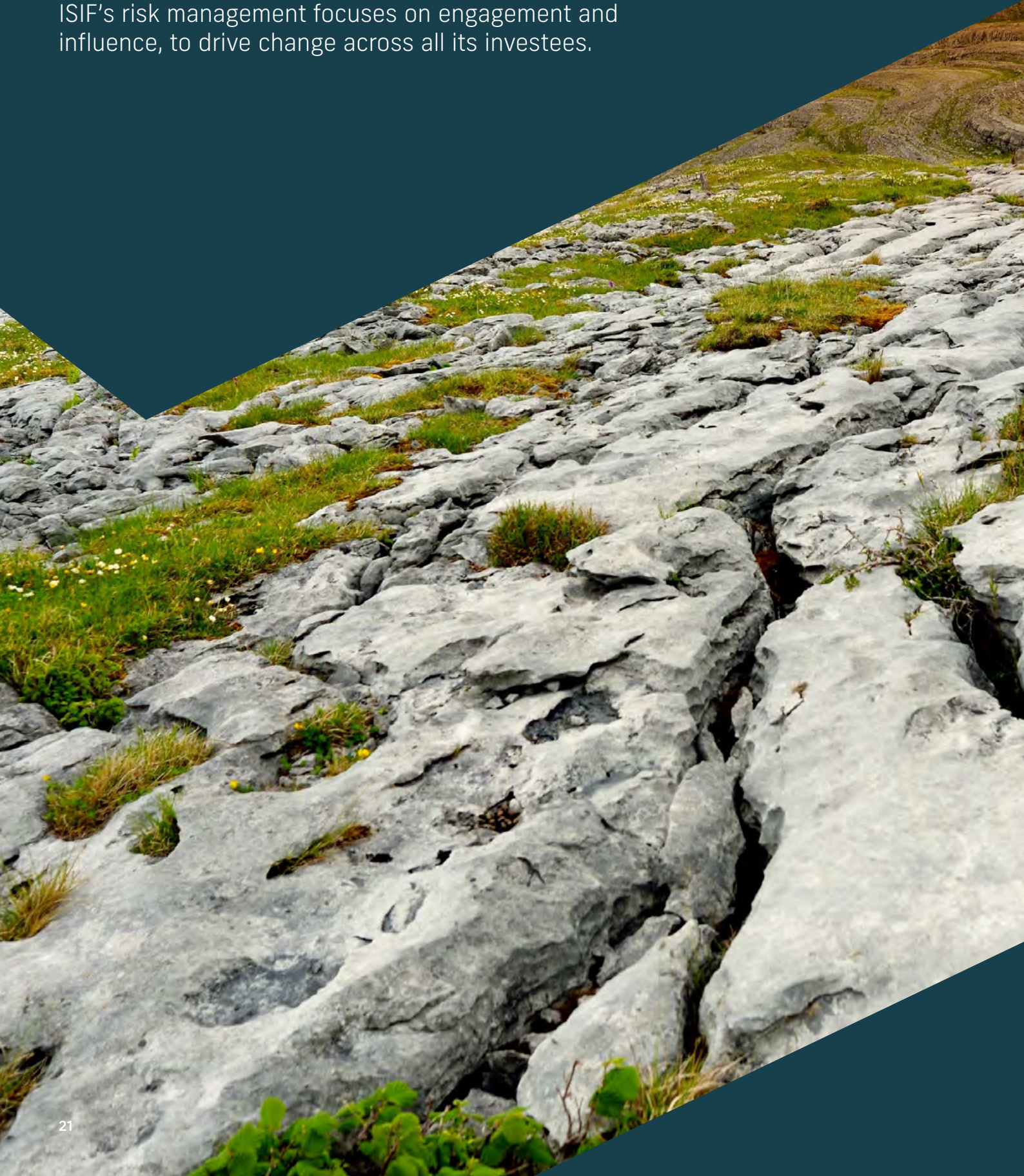
Ohk Energy is playing its role in addressing climate change in several ways:

- Solar panels installed by Ohk Energy generate over 37MW of clean energy across the island of Ireland annually, saving an estimated 12,400 tonnes of carbon each year.
- Heat pumps installed by Ohk Energy save an estimated 750 tonnes of carbon each year.
- Ohk Energy prides itself in building long-term relationship with customers. Ohk Energy's service and maintenance offering includes heat pump servicing and solar health checks to ensure renewable energy products are operating at full capability, increasing their lifespan and reducing waste.
- Ohk Energy is implementing its own internal ESG strategy, with a focus on reducing the carbon emissions of its own operations.



RISK MANAGEMENT

ISIF's risk management focuses on engagement and influence, to drive change across all its investees.



MANAGING INVESTMENT RISK IS KEY TO ISIF'S MANDATE

Climate is specified as a strategic risk by the NTMA Board and is factored into ISIF decision-making.

- **The NTMA Board expects the organisation to demonstrably factor in Climate Risk to all of its decision making.**

- The elevation of climate risk as a strategic risk, underscores the importance the NTMA has already placed on the topic of climate action and the environment and its importance to all key stakeholders. This ensures that climate remains a strategic priority.
- The NTMA defines climate risk as the risk that the NTMA fails to take the necessary actions to integrate climate action (as appropriate) into its business decisions in the context of delivering its mandates to the Government and delivering an environmentally sustainable organisation in line with its climate strategy.

Risk Appetite Statement for NTMA climate risk – As a public body, the NTMA must support Ireland's transition to a low-carbon, climate-resilient, and environmentally sustainable economy. The NTMA has a 'low' risk appetite for climate risk and monitors this risk via key risk indicators which are reported to the appropriate NTMA governance committees.

- **Primary risk for ISIF is the deviation of actual investment return from expected return.**

- ISIF's investment process incorporates many controls for this risk, including the consideration of climate risk which is embedded into the investment appraisal

process, and the application of ESG and responsible investment policies.

- Climate risks are identified as part of ISIF's investment process from the first sight of a potential transaction throughout the investment lifecycle.
- Climate risks are separately measured and monitored through a series of climate metrics modelling and measurements across ISIF's investments, both in-house (Irish Portfolio) and independently through external providers (Global Portfolio).
- The Global Portfolio is subject to climate impact assessment, including emission exposure, attribution and intensity analysis, temperature-related scenario alignment, transition, and physical risk analysis. Current assessments indicate a high degree of climate-related resilience.
- All Global Portfolio investments are reviewed per Sustainable Finance Disclosure Regulation (SFDR) requirements. (*ISIF is not subject to SFDR but certain ISIF Investment managers are.) Risk management and mitigation are part of ISIF's overarching approach to its climate strategy.
- ISIF uses various tools, including fossil fuel divestment and active ownership. The changing regulatory environment around climate and how it affects its investments is continuously monitored.
- Data availability is critical, and further consideration of the EU taxonomy into ISIF's decision making will be an essential factor in the future.



ENGAGE AND INFLUENCE

Over 913 climate related engagements across the Global Portfolio in 2023.

- Global Portfolio Engagement is led by EOS at Federated Hermes on ISIF's behalf. In 2023, EOS engaged with 524 companies on 2,478 environmental, social, governance, strategy, risk and communication issues and objectives; of which 913 were climate related.
- EOS have expanded their focus beyond traditional energy intensive sectors, such as energy supply and transportation, by seeking Paris-aligned Net-Zero strategies at the providers of capital, focusing on the banks and encouraging the shift to sustainable food systems that avoid deforestation and protect biodiversity, among other factors.
- Climate action remained a key priority theme for EOS in 2023 with engagement focused on a number of areas including, emissions reduction targets in line with 1.5°C.
- Other priority themes for EOS included Human and Labour Rights, Human Capital issues and Board Effectiveness.
- Looking forward, EOS have expanded their engagement efforts in a number of areas, including biodiversity and more nuanced issues such as Digital Rights and Artificial Intelligence.
- EOS will continue to lead or co-lead collaborative engagements across multiple sectors through the Climate Action 100+ and Institutional Investors Group on Climate Change (IIGCC) initiatives.
- In 2023, EOS highlighted that it has been at the forefront of advocating for the protection and conservation of the natural world and their engagement has intensified in this area. At COP28, Federated Hermes Limited announced its intention to work with the Global Alliance for a Sustainable Planet on innovative investment solutions. The ambition is to create a scalable platform that aligns impact-focused patient capital with the development needs of countries on the frontlines of climate change. This aligns with their focus on the importance of a just transition, as some of the biggest challenges facing the transition to a low carbon economy are social rather than simply technical.



ENGAGE AND INFLUENCE

Examples from 2023

Volkswagen

EOS had deemed the progress at the company slow. In 2022, EOS made a supporting statement for a shareholder resolution filed by seven European investors, urging the company to explain how its lobbying activities helped to address climate risks. They stated that since the start of our engagement with Volkswagen, nearly half of the European companies in scope for the Climate Action 100+ initiative had published at least one climate lobbying review, and the majority had committed to repeating this disclosure annually.

This shareholder proposal was rejected by the company, resubmitted in 2023, and again rejected. In February, EOS met with VW's public affairs department, which confirmed that the company was planning to publish a report before the 2023 AGM. However, in the run up to the meeting no detailed drafts were sent across to EOS and there was no public commitment to publish the report.

For this reason, as well as concerns about the misalignment of emissions reduction targets and a 1.5°C trajectory, EOS recommended a vote against the discharge of the management board ahead of the AGM. Following the EOS clients' effective voting deadline and only days before the annual meeting in May, Volkswagen published its first *Association Climate Review 2023*. This was welcomed as a step in the right direction following four years of engagement on this issue.

Lyondell-Basell

In July EOS held an engagement with LyondellBasell, a Dutch chemical company that engages in the refinery and production of plastic resins and other chemicals. They spoke to the audit committee chair, the chief accounting officer,

and the chief sustainability officer, giving an overview of CA100+ and their expectations regarding climate-aligned accounts and audit.

The company said that it had initiated an ESG dashboard to track progress at the board level, with the external auditor providing limited assurance. We reiterated the expectations for climate-aligned accounts and audit that we had set out in an earlier letter. EOS provided examples drawn from the company's 2022 financial statement and emphasised the need for clear disclosure of assumptions, consistency across reporting, and evidence that the auditor had assessed climate in the context of critical audit matters.

The chair said that he would raise these matters with management, adding that engagement on this topic was well timed. He agreed to a further dialogue on the topic in 2024.

Danone

At the end of 2022, the company announced new climate targets, aligned with, and validated against a 1.5°C pathway, as part of the Danone impact journey.

During engagements with the lead independent director and the sustainable finance director, EOS urged the company to ensure that it was clear how these new targets and associated strategies were being reflected in the financial statements and the audit. However, in Danone's next annual report there was a lack of information as to how the company and its auditor had considered climate in the preparation of the accounts. This prompted EOS to recommend a vote against the financial report and accounts at the company's AGM in April 2023.



IRISH PORTFOLIO GHG EMISSIONS MODELLING

ISIF measures and monitors climate risk within the Irish Portfolio, focusing on the portfolio's Weighted Average Carbon Intensity ("WACI"), in line with TCFD and ISSB recommendations.

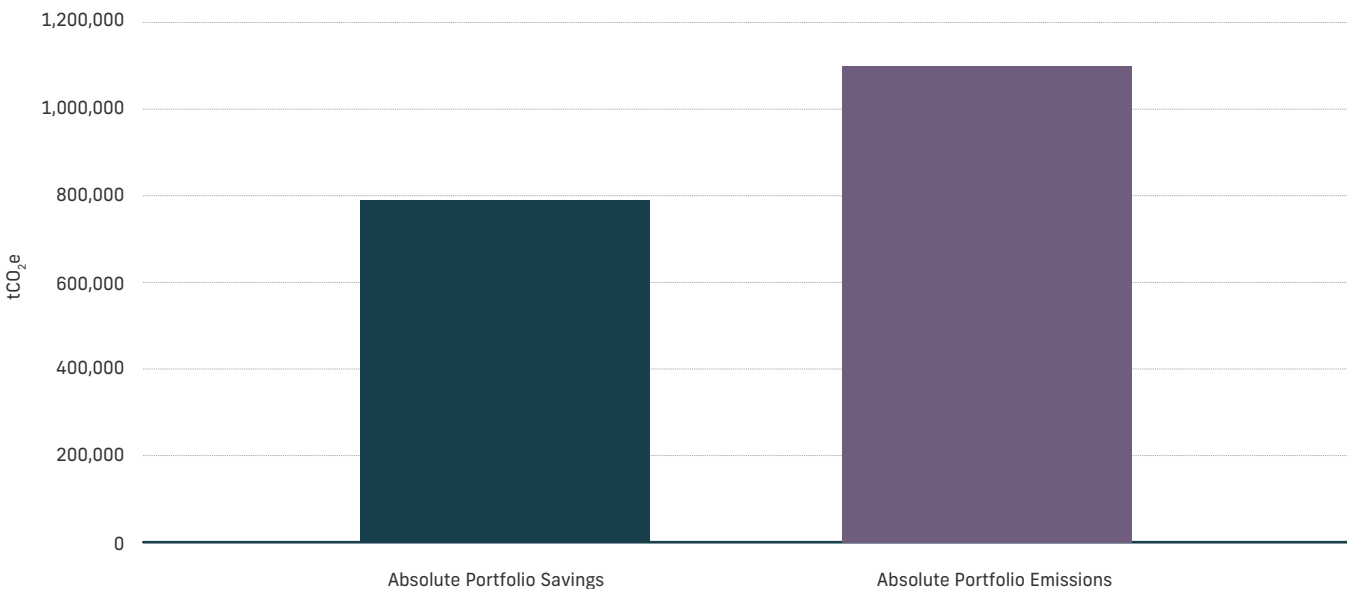
MEASURING EMISSIONS

ISIF invests in renewable technologies which can help avoid emissions by offering a clean energy alternative to fossil fuels. Measuring avoided emissions provides further context to ISIF's positive climate journey alongside its carbon footprint.

Key Performance Indicators

- Total carbon savings from renewable technologies in 2023 equated to c.782k tCO₂e as compared to c. 1,073k tCO₂e of Absolute Portfolio Emissions.
- This equates to 73% of the estimated total carbon emissions from ISIF investees in the Portfolio (at year-end 2023).
- Year-on-year, the fall in absolute emissions is attributable to the exit of an investee from the international airline market (the largest source of emissions last year).
- Carbon savings to date have been achieved mainly through wind projects. This will extend to other technologies and increase as new projects come online.
- Assets need to be operational to be included, therefore other renewable investments not yet generating power are not included in these results.
- Avoided emissions are not a carbon offset.

Annual Carbon Data

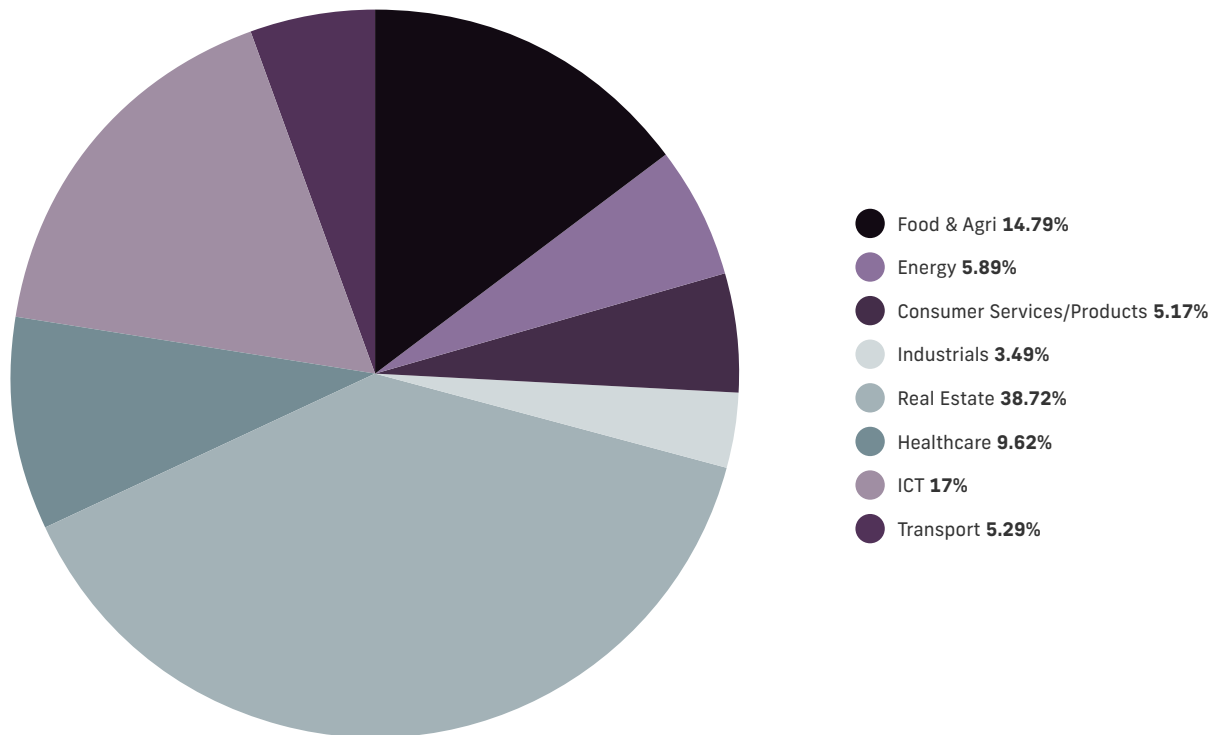


ISIF Forestry Investments support 13,032 hectares of forestry which contribute to Ireland's carbon removals target.

WEIGHTED AVERAGE CARBON INTENSITY (WACI – tCO₂e PER €M REVENUE)

The 2023 WACI will be used as the base line comparison for all new ISIF transactions to assess the potential impact on Portfolio level carbon emission intensity.

ISIF WACI by Sector Contribution 2023

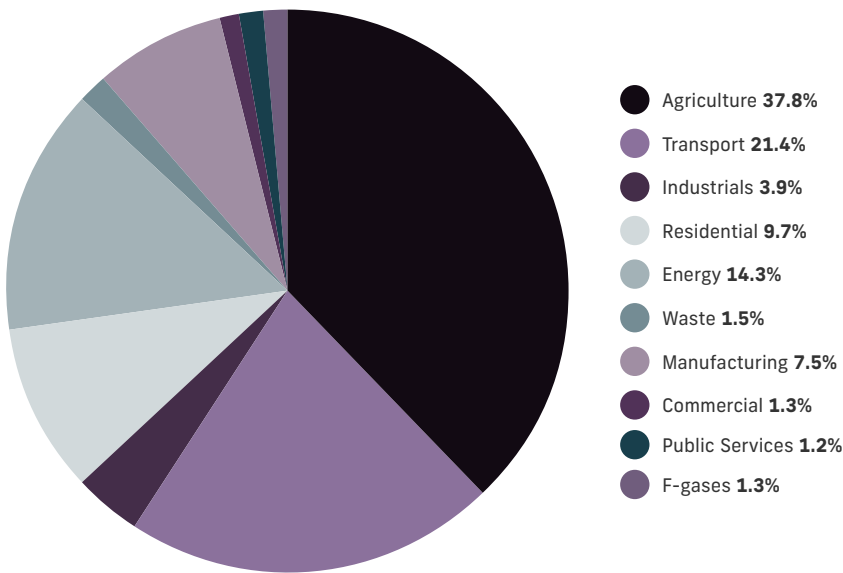


- This is a standard measurement to understand emissions after adjusting for the size of a company. It captures the emissions produced per €1m of revenue for each investment. In turn, this data is weighted by commitment amount to better understand the underlying emissions profile of the Irish Portfolio.
- ISIF's Irish Portfolio WACI as of 31 December 2023 is estimated to be c. 258 tCO₂e per €1m revenue. All Irish companies are assessed on scope 1, 2 and upstream scope 3.
- The WACI is an additional whole of portfolio overlay metric based on the modelled carbon intensity metrics.
- ISIF aim to reduce the WACI over time to a targeted 51% intensity reduction of the 2030 Portfolio WACI based on a fully invested fund in line with the current ISIF strategy and sector exposures, which may change over time and vary due to the modelled nature of this calculation at present.
- ISIF's priority is to use WACI and other metrics to identify areas of higher climate risk exposure within the Portfolio, to engage further with the most relevant investees on their climate strategy and to obtain actual emissions data where possible.
- WACI components by sector demonstrate how the size of commitments made across sectors contribute to the overall portfolio result.

ISIF'S SECTOR EMISSIONS MIX IS DIFFERENT TO IRELAND'S SECTOR MIX

At an economy level Ireland is targeting a 51% emission reduction by 2030, with agriculture and transport being the key challenges.

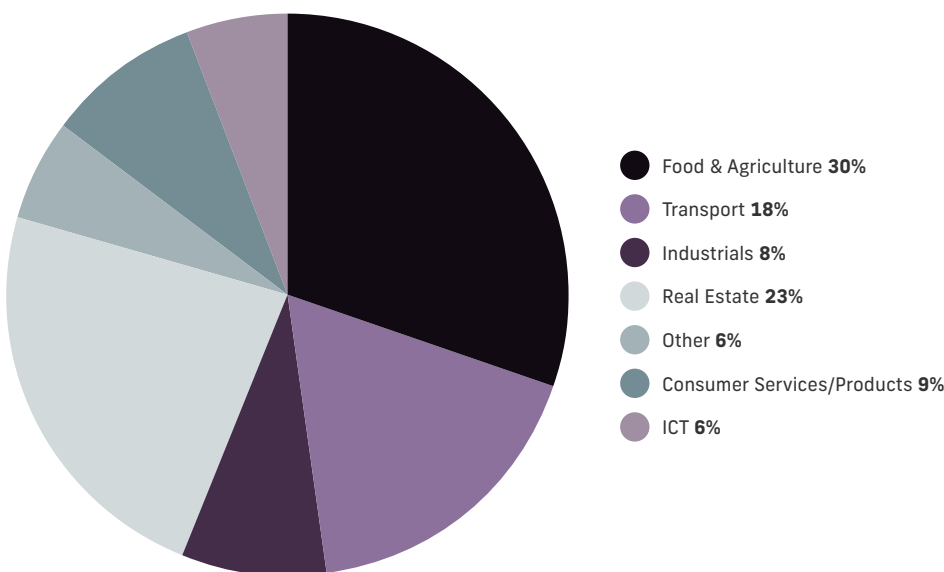
Ireland Emission Mix – 2023



Source: Greenhouse gas emissions share by sector in 2023: EPA (July 2024)

Similarly, transport and food and agriculture are key sources of emissions within the Irish Portfolio.

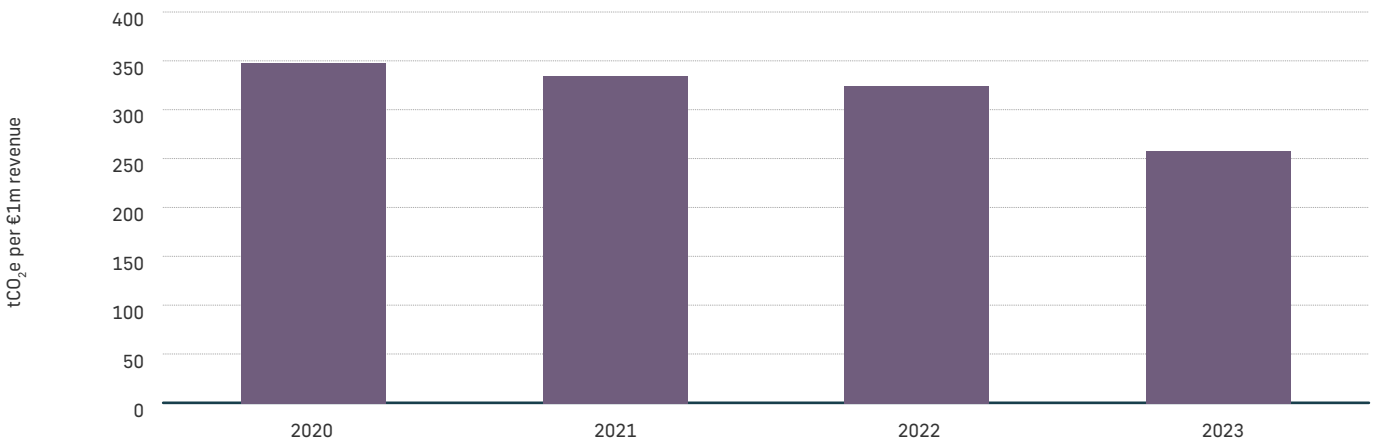
Irish Portfolio Absolute Emissions Mix 2023



ISIF TRENDS 2020 – 2023

While the WACI and absolute emissions have decreased year-on-year, this has been influenced by exits within the portfolio. However, screening via WACI and emissions estimation data allows for the prioritization of engagement activities as ISIF works towards a Net Zero target for the Irish Portfolio.

WACI Comparison

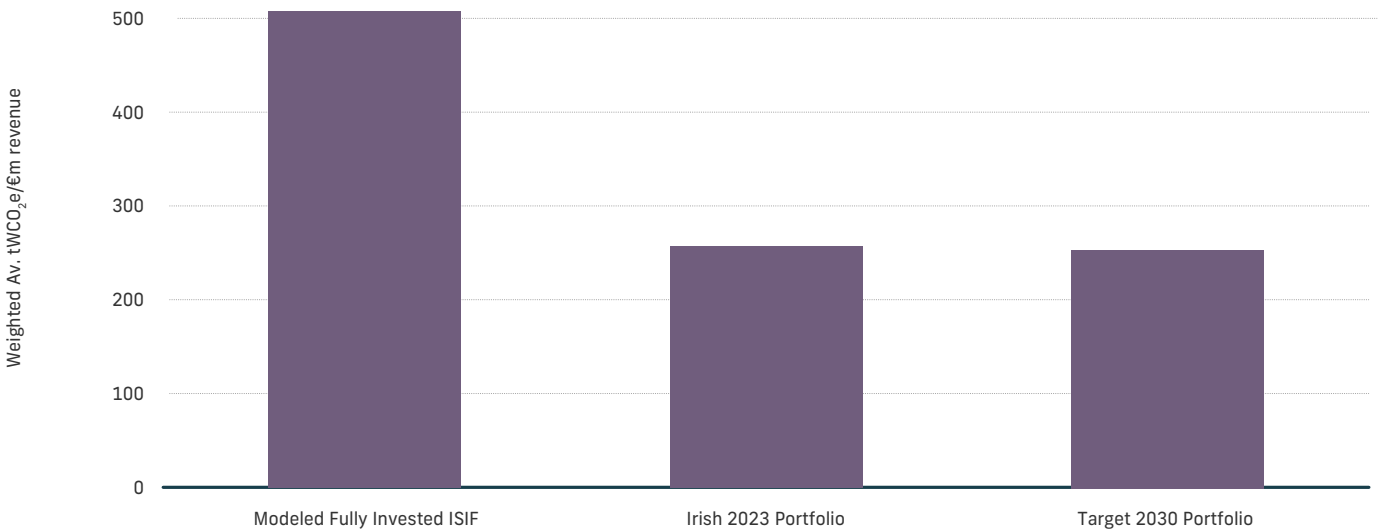


The fall in absolute emissions is attributable to the exit of an investee from the international airline market (the largest source of emissions last year in the Irish portfolio). ISIF utilizes estimates of absolute emissions and intensity metrics such as WACI to identify priority areas for ESG engagement across the Irish Portfolio.

HOW DOES A WACI OF 258 tCO₂e PER €M REVENUE COMPARE?

ISIF's Irish Portfolio WACI is lower than the current reference benchmark and will reduce overtime.

ISIF Irish Portfolio WACI relative to Modelled Benchmarks



ISIF's mandate and portfolio composition mean there are no comparable market benchmarks for measuring the portfolio's emissions intensity.

While ISIF has made progress against its 2030 target, this has been driven mainly by exits from its financed emissions calculation.

ISIF's Portfolio's WACI, is lower than the expected emissions of ISIF's Portfolio based on the broad sectors in which it invests, the modelled benchmark.

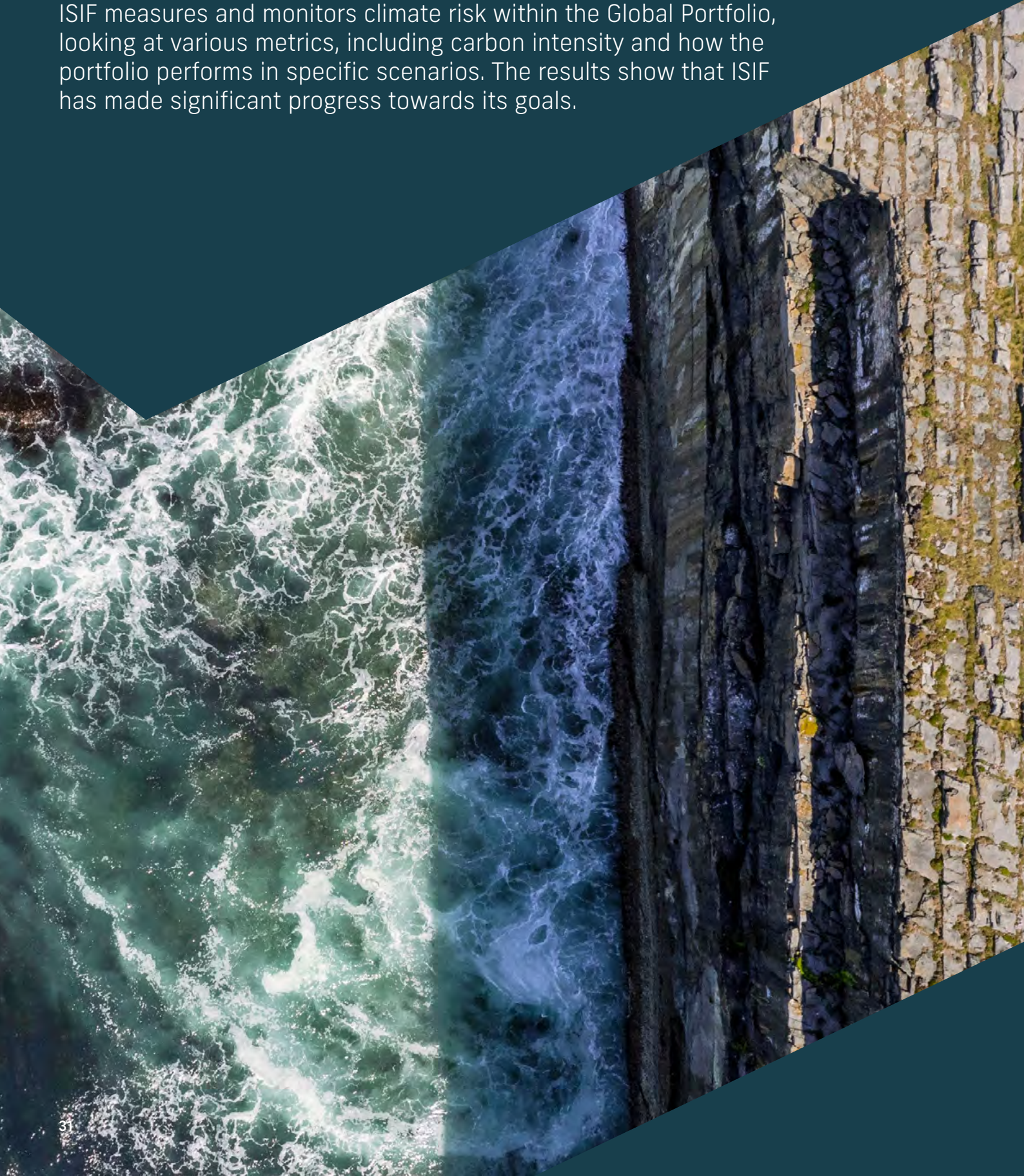
The **Modelled ISIF Benchmark WACI** is calculated based on current targeted sector exposure and estimated sector emissions intensity (**Scope 1, 2 and upstream Scope 3**).

Setting an appropriate emissions reduction target for the ISIF Portfolio in line with 51% target emission reduction at economy wide level:

- The Target 2030 Portfolio WACI is a 51% intensity reduction based on a fully invested fund in line with the current ISIF strategy and sector exposures, which may change over time.
- ISIF will align its sectoral emission targets with those set out by Carbon Budgets and new Climate Action Plan 2024 as applicable to its mandate.
- ISIF will revise the 2030 target to reflect these developments together with ISIF's sectoral exposure as compared to broad sector mix of Irish economy.

GLOBAL PORTFOLIO CLIMATE ANALYTICS

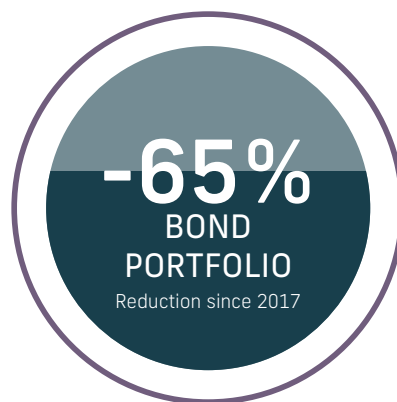
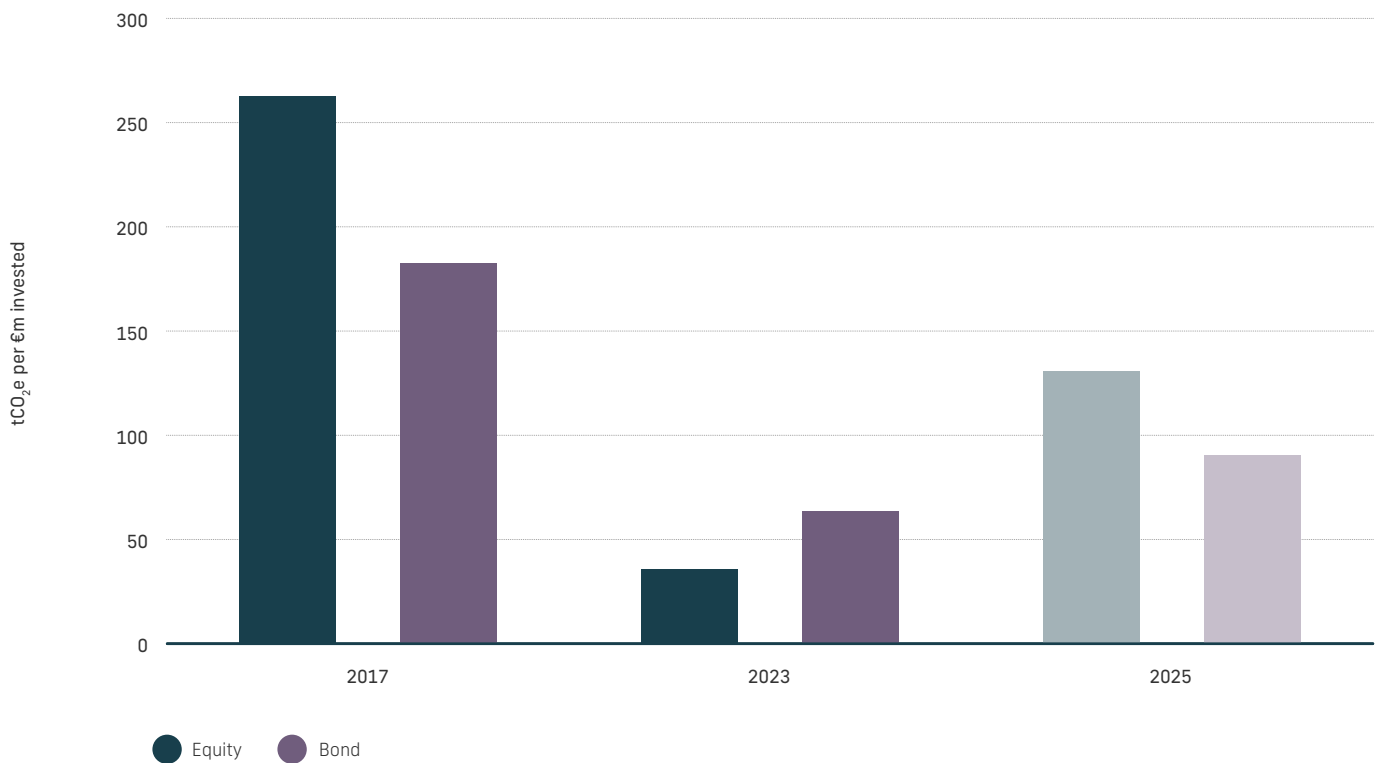
ISIF measures and monitors climate risk within the Global Portfolio, looking at various metrics, including carbon intensity and how the portfolio performs in specific scenarios. The results show that ISIF has made significant progress towards its goals.



EMISSIONS INTENSITY REDUCTIONS – TARGET OF 50% REDUCTION BY 2025

In 2023, ISIF met the carbon intensity reduction target of the Global Equity Portfolio and the Global Bond Portfolio of 50% by 2025.

This reflects the impact of Fossil Fuel related divestment which commenced prior to year-end 2018.

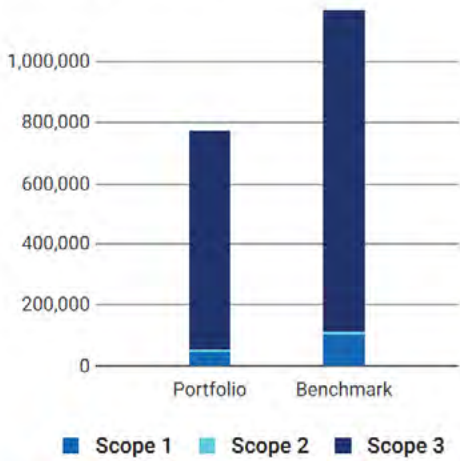


Progress since 2017 largely due to (a) Fossil Fuel Divestment and (b) material emission reductions in some sectors such as materials and utilities in recent years.

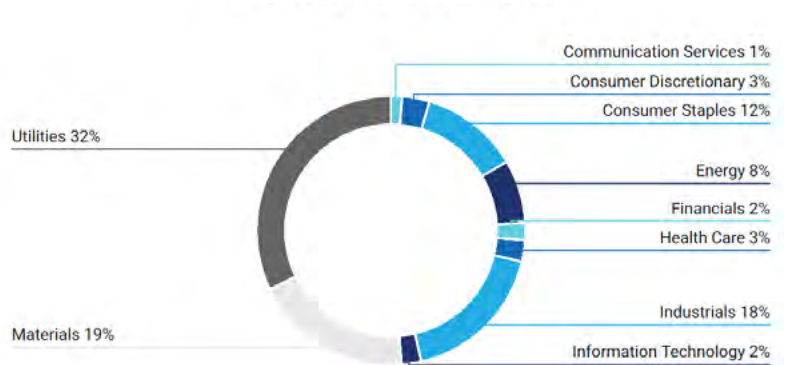
GLOBAL EQUITY PORTFOLIO AS OF 31 DECEMBER 2023

Emission exposure and intensity analysis

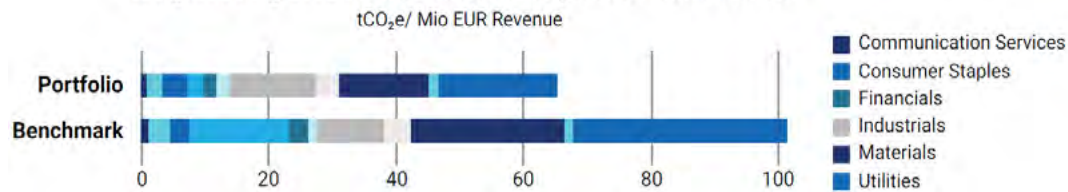
Emissions Exposure (tCO₂e)



Sector Contributions to Emissions



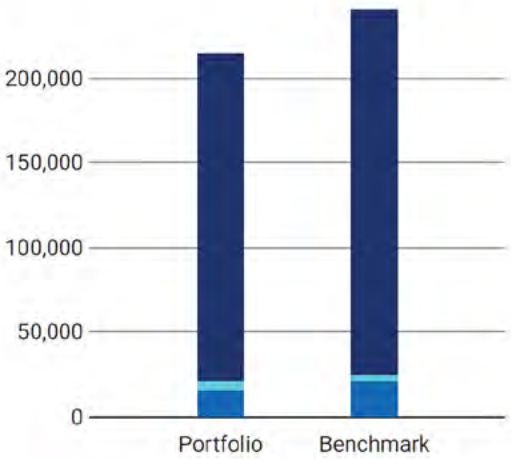
Weighted Avg Greenhouse Gas Intensity Sector Contribution



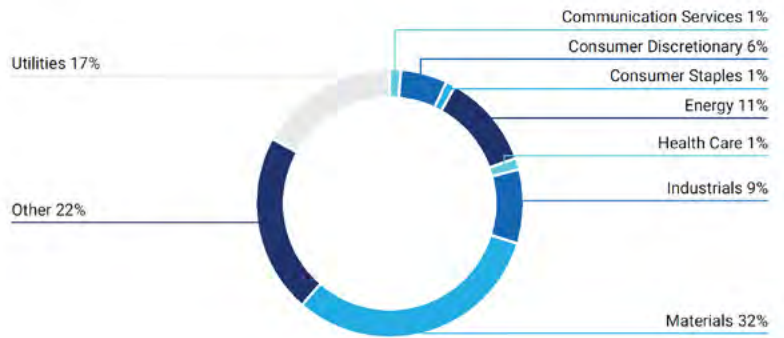
Data sourced from the Dec 2023 NTMA Climate Impact Assessment Report produced by ISS ESG. The benchmark for the Equity Portfolio is the iShares MSCI ACWI ETF.

GLOBAL FIXED INCOME PORTFOLIO AS OF 31 DECEMBER 2023

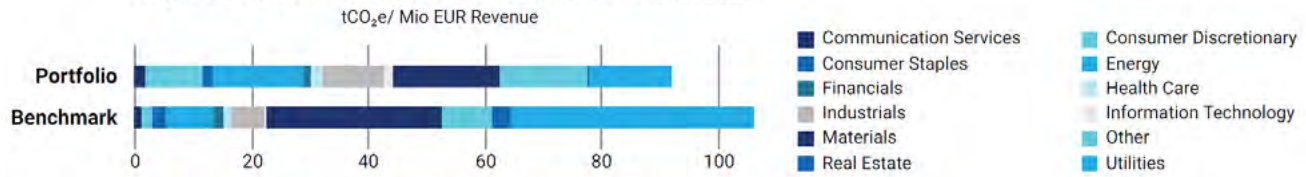
Emissions Exposure (tCO₂e)



Sector Contributions to Emissions



Weighted Avg Greenhouse Gas Intensity Sector Contribution

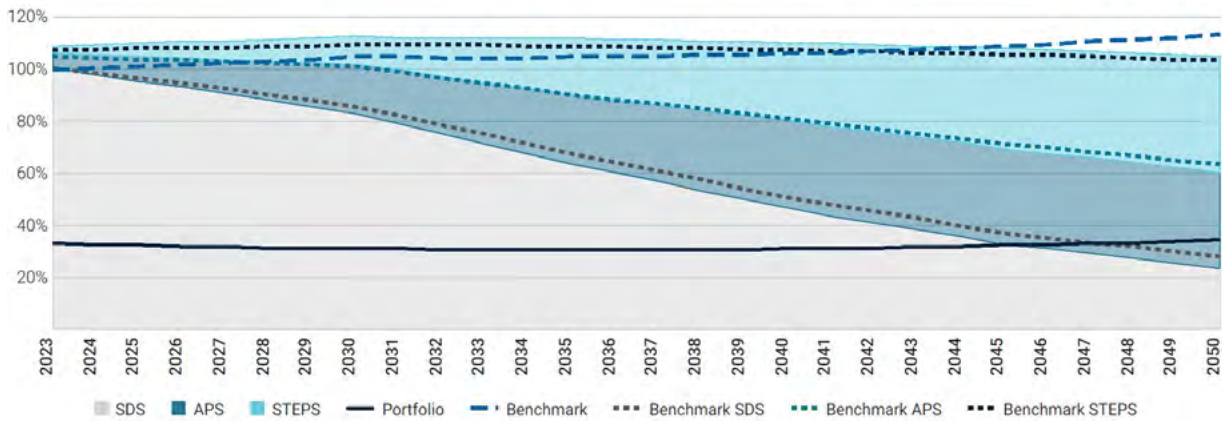


Data sourced from the Dec 2023 NTMA Climate Impact Assessment Report produced by ISS ESG. The benchmark for the Bond Portfolio is the iBoxx Euro Corporate Overall Total Return Index.

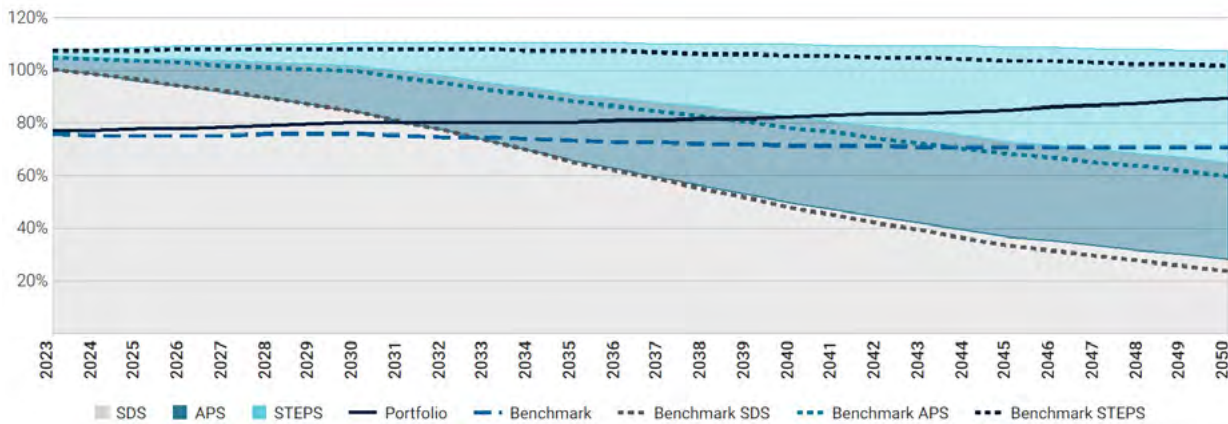
MODELLING FORWARD LOOKING CLIMATE RISK WITH SCENARIO ANALYSIS

ISIF's Global Portfolio transition risk is significantly lower than broad market, but not yet aligned with its 2050 emissions budget.

Equity Portfolio Emission Pathway vs. Climate Scenarios



Corporate Bond Portfolio Emission Pathway vs. Climate Scenarios



The scenario alignment analysis compares current and future Portfolio greenhouse gas emissions with the carbon budgets for three scenarios: IEA Sustainable Development Scenario (SDS) describes the evolution of the energy sector required to reach the key goals of the UN, in line with the Paris Agreement. Stated Policies Scenario (STEPS) represents a path based on the energy and climate measures governments have put in place to date. Announced Pledges Scenario (APS) aims to show to what extent the announced ambitions and targets are on the path to achieve Net Zero by 2050.

Performance is shown as the percentage of assigned budget used by the Portfolio and Benchmark. For its Climate Scenario Analysis, ISIF use the iShares MSCI ACWI ETF for equities and the iBoxx Euro Corporate Overall Total Return Index for bonds.

ISIF Equity Portfolio remains within its SDS emissions budget until 2046, with a potential temperature increase of 1.7° C by 2050. This is 1° C lower than the benchmark but is misaligned with the SDS scenario by 2050.

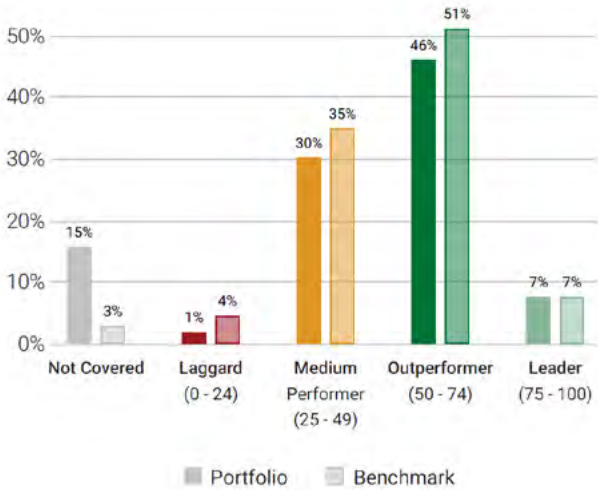
The Corporate Bond Portfolio remains within its SDS emissions budget until 2032, however it is misaligned with a potential temperature increase of 2.4°C by 2050. This is still lower than the benchmark, which has a temperature increase of 2.7°C by 2050

TCFD/ISSB recommend assessing the resilience of the organisation's strategy by taking into consideration different climate-related scenarios, including a 2°C or lower scenario. The Global Portfolio's current strategy demonstrates a high degree of climate resilience and ISIF is committed to its continuous improvement.

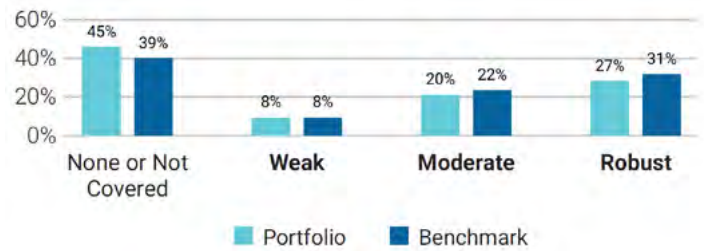
TRANSITION AND PHYSICAL RISK ANALYSIS⁹

Forward looking climate risk analysis

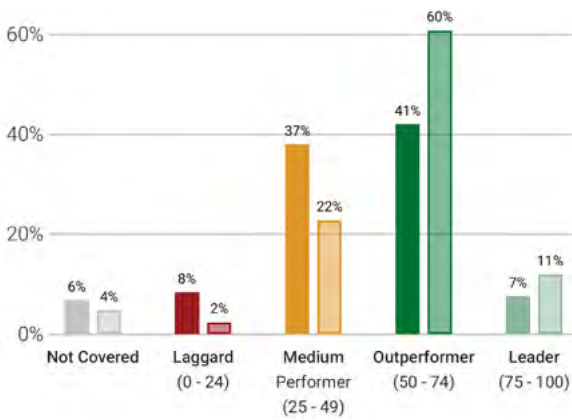
Global Equity Portfolio Carbon Risk Rating



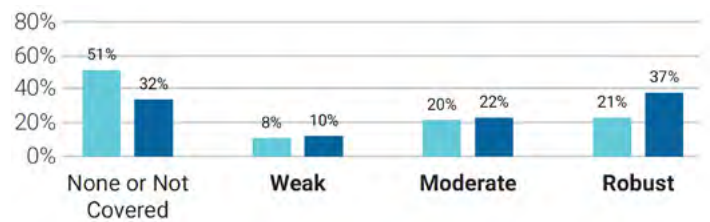
Global Equity Portfolio Physical Risk Management



Global Fixed Income Portfolio Carbon Risk Rating



Global Fixed Income Portfolio Physical Risk Management



The Carbon Risk Rating (CRR) assesses how an issuer is exposed to climate risks and opportunities, and whether these are managed in a way to seize opportunities, and to avoid or mitigate risks. It provides investors with critical insights into how issuers are prepared for a transition to a low carbon economy and is a central instrument for the forward-looking analysis of carbon-related risks at portfolio and issuer level.

The second set of charts provide an overview of the robustness of risk management strategies for physical climate risks across the portfolio holdings.

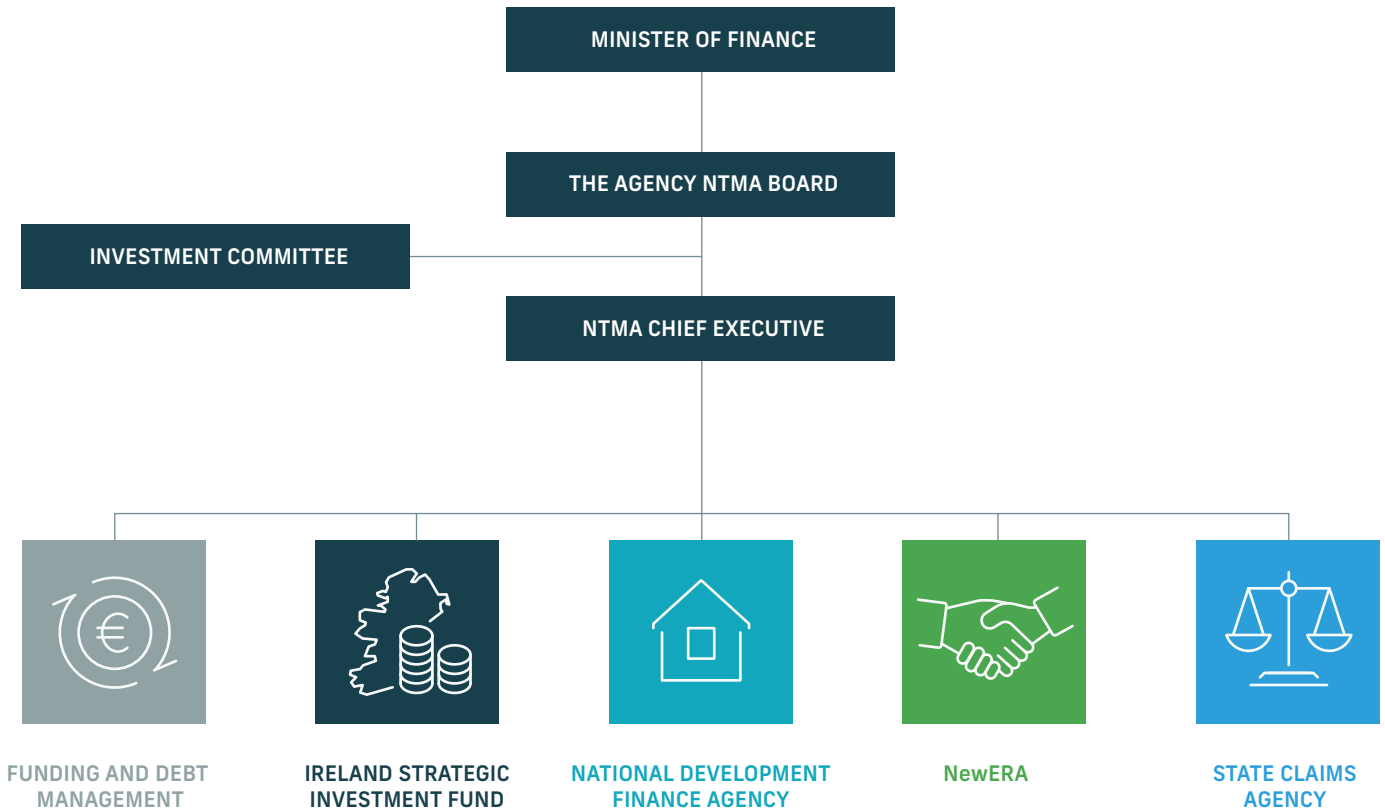
⁹ Based on climate impact analysis of the portfolio by ISS ESG.

APPENDIX

- About Us – Ireland Strategic Investment Fund
- Carbon Metrics
- ISIF Climate Investments – (end 2023)

ABOUT US – IRELAND STRATEGIC INVESTMENT FUND (ISIF)

The NTMA controls and manages the Ireland Strategic Investment Fund (ISIF), which has a statutory mandate to invest on a commercial basis in a manner designed to support economic activity and employment in the State.



The Ireland Strategic Investment Fund is a sovereign development fund with a unique mandate. ISIF's mandate is to invest on a commercial basis in a manner designed to support economic activity and employment in Ireland. Its predecessor was the National Pensions Reserve Fund (NPRF). The Fund is a strategic investor with strong connections in both the public and private sectors. The Fund is uniquely positioned to make connections and drive innovation across multiple industry players developing and delivering innovative opportunities that might otherwise go unrealised.

ISIF is comprised of the Discretionary portfolio and the Directed portfolio. The Discretionary portfolio has a "double

bottom line" mandate to invest on a commercial basis in a manner designed to support economic activity and employment in Ireland. The Directed portfolio – primarily public policy investments in AIB Group plc (AIB) and Home Building Finance Ireland (HBFI) – continues to be held within ISIF under direction from the Minister for Finance.

ISIF prioritises the use of its capital and resources to address strategic challenges. ISIF focuses on transformational investments across its impact themes of Climate, Housing and Enabling Investments, Indigenous Businesses, and Food and Agriculture. In addition, ISIF can invest in National and Compelling investments in response to future macro events.

CARBON METRICS

What Are GHG Emissions and How Does ISIF Measure Them?

Green House Gas (GHG) emissions are converted to a carbon equivalent and expressed as tCO₂e. When ISIF use the word "carbon" or "emissions" ISIF mean all GHG emissions (tCO₂e).

GHG Protocol - Scopes 1, 2 and 3

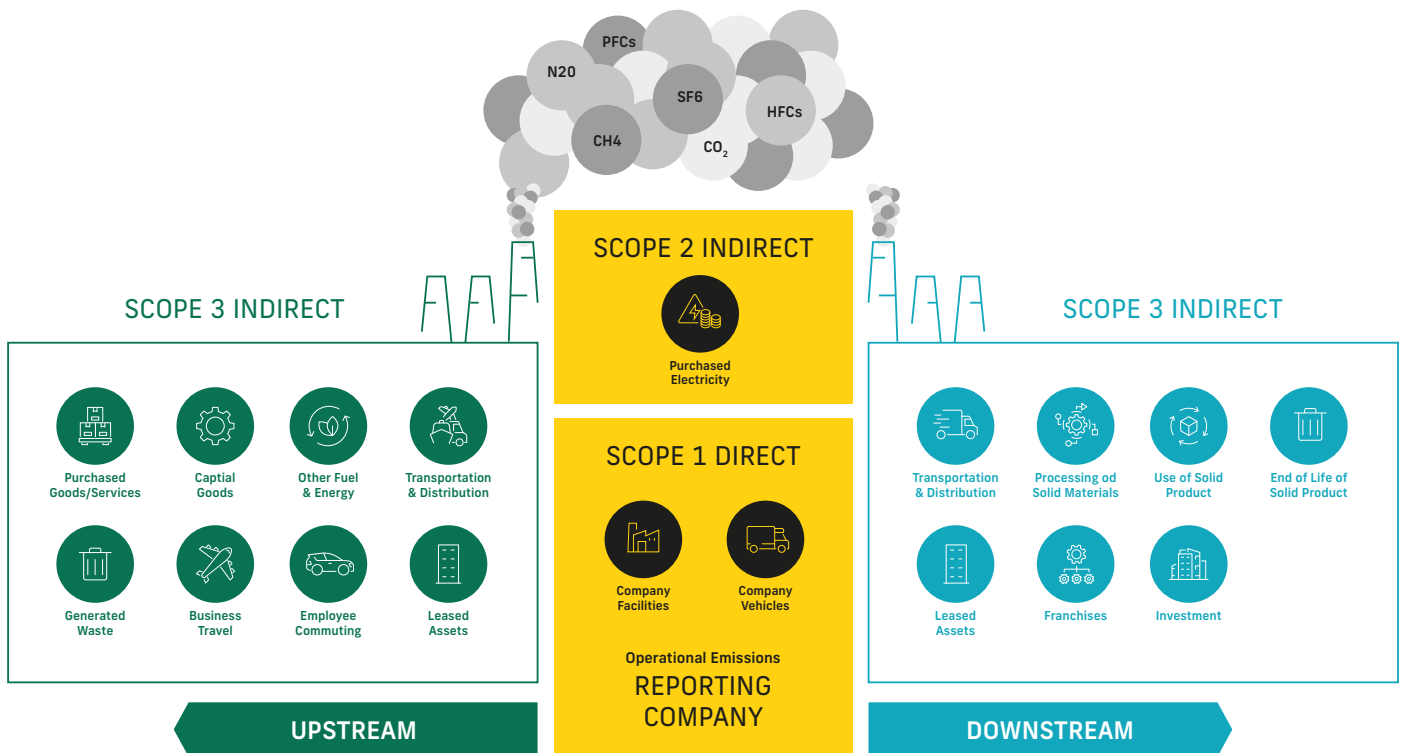


Image Source: © Clearstream Solutions 2022

Irish Portfolio: measures Scope 1, Scope 2 and upstream Scope 3 emissions.

Global Portfolio: measures Scope 1, 2 and Scope 3 – For reporting purposes Scope 1 and 2 emissions are disclosed.

Scope 1 and Scope 2 emissions are the primary emissions reported by businesses. These are direct emissions from owned or controlled sources, like company vehicles and facilities, and indirect emissions from generation of purchased energy.

However, there is increased acknowledgement that the majority of a company's footprint is actually in its supply chain and / or in how its product is distributed and used (Scope 3).

Best practice is to try and also measure Scope 3 emissions.

Note: Description of GHG Emissions Scopes are as per the GHG protocol guidance <https://ghgprotocol.org/>

ISIF CLIMATE INVESTMENTS AT END-2023

ISIF Climate Investments	Commitment €m
Urban Volt Ireland Limited	€5
Temporis Aurora LP	€50
Solas Sustainable Energy Fund ICAV	€20
Shamrock Renewable Products Limited	€11
SDCL Green Energy Solutions Fund Limited Partnership	€50
Octopus Renewables Infrastructure SCSp	€91
NVC Fund 2 (D) AB	€21
NTR Wind 1 L.P.	€35
Nautilus Follow On 2018	€3
Nautilus Data Technologies Inc	€7
Just Climate CAF I (A) SCSp	€65
Greencoat Renewables	€76
Gore Street Energy Storage Fund Plc.	€30
Energy Impact Fund SCSp and EIP Deep Decarbonisation Frontier Fund I	€69
Dublin Waste to Energy Limited	€44
Capital Stage Ireland Limited Partnership	€35
ArcTern Ventures Fund III (NR) LP	€28
Activate Capital Partners II, LP	€17
Total	€657



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Ciste Infheistíochta Straitéisí d'Éirinn
Ireland Strategic Investment Fund

National Treasury Management Agency

Treasury Dock,
North Wall Quay,
Dublin 1, D01 A9T8

T +353 1 238 4000

W www.isif.ie