Sustainability report

ircantec
La retraite complémentaire publique

2021

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Presentation of the Scheme

Foreword

Christophe Iacobbi, Chairman of the Board of Trustees of Ircantec

On 30 March 2022, I had the honour as Chairman of the Board of Trustees of Ircantec to sign the Objectives and Management Agreement (OMA), which will cover the 2022-2025 period. This OMA, which links Ircantec, the State and Caisse des Dépôts, sets ambitious objectives to address the major challenges and issues of the years to come. Through this agreement, the three signatories confirmed their commitment to the quality of service provided to the contributors and retirees of this Scheme. Facing the challenge of an ageing society, Ircantec has an important role to play, particularly in favour of intergenerational links, and this involves its strategic choices for the investment and management of its reserves.

In December 2021, the Board of Trustees drafted its four-year plan, setting the rate of return, and unanimously decided that the solvency of the Scheme was assured by growing reserves (€9.8 billion at the end of 2016; €13 billion at the end of 2020, €14.9 billion at the end of 2021 and a projected €17 billion in 2025). It was recalled that it would be necessary to continue to respect the commitments already established in terms of socially responsible investments and push them forward in order to achieve the sustainable development objectives, which constitute the international benchmark for 2030, and respect for the Paris Agreement.

As part of the update to its 2022-2025 roadmap adopted in March 2022 and due to the climate emergency, Ircantec reinforced its commitments at the end of October 2021 in order to place its reserves on an ambitious trajectory of emission reduction compatible with a 1.5°C scenario. By 2024, Ircantec will align itself with the fossil fuel exclusion thresholds of the European indices aligned with the Paris Agreement, the "Paris Aligned Benchmark", and will strengthen its investments facilitating the energy transition with a financing goal of 20% of reserves by 2024, while ensuring that the transition is equitable. Above all, this movement should be interpreted as a reflection of Ircantec's desire to convince economic players to immediately start transforming their activities towards a greater reduction in the volume of their carbon footprint.

By 2020, the temperature of the portfolio (companies) had fallen below 2°C, and 15% of our reserves had financed the ecological and energy transition. In 2021, it is still positioned on a trajectory below 2°C, and 17.9% of reserves are now allocated to financing the EET. The social axis has been strengthened through investments in favour of social inclusion, ageing well and gender equality. The 2021 Sustainability Report that you are about to reads lists all of Ircantec's ambitions.

As Chairman of the Board of Trustees, I will also ensure that Ircantec confirms its commitments in terms of sustainable development and a just transition. With this concept, we clearly define the meaning of "desirable future", which, according to the 1987 Bruntland report, is based on 2 pillars: "not mortgaging the future of future generations by our mode of consumption" and "an unequal world cannot be sustainable". It is not only the climate challenge that must be taken into account but also the preservation of biodiversity and the protection of society. Respecting these three dimensions under financial constraints can generate investment dilemmas. Ircantec wishes to participate in the identification and application of best practices that will enable its responsible approach to evolve.

This is why our objective will be to integrate the characteristics of an impact-based approach as much as possible. Thus, the Sustainability Report seeks to explain today how Ircantec protects its financial reserves from climate and sustainability risks (first materiality) and what is the footprint of Ircantec's investments on the climate and biodiversity (second materiality) in accordance with the regulations to which the Scheme is subject. Ultimately, it will seek to explain whether its investment policy contributes to improving the situation of certain beneficiaries (all categories combined) in vulnerable and dependent situations. This is how Ircantec will be able to prove that, thanks to the relevance of its specific governance (as a joint body that fully integrates the logic of stakeholders) in making investment choices in the regions, that it can create social and environmental value without calling into question the solvency of the Scheme, which will remain its primary mission.

2 - Executive Summary

Due to the climate emergency, Ircantec reinforced its commitments in October 2021 in order to place its reserves on an emissions reduction trajectory compatible with a 1.5°C scenario in line with the projections of the Intergovernmental Panel on Climate Change (IPCC) (August 2021 Report), which recalls the urgency of a significant and sustained reduction in greenhouse gas emissions to limit global warming, and of the International Energy Agency (IEA), which stresses the need to stop the development of fossil fuel exploitation to keep to the 1.5°C scenario.

A new Roadmap for the investment of Ircantec's reserves over the 2022-2025 period was validated by the Ircantec Board of Trustees in March 2022 (Ircantec's new climate policy validated by the Board of Trustees of October 2021 is an integral part of this new roadmap). It is in line with the long-term objectives of the previous Roadmap and incorporates the major themes for tomorrow's world. The 3 major guidelines that structure the Roadmap are all based on the Plan's long-term commitments.

In this context, Ircantec wishes to adopt best practices and is committed to adopting the most stringent standards enabling it to reduce the emissions of its portfolio of companies. The Scheme has therefore developed a strategy to phase out fossil fuels by 2030 and has set itself a target of reducing emissions from its portfolio of companies by 7% per year on average until 2050. These new efforts also affect the Scheme's commitment and voting policy, with a focus on fossil fuels and their financing, as well as financing in favour of the EET (Energy and Ecological Transition), with a target objective of at least 20% of reserves by 2024, corresponding to additional financing of more than €1 billion to support the transition.

Ircantec works in collaboration with portfolio management companies to implement its new climate policy but also to monitor and improve the ESG performance of funds. Two new service providers, Sustainalytics and S&P Trucost, allow the management service to monitor these indicators. The change in ESG and climate data providers at the end of 2021 led to a change in methodologies, which means that the figures presented in this document cannot be compared with those of previous sustainability reports. However, a historical analysis has been made to provide an overview of the evolution of the funds. These ESG risk scores (corporate and sovereign) have progressed since last year and remain below the benchmark indices. A high score (/100) indicates poor residual ESG risk management. In terms of the climate data, Ircantec's reserves are still aligned with a below 2°C scenario.

Snapshot of main indicators 2020-2021

	December 2021		December 2020	
	Portfolio	Benchmark	Portfolio	Benchmark
ESG risk score [1] - Consolidated scope	17.2	18.1	19.4	20.8
ESG risk score - "Companies" scope	19.1	20.4	20.5	22.1
Total carbon emissions (tCO_2e) Scopes 1,2,3 "Companies" scope	4,163,136	5,021,740	4,561,069	5,455,212
Carbon emissions financed (tCO_2e/€M invested) Scope 1,2,3	424	514	519	623
Alignment trajectory with the Paris Agreement - "companies" scope	1.75°C – 2°C	2°C – 3°C	1.75°C – 2 °C	2°C – 3°C
ESG risk score - "Sovereign" scope	13.5	13.7	15.8	16.6
Carbon exposure (tCO2e/GDP €M) - "Sovereign" scope	363	372	401	412

1 See specific methodology. The ESG risk level represents an unmanaged residual risk level (0 to 100); thus, a score close to 0 corresponds to a lower level of ESG risk than a high score.

3 - Governance of the Scheme

The Board of Trustees

Since the 2008 reform, the Board of Trustees has been in charge of the Scheme's long-term management. As part of a four-year plan and based on preparatory work by the technical and financial steering committee, the Technical and Financial Steering Committee (TFSC) is responsible for securing the conditions for achieving the long-term balance of the Scheme. As such, the Trustees, with the technical and operational support of Caisse des Dépôts, are responsible for making decisions concerning the Scheme's responsible investment strategy and monitoring all of the financial, operational and non-financial risks, to include risks/opportunities related to climate change.

The Technical and Financial Steering Committee (TFSC)

The TFSC is responsible for preparing the Board of Trustees' work concerning the investment policy, actuarial management and long-term solvency of the Scheme. The TFSC's remit includes preparing:

- the Board of Trustees' annual technical and financial report;
- the internal control report concerning the previous financial year, including an assessment of all technical, financial and operational risks.

This work therefore includes matters concerning financial and non-financial management. The topics are debated at meetings of the TFSC, which issues a verdict. All of the work presented during meetings of the TFSC is submitted to the Board of Trustees for a decision. Within the TFSC, two Trustees are appointed leads on issues related to voting and shareholder engagement.

Caisse des Dépôts et Consignations (CDC), manager of the Scheme

The CDC's Social Policy Directorate manages the Institution's assets by delegation. As such, it draws up proposals regarding the investment strategy, supports the Trustees in their strategic thinking and is responsible for implementing the investment policy in compliance with the general policy direction ruled on by the Board of Trustees. The CDC also assists the Board of Trustees in developing its SRI policy and monitors all contracts (with voting, ESG and climate service providers) and mandates (with asset management companies). It periodically reports to the Board of Trustees on the application of SRI principles in investment strategies and ensures that the Trustees have all the information they need to carry out their actions. In 2021, the management service of Caisse des Dépôts has assigned three people on behalf of Ircantec to take charge exclusively and entirely of ESG issues out of a total delegated management team of 10 full-time people.

Asset management companies

The asset management companies are selected via a call for tenders, both regarding their financial capabilities and their abilities to meet Ircantec's requirements on SRI subjects. They incorporate Ircantec's SRI principles into their methodology and their investment processes, conduct investments in line with the strategy and principles defined by the Board of Trustees, provide information on the methods used in their management of SRI principles and provide alerts on the application difficulties, and identify and monitor the risks that the financial investments may have on the Scheme's image and reputation.

Governance structure of the Ircantec

Joint development of the SRI Charter and the SRI strategy (CA, TFSC, DF)

The **Board of Trustees** (BoD) of Ircantec

- Manages the Scheme and is responsible for ensuring the conditions for achieving the Scheme's long-term balance
- Relies on the preparatory work of the Technical and Financial Steering Committee (TFSC) in charge of the investment policy to make responsible investment decisions
- Decides on the SRI policy

Decision

Ircantec's **Technical and Financial Steering Committee** (TFSC)

- Prepares the work of the BoD: annual technical and financial reports of the BoD, internal control report relating to the previous financial year (assessment of technical, financial, operational risks)
- Debate of topics on which to issue an opinion: work communicated to the BoD for decision

Proposal and reporting on portfolio monitoring

The **Financial Division** (FD) of the Social Policy Division (SPD) of the Caisse des Dépôts et Consignations (CDC) = the management service of Ircantec

- Manages the Institution's assets by delegation: investment proposals, support for strategic planning and implementation of the investment policy
- Reports on the application of SRI principles
- Conducts calls for tenders with management companies to entrust them with mandates and with SRI service providers to obtain analytical services
- Communicates the SRI policy to management companies and ensures compliance

Dissemination

Management **companies** (Asset Managers)

- Integrate Ircantec's SRI principles into their methodology and investment process
- Make investments accordingly
- Provide information on implementation methods and warn of difficulties with application
- Identify and monitor financial and extra-financial risks

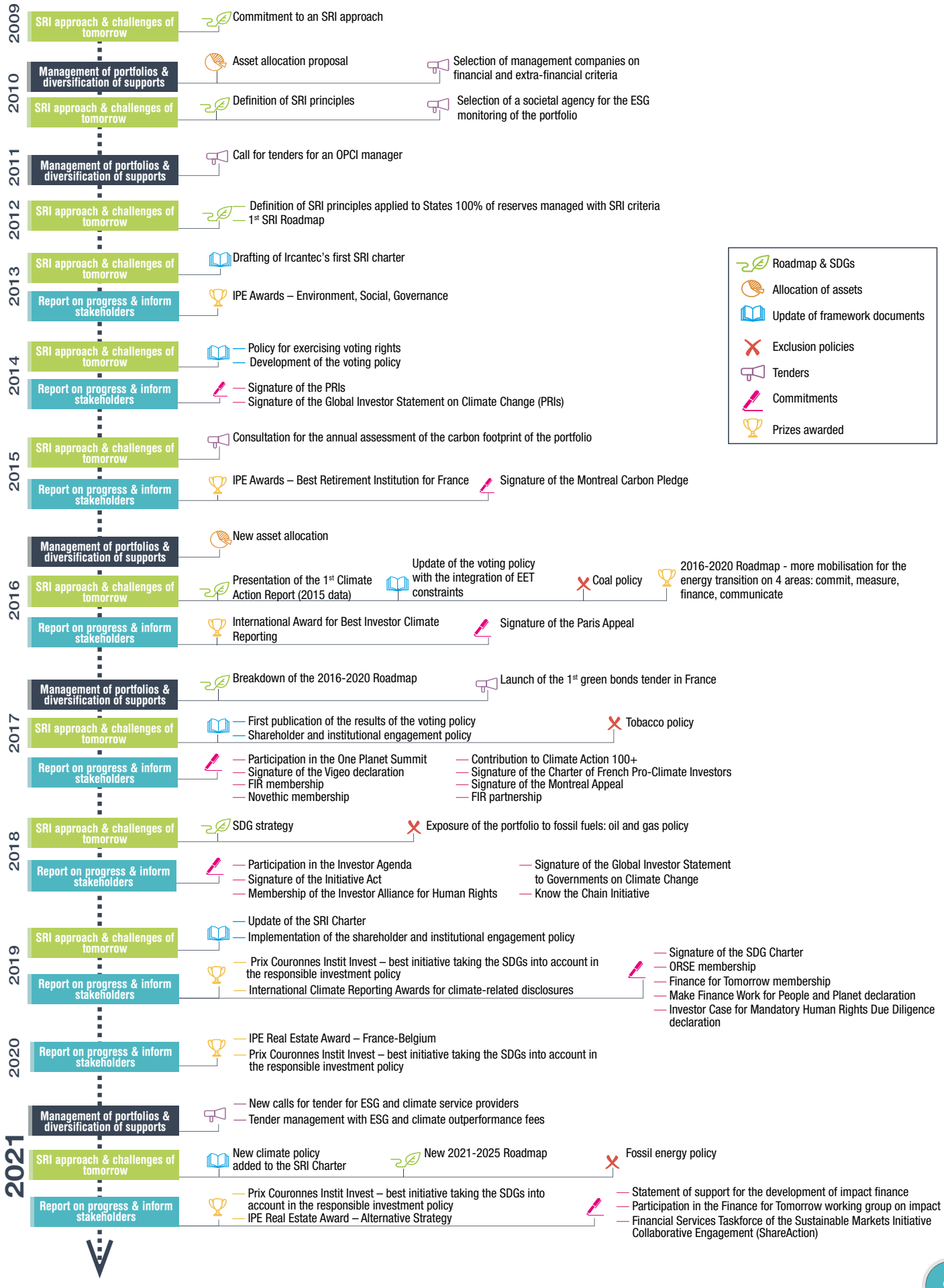
- Half-yearly reporting
- Management Committee
- Ongoing dialogue

External service providers: ESG rating, climate measurement and general meeting voting agency (**Proxy Voting**)

- Ensure that the ESG and climate constraints of the portfolio are properly taken into account
- Provide analysis prior to the general meetings of invested companies

- Annual reporting and access to a database
- GM follow-up & recommendations

Ircantec's key stages



Breakdown of framework documents concerning Ircantec's SRI policy (SRI Charter, voting policy, engagement policy)

Framework documents (public documents)	**Implementation** (int. documents)	**Balance sheet** (public documents)
SRI Charter (Update 2013, 2016, 2019, 2021) ISR general investment policy, Taking ESG criteria into account in the investment policy and climate policy	Application within Ircantec's portfolios	Sustainability Report (formerly Climate Action Report CAR)
Voting policy (Updated 2014, 2016, 2022) Improving the governance of companies in which Ircantec is a shareholder	Voting rules (updated annually)	Voting report[2]
Shareholder and institutional engagement policy (2017) Dialogue with issuers and participation in collective marketplace initiatives Definitions of the main areas of engagement[3]	Modalities of engagement	Engagement Report

4 - Importance of sustainability in the Roadmap

In 2021, Ircantec decided on its Roadmap for investing its reserves over the 2022-2025 period. The latter extends and reinforces the previous Roadmap (2016-2020) and is in line with the long-term objectives. It revolves around 3 main guidelines:

1. In a context of increasing reserves, the Scheme wishes to optimise the return on investments over the long term and limit the risks assumed by the Institution in line with its Responsible Investment Charter;

a. Diversify the investment vehicles in line with the investment horizon and the accepted level of risk

b. Strengthen the financial and extra-financial management of portfolios: regularly monitor portfolios; actively manage risks and develop risk indicators; in accordance with the commitments of the climate policy, continue the dynamics of financing companies or projects that are developing solutions in favour of the EET and contributing to a just transition; strengthen extra-financial requirements in the selection of funds

2 https://www.ircantec.retraites.fr/sites/default/files/public/politique_votebilan21v3_0.pdf

3 In 2021, the main areas of engagement are: the energy and ecological transition, human rights in the supply chain, corporate tax responsibility.

2. The Scheme wishes to strengthen the responsible investor approach by consolidating the Scheme's SRI policy and ensuring its effectiveness in the management of reserves;

a. Expand the SRI approach across all asset classes: regularly update the 3 key SRI documents (SRI Charter, Voting Policy, Engagement Policy) in order to incorporate new emerging topics (biodiversity, themes arising from the social impact of the health crisis, etc.). Ircantec's sectoral exclusion policies, which apply to all asset classes, will thus be regularly updated in order to affirm Ircantec's SRI approach over the long term and ensure that Ircantec's policy remains relevant to the tomorrow's issues: strengthening climate challenges by following an investment trajectory compatible with a 1.5°C scenario in the face of the climate emergency while paying attention to the social dimension of this transition, integrating the challenges of biodiversity within the portfolios via an approach similar to that of the previously implemented climate approach, establish a doctrine for impact investment (definition of eligibility criteria), oversee delegated management for the benefit of Ircantec's priority SDGs, develop a doctrine for impact investing, and conduct an active policy of institutional and shareholder engagement according to the areas of engagement defined by the Institution

3. The Scheme wishes to strengthen its position as a reference investor in the field of supplementary pensions by communicating transparently on the achievements of the Scheme and on its responsible investor policy.

a. Report and monitor on progress: draft and communicate annual ESG analysis and Engagement Reports in a sustainable transformation report developed with its service providers which takes into account the latest regulations; promote the results in terms of financial and extra-financial performance; represent the Scheme in marketplace bodies to influence its ecosystem and increase its visibility

b. Inform stakeholders: communicate externally on the Scheme's achievements to target audiences (affiliates, beneficiaries, other pension plans, institutional investors), train decision-makers (directors) and the management service

Following the adoption of its new Roadmap, the management service monitors the annual decarbonisation objectives of each of Ircantec's funds to arrive at an overall target of 7% per year. With the new service contracts (ESG and climate) and access to ESG and climate databases, the management service will be able to regularly and precisely monitor the SRI performance of each management company.

5 - Training of Trustees

New Trustees benefit from several training modules specifically adapted to the Scheme over a period of three days addressing technical and financial management, financial management styles and the integration of SRI and Climate aspects. The training is given by the Caisse des Dépôts management team. All of the Trustees also receive support to understand the regulatory changes impacting the financial and extra-financial management of the Institution, if applicable. In addition, they have the opportunity to participate in numerous conferences given by peers or experts on financial and extra-financial topics, such as the conferences accessible online held by Novethic (Caisse des Dépôts et Consignations Group) on SRI topics. Ircantec's membership in various organisations also gives it the opportunity to participate in technical and training-related discussions as part of small committees (Cercle des investisseurs de Novethic, Forum pour l'Investissement Responsable).

To support directors, the staff of the management service can also receive training (biodiversity, impact investing) and participate in peer or expert conferences to stay informed of the latest market developments.

6 - Alignment of compensation with sustainability risks

The Trustees of Ircantec do not receive any compensation. Discussions were initiated on how sustainability risks could be better integrated into the compensation components of other stakeholders (management service, asset management companies). It should be noted that asset management companies are also concerned by the SFDR directive (*Sustainable Finance Disclosure Regulation*) and that most of them are also working to better align the compensation of their staff with sustainability objectives.

In 2021, the management service adopted an innovative and ambitious approach when launching these new delegated management tenders (IPE article) by including ESG and climate outperformance fees. Thus, a portion of the financial outperformance fees is earned if the asset management companies selected demonstrate the implementation of methods (detailed reporting) and the achievement of performance objectives (ESG ratings, carbon footprint/intensity).

7 - Transparency, communication, and education for various stakeholders

Since the end of 2015, the Scheme has bolstered its SRI communication with its peers and affiliates using various communication vehicles: printouts, electronic media, the web and events. The message is intended to convey the idea that choosing a socially responsible financial management policy actively contributes to protecting the Institution's reserves, in line with its objective of intergenerational solidarity. The idea is to present the Institution's actions in an educational and concrete way.

As part of its new climate policy adopted in October 2021 and its responsible investor approach, Ircantec wishes to be transparent in its communication and its achievements. The Scheme thus seeks to enhance the transparency of its investments by **publishing all of the securities held in the portfolio of the dedicated funds on its website each year**. The Institution also undertakes to publish **the list of companies that will be divested** following the implementation of its exclusion policy in 2022

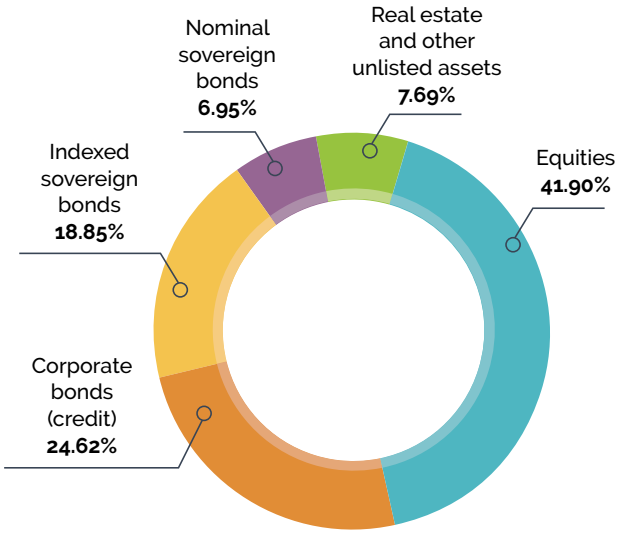
Ircantec has adopted a strategy on communicating with all of its stakeholders:

- Its retirement affiliates: through the publications of Nouvelles de l'Ircantec (a half-yearly paper magazine and monthly webzine including a bimonthly e-letter). An update and new information on the climate strategy and the actions of the Scheme have been published in these materials in the hard copy edition every year since 2016.
- Its contributors in an active situation: with the creation of a YouTube channel offering tutorials as well as practical videos simplifying the procedures and institutional videos (presentation of the Scheme, review of SRI events, education around SRI). Since 2019, this system has been supplemented with an annual e-letter.
- Decision-makers (major employer accounts, elected officials, institutions) with in 2020, the Point sur l'I, the e-letter for decision-makers (3 issues per year), which discusses strategy and significant events in terms of climate and the annual activity and sustainability reports (including this report), which present the various ESG and climate metrics and meet the regulatory requirements.
- Elected officials with Ircantec's participation in the 2021 Mayors and Local Authorities Fair and in particular the performance of 350 individual interviews at the Institution's eco-friendly stand.
- Its peer investors and asset management companies: by competing for various prizes and in 2021 winning the "alternative strategy" prize from the *IPE Real Estate Award*, as well as the prize for "best practice in terms of consideration of ESG issues over the last 5 years" awarded by the Couronnes Instit Invest prize from AGEFI.

- All stakeholders via its website and social networks: several pages of the website are dedicated to Ircantec's commitments in terms of socially responsible investment. Web users have access to all of the Scheme's SRI publications and events. The social networks (Ircantec's Twitter account and YouTube channel) regularly broadcast information on the latest news surrounding the Institution's extra-financial management. In addition, every year, Ircantec now posts the positions held in the dedicated funds in the portfolio as well as the divestments made following the new climate policy (from the date of implementation, i.e. March 2022).

8 - Presentation of the portfolio

Allocation of Ircantec's reserves as at 31 December 2021



At the end of December 2021, Ircantec's reserves portfolio was made up of different asset classes:

- Listed equities include fundamental and quantitative management in the eurozone, systematic Europe and OECD management and thematic management (mainly Energy Transition);
- Credit includes European bond management as well as green bond management across different categories of issuers;
- Unlisted assets include investments in various funds (private equity, private debt, Social and Solidarity Economy, infrastructure).

It should be noted that 100% of Ircantec's reserves include ESG criteria.

In 2021, two calls for tenders were launched. The first, which was on Europe and World equities, was broken down into three lots:

- A first lot for European equities in fundamental management;
- A second lot for European equities in passive management aimed at replicating an index aligned with the objectives of the Paris Agreement (*Paris Aligned Benchmark*);
- A third batch on World equities in fundamental management.

The second tender concerns the market for Investment Grade corporate bonds under active management denominated in Euros.

Following the validation of the nine managers selected by the Board of Trustees in March 2022, the funds resulting from these calls for tenders will become operational in 2022.

II
Protection of financial reserves against climate and sustainability risks

Following a public call for tenders launched in the summer of 2021 to renew its climate service provider, Ircantec is now working with S&P Global Sustainable (Trucost). The latter is a global provider of environmental data and analysis, including on corporate emissions and the use of natural resources to help identify how environmental issues could affect future corporate profits. This information is used to assess the carbon or environmental footprint of funds, address environmental risks and create investment strategies with low carbon or environmental impact.

Ircantec approaches the climate issue from the perspective of double materiality (as envisaged by the European regulations), making it possible to verify how the Scheme takes into account climate risks to manage its reserves sustainably first and how its investments impact climate and sustainability factors in the future.

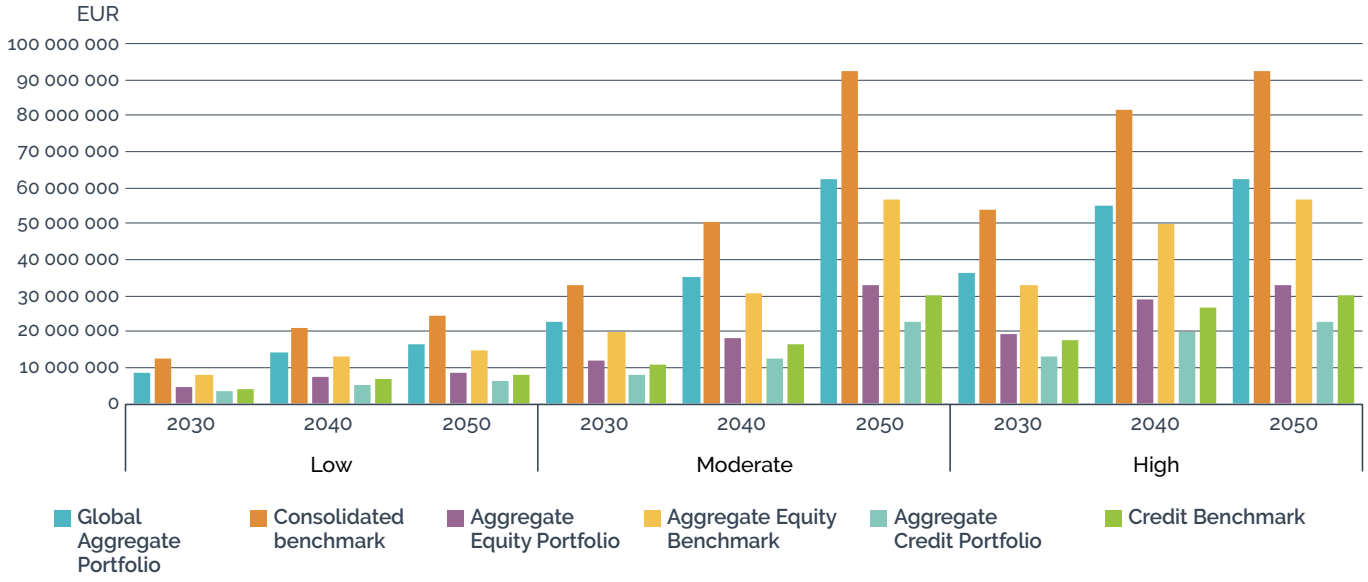
Investors face two categories of climate risks: transition risks (changes in markets, legislation, technologies or consumer perception of a low-carbon economy that negatively affect the value of a company's assets) and physical risks (resulting from damage directly caused by meteorological and climatic phenomena on goods, financial or physical assets or operational processes). The events related to this last type of risk can be acute (example of a natural disaster affecting real estate in a region and locking up the local economy) or chronic (decline in cereal yields linked to the average drop in rainfall). It is the role of investors to identify and measure these risks to ensure the proper management of reserves. Thus, the management service maintains ongoing, regular dialogue with the asset management companies (dedicated mandates and open funds) to ensure that Ircantec's SRI constraints are respected at all times and to discuss the management and control of sustainability risks (including climate change).

1 - Identification and rating of transition risk

Listed companies

Ircantec used carbon pricing to measure this risk. These pricing mechanisms are a tool that can reduce GHG (Greenhouse Gas) emissions and redirect capital towards renewable energies and low-carbon solutions. There are currently 52 carbon pricing systems in place or planned for implementation at the regional, national or sub-national level covering approximately 20% of global GHG emissions. Other regimes are likely to appear in order to achieve the *National Determined Contributions* (NDCs), commitments made by countries that have ratified the 2015 Paris Agreement. In order to manage carbon price risk, Trucost compiles a dataset of possible future carbon prices to test each issuer's current ability to absorb future costs. Quantifying an *Unpriced Carbon Cost (UCC)* is integral to this analysis – the difference between what a company pays to emit carbon today and what it might pay in the future. The UCC will vary depending on the industry in which a company operates and the regions in which it emits GHGs. It also depends on the scenario and the reference year chosen. By 2050, both the "High" and "Moderate" scenarios arrive at a price that is deemed sufficient to keep global warming to less than 2°C above pre-industrial levels (in the second case, the action is delayed in the short term). The "Low" scenario is not aligned with a 2°C trajectory but assumes the implementation of NDCs.

Weighted total unpriced carbon cost



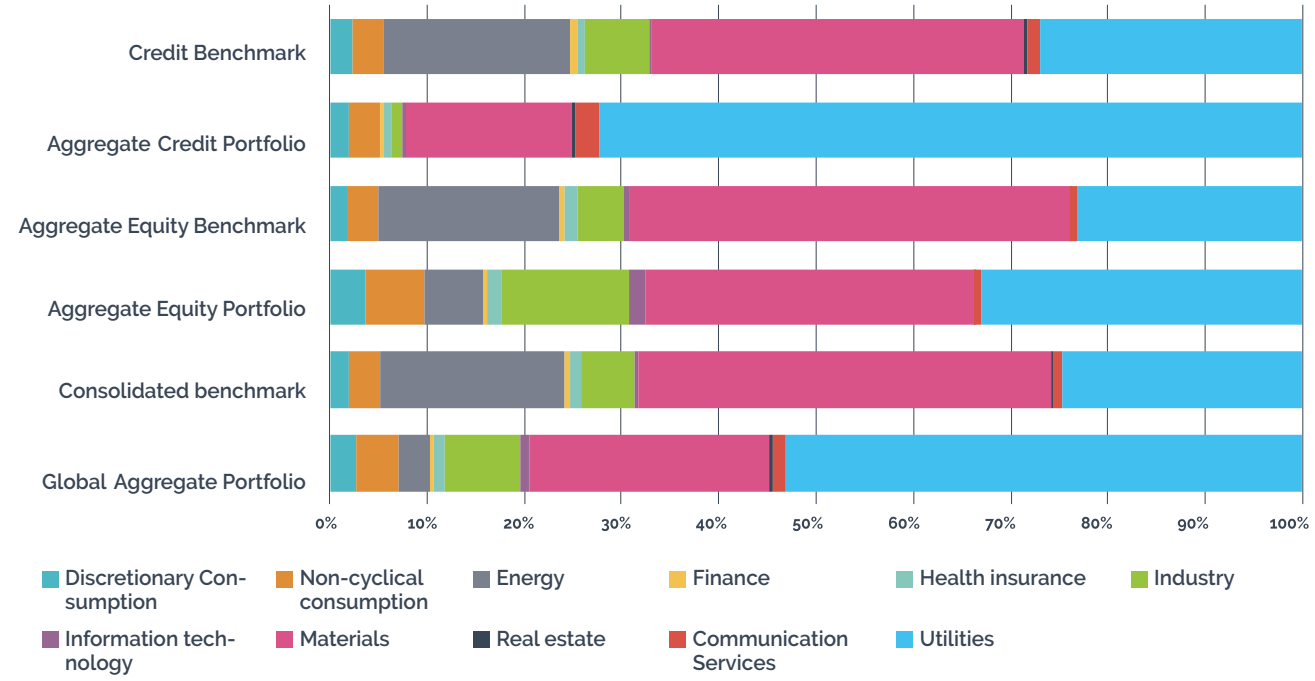
The global portfolio[4] is exposed to a lower non-priced carbon cost than its benchmark, especially if the scenario considers the immediate application of measures to limit global warming to 2°C. The Utilities and Materials sectors have the highest UCCs. Utilities still have a strong dependence on fossil fuels and in particular on gas, which is considered as a transitional energy. These two highly emitting sectors are therefore very sensitive to increases in the price of carbon. For example, RWE or ArcelorMittal have unpriced carbon costs 3 to 4 times greater than their EBITDA[5]. In addition, the portfolio has a geographic investment bias towards Europe and the United States.

4 Throughout the report, in the "Listed companies" subsections, the overall portfolio refers to all the corporate/company issuers of Ircantec's dedicated funds (equities and bonds).

5 Earnings Before Interest, Taxes, Depreciation, Amortization (EBITDA).

However, these regions have a high carbon premium. A higher future carbon price is expected there than in other regions of the world, with a faster increase in view of their proactive approach to limiting global warming compared to other countries. The cost of unpriced carbon has changed very little between 2020 and 2021, and the latter is similar whether for the equity or bond asset class.

Unpriced carbon cost broken down by sector (moderate 2030 scenario)



This means that the portfolio's EBITDA[6] is at lower risk than its benchmark. Therefore, the profits of the companies in which Ircantec's reserves are invested will be less vulnerable to a rise in the price of carbon than those of its benchmark index. Companies whose earnings are considered the most "at risk" can potentially face multiple valuation changes and a greater drop in returns for investors. The companies with the most at risk EBITDAs within the portfolio are companies in the Utilities or Materials sectors that have started transitioning to a low carbon economy. These include RWE, which is accelerating its investments in renewable energies, and ArcelorMittal, which aims to decarbonise its steel production.

Moderate 2030 scenario	Weighted unpriced carbon cost (EUR)	EBITDA at risk (%)	EBITDA margin reduction (% points)	Value of holdings with > 10% EBITDA at risk	Value of holdings with a negative margin (%)
Global Aggregate Portfolio	22,600,444	3.29%	-0.64%	7.91%	0.10%
Consolidated benchmark	32,561,084	4.32%	-0.77%	10.22%	0.76%

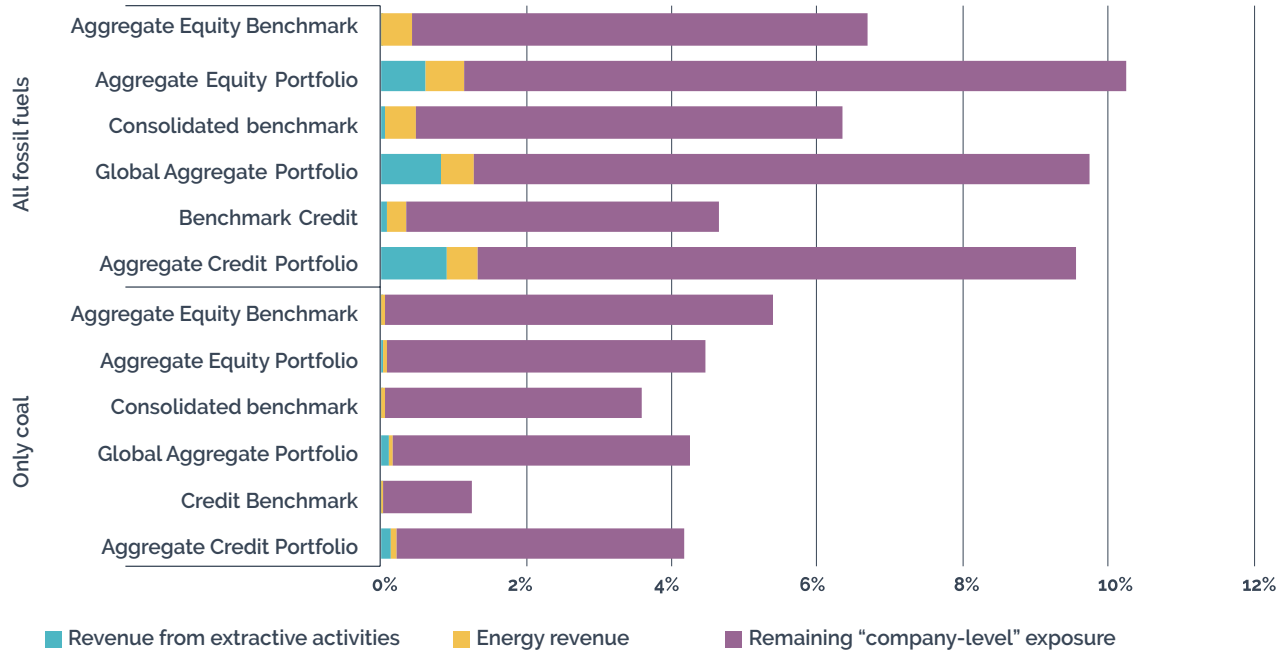
To assess transition risks, it is also possible to identify companies that are considered to have the highest risk in terms of *stranded assets* on their balance sheet. Stranded assets from a climate point of view are those that may be devalued due to a climate-related constraint (new legislation, legal risk, downturn in the market, etc.). The exploitation of non-renewable energy and in particular energy from unconventional resources (shale gas, oil sands, etc.) is considered an activity par excellence that relies on stranded assets, but the limited knowledge of the shape that a carbon-free economy would take means that a significant number of other companies and sectors of activity will be affected as the transition progresses.

6 See methodology.

Within the portfolios, active monitoring is carried out on the portion of activities dedicated to the exploitation of coal, the fossil fuel energy with the highest emission factor[7] per tonne of oil equivalent. Most transition policies and plans aim to exit this type of energy in the mid to long-term. Companies still in the portfolio exposed to this activity in 2021 fall below a threshold of 10% coal-related revenue. These include, for example, diversified energy companies following a major development strategy on renewable energies simultaneously with a policy of divestment from excessively carbon-intensive assets: such as Engie, Enel, Energias de Portugal, Orsted. A stock deriving more than 10% of its turnover from coal is present in the portfolio through green bonds that met the exclusion policy in force at that time (2021). Thus, Ircantec's reserves provide it with funding earmarked for green activities, contributing to RWE's transition to a low-carbon economy.

In addition, with regard to the oil and gas sector, the portfolio held four stocks in the utilities sector, which have historically been present in gas and whose investments are now focused on adapting their infrastructures to the transport of hydrogen, as well as six oil and gas companies seeking to focus on gas as a transitional energy but also on hydrogen and renewable energies, hence their continued presence in the portfolio. These exposures to fossil fuels were globally stable between 2020 and 2021. On the other hand, the evolution of Ircantec's new exclusions, approved in October 2021 by the Board of Trustees, will lead it to exit six oil and gas companies because of their involvement in the development and exploitation of unconventional hydrocarbons.

Exposure to fossil fuel and coal activities

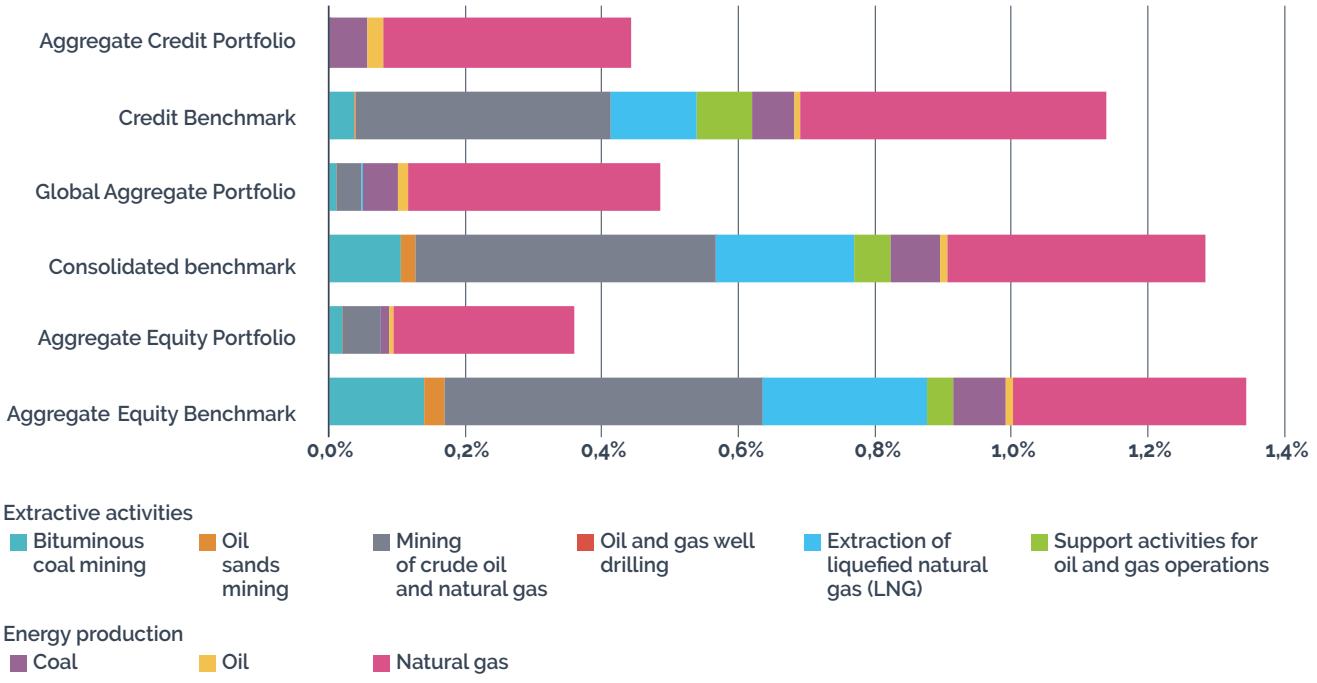


Looking at fossil fuel-related revenue by industry (shown in the first graph below), we can see that the portfolio is not invested in mining of oil sands, oil and well drilling or LNG extraction. This reduced oil and gas exposure explains why the portfolio is less exposed to stranded assets than its benchmark. The greatest exposure to fossil fuel revenues is found in the production of energy via natural gas. This is mainly due to the utilities in the portfolio, which remain partly dependent on fossil fuels because of their bias towards gas in order to enable them to transition to renewable energies. It is important that all these companies have a transition plan and substantial investments towards a low-carbon economy. This is reinforced by the third chart below, which

7 An emission factor is a coefficient used to convert activity data into GHG emissions.

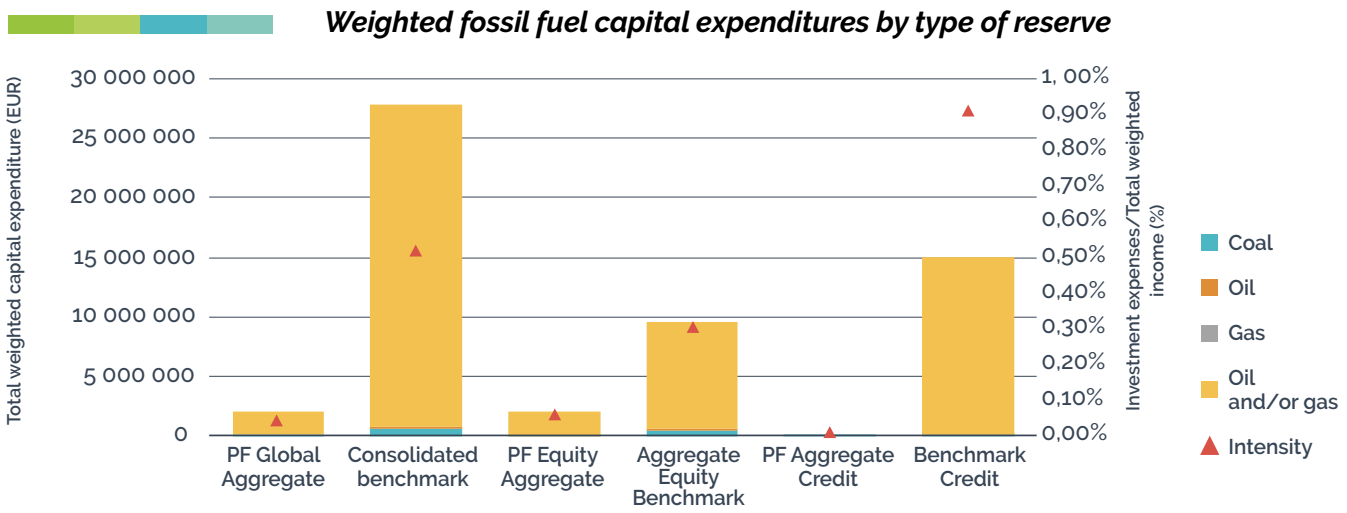
shows that capital expenditures set aside for future fossil fuel-related activities, such as exploration and extraction, are significantly lower for companies within Ircantec's portfolio than for its benchmark.

Fossil fuel revenue exposure by industry



Top contributors to fossil fuel revenue at the portfolio level

Name	Financial	Weight	Revenue from fossil fuel extraction	Fossil fuel production revenue	Total revenue	Weighted average	Climate Action 100+
Veolia Environnement	Utilities	0.75 %		13.71 %	13.71 %	0.103 %	No
Iberdrola S.A.	Utilities	0.90 %		6.20 %	6.20 %	0.056 %	Yes
Enel SpA	Utilities	0.51 %		9.82 %	9.82 %	0.050 %	Yes
Électricité de France	Utilities	0.55 %		6.51 %	6.51 %	0.036 %	No
EnBW Energie Baden-Wuerttemberg AG	Utilities	0.22 %		14.95 %	14.95 %	0.032 %	Yes
Engie S.A.	Utilities	0.37 %		7.89 %	7.89 %	0.029 %	Yes
ERG SpA	Utilities	0.16 %		16.39 %	16.39 %	0.027 %	No
SSE plc	Utilities	0.14 %		15.12 %	15.12 %	0.020 %	Yes
Naturgy Energy Group S.A.	Utilities	0.13 %	0.52 %	14.32 %	14.85 %	0.020 %	Yes
BHP Group Limited	Materials	0.07 %	23.68 %		23.68 %	0.016 %	Yes



Sovereign and similar

At the sovereign portfolio level, the logic of identifying and measuring the sovereign bonds that are most exposed to transition risk seems less relevant due to the diversification, depth and resilience of the economies on which they are based. It is nevertheless possible to identify the States whose GDP is strongly linked to fossil fuels and which could experience difficulties in maintaining this level of wealth. This mainly concerns Australia and Canada.

Countries	Fossil fuel rents (% of GDP)
Australia	2.44
Canada	1.91
United Kingdom	0.66
United States	0.61
Denmark	0.61
New Zealand	0.57

It is also feasible to analyse the countries whose energy mix is very carbon-intensive and whose economy depends on fossil fuels to function properly. These States will have to invest more into the energy transition. The court conviction of the French State for climate inaction in October 2021 (by the Administrative Court of Paris) clearly shows that States have their part to play in this transition and can be legally obliged to repair the ecological damage they have caused. The list of the main countries at risk is different, led by the islands of Cyprus and Malta. France, which is overweighted in the portfolio, generates only 9.1% of its electricity from fossil fuels.

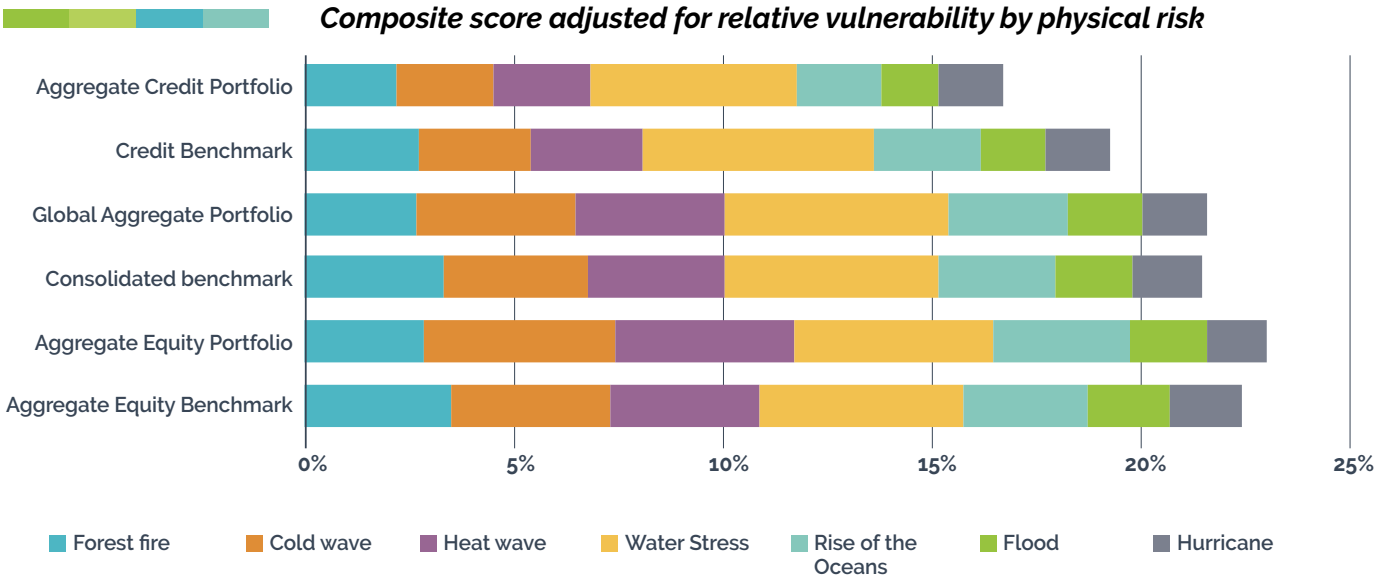
Countries	% of electricity generated from fossil fuels
Cyprus	93.5%
Malta	91.8%
Estonia	83.5%
Netherlands	73.3%
Japan	73.3%
Australia	72.4%
South Korea	66.5%
United States	59.9%
Italy	57.3%
Ireland	55.3%
Germany	51.0%
Chile	46.3%
United Kingdom	40.4%
Portugal	36.6%
Hungary	36.4%
Spain	33.3%

2 - Identification and rating of physical risk

Listed companies

Companies' assets are assessed based on their exposure and sensitivity to seven key risk types: water stress, wildfire, flood, heat wave, cold wave, hurricane and sea level rise. Where asset data were not available, companies were analysed based on the location of their headquarters, the geographic distribution of revenue, and the average levels of physical risk in each country. Companies are scored from 1 to 100 for each of the seven types of risk, with 100 indicating the highest possible exposure and sensitivity to a given risk, and 1 the lowest. The "raw" physical risk exposure score indicates the relative exposure of an asset, company or portfolio to each risk indicator compared to global conditions, but it does not indicate the extent to which the manifestation of each risk may be detrimental to the operation of the asset or business. Along with these scores, Trucost also provides a "vulnerability-adjusted" physical risk score that takes into account the potential significance of events for asset owners' activities.

The "composite" physical risk score at the enterprise level is the average of these seven scores. The raw composite risk score therefore reflects the relative exposure of assets, companies or the portfolio to climate events, while the adjusted risk score takes into account the relative vulnerability of companies to different climate events and is based on the following vulnerability factors: water intensity, capital intensity and labour intensity.



The score is calculated using the "High" scenario, with 2050 as the reference year

Ircantec's portfolio has an adjusted composite risk score that is globally equivalent to its benchmark and has remained fairly stable between 2020 and 2021. The European bias of the portfolio (and of its index) is favourable given the continent's more limited sensitivity, unlike other areas, particularly to the risk of heat waves or hurricanes. Within the portfolio, all sectors have adjusted physical risk scores below 30, with the exception of the water stress score. The latter indeed indicates a high risk (score>30) for the Utilities sector because of its high water consumption. However, it is still challenging on the basis of this information to differentiate treatment between the companies of each sector on this issue.

Adjusted sector physical risk score by type of risk (2050 high scenario)

	Forest fire	Cold wave	Heat wave	Water stress	Sea level rise	Flood	Hurricane
Communication Services	3.1	2.4	2.2	1.2	2.4	1.2	3.0
Consumer Discretionary	3.7	8.3	7.1	1.5	2.9	1.8	1.7
Consumer Staples	2.6	5.1	4.8	2.7	4.4	1.1	3.2
Energy	7.6	1.0	1.0	8.1	6.9	1.6	1.9
Finance	1.1	1.1	1.1	1.2	1.0	1.0	1.1
Health insurance	2.6	3.3	3.3	3.2	1.7	2.3	1.2
Industry	2.9	6.5	5.8	1.4	2.6	1.8	1.1
Information Technology	2.4	4.3	4.4	2.0	2.5	1.0	1.6
Materials	3.5	3.8	3.6	12.3	6.9	3.6	1.1
Real estate	4.5	1.0	1.0	1.9	4.3	3.5	1.6
Utilities	4.4	2.2	1.9	39.9	4.2	2.6	1.3

Sovereign and similar

The physical risk of sovereigns is not yet analysed by Trucost. These indicators are being developed and will be included as soon as possible in future communications from Ircantec.

3 - Climate risk reduction strategy

Ircantec strives to adapt the management of its reserves to its climate risks and limit their scope. This involves divestment decisions that have been taken and refined over the years and the use of investment strategies that integrate carbon risk.

Fossil fuel exclusions

Thermal coal

Coal is, according to the International Energy Agency, the fossil fuel that has contributed the most to global warming: cumulative CO_2 emissions from the combustion of coal are responsible, at the end of 2018, for the equivalent of 0.3°C of the total 1°C increase in mean annual earth surface temperatures above pre-industrial levels. Although coal has been supplanted by oil as the primary source of energy since the 1960s, it remains today the main cause of greenhouse gas emissions in the world through the activities of its value chain.

The exclusions relating to coal apply to the use of coal as a source of energy, i.e. essentially in the generation of electricity and the cogeneration of electricity and heat, and not as a material.

In 2016, the Board of Trustees decided to exit coal stocks in all asset classes according to the following criteria:

- For mining companies, exclusion of any company with coal-related revenue accounting for over 1% of the total market share;
- For energy companies, exclusion of any company whose coal-related energy mix is higher than 30% or whose carbon intensity exceeds 500 gCO_2/kWh;
- For the two sectors considered, coal-related revenue must not exceed 20% of the overall turnover (this number was subsequently reduced to 10%);
- Except on a case-by-case basis if the company demonstrates a strong commitment to the energy transition. For example, an investment can be made in a green bond issued by a company that meets the divestment criteria if it improves the energy mix of the business.

In the fall of 2021, the Board of Trustees enhanced these exclusions, which will be applied starting in Q1 of 2022:

- Relative threshold: exclusion of any company whose turnover linked to thermal coal is greater than 5% of overall turnover (mining companies and energy-producing companies);
- Absolute thresholds: exclusion of companies whose annual coal production is greater than 10 Mt per year and companies whose coal-fired electricity production capacity is greater than 5 GW;
- However, these exclusions will not be applied to companies presenting a credible exit plan[8] from coal by 2030 for the whole world.

These thresholds are supplemented by the exclusion:

- Of all companies that develop or contribute to new projects in the thermal coal sector (mines or coal-fired power plants);
- Partners in this industry (particularly infrastructure such as port terminals, railways dedicated to the transport of coal) if more than 5% of their turnover is linked to thermal coal or contributes to new projects[9].

By 2024, Ircantec has also committed to apply the exclusion thresholds for European indices aligned with the Paris Agreement, the "*Paris Aligned Benchmark* - PAB", i.e. the exclusion of all companies whose thermal coal (exploration or processing activities) represents more than 1% of turnover, with the exception of companies that have adopted a credible exit plan by 2030. Absolute exclusion thresholds may also be reviewed. An exception will also be applied for green bonds issued by a company meeting the divestment criteria on the condition that the company has committed to phasing out thermal coal by 2030, all geographical areas combined.

Ircantec is committed to achieving zero exposure to thermal coal in its portfolio by 2030, all geographical areas combined.

8 Particular attention will be paid to companies' plans to exit coal. These exit plans must include commitments to close sites and not sell off activities related to thermal coal. Ircantec will fully integrate these criteria into its shareholder engagement policy in order to ensure the support and retraining of employees in this sector impacted by the EET.

9 Global Coal Exit List (GCEL) – published by the NGO Urgewald (latest version October 2021).

Oil and gas

The special report published by the IPCC in 2018 on global warming of 1.5°C points out that between 2020 and 2050, the primary energy provided by oil must decrease in most scenarios, between -39% to -77%, while the energy provided by natural gas should decrease by around -13% to -62%. In the four mitigation strategies supported by the IPCC to reduce net emissions to achieve a trajectory limiting warming to 1.5°C (with no or minimal overshoot), the share of fossil fuels must be greatly reduced. Moreover, in its report "*Net Zero by 2050 A Roadmap for the Global Energy Sector*" published in May 2021, the IEA concludes that investment should be limited to maintaining production from existing oil and natural gas fields without bringing new deposits into production.

A sector-based divestment policy was implemented in 2018:

- Divestment from bonds of companies specialising in the oil and gas sector within the meaning of the stock market indices (this concerns in particular companies whose main activities are focused on the exploration of new oil fields or the construction of pipelines);
- Divestments from so-called integrated companies (which have activities upstream as well as downstream of energy exploitation such as product distribution) when their investment expenditure is not compatible with a 2°C scenario;
- Divestment from shares of specialised companies;
- Divestment from shares of non-European integrated companies when their investment expenditure is not compatible with a 2°C scenario;
- Exception made for issued arrow bonds, which can be subscribed for when they help improve the alignment of the company to a 2°C scenario.

Sector definitions can sometimes be imprecise in terms of the company's position within the energy and ecological transition, and certain stocks that have a positive impact at this level might be potentially eligible for investment.

The growth of the unconventional energy sector (notably due to the supply of shale oil from the United States), which has a greater impact in terms of greenhouse gas emissions, jeopardises the achievement of the temperature objectives of the Paris Agreement. Following these scientific recommendations, the Board of Trustees decided in the fall of 2021 on new exclusion thresholds, which will be applied from the first half of 2022:

- Exclusion of companies that develop new projects in unconventional energy resources or that increase their capacity in unconventional (shale oil and gas, extra-heavy oil, coal gas, oil sands, deposits in the Arctic and/or in deep waters);
- Exclusion of companies whose production related to shale oil and gas, extra-heavy oil, coal gas, oil sands, deposits in the Arctic or deep waters exceeds 10 mmboe[10] in aggregate. The exclusion also concerns companies in which more than 30% of production is linked to an unconventional activity;
- These exclusions do not apply to companies that have adopted a credible and detailed plan to exit unconventional energy by 2030.

Pending access to data on the financing of unconventional products enabling it to define an exclusion policy, Ircantec wishes to engage the financial players and insurers in the portfolio via shareholder dialogue for the adoption of credible, detailed plans to exit unconventional.

By 2024, Ircantec is also committed to applying the exclusion thresholds for European indices aligned with the Paris Agreement, the "*Paris Aligned Benchmark* - PAB", i.e. the exclusion of all companies for which oil represents more than 10% of turnover or 50% for gas; all companies initiating new conventional projects (exploration, production, transport) or contributing (equipment, services) to the development of new projects; any company whose production is linked to shale oil and gas, extra-heavy oil, coal gas, oil sands, deposits in the Arctic or in deep waters and which has not committed to a credible exit plan. However, these exclusions will not be applied to companies that have adopted a credible plan to reduce their emissions that is compatible with a 1.5°C scenario.

10 Mmboe: million barrels equivalent.

Ircantec is committed to achieving zero exposure by 2030 to any company in the oil and gas sector that has not adopted a credible emissions reduction plan that is compatible with a 1.5°C scenario.

Integration of climate risk into the fund strategy

The dedicated mandates, managed externally by more than ten different management companies, are selected following calls for tenders that take place in two stages (prequalification phase then offer phase for successful candidates). Calls for tender launched in recent years incorporate this requirement to integrate the climate and environmental dimension into management at various levels: investment philosophy, generation of ideas, portfolio construction, composition of dedicated teams, reporting. In particular, bidders are asked to explain how securities are identified, evaluated and selected with regard to their alignment with trajectories resulting from the Paris Agreements, but also how managers and analysts are trained in climate issues and whether an extra-financial filter exceeding the restrictions of the Ircantec SRI Charter has been put in place. Managers have significant leeway to meet these needs: some carry out an analysis of the company's climate positioning after the financial and stock market selection process has taken place; others greatly reduce the investment universe by focusing on companies that offer adequate solutions to the EET. The management agreements of all fundamental management funds also include reporting requirements through assessments of negative contributors to the EET within the portfolio and updates of the TCFD policy (Task Force on Climate Related Disclosure) within the management company.

III
Impacts of Ircantec's investments on climate and biodiversity

Ircantec's goal is, on the one hand, to steer the economy through investment choices that favour responsible companies and, on the other hand, to directly finance innovations and infrastructures that support the energy and ecological transition through specific investments (unlisted, green bonds, funds focused on so-called "solution" companies). This does not diminish the fact that, as an institutional investor present in the liabilities of several hundred French, European and global companies, the economic scope of its investments is significant, and as a result its carbon footprint is far from negligible. The new regulations (SFDR and in particular Article 29 of the 2019 French Law on Energy and Climate) applying to the Scheme highlight the need for greater consideration of long-term biodiversity-related objectives in the strategy.

1 - Carbon footprint

Ircantec's mobilisation for climate is in line with its values of generational solidarity, with the aim of preserving the environment for current and future generations while contributing to supporting the energy and ecological transition by facilitating job creation in the "green economy". Begun in 2009, Ircantec's responsible investor approach (known as its "SRI approach") was strengthened in 2016 in connection with its signing of the Paris call following COP21.

Due to the climate emergency, Ircantec has reinforced its commitments in 2021 in order to place its reserves on an emissions reduction trajectory compatible with a 1.5°C scenario. In this context, Ircantec wishes to adopt best practices and the highest standards that will allow it to reduce the emissions of its portfolio of companies. The Scheme has thus committed to reduce the emissions of its corporate portfolio (equities and bonds) by 7% per year on average until 2050 (the reference year being 2021). The 7% reduction target, with zero or limited overshoot, is derived from the decarbonisation trajectory of the IPCC's 1.5°C scenario. In order to support companies in the energy transition and in accordance with the "*Paris Aligned Benchmark* – PAB", the exposure of Ircantec's portfolio to high-impact sectors[11] must be at least equivalent to that of its benchmark index. This commitment aims to support the transition by limiting a reorientation of the portfolio towards low-emission sectors only.

11 The following are defined as high impact sectors (NACE classification): Agriculture, Forestry and Fishing, Mining and Extraction, Industrial Production, Production and Distribution of Electricity, Gas and Air Conditioning, Production and Distribution of water, Sanitation, Waste Management and Depollution, Construction, Wholesale and Retail, Repair of Motor Vehicles and Motorcycles, Transport and Storage, Real Estate Activities.

Listed companies

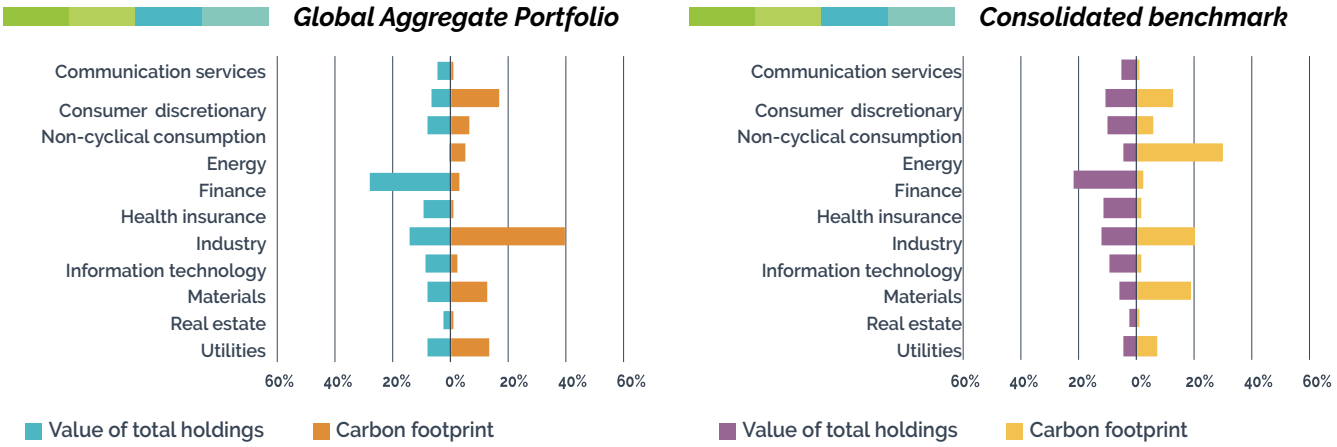
The main indicator for assessing the negative impact of investments on the climate is carbon footprint, in its various metrics. This monitoring is based on the carbon reporting table published by other institutional investors (in particular several Swedish pension funds), which gives a complete view of the carbon profile of the portfolio. It includes an intensity indicator (weighted average carbon intensity), an absolute indicator (total carbon emissions for which Ircantec is responsible), as well as standardised emissions by assets under management (carbon emissions financed). Regarding the scope of carbon emissions, all Scopes have been integrated:

- Direct Emissions (Scope 1): CO_2e emissions generated by the company's direct activities according to the definition of greenhouse gases in the Kyoto Protocol.
- Direct Emissions (Other): Additional direct emissions including those from the following four sources: CCl_4, $C_2H_3Cl_3$, $CBrF_3$ and CO_2 from biomass.
- Indirect emissions related to the purchase of energy (Scope 2): CO_2e emissions generated by the consumption of electricity, heat or steam.
- Tier 1 supply chain, excluding electricity (Scope 3): CO_2e emissions generated by companies providing goods and services at the first level of the supply chain.
- Other supply chain levels (Scope 3): CO_2e emissions generated by companies providing goods and services from the second to the last level of the supply chain.
- Downstream (Scope 3): CO_2e emissions generated by the distribution, processing and use of goods and services provided by a company.

Table of carbon metrics (Scope 1, 2 and 3 of business investments)

	Portfolio		Benchmark	
	2021	2020	2021	2020
Weighted average carbon intensity (tCO_2e/€M)	**1,168**	**1,027**	**1,300**	**1,066**
Evolution of carbon intensity compared to previous year (%)	+13.73%		+21.95%	
Total carbon emissions (tCO_2e attributed on the basis of enterprise values, including cash)	**4,163,136**	**4,561,069**	**5,021,740**	**5,455,212**
Carbon intensity per million revenue generated (tCO_2e/€M of revenue)	**1,422**	**1,258**	**1,635**	**1,441**
Carbon intensity per million euros invested (tCO_2e/€M invested)	**424**	**519**	**514**	**623**
Equity segment				
Weighted average carbon intensity (tCO_2e/€M)	**1,327**	**1,148**	**1,358**	**1,009**
Total carbon emissions (tCO_2e attributed on the basis of enterprise values, including cash)	**3,120,730**	**3,505,693**	**3,116,410**	**2,773,916**
Carbon intensity per million euros invested (tCO_2e/€M invested)	**521**	**629**	**516**	**498**
Corporate bonds segment				
Weighted average carbon intensity (tCO2e/€M)	**974**	**826**	**1,193**	**928**
Carbon intensity per million euros invested (tCO_2e/€M invested)	**298**	**519**	**351**	**619**

The overall portfolio posted a better performance than its benchmark. This is partly explained by the portfolio's sector weightings, in particular the underweighting of the energy sector and the overweighting of financials, but also by a good selection of stocks within each sector, and particularly within the materials sector.



The marked difference between the carbon intensities per million of revenue generated and per million euros invested suggests that the companies held in the portfolio have significant valuations in relation to their revenues. This is typical of growth sectors such as information technology, healthcare or even finance. This gap widened in 2021 compared to 2020 due to covid-19. Indeed, the 2020 revenue and emissions data were used for the 2021 analysis. Covid-19 has generally had a stronger impact on revenue than on production (and therefore emissions), resulting in a higher carbon intensity per million of revenue generated. In contrast, the revenue and emissions data used for the 2020 analysis are those of 2019 and therefore had no impact related to covid-19. Conversely, the valuations used for the 2021 analysis are those of 2021 and are therefore not influenced by the pandemic.

This revenue impact also partly explains why between 2020 and 2021, the carbon intensity per million of revenue generated and the resulting weighted average portfolio carbon intensity increased by around 13%, while that of its benchmark rose by 21.95%. Between 2020 and 2021, some companies have seen a significant increase in their carbon intensity. Another factor explaining this increase is a change in methodology. Banks and the financial sector are strongly affected by higher emissions in the 2021 analysis, and this is linked to a methodological change in the calculation of Scope 3 emissions of financial institutions, which was implemented between 2019 and 2020. Data related to financial investments, published in the CDP questionnaire, were factored in and included in the calculation of Scope 3. Extending the scope of coverage thus automatically increases the carbon intensities of these emitters.

However, the total carbon emissions of the equity component are higher than its benchmark due to its Scope 3, and mainly its downstream Scope 3. This can partly be explained by the portfolio's overweighting of the Industry and Materials sectors, which have larger carbon footprints. Considering only Scope 1 and 2 emissions, the total carbon emissions of the equity component are 275,052 tCO_2e, while those of its benchmark are 409,088 tCO_2e. On the other hand, the bond segment posted a better performance than its benchmark regardless of the indicator, in particular thanks to the overweighting of the financial sector, whose carbon footprint is lower, but also to a good selection of securities. For example, Utilities sector companies present in the credit portfolio are aligned on a trajectory between 2°C and 3°C, compared to 4°C and 5°C for companies in the same sector held by the equity portfolio.

The sector with the highest carbon intensity is the Energy sector. This sector notably includes the oil majors, which invest in their transition and in renewable energy sources. On the other hand, due to its underweighting in the portfolio, it is not the sector that has the strongest negative impact on the relative carbon intensity of the portfolio compared to its benchmark. Those are the Industry and Consumer Discretionary sectors, which have large supply chains leading to high downstream Scope 3 emissions. Important positions in these sectors include Signify and ABB. These two companies contribute solutions and have a short-term objective aligned with a 1.5°C trajectory validated by SBTi (Science Based Targets Initiative). They have also committed to

have their *net zero* trajectory certified by SBTi. It is interesting to note that the Materials sector is slightly overweighted in the portfolio, which could be negative for the relative carbon intensity of the portfolio. However, the selection of securities is focused on well-positioned stocks in the sector, for a positive effect relative to the benchmark. Within this sector, companies committed to reducing their emissions were overweighted, such as Ecolab, a leader in water, hygiene and infection prevention solutions and services.

Carbon intensity by sector

	Communication services	Consumer discretionary	Consumer staples	Energy	Finance	Health insurance	Industry	Information technology	Materials	Real estate	Utilities
Global aggregate portfolio	128	2,296	782	6,714	199	192	3,319	533	1,524	457	2,216
Consolidated benchmark	179	1,641	812	5,661	181	264	2,169	543	3,525	608	2,218
Aggregate equity portfolio	105	2,388	799	6,917	155	179	3,839	605	1,525	334	1,701
Consolidated equity benchmark	219	1,478	821	5,704	164	262	2,322	640	3,655	545	2,310
Euro Equities - CPR	106	2,458	632	8,388	191	166	3,734	531	1,653	1,954	4,783
Euro Syst Equities - Robeco	127	3,227	558		239	157	2,231	60	595	233	861
Euro Syst Equities - AGI	126	1,254	840	5,993	219	205	2,018	659	2,994	146	1,503
Euro Equities - AGI	89	2,857	788	5,338	173	690	9,654	902	1,372		1,450
Euro Equities - Mirova		8,594	768		118	156	2,526	499	880	213	1,348
Euro Equities - Candriam		534	1,350		168	147	2,309	382	1,566		
Euro Equities - BFT	136	4,590	671	7,747	200	389	1,226	1,526	2,291	278	2,108
European Benchmark	241	1,600	836	5,654	164	310	2,287	816	3,709	571	2,182
OECD Ex-Europe	75	972	379		85	77	1,516	797	1,762		
OECD Ex-Europe BNPPAM	103	855	792		121	135	1,232	261	4,952		
Benchmark ex-Europe	136	976	722	6,290	165	116	2,623	345	2,808	526	4,209

Carbon intensity (CO_2e/mEUR)

Lower carbon intensity — Higher carbon intensity

Attribution analysis

PF Global Aggregate - Consolidated Benchmark					
	Carbon intensity (C/R)		Attribution effect		Total
	Portfolio	Benchmark	Allocation effect	Selection effect	
Communication Services	128	179	0.00%	0.19%	0.19%
Consumer Discretionary	2,296	1,641	0.01%	-4.20%	-4.19%
Consumer Staples	782	812	0.10%	0.21%	0.31%
Energy		5,661	18.39%	-0.69%	17.70%
Finance	199	181	0.28%	-0.22%	0.06%
Health insurance	192	264	0.38%	0.37%	0.75%
Industry	3,319	2,169	-0.54%	-11.89%	-12.44%
Information technology	533	543	0.80%	0.03%	0.83%
Materials	1,524	3,525	-3.47%	14.41%	10.94%
Real estate	457	608	-0.06%	0.04%	-0.02%
Utilities	2,216	2,218	-1.07%	0.01%	-1.06%
	1,422	1,635	14.81%	-1.74%	13.07%

According to the current carbon accounting methodology, which includes all of the Scopes, the exclusion of the following ten stocks would reduce the carbon intensity of the overall portfolio by 37% (per million of revenue generated). It is a measure of contribution. In other words, the weight of a security in the portfolio has a strong influence on the final result, as does its carbon intensity expressed as a GHG/revenue ratio. Thus, Compagnie de Saint-Gobain has a greater contribution to the intensity of the portfolio than Equinor due to its greater weight, while having a lower carbon intensity than the Norwegian oil company.

List of the top 10 contributors to the weighted carbon intensity of the portfolio

Name	Contribution Scope 1+2+3 (% of the portfolio)	Contribution Scope 1+2+3 (% cumulative)
Signify N.V.	-14.72%	-14.72%
ABB Ltd	-5.36%	-20.08%
Michelin	-4.41%	-24.49%
Compagnie de Saint-Gobain	-3.76%	-28.25%
ASSA ABLOY	-2.13%	-30.38%
Stellantis	-1.63%	-32.01%
Valeo	-1.58%	-33.59%
Johnson Matthey	-1.18%	-34.77%
Equinor	-1.15%	-35.92%
Stedin Holding	-1.10%	-37.02%

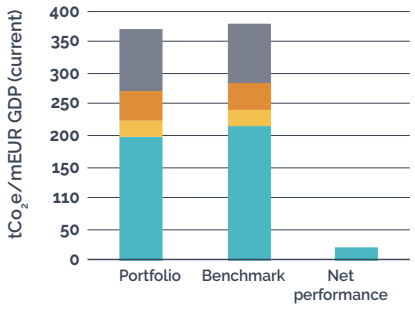
Sovereign and similar

The calculation of the carbon footprint at the portfolio level is based on the average carbon exposure (domestic, imported and exported emissions compared to GDP in millions of euros) of each country weighted according to their weight in the portfolio. Green bonds (issued by sovereign authorities and similar) held by Ircantec were treated like traditional bonds. They previously benefited from special treatment, which had a beneficial effect. It should be noted that supranational organisations and development banks (EIB, IBRD for example) are included in the analysis of listed companies for methodological issues, not in the sovereign analysis as they cannot be attached to a particular country.

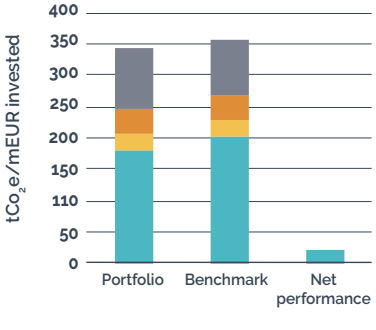
GHG/GDP exposure (domestic + imported + exported GHGs) for the sovereign portfolio and its index

GHG (domestic + imported + exported)	2021	2020
Portfolio	363.22	401.18
Index	372.02	411.73

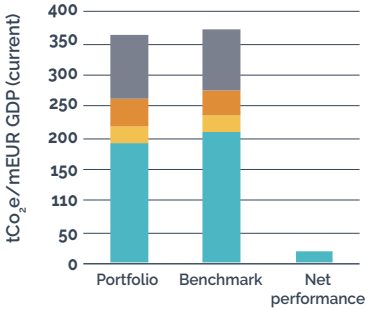
Method per Million of Revenue (C/EO)



Method per Million Invested (C/V)



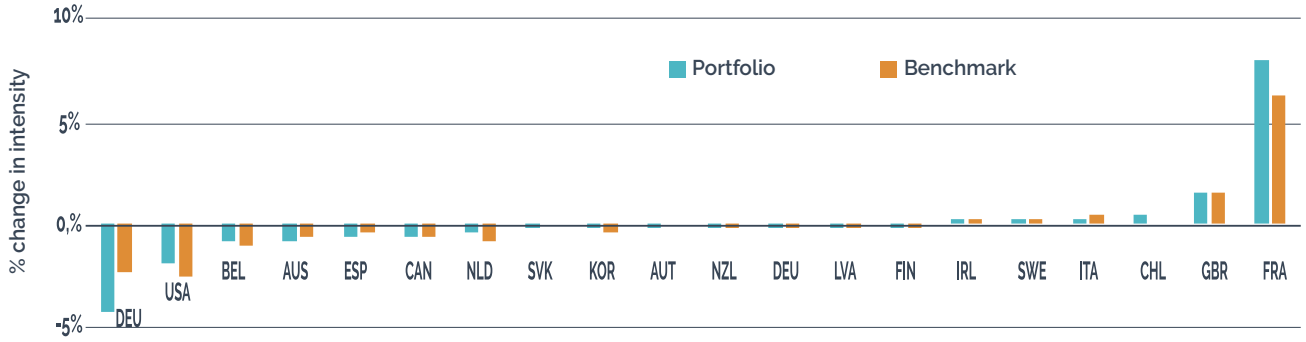
Weighted Average Carbon Intensity (WACI)



The carbon footprint of the sovereign portfolio has decreased by almost 10% since the end of 2020 as illustrated in the table above. It is essentially linked to domestic and imported emissions. Nevertheless, the benchmark has followed the same progression: the reduction in the carbon intensities of European countries and the United States largely explains this development. This is likely related to the economic downturn caused by the covid-19 pandemic.

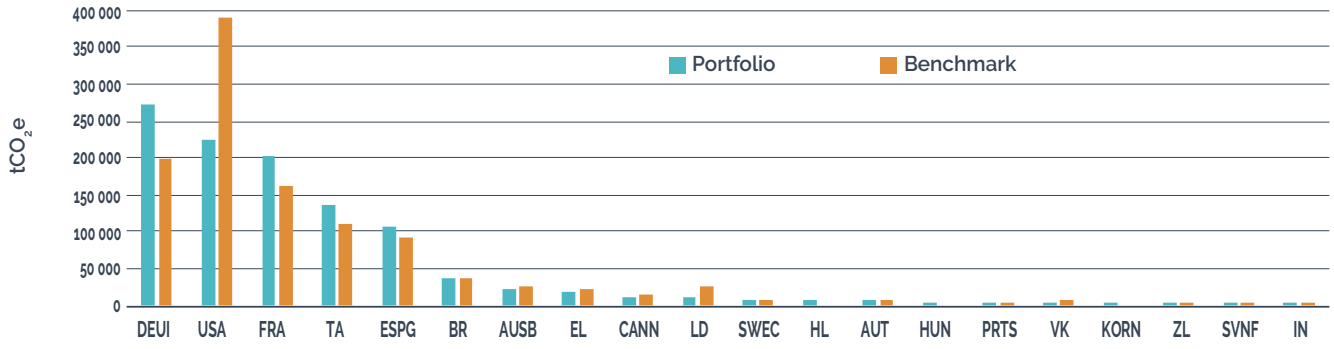
The bonds of France and the United Kingdom contribute to the low carbon intensity of the portfolio, thanks to their weights and their relatively low intensities. On the other hand, the bonds of Germany and the United States contribute the most to the increase in the portfolio's carbon intensity.

Contribution – per million of revenue generated method

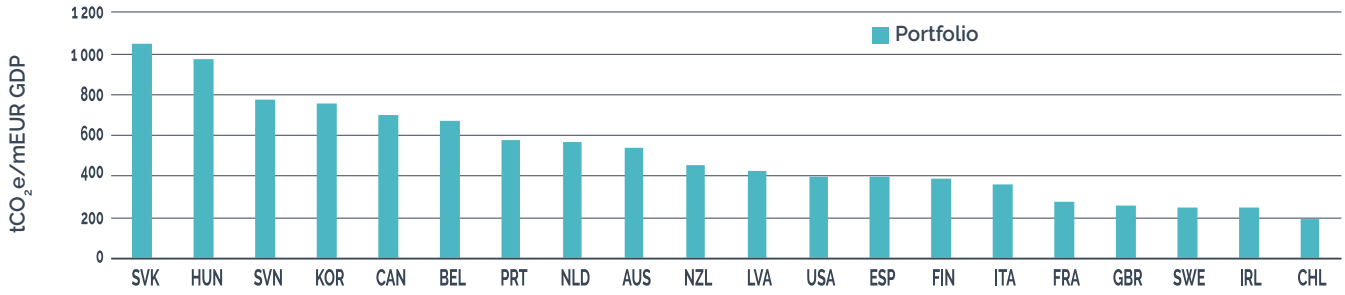


The graphs below compare the carbon intensities of issuers according to their weight in the portfolio but also per million euros of GDP generated. In absolute tCO_2e, the carbon footprint of the United States in the portfolio is much larger than that of Slovakia, for example. On the other hand, once emissions are related to GDP, it is clear that Slovakia's emissions are very high compared to the size of its economy.

Highest carbon footprints



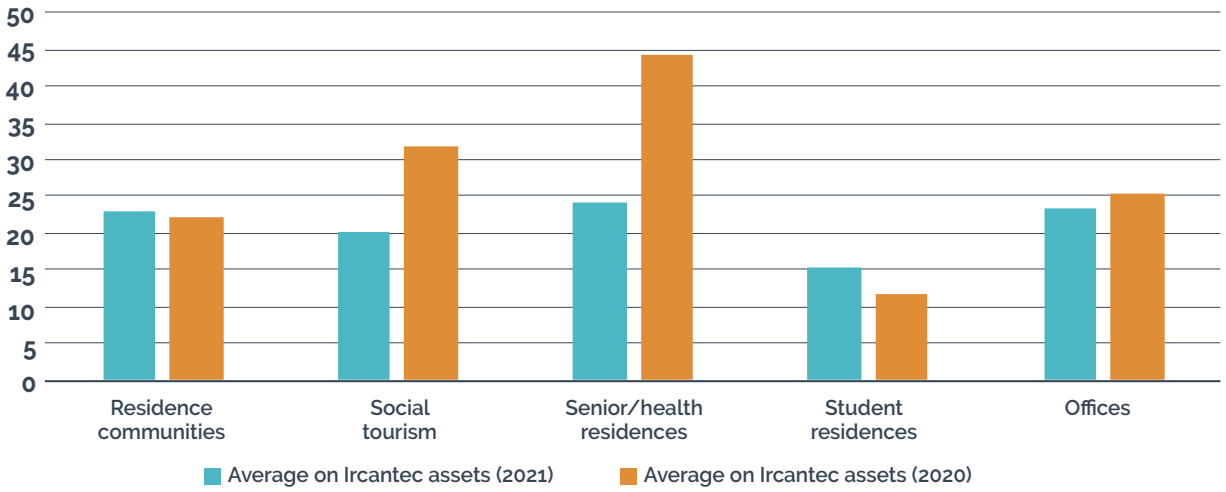
Highest and lowest carbon intensities



Real estate

As in previous years, the carbon footprint of some of the real estate assets present in the unlisted portion of Ircantec's portfolio was measured. Thus, a carbon intensity was calculated from the CO_2 emissions (Scopes 1 & 2) of each building in relation to their surface area (m^2). With regard to the OPCI (Organisme de Placement Collectif Immobilier - undertaking for collective investment in real estate) segment, the Scheme has invested in assets held directly and in equity investments with a diversified allocation strategy that combines offices, housing, student residences, health establishments and social tourism. Thus, 24 assets were studied for a total carbon footprint of 3,930 tonnes of CO_2 per year and an overall surface area of 180,685 m^2 TNFA (Total Net Floor Area), which represents an average of approximately 21.75 kg CO_2/m^2/year (compared to 27 $kgCO_2/m^2$/year with emissions of 6,094 tonnes of CO_2 in 2020). This drop in the carbon footprint in absolute terms can only be explained by taking into account existing assets for which data were available (unlike last year, when asset estimates were also present for assets under construction). In addition, many assets related to healthcare establishments were sold, leaving only one asset present in this sector. Because this asset was built recently, it has good energy performance. As a result, this situation (sale of several assets and holding of a recent asset) has made it possible to drastically reduce the carbon intensity of the "health facility" spectrum.

Average carbon intensity by asset category ($kgCO_2/m^2$) OPCI scope



With regard to life annuity assets (invested through the Certivia 1 & Certivia 2 funds), the average carbon emission amounts to 35 $kgCO_2/m^2$/year, which is relatively consistent with the data from last year (vs. 36 in 2020).

IPE Real Estate

Ircantec's real estate investment policy was recognised once again by the IPE Real Estate awards[12]. The Institution was recognised for its sustainable and responsible investments in the category of alternative strategies. Within its real estate investment segment, Ircantec targets niche sectors that are traditionally less covered by institutional investors: student residences, nursing homes, social tourism residences. Ircantec also invests in 2 life annuity funds and an impact real estate investment fund. This award therefore highlights the responsible management of the Scheme, which strives to ensure its values and investments are aligned.

12 IPE (Investment & Pensions Europe) is a source for information on institutional investors in Europe. At the IPE Global Real Estate Awards, the Scheme received the silver trophy in the category of alternative strategies (Silver Themed Award).

ISR Label

Through its commitment to SRI and after the first SRI[13] label was obtained for the real estate OPCI fund, Ircantec invested in a second fund that has obtained this certification. This is a real estate Impact Investing fund, managed by Swiss Life, with the aim of fighting against inadequate housing (including a social segment that rents properties at very competitive prices to associations: Habitat et Humanisme and the Paris Samu Social). The labelling of this fund illustrates the values of the Scheme in terms of responsible investment and in particular social challenges and sustainable development issues.

2 - Green share

Listed companies

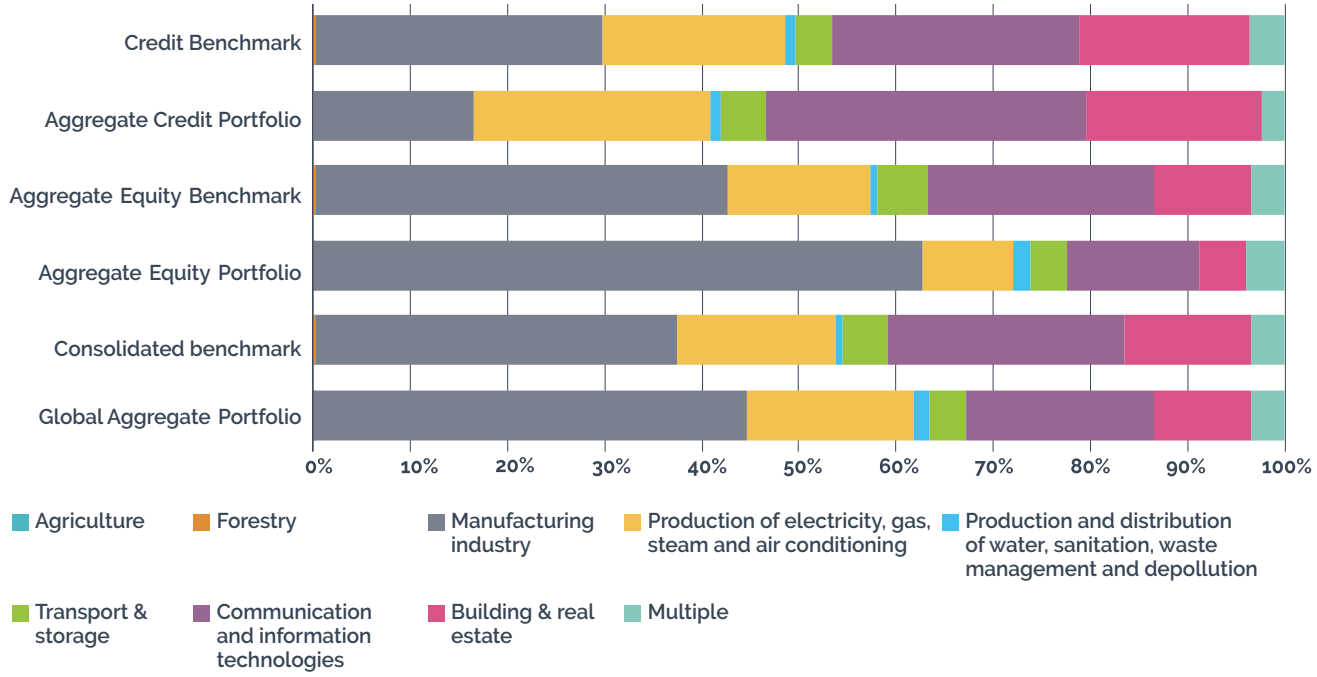
The positive impacts of companies on the climate remain difficult to quantify for most companies. The most common approach is to break down the activities carried out by a company and to estimate whether or not each component is virtuous. The European Union's green taxonomy provides a common framework for classifying activities. Each economic activity covered has performance thresholds that measure its contribution to environmental objectives (climate change adaptation and mitigation, for the time being). The taxonomy describes 67 business activities - linked to the 7 macro-sectors of the NACE (Statistical Classification of Economic Activities in the European Community) classification - which can be classified as "transitional" or "enabling". Transitional activities are those that either have direct carbon mitigation potential (e.g. renewable energy) or have a relatively higher carbon intensity but have significant potential to reduce their carbon emissions over time (e.g. example steel fabrication). Enabling activities are those that could support the reduction of carbon emissions in other sectors (e.g. wind turbine manufacturing). Methodologies are being refined to delineate the green share of companies while avoiding estimates. Trucost's "*EU Taxonomy Revenue Share*" data provides an assessment of the proportion of company revenue eligible for alignment with the taxonomy using a proprietary Trucost mapping of the taxonomy system classification of sectors and the business activities described in the taxonomy.

The green share of the seven eligible macro-sectors (weighted average of the green shares of companies) amounts to 32% in 2021 compared to only 27% for the benchmark index. 14% of the portfolio's eligible income is linked to enabling activities, and 18% is linked to transitional activities. The eligibility of business income for the European taxonomy remained stable between 2020 and 2021. The contribution is particularly strong from the manufacturing industry sector, such as specialised chemicals or electrical components and equipment. In this sector, 100% of the revenue of 34 companies is eligible for the European taxonomy.

Top 10 contributors to the green share	Revenue eligible for the European taxonomy (%)
Schneider Electric S.E.	1.11%
Croda International Plc	1.08%
Iberdrola, S.A.	0.92%
Veolia Environnement S.A.	0.83%
L'Air Liquide S.A.	0.77%
Legrand SA	0.75%
Infineon Technologies AG	0.67%
Stellantis N.V.	0.62%
Orange S.A.	0.60%
Michelin CGDE A Beiges	0.52%

13 In order to promote real estate funds that invest in virtuous assets and implement best practices to improve the ESG performance of properties over time, a new SRI label was created for real estate funds.

Share of revenue exposed to the European taxonomy by NACE sector



Sovereign and similar

The energy mix was analysed at the sovereign portfolio level. In 2021, the latter is made up of 39% brown energy, 31% green energy and 30% nuclear. These results are stable compared to 2020.

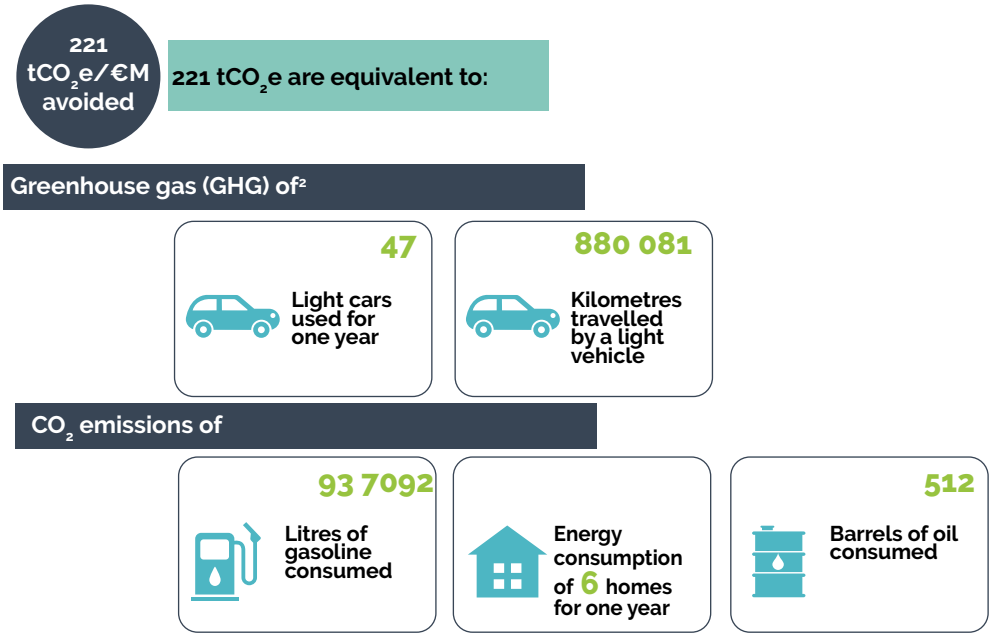
3 - Climate Impact Investing

Green bonds

Green bonds represent 6.77% of Ircantec's reserves. They are grouped together in a single dedicated fund (valued at €1,003.3 million at the end of December 2021), which was created to accommodate the specificities of these assets in terms of market depth, issuer profile, audit and labelling in particular. Having a manager that is specialised in this mandate improves the monitoring of the use of funds received by issuing companies and ensures consistent treatment of these instruments. The main difficulty is indeed investing in debts with an adequate financial profile and good transparency as to the "green" classification they claim. To fulfil this last condition, the dedicated fund was labelled *Greenfin*[14], which means the following conditions have been met: the majority of activities financed in the fund belong to an eligible classification (Energy, Building, Waste Management and Pollution Control, Industry, Clean Transport, ICT, Agriculture and Forestry, Adaptation to Climate Change), certain activities are excluded (in particular E&P and the nuclear sector), ESG criteria are integrated in the fund and impacts are measured (mechanism for measuring the contribution of its investments to the EET). The fund has been certified by an accredited independent third party.

Through its fund dedicated to green bonds, Ircantec is invested in 184 sustainable issuances which specify the use of the funds (representing 92% of this fund's assets). These include 165 green bonds, most of which specify how much CO_2 emissions are avoided (42% of outstandings of the dedicated fund; 44% of outstandings were issued less than a year ago and have therefore not yet had to publish their annual report). These amount to 221 tCO_2e/€m invested per year at the fund level.

14 https://www.ecologie.gouv.fr/label-greenfin#scroll-nav__4, "Villiers Green Bonds"

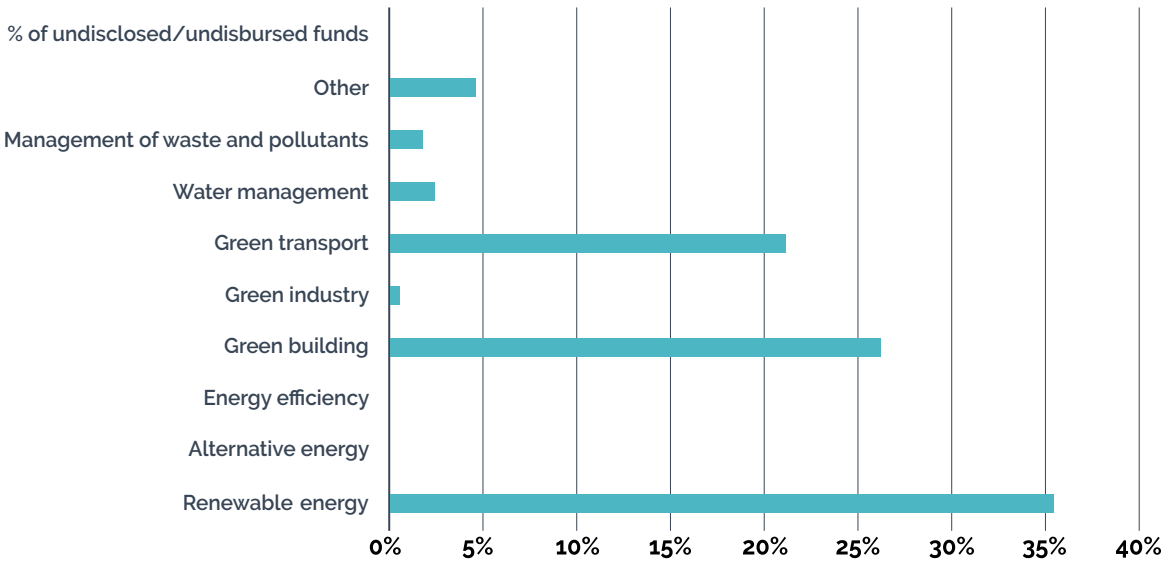


Source: Amundi, 2021 Management Report for the Villiers Green Bonds fund

The remaining bond issues include sustainability bonds (3.52% of the fund), sustainability linked bonds (2.24% of the fund) and social bonds (1.86% of the fund).

The portfolio of green & sustainable bonds is generally less emission-intensive than its benchmark index on the 3 Scopes analysed: 296tCO_2/€M in sales (896tCO_2/€M for the index) for Scope 1, 68tCO_2/€M (77tCO_2/€M for the index) for Scope 2, and 37tCO_2/M€ (49tCO_2/M€ for the index) for Scope 3 (first-tier suppliers only). The fund's green bonds are mainly used to finance renewable energy (36%), green building (26%) and clean transport (21%) projects.

Breakdown of projects



Financing the energy transition

Ircantec supports the energy transition of the territories by financing local authorities, public institutions, small infrastructure projects, mainly French, in the fields of renewable energies, energy transition and the environment. This financed green infrastructure directly contributes to SDGs 7 and 9 (Affordable and Clean Energy & Industry, Innovation and Infrastructure). These investments are made through:

- a dedicated multi-asset fund that invests directly in projects or unlisted companies compatible with these objectives and 12 funds (infrastructure funds and thematic private equity) that contribute to this objective: BTP Impact Local, CapEnergie 3, Demeter 4 Infra, Infragreen II, Eurofideme 3, Eurofideme 4, Effithermie, EnRciT, Infragreen IV, Paris Fonds Vert, Swen Impact Fund for Transition, SWIFT 2 and Pearl Infrastructure Capital. Nine of these funds are GreenFin labelled (CapEnergie 3, Infragreen II, Demeter 4 Infra, Eurofideme 3, Eurofideme 4, Paris Fonds Vert, Infragreen IV, Pear Infrastructure Capital). Ircantec has committed €232 million to green infrastructures: as at 31 December 2021, €158.2 million had already been invested;
- the dedicated "green bonds" fund: the amount of its investments in green bonds is €1,003.3 million, or 6.77% of its reserves;
- a dedicated European equity fund managed by Mirova whose investment strategy focuses on environmental issues and more particularly environmental innovation in the following areas: Renewable Energy, Clean Transport, Energy Efficiency, Sustainable Waste and Water Management, Sustainable Agriculture and Green Building. These investments amount to €1,251.6 million, or 8.44% of the reserves.

These last two dedicated funds received the Greenfin label in 2021.

- 7 open funds that invest in companies in the EET (renewable energies, energy efficiency - buildings, industry, transport) for a total amount of €135 million, one of which has the Greenfin label (Sycomore Éco-solutions).

In 2021, €65 million was invested in funds in the EET theme.

Ircantec has strengthened its commitment and set itself a target EET financing objective of at least 20% of its reserves by 2024 (17.9% of reserves were devoted to this goal at the end of December 2021).

4 - Exposure to other environmental factors (excluding climate)

Forests have three functions: economic, social and environmental. Forest managers seek to reconcile these three functions, although the production function has historically taken precedence. In recent years, the other two functions have been gaining in importance, particularly due to better visibility of forestry activities by the general public. Thus, forests have a special role to play in mitigating the effects of climate change (carbon sequestration in forests and carbon storage in woods), preserving biodiversity and supplying many ecosystem services (preservation of landscapes, water quality, etc.).

Consequently, forestry management must in particular make it possible to ensure continuous production of wood, a material with many uses and an intrinsically renewable resource, combining performance, durability and adaptability, while integrating environmental issues into its silviculture (preservation of biodiversity, quality of soil, water, etc.) or taking into account stakeholders' expectations.

In light of these objectives, in 2021, the management service conducted discussions with the Forestry Company (Groupement Forestier de Brèves), the delegated manager in charge of Ircantec's forestry investment, and it was decided that these missions should be extended to:

- Drafting of the Responsible Investment and CSR Report,
- The definition and monitoring of a policy for integrating ESG criteria into the management of the fund (taking risk into account),
- The alignment of the fund with environmental (carbon, climate, biodiversity, etc.) and societal objectives,
- The evaluation of biodiversity in each managed forest (potential biodiversity index) with biodiversity performance management (identification of areas undergoing natural evolution),
- Monitoring of the primary invasive species, with a program to combat invasive species,
- The assessment of the share of the fund aligned with the European green taxonomy.

These new missions will be implemented in 2022, and the data will be able to be published in 2023.

In 2021, the Groupement Forestier had 12 pieces of land on French territory, totalling 3,286 ha. As part of these management activities, the Forestry Company has a socially responsible and eco-friendly forest management policy:

- Development and monitoring of a sustainable forest management manual, the application of which is ISO 9001 certified,
- Pan European Forest Certification (*PEFC*) for 100% of the forest assets of the Groupement Forestier de Brèves for the sustainable management of the land, resulting in particular in the maintenance of all the ecosystem services they offer: capacity to produce wood, maintenance of original biodiversity and preservation of the soil against erosion,
- Analysis of carbon flows (absorption/emission): 14,458 tCO_2 stored in 2021.

In addition to silviculture, which aims to produce quality wood, forest management offers the ability to optimise carbon stock, biodiversity, resilience to climate change and all the benefits linked to ecosystem services.

5 - Biodiversity analysis of the portfolio

An environmental footprint is calculated at the corporate portfolio level. The latter quantifies the environmental impact of greenhouse gas emissions, water use, waste, air, soil and water pollutants, as well as the use of natural resources. The analysis focuses on the impacts associated with the company's own activities but also those of its suppliers upstream, all the way back to the extraction of the raw materials. Environmental impacts are often hidden in global supply chains, which is why Trucost uses an Environmental Extended Input-Output (EEIO) model to isolate responsibilities at each level of the value chain. An environmental cost is attributed to each resource and pollutant in order to compare the different environmental impacts.

Environmental intensity

Direct and indirect costs	2021		2020	
	Portfolio	Benchmark	Portfolio	Benchmark
Environmental intensity per amount invested (CE/I)	1.1%	1.2%	1.5%	1.7%
Environmental intensity per million of revenue (CE/CA)	3.6%	4.0%	3.6%	3.9%
Weighted average of environmental intensities	3.1%	3.4%	3.3%	3.4%

The overall portfolio generates fewer environmental costs than its benchmark, and it has generally succeeded in reducing them between 2020 and 2021. The environmental costs per €1 million invested by the portfolio fell from 1.5% (i.e. €15,000 per million invested) to 1.1% in 2021. This improved relative performance is mainly explained by a good selection of stocks, with lower environmental costs, within the Materials sector (for example in the glass industry or specialised chemicals).

The Utilities sector is the main sector that contributes to the environmental footprint. These companies include Veolia Environnement, EDF and Suez, which are committed to the ecological and energy transition of their activities.

Attribution analysis

PF Global Aggregate - Consolidated Benchmark					
	Carbon intensity (C/R)		Attribution effect		Total
	Portfolio	Benchmark	Financial	Heading	
Communication Services	0.6%	0.8%	-0.02%	0.19%	0.17%
Consumer Discretionary	2.4%	2.3%	-1.04%	-0.32%	-1.36%
Consumer Staples	8.1%	9.2%	-0.10%	3.14%	3.04%
Energy	5.0%	5.0%	1.86%	-0.02%	1.85%
Finance	0.3%	0.4%	1.99%	0.41%	2.40%
Health insurance	1.2%	1.5%	0.24%	0.73%	0.97%
Industry	2.0%	2.0%	0.41%	0.08%	0.49%
Information technology	1.1%	1.0%	0.89%	-0.14%	0.75%
Materials	6.4%	10.8%	-5.03%	13.50%	8.47%
Real estate	1.4%	1.6%	-0.04%	0.02%	-0.02%
Utilities	12.9%	11.2%	-4.75%	-3.37%	-8.12%
	3.6%	4.0%	-5.58%	14.22%	8.64%

The subject of biodiversity is also taken into account in the ESG analysis of Ircantec's corporate portfolio by Sustainalytics. Thus, the exposure score to the "land use and biodiversity" ESG issue is considered significant for 10 industries out of 42: commercial services, food products, consumer services, chemical products, diversified metals, oil and gas producers, paper and forestry, precious metals, refiners and pipelines, steel, traders and distributors, utilities and transport infrastructure.

In Ircantec's corporate portfolio, 95% of issuers are in a negligible risk category (level 0 on a scale of 0-5) and 5% are low risk (level 1 out of 5): most companies with negligible or low risk can mitigate this ESG risk by implementing existing best practices in their sub-sectors (specific programs, certifications, transparency, dialogue with local communities).

Regarding the management of the biodiversity issue, 84% of companies in the portfolio have a high level of management (level 1 on a scale of 1-3), 11% have average management and 5% have weak management. The biodiversity risk analysis carried out by Sustainalytics highlights the companies with the best management practices and those that are the least efficient, which makes it possible to focus attention and dialogue on the issuers that are most at risk.

To better comply with the regulations (Article 29), Ircantec plans to set itself a biodiversity conservation objective. Thus, a working group within Ircantec will study the exposure of the portfolio to the various biodiversity issues and define the Scheme's biodiversity approach in 2022, thus following the same process as in 2021 for climate, which had been a strong theme for Ircantec in its Roadmap. This will lead to a more complete integration of biodiversity into the management of Ircantec's reserves, in particular via exclusions and shareholder engagement, and will enable the Scheme to be in compliance with the regulations by 2023.

IV
Alignment of investments with climate objectives and the Paris Agreement

In order to estimate companies' alignment with a temperature trajectory, Trucost bases its analysis on sectoral carbon budgets, knowledge of past emissions trajectories and consideration of future commitments. The presence of companies in the portfolio committing to initiatives such as *Science Based Targets* (SBT) to achieve carbon neutrality is important on this point (at least 40% of investments in the corporate portfolio concern companies that have validated objectives or have committed to having them validated by SBT – considering that SBT has not yet finished defining the methodology for all sectors of activity[15] – this is the case for transport or chemicals).

Listed companies

The carbon budget of the overall listed portfolio is estimated at –295,741 tCO_2e, and the portfolio is therefore below its carbon budget to align with a 2°C trajectory. Conversely, its benchmark exceeds the 2°C carbon budget by 122,353 tCO_2e. Thus, the listed reserves of Ircantec are aligned on an average temperature trajectory between 1.75°C and 2°C by 2100, whereas it is estimated between 2°C and 3°C for its benchmark. The credit portfolio is aligned with the objectives of the Paris Agreement with an alignment trajectory below 1.75°C, thanks in particular to the electricity generation sector. This is not the case for the equity portfolio, which is penalised by its investments in the Energy and Utilities sectors. The significant contribution of these sectors is explained by the quantity of GHG emissions above the 2°C budget of the securities and not by their weight in the portfolio, with securities such as Veolia Environnement or Suez.

Ircantec's portfolio therefore maintains its alignment with a 2°C scenario. At the sector level, the Energy, Consumer Discretionary and Communication Services sectors have the highest temperature, with companies in these sectors being very poorly aligned with the objectives of the Paris Agreement.

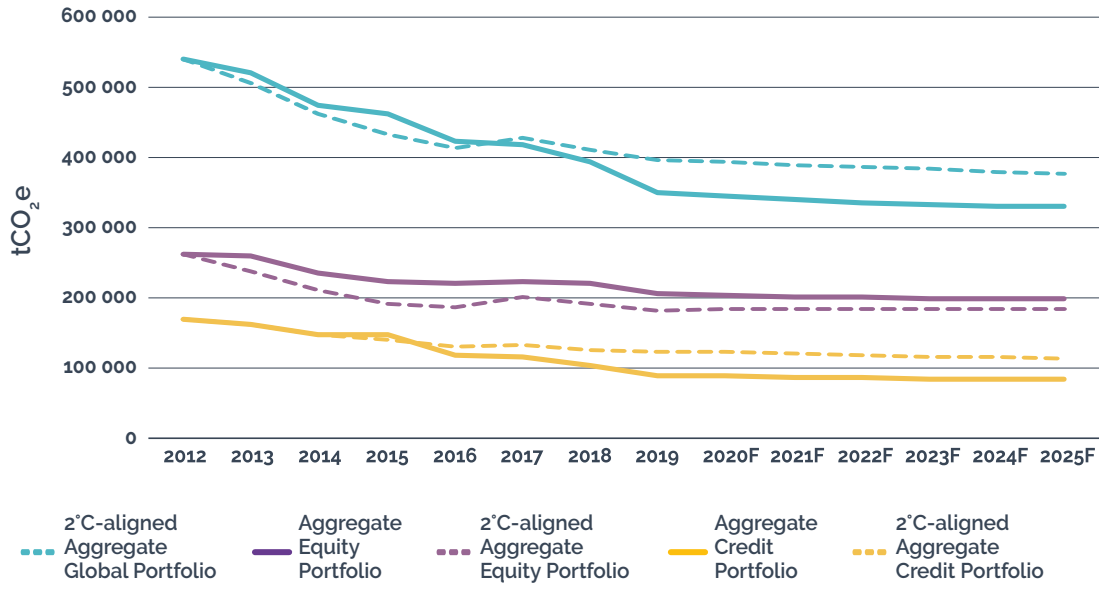
15 https://sciencebasedtargets.org/sectors

Corporate portfolio temperatures

Aggregate Global Portfolio
1,75°C - 2°C

Aggregate Equity Portfolio
2°C - 3°C

Aggregate Credit Portfolio
< 1.75°C



Aggregate Global Portfolio
2°C-aligned Aggregate Global Portfolio
Aggregate Equity Portfolio
2°C-aligned Aggregate Equity Portfolio
Aggregate Credit Portfolio
2°C-aligned Aggregate Credit Portfolio

Equivalent temperature of business sectors Aggregate global portfolio

		Aggregate global portfolio	
Method	Sector	Contribution ($MtCO_2e$)	Trajectory (°C)
SDA	Energy production	-752,838	<1.75
	Cement	10,740	>2.7
	Steel	31,387	>2.7
	Air transport	-	
	Aluminium	3,636	>2.7
GEVA	Communication Services	19,027	>5
	Consumer Discretionary	28,791	>5
	Consumer Staples	32,401	3 to 4
	Energy	63,840	>5
	Finance	-1,342	1.5 to 2
	Health insurance	-839	1.5 to 2
	Industry	40,793	2 to 3
	Information technology	9,015	3 to 4
	Materials	63,891	2 to 3
	Real estate	-2,478	<1.5
	Utilities	158,236	4 to 5

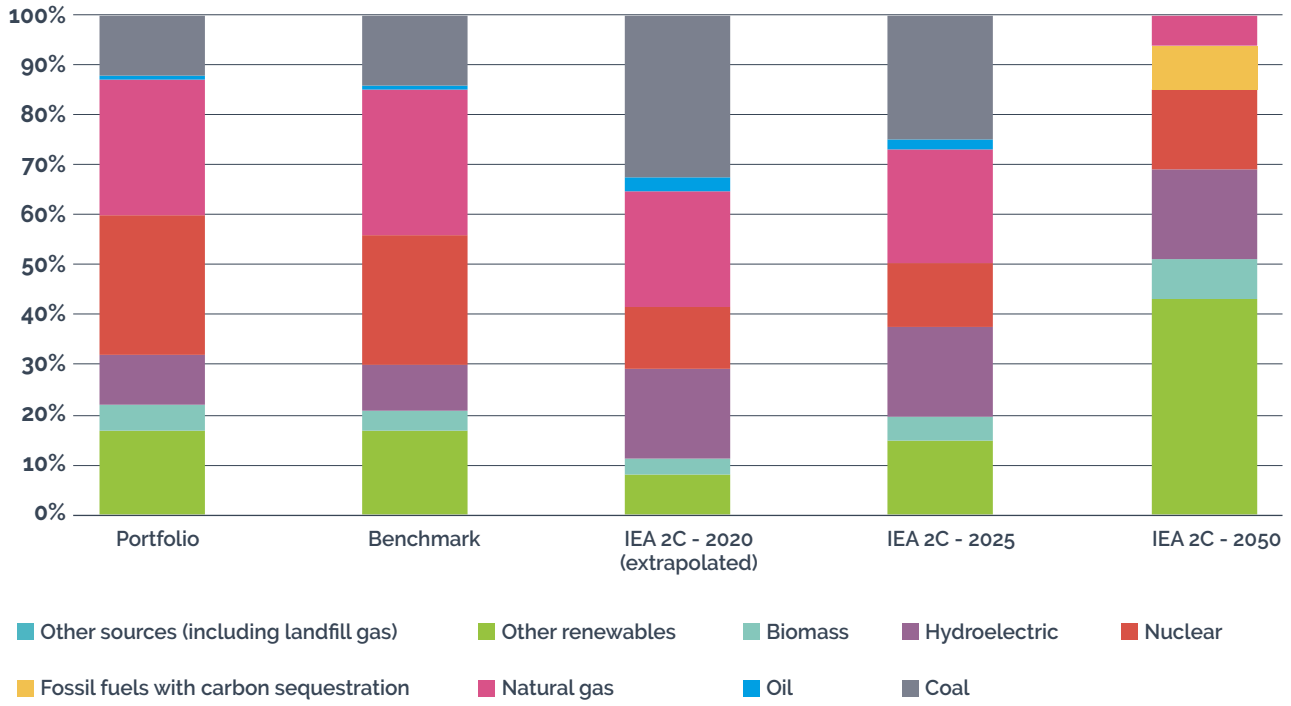
Equivalent temperature of business sectors
Aggregate credit portfolio

		Global aggregate portfolio	
Method	Sector	Contribution ($MtCO_2e$)	Trajectory (°C)
SDA	Energy production	-345,148	<1.75
	Cement	7,075	>2.7
	Steel	1,916	>2.7
	Air transport	-	
	Aluminium	1,338	>2.7
GEVA	Communication Services	8,317	>5
	Consumer Discretionary	3,173	2 to 3
	Consumer Staples	8,628	4 to 5
	Energy	-	
	Finance	-1,112	1.5 to 2
	Health insurance	-186	1.5 to 2
	Industry	896	2 to 3
	Information Technology	976	3 to 4
	Materials	21,822	>5
	Real estate	1,213	>5
	Utilities	5,288	2 to 3

Sovereign and similar

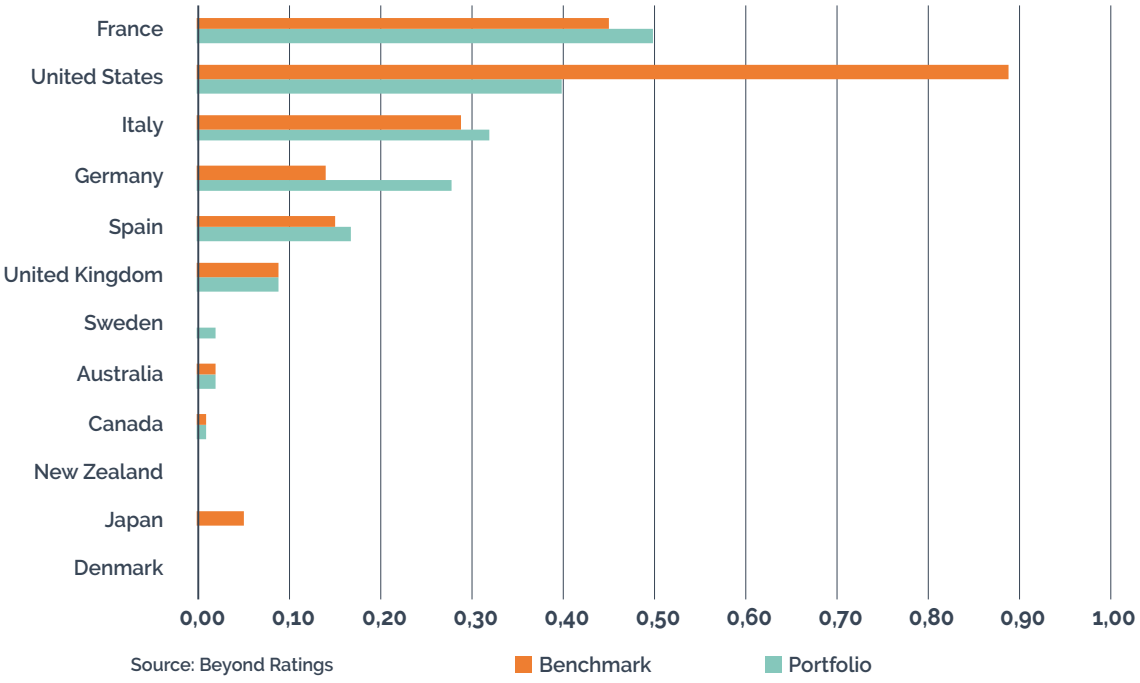
Because energy generation is critical for the transition to a low-carbon economy and alignment with the objectives of the Paris Agreement, it is interesting to look at the average electricity mix produced by the different energy sources of each country, including low-carbon sources (hydroelectricity, wind, solar, geothermal, tidal energy, nuclear), weighted by the weight of each country in the portfolio. Ircantec's reserves are slightly less exposed to coal and natural gas than its benchmark. The evolution of the energy mix to respect a 2°C trajectory is also presented in order to position the portfolio on this objective. It is then possible to see that the portfolio is overexposed to nuclear power compared to the 2°C – 2025 scenario due to its high exposure to France, as well as to natural gas. This strong presence of natural gas is explained by the position of most States on its contribution to the energy transition and their desire to overcome the problem of intermittency of renewable energies. On the other hand, the issuers in the portfolio use significantly less coal and oil than what would be expected in a 2°C – 2025 scenario. The almost negligible exposure to emerging countries contributes in part to this result.

Portfolio energy mix - weighted average method



The inflation-indexed fund is aligned to a temperature of 2.2°C, versus a benchmark index at 2.6°C (as calculated by the asset management company).

Contribution by country



V
Integrating ESG and sustainability logics in the management of reserves

1 - Fund-level ESG strategy

ESG integration

In addition to climate issues, Ircantec is interested in all of the ESG issues its portfolio faces. Social issues (human rights, freedom of association, health & safety of products and services, accessibility of products and services, etc.) and governance (shareholders' rights, organisation of the Board of Trustees, compensation of executive management, etc.) are, like climate and the environment, a major materiality for the issuers in the portfolios.

ESG considerations are integrated throughout the management process, and Ircantec strives to integrate SRI holistically and pragmatically. Thus, ESG issues are taken into account from the selection phase of new asset management companies before assigning mandates. Calls for tenders launched in 2021 include an ESG and climate outperformance fee based on objectives of means and results. This innovative policy thus enables Ircantec to link its interests even more closely with those of the management companies on SRI aspects in addition to financial aspects.

Thereafter, integration is ensured through regular dialogue with asset management companies (particularly through management committees) and careful monitoring of the portfolio. The crossing of a threshold or the occurrence of a controversy systematically triggers a dialogue phase with the asset management companies to receive their opinion and their analysis and possibly request a reduction or sale of the positions.

Following a public call for tenders launched in the summer of 2021 to renew its ESG service provider, Ircantec is working with Sustainalytics, a Morningstar Group company, which provides environmental, social and governance (ESG) research, assessments, analysis and data. These elements make it possible to identify, understand and manage ESG-related risks and opportunities of different asset classes, at the company and fund level.

When it changed ESG service providers, Ircantec also subscribed to an ESG database, accessible at any time by its teams, which allows it to monitor the portfolio if a controversy arises or thresholds are crossed on its invested issuers, as well as an additional dialogue tool with asset management companies to be able to compare the ESG assessments of issuers in the portfolio.

The different methodologies, approaches and sources between its old and new service providers explain the different scores from one service provider to another. In particular, while VE adopted an ESG performance approach, Sustainalytics favours an overall ESG risk assessment, scaled from 0 to 100 (0 = low-risk issuer). The risk-based approach combines exposure to ESG risks, as well as their management by the issuer (see methodological annex), and applies to the measurement of the overall level of risk without necessarily breaking it down into each E/S/G pillar.

Each mandate entrusted to a management company applies an SRI methodology specific to this manager, which is based on a selection strategy (positive filter), which can be *best-in-class, best effort, best progress or best-in-universe* . Unlisted funds focus more on an impact strategy and thematic investments. The new climate policy (including exclusions and reduction targets) applies to all dedicated funds in the portfolio. For all the funds in the portfolio, the management service makes sure to carefully monitor the most significant controversies that could have a critical financial or reputational impact on issuers. Thus, all the management companies under an Ircantec mandate report on the major controversies to which the companies in the portfolio are exposed, and the management service monitors the entire portfolio through its external ESG service provider for the main controversies to be monitored.

Non-climate exclusions (tobacco, weapons, controversies)

Normative and sectoral exclusions (negative filter) are an integral part of Ircantec's SRI strategy. In addition to the climate policy, Ircantec applies the following exclusions:

- **Tobacco**: exclusion of all tobacco producing companies;
- **Proven breaches of fundamental conventions and principles** (Universal Declaration of Human Rights, International Labor Organization's Declaration on Fundamental Principles and Rights at Work, Rio Declaration on Environment and Development, United Nations Convention);
- **Controversial weapons**: companies that manufacture and market weapons banned under international conventions.

These exclusion filters, updated and monitored regularly, allow Ircantec to avoid investing in dangerous activities.

SFDR classification (Art. 8-9)

Within the framework of the European SFDR (S*ustainable Finance Disclosure Regulation)* , the dedicated funds and open funds held by Ircantec are classified according to their consideration of ESG issues:

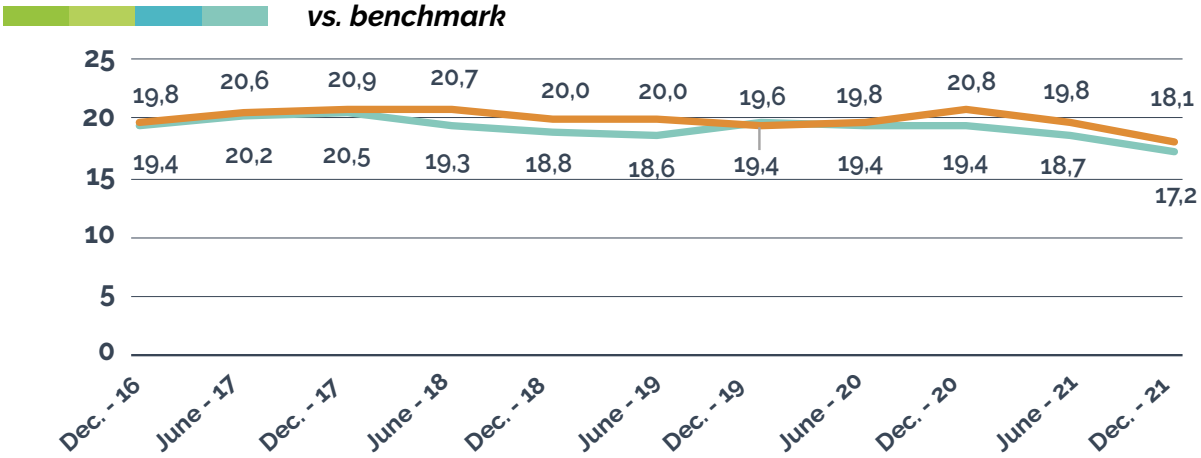
- Art. 8 brings together funds that have environmental and social characteristics. All of Ircantec's listed dedicated funds (with the exception of Art. 9 funds) fall into this category, i.e. 93.21% of total reserves, as well as several open-ended and unlisted funds (Villiers Multi-Actifs, Access Capital Investissement, Access Dette Privée, Access Infrastructure).
- Art. 9 (6.79%) is the highest requirement level because it is specific to funds with a stated sustainability objective. Two dedicated Ircantec funds (the green bond fund and the European equity fund managed by Mirova) are in this category, as are several open and unlisted funds (Mirova Women Leaders, Mirova Eurofideme 3A, Meeschaert Eurofideme 4, SWIFT 1 and SWIFT 2).

2 - Results of the extra-financial assessment

Consolidated portfolio (Corporates and Sovereigns)

The analysis of the level of ESG risk of the consolidated portfolio since the end of 2016 shows a strong correlation between the portfolio and its consolidated benchmark, with a lower level of ESG risk for the portfolio over the period. The only exception to this global trend occurred at the end of 2019 (with the arrival of new dedicated mandates on European and World ex-Europe equity funds), where the distribution of the most represented companies in the portfolio changed between June and December 2019: the score of the 13 largest companies in the portfolio increased from 20.5 in June 2019 (representing 16.3% of the corporate portfolio) to 22.6 in December 2019 (13.8% of the corporate portfolio), which mechanically increased the overall risk level of the consolidated portfolio. Between June 2019 and December 2019, the risk score increased by 2.1 points for these 13 companies, which is explained by a sharp deterioration in the ESG management scores (from 63.2 to 60.8, i.e. - 2.4 points), which does not offset the lower exposure to ESG risk (from 52.8 to 51.2, or -1.6 points). These stocks, which are predominant by weight, negatively influenced the level of ESG risk of the portfolio in December 2019.

History of the ESG risk score of the consolidated portfolio vs. benchmark



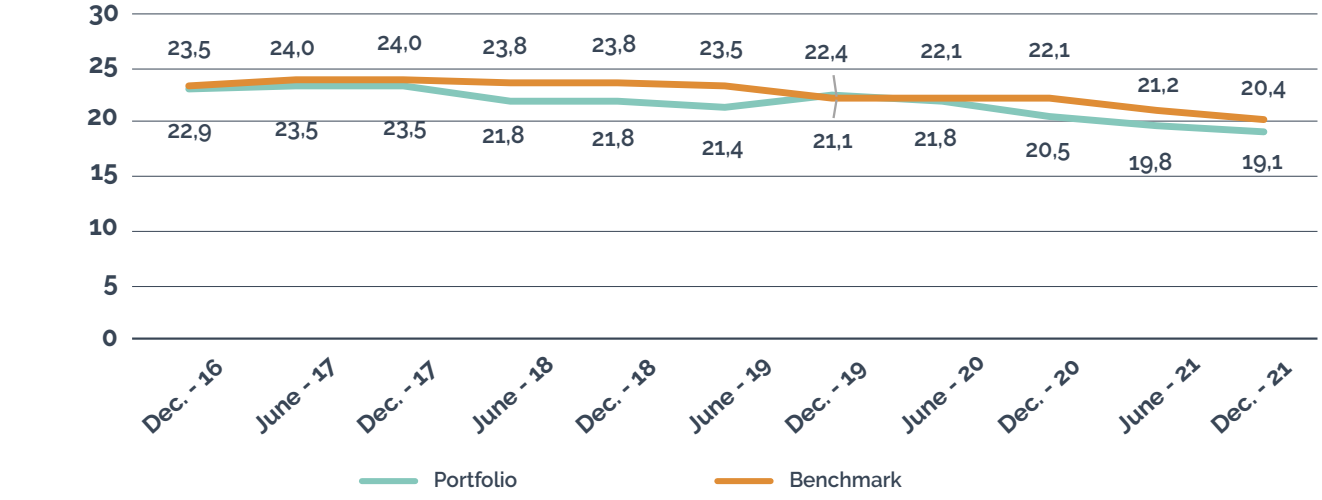
The portfolio's ESG risk level for the end of 2021 therefore stands at 17.2, a better result than its consolidated benchmark (18.1) and an improvement compared to June 2021 (18.7). Indeed, the management service ensures regular monitoring of Ircantec's portfolio (management committee, dialogue with the asset management companies) to ensure that they all respect the specificities of the SRI Charter and seek to improve over time and relative to their benchmark.

In terms of the analysis by fund, all of Ircantec's mutual funds are less risky than their respective benchmark index, with the exception of one European equity fund, whose level of risk is similar to its benchmark.

Corporate portfolio

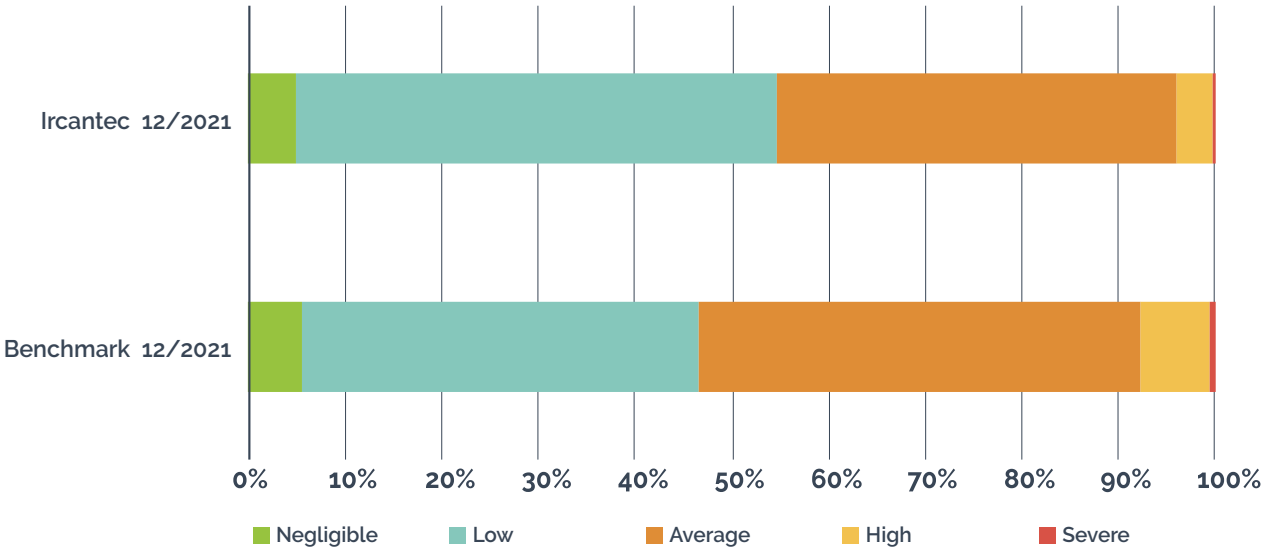
With a score of 19.1 (low risk category), the corporate portfolio (equities and bonds) presents a lower level of risk than its benchmark index (20.4). The portfolio is less risky than its benchmark over the period, except at the end of 2019, which shows a trend reversal due to a rotation of the most represented companies in the portfolio (replacement of low-risk companies by riskier companies when changing mandates), as highlighted for the consolidated portfolio. At the end of 2021, the difference between the risk of the portfolio and the benchmark (-1.3 points) illustrates Ircantec's ongoing effort to have a less risky portfolio.

History of the ESG risk score of the corporate portfolio



This portfolio performance is explained by an overweighting of issuers with low levels of risk and an underweighting of issuers with a medium level of risk.

Breakdown of investments by risk category (%)



Via an analysis of ESG risk by geography, Ircantec has an overweighting in Europe and an underweighting in North America but invests in issuers that are generally less risky than the benchmark (except for Latin America, to which the portfolio has very little exposure). Ircantec's geographic allocation, with a very high proportion of issuers in the Europe region, is favourable to the overall level of risk of the corporate portfolio: Europe is in fact the region that contributes most favourably to reducing the level of portfolio risk by presenting a lower level of risk than its benchmark index. This performance of the region is explained by a more restrictive legislative framework in ESG matters, which obliges companies to apply best practices on these subjects: their ESG risk management score is thus overall higher than that of companies located in other geographic areas.

ESG risk score by geographic area

	Portfolio		Benchmark		Delta Score	
Areas	Weight	Risk score	Weight	Risk score	PTF vs. Benchmark	PTF vs. Global
Africa/Middle East[16]	0.02%	20.50	0.04%	26.75	-6.25	1.40
Asia Pacific	2.4%	22.85	2.7%	23.25	-0.40	3.75
Europe	81.50%	18.82	79.84%	19.61	-0.79	-0.28
Latin America[17]	0.05%	26.01	0.15%	25.80	0.20	6.91
North America	15.67%	20.87	17.04%	22.29	-1.42	1.77
Global	**99.6%**	**19.1**	**99.8%**	**20.40**	**-1.73**	**0.00**

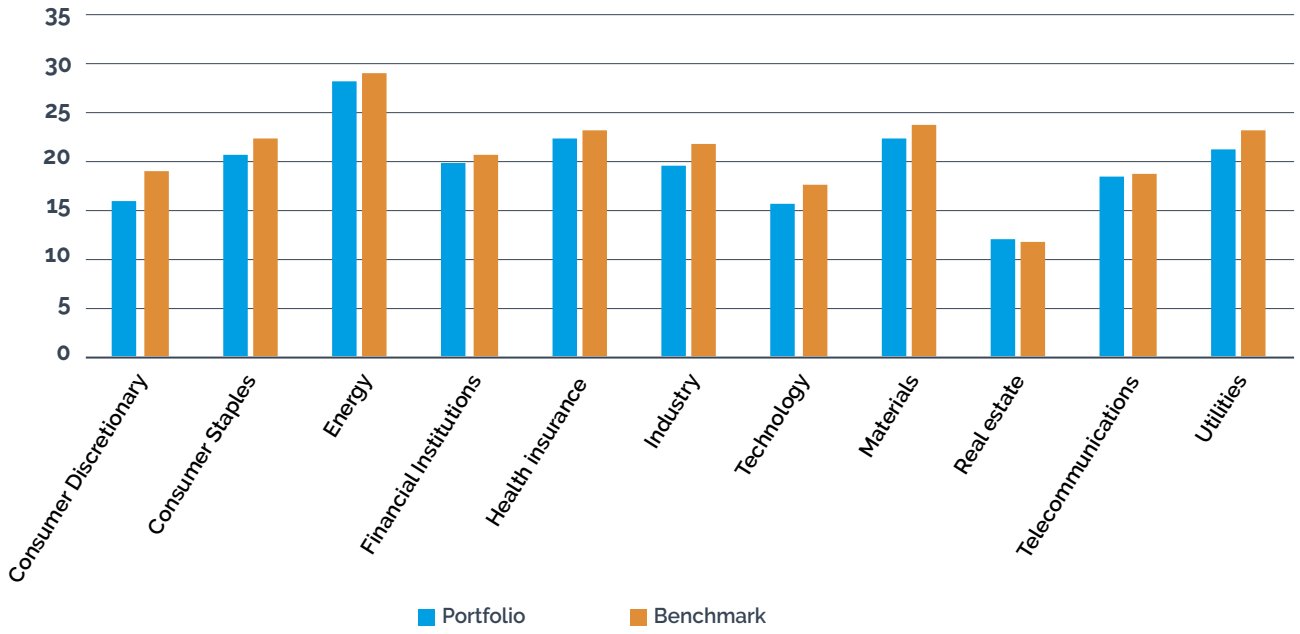
16 Only one company (Plus500 Ltd) is located in the Africa/Middle East region (Israel) but is listed in the United Kingdom, hence its authorised presence in the portfolio.

17 Only one company (Fomento Economico Mexicano SAB de CV) is located in the Latin America region (Mexico).

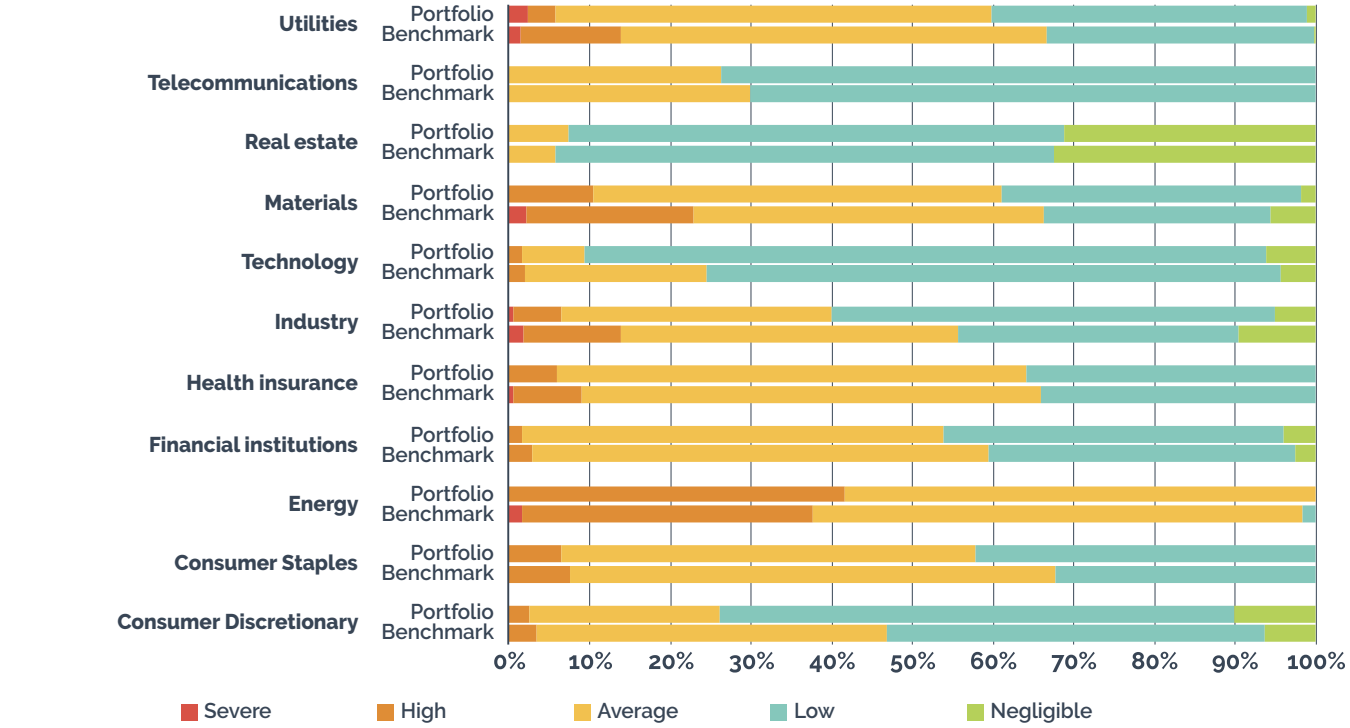
The outperformance of the corporate portfolio compared to its benchmark index is explained by the effects of:

- Allocation: Ircantec's portfolio is overweighted in financial institutions, industry and utilities and is underweighted in the consumer discretionary and consumer staples sectors – this allocation to less risky sectors in terms of ESG partly explains the outperformance of Ircantec's portfolio. In the real estate sector, the difference between the exposure of the sector in Ircantec's portfolio and the benchmark is marginal (0.2), with a low allocation of Ircantec's portfolio (3.4% of the portfolio). This is due to a few companies in the real estate sector that have poor ESG risk management. For example, with a score of 20.3, the riskiest company in this sector in the portfolio is Adler Real Estate AG. In the energy sector, where the benchmark has a higher risk score than Ircantec's portfolio, it nevertheless has a small share of its allocation (1.7%) in the low risk category, which is not the case for Ircantec's portfolio. This is explained by the presence in the benchmark of two issuers, Pembina Pipeline Corp and Kinder Morgan, which are American infrastructure operators (pipelines, port terminals, etc.), whose risk score is respectively 18.5 and 18.55. However, this situation is offset by the fact that a portion of the sector's assets are in the severe risk category, which is not the case for Ircantec.
- Selection: the issuers selected within each industry show that the least risky companies are over-represented to the detriment of the riskiest, which allows Ircantec's corporate portfolio to present ESG risk scores that are lower than its index benchmark for 10 out of 11 sectors – only issuers in the real estate sector are riskier than their equivalent in the benchmark. Within the sectors analysed, very little of Ircantec's portfolio is invested in issuers in the severe risk category, only for industry (0.47% versus 1.76% for the benchmark) and for utilities (2.30% versus 1.42%).

ESG risk score (Corporate portfolio)



Breakdown of investments by ESG risk category (Corporate portfolio)



Companies with the greatest impact on the portfolio

By taking into account the weight of the issuers in the portfolio and their ESG risk score, it is possible to highlight the issuers that contribute positively and negatively to the overall risk level of the portfolio.

Thus, KfW, ASML, Kingfisher, RELX and KBC (cumulative weight in the portfolio, 4.57%) have a weighted risk score of 9.71, i.e. a delta of -9.39 compared to the rest of the portfolio, thus contributing favourably to reducing the overall risk level of the portfolio.

Conversely, Siemens, Crédit Suisse, Nestlé, Tomra Systems and Crédit Agricole (cumulative weight 4.97%) have a weighted risk score of 26.43, i.e. a delta of +7.33 compared to the rest of the portfolio. The controversies over these issuers (except Tomra Systems) partly explain the high level of risk of these companies.

Compliance with international norms and standards

No company present in Ircantec's portfolio is suspected of violating international standards as defined by the United Nations Global Compact[18]. However, 20 are on the "watch list", and half of these are financial companies that are potentially at risk on matters of business ethics (market manipulation, money laundering).

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18 The Global Compact (Global Compact, 2000) is a set of 10 fundamental principles enacted by the UN for companies and non-profit organisations based around 4 themes:

Human rights

1. *Support and respect the protection of internationally proclaimed human rights*
2. *Make sure that companies are not complicit in human rights abuses*

International Labour Standards

3. *Uphold the freedom of association and the effective recognition of the right to collective bargaining*
4. *Contribute to the elimination of all forms of forced and compulsory labour*
5. *Contribute to the effective abolition of child labour*
6. *Contribute to the elimination of discrimination in respect of employment and occupation*

Environment

7. *Support a precautionary approach to environmental challenges*
8. *Undertake initiatives to promote greater environmental responsibility*
9. *Encourage the development and diffusion of environmentally friendly technologies*

Anti-corruption

10. *Work against corruption in all its forms, including extortion and bribery*

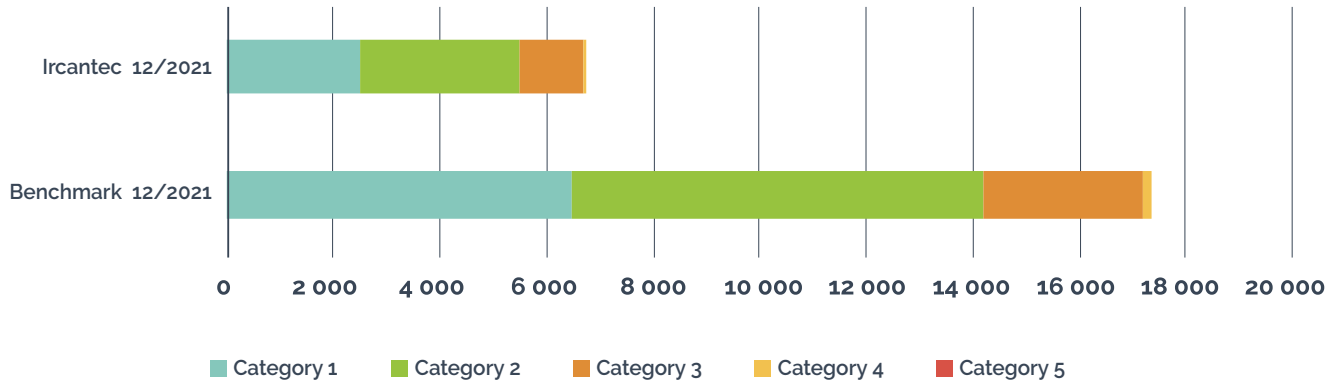
Controversial weapons

Concerning controversial weapons, Sustainalytics does not note any presence in the portfolio of companies producing essential or tailor-made components for cluster munitions (CM), anti-personnel mines (APM) or other controversial weapons. A single financial issuer (BlackRock) holds substantial stakes (>10%) in several companies involved in controversial weapons (Aerojet Rocketdyne, Moog Inc., Oceaneering International, Man Tech Corporation).

Controversies

Sustainalytics rates controversies affecting portfolio companies on a severity scale of 1 (low) to 5 (severe). In December 2021, the number of controversies (all categories combined) is much lower for Ircantec's portfolio than for the benchmark, and no company in the portfolio is exposed to level 5 controversies. More restricted and concentrated than its benchmark (≈2,000 issuers versus ≈4,900), Ircantec's portfolio is proportionally less exposed to controversy (≈6,700 versus ≈17,400), with a lower proportion of severe or serious controversies. This analysis of controversies is consistent with the overall ESG analysis of the portfolio: the management of ESG risks is taken into account in the rating of ESG risk scores.

Breakdown by level of controversy



Involvement in sustainable activities and products

Via its corporate portfolio, Ircantec is exposed to several sustainable investment themes (responding to environmental or social challenges, or products that meet fundamental social needs and are designed in a sustainable manner) in connection with the SDGs:

- "Health" theme (SDG 3 – Good health and wellbeing): in total, 10 companies (3.44% of the portfolio) have a turnover that depends at a rate of between 35% and 100% on access to health by treating major and/or neglected diseases as defined by the World Health Organization;

Companies	% aligned turnover	Weight
Vertex Pharmaceuticals	99.9 %	0.02 %
AstraZeneca	90.1 %	0.76 %
Bristol-Myers Squibb	90.0 %	0.06 %
Novo Nordisk	88.3 %	0.40 %
Gilead Sciences	85.0 %	0.17 %
Eli Lilly & Co.	73.0 %	0.16 %
Roche Holding	67.5 %	0.82 %
Laboratorios Farmaceuticos Rovi	60.0 %	0.02 %
Sanofi	55.0 %	0.61 %
Merck & Co	35.0 %	0.42 %

- "Renewable energy" theme (SDG 7 – Affordable and clean energy, SDG 13 – Climate action): between 16% and 100% of the turnover of the 10 companies that are most involved in this subject (2.04% of the portfolio) depends on renewable and clean energy;

Companies	% aligned turnover	Weight
Siemens Gamesa Renewable	100.0 %	0.11 %
Nordex SE	100.0 %	0.04 %
Vestas Wind Systems	100.0 %	0.54 %
Sunrun Inc.	100.0 %	0.17 %
Solaria Energia y Medio Ambiente	100.0 %	0.25 %
First Solar	100.0 %	0.10 %
EDP Renovaveis	95.0 %	0.39 %
ERG, SpA	60.9 %	0.16 %
Acciona	36.1 %	0.24 %
Orsted	16.7 %	0.04 %

- "Resource efficiency" theme (SDG 9 – Industry, innovation and infrastructure, SDG 12 – Responsible consumption and production): 8 issuers (1.87% of the portfolio) have a turnover that is between 7.50% and 55% aligned with this theme supporting a circular economy by increasing the efficiency of the use of resources and allowing recycling and resource recovery;

Companies	% aligned turnover	Weight
Derichebourg	55.0%	0.03%
Befesa	55.0%	0.02%
Tomra Systems	50.4%	0.58%
CRH	46.0%	0.04%
Mayr-Melnhof Karton	36.9%	0.02%
Umicore	17.5%	0.24%
Suez	7.5%	0.20%
Veolia Environnement	7.5%	0.74%
Acciona	36.1%	0.24%
Orsted	16.7%	0.04%

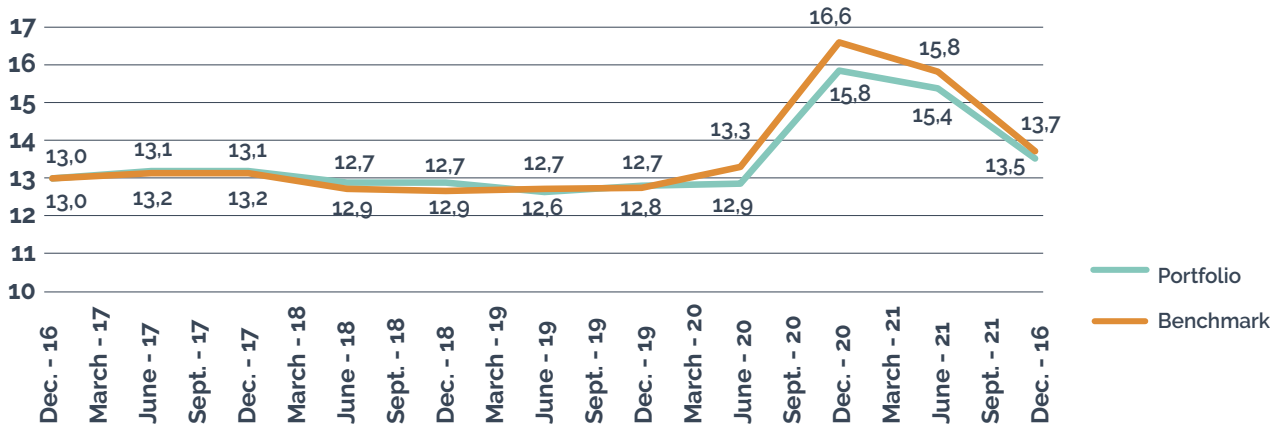
In addition to these most represented themes, other themes have significant exposure in the portfolio: prevention & reduction of pollution (1.68%), protection and efficient use of water resources (1.66%), energy efficiency (1.22%), green transport (0.71%), green real estate (0.59%), agriculture, food and sustainable forest management (0.59%) and affordable housing (0.06%).

Sovereign portfolio

The analysis of the level of ESG risk of sovereign issuers is based on an equal weighting of an ESG wealth score (based on 3 capitals: natural & product, human, institutional) and an ESG factor score (capacity of a State to manage its various assets in a sustainable and responsible way). Development trends over the last 5 years and major events affecting a State (natural disaster, pandemic) also influence the ESG score.

Since June 2020, Ircantec has maintained a lower level of risk within its sovereign portfolio compared to its benchmark index. The sharp increase in the ESG risk of the portfolio and its benchmark index is a consequence of the Covid-19 health crisis. As a major event, the Covid pandemic was assessed by its impact (number of deaths due to infection in a country), vulnerability (ease of circulation of the virus) and response (responsiveness of each State) in order to increase the ESG risk differently according to each State (for example, the impact was evaluated at 1 for Japan or New Zealand and at 5 for Brazil or the United Kingdom, on a scale of severity from 1 to 5). Since the eruption of the pandemic, the response of the governments of each impacted country has made it possible to significantly reduce the ESG risk to a level similar to a pre-crisis level.

History of the ESG risk score of the sovereign portfolio



Although lower than the level of ESG risks of its benchmark index, Ircantec's portfolio gap with its benchmark decreased to -0.2pt, versus -0.8pt at the end of 2020. This difference is partly explained by the decreasing weight of supranational issuers (regional development banks) in Ircantec's sovereign portfolio. The breakdown by country and the ESG risk scores by country illustrate the changes in scores between June and December 2021, as well as changes in weightings, in particular the decline of supranational issuers.

Countries	06/2021 country risk score	12/2021 country risk score	Evolution	06/2021 weight	12/2021 weight	Change in weight between June and December 2021	Benchmark weight
France	16.4	13.5	*-2.9*	24.4%	25.7%	1.3%	22.8%
Italy	20.0	16.4	*-3.5*	18.0%	18.8%	0.7%	15.9%
United States	13.5	12.5	*-0.9*	16.4%	15.8%	-0.6%	28.5%
Germany	14.3	12.4	*-1.9*	11.8%	14.3%	2.5%	10.9%
Spain	18.9	15.9	*-3.0*	8.7%	9.9%	1.2%	8.9%
United Kingdom	13.0	12.8	*-0.2*	5.6%	5.1%	-0.5%	5.2%
Belgium	16.4	13.9	*-2.5*	1.0%	1.0%	0.0%	1.3%
Australia	10.8	10.7	*0.0*	0.6%	0.7%	0.1%	0.7%
Canada	12.0	11.6	*-0.4*	0.7%	0.7%	0.0%	0.8%
Netherlands	13.8	12.4	*-1.4*	0.5%	0.5%	0.0%	1.1%
Austria	14.5	12.2	*-2.3*	0.4%	0.4%	0.0%	0.6%
Chile	18.0	17.3	*-0.7*	0.4%	0.4%	0.0%	N/A
Sweden	13.7	10.5	*-3.2*	0.3%	0.3%	0.0%	0.3%
Portugal	19.4	16.6	*-2.8*	0.3%	0.3%	0.0%	0.4%
Ireland	15.7	12.5	*-3.2*	0.1%	0.1%	0.0%	0.3%
Hungary	21.5	20.1	*-1.4*	0.1%	0.1%	0.0%	N/A
Finland	11.9	12.0	*0.15*	0.2%	0.1%	-0.1%	0.2%
New Zealand	12.2	12.4	*0.12*	0.1%	0.1%	0.0%	0.1%
Slovakia	21.3	19.0	*-2.3*	0.1%	0.1%	0.0%	0.1%
Slovenia	18.7	15.4	*-3.3*	0.1%	0.1%	0.0%	0.1%
South Korea	N/A	16.6	*N/A*	N/A	0.1%	N/A	N/A
Latvia	19.8	17.3	*-2.5*	0.0%	0.0%	0.0%	0.0%
Supranationals	6.2	6.3	*0.14*	10.2%	5.7%	-4.5%	N/A
Other*	N/A	N/A	*N/A*	N/A	N/A	N/A	2.0%
TOTAL	**15.54**	**13.94**	**-1.73**	**1.00**	**1.00**	**N/A**	**1.00**

3 - Thematic investments and impact investments

◆ **Support for employment and growth of the regions** (SDG 13 – Climate action, SDG 7 – Affordable and clean energy, SDG 9 – Industry, Innovation and Infrastructure)

Through its thematic and impact financing, the Scheme aims to strengthen and consolidate its societal engagement by fostering the inclusive development of the regions and innovative companies that are part of a growth dynamic that generates business and job creation.

0.86% of Ircantec's reserves are dedicated to financing French and/or European SMEs/mid-caps. The target investments are companies that generate less than €500 million in revenue for the debt segment and less than €250 million in revenue for the private equity segment.

One of the main investment vehicles is a dedicated fund managed by Access Capital Partners. As at 31 December 2021, €95.7 million had been invested in connection with this fund, representing 63% of the commitment. Investments will be ramped up over several years.

Supplementary funds provide diversification in this segment and exposure to supplementary underlying vehicles: Meeschaert Capital Partners, Alter Equity 3P, Omnes Croissance 4, Alter Equity 3P II and Paris Fonds Vert.

In total, Ircantec has committed €201.6 million to financing SMEs/mid-caps. As at 31 December 2021, €133.8 million had been invested, or 67% of the commitment.

In addition, Ircantec is invested in two funds dedicated to the Social and Solidarity Economy (SSE): up to €5 million in the NovESS fund launched by Caisse des Dépôts and for the same amount in the "Finance et Solidarité" fund from Amundi.

Lastly, Ircantec financially supports local organisations running projects that develop local areas and ultimately stimulate their growth, through two funds:

- A disintermediated loan fund for local authorities with more than 10,000 inhabitants, managed by Arkea, whose objective is to enable these authorities to finance responsible and long-term investment projects. The fund was created in 2012, when the banking sector was withdrawing from the funding of local authorities. This fund is fully invested, for a maximum commitment of €14.7 million.
- Ircantec is invested in the Tourisme Social Investissement (TSI) fund (€10.0 million at the end of December 2021, out of a term commitment of €22.5 million). This fund aims to provide funds to social tourism structures (defined by an affordable price level) so that they can carry out renovations or upgrades (renovation/reconfiguration of equipment) in order to maintain a significant inventory of beds. This long-term support from Ircantec for the tourism sector is appreciated by accommodation structures, particularly during the difficult period of economic and health crisis over 2020-2021: even in phases of low activity and strained financial equilibrium, Ircantec remains a local investor committed to tourist accommodation structures. In addition to these continuous investments over time, Ircantec supports the management of these properties, with an energy audit conducted in July 2021 at a holiday resort, for example.

◆ **A commitment to decent work and gender equality (SDG 5 – Gender equality, SDG 8 – Decent work and economic growth)**

In 2019, Ircantec invested €2 million in the "Mirova Women Leaders" fund. Due to the limited size of the fund, specific authorization has been given to increase the ownership ratio to 20%, thus making it possible to support the fund's development. The size of this investment is intended to increase according to the subscription flows that will be observed on this fund. As part of this support, the position in the Mirova Women Leaders fund was strengthened by €3 million in 2021.

The investment theme of this fund is the empowerment of women to strengthen gender equality, particularly in management positions. Through this fund, Mirova hopes to have an impact on diversity through two channels:

- Shareholder engagement: the management company proposes an engagement policy in order to disseminate best practices in terms of gender equality within the companies in which the fund invests;
- A donation to UN Women France: Mirova has set up a partnership with the UN Women France Committee. The company undertakes to pay them back 5% of their management fees to finance their actions in support of the empowerment of women.

◆ **Support for inclusive and socially-aware growth (SDG 8 – Decent work and economic growth, SDG 11 – Sustainable cities and communities)**

Ircantec invests to achieve responsible real estate. The real estate investment scheme Villiers Immobilier respects Ircantec's social policy on this topic according to four priorities, which have been renewed: intermediate housing, social tourism, student residences, healthcare facilities and nursing homes. Ircantec is especially committed to ensuring that the existing assets fits into the sustainable development approach aimed in particular at improving the environmental quality of buildings and tenants' quality of life. In 2020, the real estate investment scheme received the SRI label.

Ircantec is also committed to the tune of €30 million in the Real Estate Impact Investing fund, whose strategy is based on a portfolio of high-yield assets and social assets. This fund received the SRI label in 2021.

In addition, Ircantec is committed to two "life annuity" funds - Certivia (€15 million) and Certivia 2 (€15.4 million) - in order to provide a solution to the structural decline in the income of the elderly and improve their daily lives.

◆ **Protection of terrestrial (SDG 15 – Life on land) and aquatic resources (SDG 14 – Life below water)**

Ircantec places special importance on the protection of terrestrial flora and fauna, paying particular attention to the preservation of terrestrial ecosystems through its investments.

Ircantec is therefore invested in the dedicated "Groupement Forestier de Brèves" fund, in which €27 million have already been invested. More information is provided in the paragraph "Exposure to other environmental factors (excluding climate)" on forest management.

Pursuant to Art. 29, Ircantec continues to work with its ESG and carbon data providers to be able to set biodiversity protection objectives.

In 2021, Ircantec took part in the Les Couronnes Instit Invest prize organised by AGEFI. The 2021 edition focused on awarding the most resilient institutional investor in the face of the economic and health crisis. Other prizes were awarded, including a prize for best practice in taking ESG issues into account over the past 5 years, won by Ircantec and 2 other investors (AG2R La Mondiale and Aviva). This award celebrates Ircantec's efforts as a responsible long-term investor and makes the Scheme one of the leading investors on the market.

As part of its commitment to impact (*see* Engagement Report), Ircantec also took part in a working group led by Finance for Tomorrow to develop a sustainable transformation analysis grid. This long-term cooperation allows Ircantec to share and deepen its knowledge on impact investing, while actively contributing to shaping the standards of tomorrow. This analysis grid was then tested by the teams of the management service on 3 funds (European equities, unlisted SSE, unlisted infrastructure) to measure its relevance and provide qualitative feedback to the working group. This fruitful collaboration between Ircantec, its management service and the other investors of the marketplace will continue in order to finalise a coherent and comprehensive impact approach.

VI
Review of Engagement and Voting Policies

1 - Engagement Report

Since the formalisation of its engagement policy in 2017, Ircantec has structured its shareholder engagement actions around three main themes designed to be followed over time:

- Energy and ecological transition;
- Respect for human rights in business;
- Corporate tax liability in France.

Around these three main themes, Ircantec chooses priority topics for a period of 2 to 3 years. For the current period, the priority topics for each of the main themes mentioned are:

- Support for employees in the evolution of their careers (just transition);
- Protection and support for trade union rights, extended to the whole value chain;
- Promotion of taxation of the creation of value within the country where it is carried out.

Ircantec's Engagement Policy lists the different areas of engagement promoted by Ircantec: shareholder dialogue (individual engagement), cooperation with other institutional investors and marketplace bodies (collaborative engagement) and voting at General Meetings.

Ircantec maintains its commitment via various marketplace bodies:

- Member of the PRI (*Principles for Responsible Investment*), including the Francophone Advisory Committee – a representative of Ircantec at the Investors Committee in 2021;
- Member of the FIR (*Forum for Responsible Investment*) and active in several working groups and commissions – Ircantec was represented on the institutional investors committee in 2021.

Energy and Ecological Transition (EET)

Ircantec has long been committed to promoting the energy and ecological transition of the economy. The climate emergency is accompanied by physical and transitional risks that weigh on all economies and all terrestrial and marine ecosystems.

Ircantec participates in several collaborative initiatives relating to the EET:

- The Climate Action 100+ initiative (in conjunction with the PRI), for which Ircantec is a member of the Supervisory Committee and supports dialogue with one of the oil majors (TotalEnergies) and is co-lead with an energy company (Engie). This initiative questions the world's largest emitters on their governance and their strategy with regard to climate-related risks and opportunities, in particular by integrating the social aspects of the ecological and energy transition (just transition).
- In 2021, Ircantec positioned itself with other investors against resolution 14 of the General Meeting of TotalEnergies on 28 May, which set out its new climate plan. Indeed, CA100+'s *Net Zero Company Benchmark* determined that TotalEnergies's plan did not meet the requirements for alignment with the Paris Agreement. Of the votes , 7.32% voted against and 9.90% abstained.

- Ircantec also oversees engagement with Engie as co-leader. In 2020, Engie was the last utilities company not to have a net zero emissions commitment by 2050. Between November 2020 and April 2021, several requests were made and the responses provided by the company were unsatisfactory, causing the co-leaders to file a resolution. The dialogue continued, and in May 2021, Engie published a new climate strategy including a net zero objective by 2045, all Scopes included, thus responding to the investor demand made in September 2020. Engagement was pursued with the company to encourage it to aim for alignment with a 1.5°C trajectory and not a well below 2°C trajectory. Engie has also agreed to publish a report on its climate lobbying practices, thus demonstrating greater transparency.

◆ The *Global Investor Statement to Governments on Climate Change* (proposal made by the *Investor Agenda*, signed in 2014 then renewed in 2018) asks governments to reiterate their commitment to pursue the objectives of the Paris Agreement and to support private investments towards the low-carbon transition.

◆ At the end of November 2021, Ircantec signed the investor declaration in favour of the just transition[19] Supported by the ICCR (*Interfaith Center on Corporate Responsibility*), the Investor Alliance for Human Rights invited its members to sign a statement to highlight the importance of just transition issues for investors. Investors also want issuers to engage on the following principles:

- Providing decent work (including working conditions);
- Providing fair opportunities for quality jobs;
- Investing in impacted communities;
- Facilitating transparency and accountability;
- Supporting policies in favour of the just transition.

◆ In November 2021, Ircantec joined other investors in sending private letters to twelve banks in the *Financial Services Taskforce of the Sustainable Markets Initiative*. Coordinated by ShareAction, these letters asked the targeted banks[20] to clarify their position on each of the points raised by HSBC's chief executive at the *Net Zero Banking Alliance* (NZBA):

- Publishing any additional feedback document that the bank has provided on the NZBA recommendations, including requests for additions, changes or deletions;
- Establishing robust governance processes to ensure that all direct and indirect public engagement with policymakers, regulators and industry initiatives such as the NZBA are in line with the bank's climate commitments – this includes:
  - Appointing governance managers to the Board of Trustees and among the executive Trustees,
  - Establishing processes to monitor and review climate commitments,
  - Establishing processes to ensure consistency of public positions on climate policy.
- Publish the bank's position on the exploration and expansion of fossil fuels; and identify how well it aligns with the IEA's net zero scenario.

◆ Each year, as part of its voting policy, Ircantec sends letters to a selection of companies whose transition policy the Institution feels is not convincing enough. In 2021, EET letters were sent to six companies whose efforts were deemed insufficient: BP, Equinor, OMV, Rio Tinto, Shell and TotalEnergies. A detailed analysis of their investment and development plan has highlighted a lack of resources and ambition in the pursuit of an ecological and environmental transition. These EET letters are a means of initiating and expanding shareholder dialogue with these issuers. However, only two companies responded.

19 *https://www.iccr.org/sites/default/files/resources_attachments/backgrounder_-_iccr_investor_expectations_for_job_standards_community_impacts_in_the_just_transition.pdf*

20 *Bank of America, Barclays, BNP Paribas, Citi, Coutts, Credit Suisse, JPMorgan Chase, Lloyds Banking Group, HSBC, Macquarie, NatWest and Standard Chartered.*

Respect for Human Rights in business

The interconnection of economies and globalisation are accompanied by increased social risks on increasingly long, complex and physically distant value chains. The distance between the principal and its many subcontractors prevents accurate and reliable monitoring of working conditions in the first links of the chain.

Ircantec is engaged in particular through declarations:

As part of its commitment to the *Investors Alliance for Human Rights* (IAHR), Ircantec has signed several declarations on this issue:

- The *Make Finance Work for People and Planet* declaration (February 2019) invites the members of the European Commission to require investors to put in place a systematic due diligence approach throughout the value chain. This declaration is part of the European Commission's Action Plan for financing green growth.
- The *Investor Case for Mandatory Human Rights Due Diligence* declaration (September 2019) calls on governments to establish and enforce mandatory human rights due diligence for all companies based in or operating within their jurisdiction, or to strengthen their systems of regulation where they already exist.
- Ircantec has joined (since 2018) the *Know The Chain* initiative (partnership between NGOs, research centres and extra-financial audit firms), which produces benchmarks on respect for Human Rights within the subcontracting companies of major contractors.

Corporate tax responsibility in France

In a climate of globalisation in which multinationals need to make decisions based on strategies and tax incentives that differ from country to country, tax responsibility aims to promote the taxation of value creation in the country in which it is actually generated, to ensure that the company contributes to the budget of the community and of the State in which its activities are located. The PRI initiated a programme on tax responsibility in 2015 by implementing a dedicated task force and subsequently launching an engagement group that Ircantec joined. The goal is to gain a better understanding of the internal functioning of tax operations to more effectively encourage tax transparency and the improvement of governance and risk management in this area.

◆ Initially, the FIR initiative, to which the Scheme has made a significant contribution, consisted of assessing companies' maturity in terms of their tax responsibility strategy. An engagement campaign on the tax practices of CAC 40 companies was then launched in order to encourage discussions with French multinationals on the notion of tax responsibility and to publish an Engagement Report . The objective is to encourage companies to deal with the tax issue no longer exclusively from the angle of regulatory and administrative compliance but as an integral part of their sustainable development policy.

◆ In May 2021, Ircantec joined forces with a consortium of investors (representing $2.89 trillion in assets under management) led by the NGO FACT (*Financial Accountability & Corporate Transparency*) to encourage the United States Senate Committee on Financial and Banking Services to pass legislation that raises tax standards for country-by-country reporting (*Disclosure of Tax Havens and Offshoring Act* – H.R. 5933/S.1609). Country-by-country reporting makes it possible to provide more detail on the tax burden of each company and thus limits the risks of aggressive tax optimisation or concealment of profits in tax havens. Many actors support this type of initiative: *UNPRI* (*Principles for Responsible Investment*), *CFA* (*Chartered Financial Analyst*) *Institute*; *GRI* (Global Reporting Initiative), *United Nations High-Level Panel on International Financial Accountability, Transparency and Integrity.*

◆ Also in May 2021, Ircantec joined 34 other investors ($5.6 trillion in assets under management) coordinated by the PRI to encourage tax transparency for companies listed in the European Union. In particular, the coalition sent an open letter to the attention of the European Commission concerning the proposed directive for *Corporate Sustainability Reporting Directive* (CSRD).

The PRIs insist on the importance of demanding transparency on tax practices and in particular country-by-country tax reporting so that investors:

- Have better information on the issuers in their portfolios and can better understand the risks;
- Examine the extent of economic operations of multinational corporations by country and by jurisdiction and can estimate the actual engagement of companies concerning tax evasion;
- Raise questions and engage in dialogue with companies where tax structures and tax strategies do not align with economic value creation to encourage more responsible corporate behaviour.

The PRI open letter proposed points for improvement for the European Commission to take into account so that the objective of the law remains fiscal transparency.

These commitments were in line with the May 2019 open letter to the FASB (*Financial Accounting Stability Board*) to encourage country-by-country reporting.

Commitments beyond priority themes

Ircantec's commitment is not limited to the main identified themes, and other commitments are broader than the Scheme's priority areas of interest.

Ircantec therefore signed the Charter of French investors in favour of the Sustainable Development Goals. Since 2014, Ircantec has also been a signatory to the Principles for Socially Responsible Investment (PRI) established by the United Nations and submits an annual report on its commitment to respecting the founding principles.

Through its participation in national (FIR, since 2017) and international (PRI, since 2014) market bodies, Ircantec is called upon to participate in broader commitments than those defined by its main themes. Thus, in 2020, as part of its participation in the Dialogue and Engagement Commission, Ircantec had undertaken with other French investors to write and send ESG questions to all CAC 40 companies. The topics covered are varied, and the responses have highlighted the most responsible and transparent players who have seized this opportunity to expose the best practices in place. However, this first exercise also underlined the lack of seriousness of certain companies in the answers given to pressing ESG issues. These marketplace bodies are also an opportunity to participate in working groups.

◆ In 2021, Ircantec co-led a working group on impact, mandated by the Secretary of State for the Social, Solidarity and Responsible Economy, Olivia Grégoire. This working group, coordinated by *Finance for Tomorrow* (F4T, Paris Europlace), aims to contribute to the acceleration of impact finance in France and its international development. Ircantec was thus able to co-lead working sub-group no. 2 on the development of a grid for measuring the contribution to sustainable transformation. After that, the objective was to leverage the feedback on this grid, stabilise its content and make it operational.

◆ Also in 2021, Ircantec participated with other investors under the coordination of the FIR in the drafting of a "white paper for just transitions". This white paper contains 22 proposals for 2022, aimed at candidates for the presidential election, and is structured around 3 areas: encouraging all transitions towards more sustainable models and practices, significantly strengthening the orientation of financial flows towards sustainable development financing, making sustainable finance a true cooperative project for all stakeholders.

◆ As a partner of *Finance for Tomorrow* (F4T), Ircantec signed the "declaration to support the development of impact finance" in October 2021. This public declaration reaffirmed F4T's ambitions to:

- Implement a structured and demanding definition of impact finance (based in particular on the 3 pillars of impact: intentionality, additionality, impact measurement);

- Promote an integrated impact approach, clear and transparent communication, as well as appropriate measurement and reporting tools;
- Integrate impact finance into regulatory and market frameworks.

◆ Ircantec is an investor in the Phitrust Active Investors fund. Created in 2003, Phitrust invests large listed companies to engage with them so that they develop their ESG practices. In 2021, 40 letters were sent by Phitrust to executives and Chairmen of Boards of Trustees or Supervisory Boards and Lead Trustees, prior to General Meetings covering all ESG issues, representing a total of 443 questions asked. The main topics covered were: shareholders' rights and control of the company, Board of Trustees/responsibility of Trustees, compensation & capital participation of managers and employees, environmental impact, social impact, human rights & business ethics.

Following these questions, Phitrust conducted 24 interviews with managers and received 14 written responses prior to the General Meetings, while 6 companies did not formalise a response. Phitrust also participated in 3 public initiatives:

- Danone (issue of governance – item on the agenda): on 8 April 2021, Phitrust, along with Mirova, Ircantec, CAVP (Pharmacists' old-age insurance fund) and OFI AM, together representing more than 0.5% of the capital, have successfully asked Danone's Board of Trustees to add an item to the agenda of the General Meeting of 29 April in accordance with the legal provisions in force. The objective was to allow each Director to express themselves individually on their strategic vision for the Danone Group, in particular by developing their personal contribution to environmental issues and their approach to the organisation of balanced governance. Only five of them, including the Lead Director and the Chairman of the Board, spoke;
- Carrefour (social issue – public action): written questions on the relevance of the supplemental retirement scheme and on the strategy adopted by the Group (many stores have been transferred to lease-management, which results in a reduction in the workforce, around 10,000 since 2018);
- TotalEnergies (environmental issue – public action): since 2019/2020, Phitrust has aimed to make dialogue tangible by requesting the inclusion in the articles of association of an amendment to Art. 14 extending the responsibility of Trustees to environmental and social issues. The inclusion of a "Say-on-Climate" (resolution on the Group's climate policy) indicated that TotalEnergies was aware of these issues, and the support of shareholders (+98% of votes in favour) illustrated the positive response from investors.

In addition to its individual commitments, Phitrust also participates in collaborative commitments with a network of partners to advance ESG themes (PRI, ECGS, FIR, AF2i, AFG, Carbon4 Finance, etc.).
By supporting Phitrust through its investment, Ircantec contributes to a better consideration of ESG issues within French CAC40 companies through long-term shareholder dialogue.

2 - Voting Report

Being an active shareholder is a way to encourage companies to be more transparent and incentivise them to adopt better governance and take social and environmental impacts into account more effectively. As part of its Voting Policy, adopted in 2013, Ircantec decided to make a commitment, among other things, to socially acceptable compensation of directors, the independence of Boards of Directors and inclusion of female directors, the support for the energy and ecological transition (EET) and the implementation of responsible dividends.

It should be noted that the exercise of the voting rights attached to the securities held by Ircantec is carried out by the asset management companies in accordance with Ircantec's Voting Policy and Voting Rules and that they exercise these voting rights on all of the equity stocks present in Ircantec's portfolio.

Applying voting rules enables the Scheme to address all of the resolutions and to demonstrate its approval or opposition based on the company's position on each of the priority themes.

Furthermore, since 2015, Ircantec has also organised specific monitoring, with the support of a voting consulting firm, of 30 companies in its portfolio. Each of the resolutions proposed during these 30 General Meetings is individually managed to ensure that the voting rules are uniformly and consistently applied.

Very active voting to support the EET and climate.

In order to more attentively monitor and further engage companies in supporting the energy and ecological transition of companies, control on support for the EET was enhanced in the past few years. The list of 30 monitored companies was amended to include Ircantec's 20 largest holdings, the five largest CO_2 emitters and the five largest holders of stranded assets. This evolution of the "Focus List" makes it possible in particular to target stocks with challenges for the Energy and Ecological Transition (EET) that are present in the portfolio of Ircantec's reserves.

In addition, prior to the general meeting campaign, the management service carries out an analysis of the EET strategy of several companies considered critical with the support of the voting advisory service provider and the asset management companies. This year, this preliminary work was carried out with 14 companies. The EET strategy was assessed favourably for 6 of these 14 companies, while the strategies of 7 were found to be insufficient (1 neutral judgement was also given).

A letter signed by the Chairman of Ircantec has been systematically sent to the executives of companies whose transition policies are considered insufficiently developed by Ircantec, whether in terms of the strategy presented or the expected results. The purpose of this approach is above all to inform companies on the assumption that it may be useful to them in their current and future discussions on these issues. In 2021, the EET contribution of these 30 companies ("*Focus List*") was assessed based on 178 resolutions. Ircantec voted against 60 of them:

- Resolutions approving the financial statements were rejected where the EET strategy was not sufficiently restrictive;
- Certain dividend payment resolutions were rejected where the EET and R&D investments were insufficient;
- Certain resolutions concerning executives' compensation were rejected where the structuring of the variable portion did not involve ESG criteria and KPIs;
- Certain resolutions concerning the re-election of Trustees were not approved where the EET strategy was assessed as insufficient.

It should be noted that, from the 2022 season and in order to be consistent with its new climate policy, Ircantec will expect the following from companies in which it is a shareholder:

- The adoption of a strategy making it possible to respect the 1.5°C global warming scenario with validation by a scientific body, such as *Science Based Targets*, or to align with an annual decarbonisation trajectory of greenhouse gas emissions of 7% on average in accordance with the decarbonisation trajectory of the IPCC's 1.5°C scenario;
- The implementation of quantitative targets for reducing CO_2 emissions for all Scopes for companies in high climate-impact sectors;
- The establishment of intermediate targets (short, medium and long term) to ensure a sufficient reduction in greenhouse gas emissions in order to comply with the 1.5°C global warming scenarios;
- For companies involved in the extraction, production and exploitation of coal, the implementation of a plan to phase out coal before 2030, and a conversion plan for activities and employees (just transition).

Ircantec will also ensure the establishment of regular voting on the implementation of the climate strategy and the regular publication of a climate strategy update in accordance with the recommendations of the *Task Force on Climate Related Disclosure* (TCFD).

For more information on the voting season, the voting report is published annually and is posted on Ircantec's website:

https://www.ircantec.retraites.fr/sites/default/files/public/politique_votebilan21v3_0.pdf

VII
Appendices

Annex 1 - Gradual strengthening of Ircantec's climate-related exclusions

	From 2022	From 2024	From 2030
Thermal coal	**Exclusion from the portfolio of companies whose:** ◆ **share of thermal coal in the overall turnover is greater than 5%** (mining companies and energy producing companies); ◆ **annual coal production is over 10 Mt per year**; ◆ **production capacity** of electricity from coal is **greater than 5 GW**. ***However, these exclusion thresholds do not apply to companies with a credible coal phase-out plan by 2030.*** ◆ companies that develop or contribute to **new projects**. ◆ **partners in this industry** (where more than 5% of their turnover is linked to thermal coal or they participate in new projects). **Investments in green bonds will be maintained** if a company has committed to phasing out thermal coal by 2030.	**Reinforcing exclusion criteria** ◆ **the exclusion threshold will drop from 5% to 1% of turnover** in accordance with the European "Paris Aligned Benchmark - PAB" **indices**; ◆ **the absolute thresholds** (annual production of thermal coal and electricity production capacity) will be reviewed. ***These exclusion thresholds will not apply to companies with a credible plan to phase out coal before 2030.***	**Commitment to zero exposure to thermal coal in the portfolio, all geographical areas combined.**

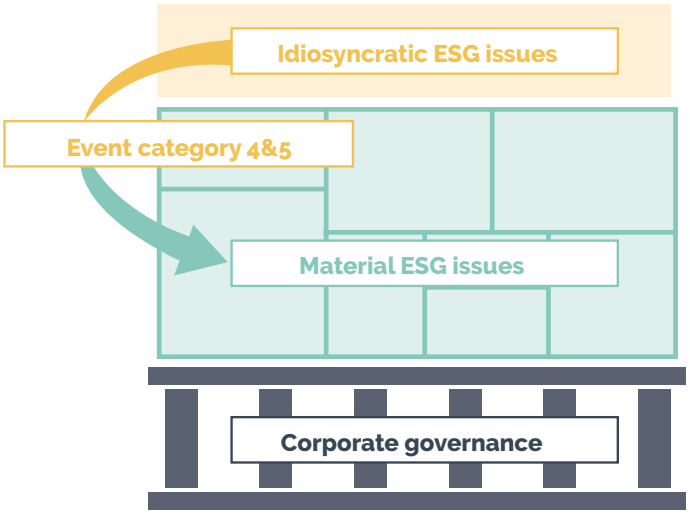
	From 2022	From 2024	From 2030
Oil and gas	**Exclusion from the portfolio of companies due to their unconventional production:** ◆ that develop new projects in unconventional energies or that increase their capacity in unconventional energies; ◆ whose unconventional production is greater than 10 mmboe; ◆ where more than 30% of their production is linked to an unconventional activity. ***These exclusion thresholds do not apply to companies with a credible plan to phase out unconventional energy by 2030.*** **Investments in green bonds maintained** if a company has committed to phasing out unconventional fossil fuels by 2030.	**Reinforcing exclusion criteria.** **Application of the Paris Aligned Benchmark - PAB thresholds**: ◆ oil represents more than 10% of turnover ◆ gas represents more than 50% of turnover ***These thresholds do not concern companies with a credible exit plan to reduce their emissions that is compatible with a 1.5°C scenario.*** **Exclusion of:** ◆ any company initiating new conventional projects or contributing to the development of new projects. ◆ any company whose production is linked to unconventional activities and which has not committed to a credible exit plan.	**Commitment to zero exposure to any company in the oil and gas sector that has not adopted a credible emissions reduction plan that is compatible with a 1.5°C scenario.**
Financial sector	**Engagement of companies that finance or insure** ◆ companies in the thermal coal sector, ◆ companies involved in unconventional energy. so that they develop credible exit plans from coal and unconventional fossil fuels by 2030.	**Definition of an exclusion threshold on thermal coal and unconventional fossil fuels** ***These exclusions will not be applied to financial firms with a credible exit plan from thermal coal and unconventional energy.***	

Annex 2 - ESG methodology

For listed companies and quasi-sovereigns

The *ESG Risk Rating* assesses the residual ESG risk of an issuer, i.e. the unmanaged risk. This involves analysing the issues that have and will have an impact on the financial performance of the issuer in the medium and long term. These issues are selected according to a logic of financial materiality.

ESG risk ratings are made up of three building blocks that contribute to a company's overall rating. These elements are corporate governance, material ESG issues (MEI) and idiosyncratic ESG issues.



Basic block no. 1: Corporate governance

Corporate governance is a fundamental element of ESG risk ratings and reflects the belief that poor corporate governance poses significant risks to companies. It applies to all companies in our research universe, regardless of their sector of activity. Exposure to corporate governance is similar across all sectors. Only category 4 or 5 events result in an adjustment to a company's exposure score. On average, unmanaged corporate governance risk contributes approximately 20% to a company's overall unmanaged risk score. The final weighting varies depending on the individual selection of material ESG issues for that specific company.

Block no. 2: material ESG issues

Material ESG issues focus on a set of related topics that pose a risk to the financial stability of the company. These require good management in terms of internal policies, programs for implementing these policies and communication with the public. For example, the themes of recruitment, development, diversity, engagement and labour relations are all encompassed under the material ESG topic of human capital, as they relate to employees and require initiatives and human resource monitoring. The common thread running through all human capital topics is attracting and retaining skilled employees. The assessment of material ESG issues takes place at the sub-sector level and is reviewed annually as part of a comprehensive and structured process. At the company level, material ESG issues can be removed from the assessment if they are no longer relevant to the company's business model.

Block no. 3: idiosyncratic events

Idiosyncratic events are "unpredictable" or unexpected. For example, an accounting scandal is certainly not a more predictable event in some industries than in others. It can occur in any company across all industries and therefore falls outside the logic with which we capture material sub-industry specific ESG issues. Idiosyncratic events therefore become material ESG issues if the assessment of the associated event exceeds a materiality threshold. This threshold has been set at a category 4 or 5.

Rating scale.
The ESG risk rating is classified on a scale of 0 to 100 with 5 levels of severity, from negligible to severe. This scale makes it possible to define categories of residual risk.

For the assessment of controversies, Sustainalytics assesses the involvement of companies in incidents resulting in negative environmental, social and governance (ESG) consequences. Involvement in controversy is a key measure of ESG performance that can inform our clients' investment decisions. Controversy rating reflects the level of a company's involvement in issues and how it handles those issues.

◆ Incident

An incident is the core component of the controversy rating. It is a business activity that has unintended and/or unwanted negative environmental and/or social impacts on stakeholders. Incidents are mainly assessed according to the negative environmental and/or social impact of the company's activity, as well as the reputational risk that this activity represents for the company. The incidents are tracked by various media and NGOs and usually fuel the controversy rating for a period of three years. In exceptional cases, long-lasting, high-impact incidents continue to fuel the controversy rating for more than three years, until they no longer pose a risk to the business.

◆ Events

Events are series of isolated or related incidents that pertain to the same ESG issues. Events are categorised into 40 event indicators that relate to these ESG issues. For example, a series of strikes by employees at a company's different operational locations constitutes an event under one of the event indicators called, "Labour Relations". To assess an event, an analyst looks at the underlying series of incidents holistically and rates it based on the following factors:

- Impact: negative impact of incidents on the environment and society;
- Risk: business risk for the company due to the incidents;
- Management: enterprise management systems and incident response.

An event is assessed on a scale of 5 levels:

- **Category 5 - Severe**

The event has a severe impact on the environment and society, posing serious business risks for the company. This category corresponds to exceptional behaviour by the company, a high frequency of recurrence of incidents, very poor management of ESG risks and a manifest lack of will on the part of the company to deal with these risks.

- **Category 4 - High**

The event has a high impact on the environment and society and presents high business risks for the company. This rating level represents systemic and/or structural issues within the business, weak management systems and business response, and recurrence of incidents.

- **Category 3 – Significant**

The event has a significant impact on the environment and society, posing significant business risks for the company. This rating level represents evidence of structural problems in the business due to recurrence of incidents and inadequate implementation of management systems or lack thereof.

- **Category 2 - Moderate**

The event has a moderate impact on the environment and society and presents moderate risks for the company. This rating level represents a low frequency of incident recurrence and adequate or robust management systems and/or business response that mitigate additional risks.

- **Category 1 – Low**

The event has a low impact on the environment and society, and the risks for the company are minimal or negligible.

For sovereigns

Sources and weight of criteria

The country risk ranking assesses the ESG risks to a country's long-term prosperity and economic development by looking at its three types of "capital":

- Natural capital and produced capital: natural capital includes energy, mineral, agricultural and forestry assets. Produced capital includes assets such as machinery, buildings, equipment, residential and non-residential urban land;
- Human capital: includes the value of the skills and efforts of the working population over their lifetime;
- Institutional capital: measures the quality of a country's institutions. The table below shows how the three types of capital are assessed based on a set of metrics that are scored and summarised in so-called ESG Factor Scores.

Natural capital and produced capital		Human capital		Institutional capital	
Energy & climate change	Energy intensity Carbon intensity Renewable energy consumption Energy independence Land area where elevation is below 5 meters	**Essential needs**	Access to water and sanitation Food safety Access to electricity	**Institutional robustness**	Government efficiency Quality of legislation Compliance with laws Competition control Ease of doing business
Use of resources	Water intensity Water stress Habitat protection	**Health & well-being**	Life expectancy at birth Number of doctors per 1,000 resid. Air pollution	**Rights & freedoms**	Political rights Civil liberties Voice & representativeness
Governance	Corruption Compliance with laws	**Equity & opportunities**	Gender equality Education Proportion of individuals using the internet	**Peace & security**	Political stability Level of peace

A country's ability to leverage and manage this capital effectively and sustainably is determined in the model by aggregating three ESG factor scores into an overall ESG factor score.

These three individual factors are:

- ESG performance: It assesses how a country manages its three types of capital based on a set of ESG metrics.
- ESG trends: They captures the dynamics of a country's ESG performance based on a 5-year moving average for each of the three types of capital.
- ESG events: They systematically capture incidents/events based on the news flow that can affect a country's prosperity and economic development and measures its ability to manage the impact of these incidents/events on its three types of capital in an efficient and sustainable manner.

Finally, the overall ESG factor score is combined with a wealth score for each of the three types of capital, which measures a country's wealth and is based on World Bank estimates to form our final country risk rating score.

This final score ranges from 0 to 100, reflecting a country's ESG risk in an ascending fashion (low score = "good', high score = "bad"). As part of our rating, all countries are assigned to five risk categories, ranging from negligible risk (risk score is ≤ 10) to severe risk (risk score is > 40). This approach allows for a comparison with the ESG risk score of companies and a precise calculation of the ESG risk score of a diversified investment portfolio including sovereign securities and private issuers.

Annex 3 - Carbon cost methodology

Trucost has compiled a database of public information on current carbon prices in over 44 jurisdictions as of January 2017. The Unpriced Carbon Cost (UCC) is the estimated additional financial cost per tonne of greenhouse gas emissions in a future year. It is the difference between current carbon prices and possible future carbon prices for a given sector, geographical area and year.

Rising carbon prices have direct financial implications for businesses where regulations impose a higher price on greenhouse gas emissions from direct business operations. Businesses also face indirect financial risks associated with the repercussions of higher carbon prices on emissions from suppliers, which, in turn, seek to partially or fully recover additional regulatory costs through increased prices. Repercussion factors are used to estimate the proportion of carbon price increases on Scope 2 emissions that are passed on from suppliers to businesses.

The carbon price risk premium varies by geography due to differences in government policies and by sector due to the differentiated treatment of sectors within many climate change policies. The sectors are based on OECD research and include:

1. Agriculture and fishing
2. Electricity
3. Industry
4. Air transport
5. Off-road transport
6. Residential and commercial real estate
7. Truck transport

Each of Trucost's 464 business activities were then categorised into one of these seven sectors, based on the Carbon Disclosure Project (CDP) framework. If companies do not report to CDP, Trucost uses the companies' geographic revenue distribution as an approximation of its emissions distribution.

High Carbon Price Scenario

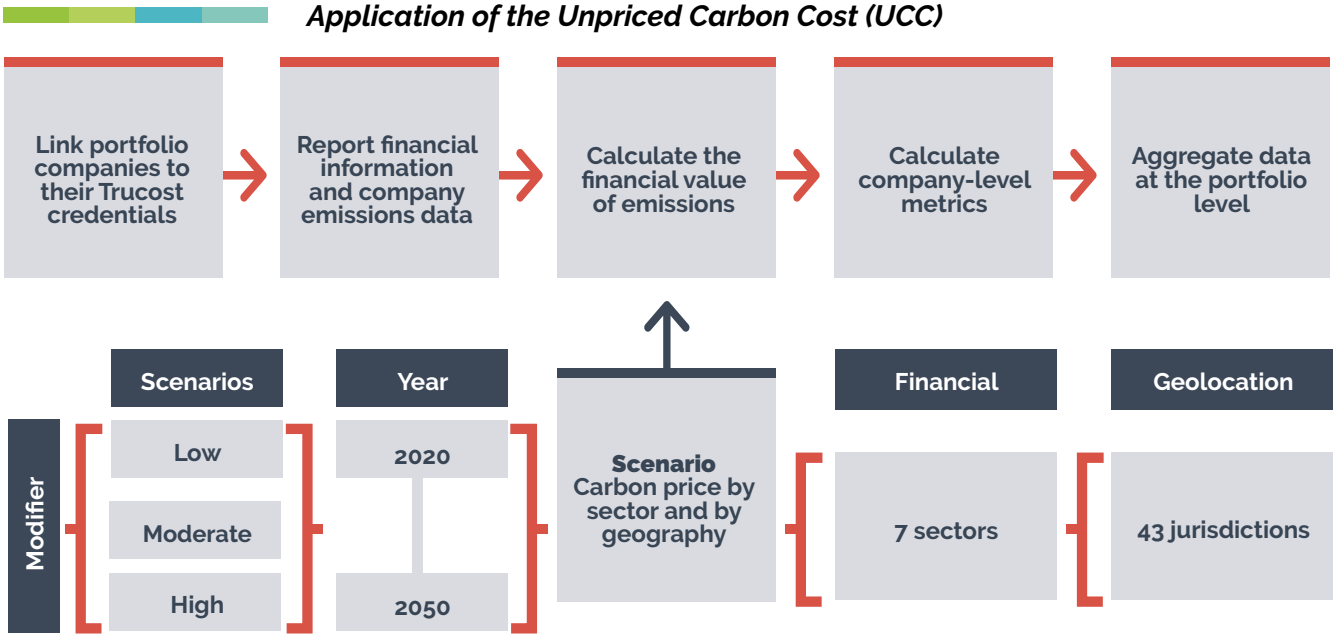
This scenario represents the implementation of policies considered sufficient to reduce greenhouse gas emissions in accordance with the objective of limiting climate change to 2°C by 2100 (Paris Agreement). This scenario is based on research by the OECD and the IEA.

Moderate Carbon Price Scenario

This scenario assumes that policies will be implemented to reduce greenhouse gas emissions and limit climate change to 2°C in the long term, but with delayed measures in the short term. This scenario is based on research from the OECD and IEA as well as NDC assessments by Climate Action Tracker, Ecofys, Climate Analytics and New Climate Team. Countries whose nationally determined contributions are not aligned with the short-term 2°C goal are expected to increase their climate change mitigation efforts in the medium to long term.

Low Carbon Price Scenario

This scenario represents the full implementation of NDCs, based on OECD and IEA research.



Annex 4 - Methodology alignment with the objectives of the Paris Agreement

Trucost's approach to assessing transition trajectories is adapted from two methodologies put forward by the *Science Based Targets Initiative* (SBTi), namely the *Sectoral Decarbonization Approach* (SDA) and the *Greenhouse Gas Emissions per unit of Value Added* (GEVA).

SDA approach

The first methodology (SDA) applies to companies whose commercial activities are homogeneous and have high carbon emissions. It is based on the idea that all the companies in a portfolio, regardless of the sector, must converge towards emission intensities in line with a 2°C scenario by 2050. The method uses 2°C transition scenarios that are specific to each industry, and the performance of companies is measured according to their emission intensity and their production level (for example in tCO_2e per GWh or per ton of steel). Indeed, trajectories may vary from one sector to another (i.e. faster for energy and slower for cement), depending on available technologies, mitigation potential and mitigation costs. Thus, companies with low reference year emissions and low production growth can reduce their emissions at a gradual pace. Conversely, companies with high emissions or high growth must achieve faster reductions.

The scenarios used in the SDA approach are the International Energy Agency's (IEA) scenarios taken from the *2017 Energy Technology Perspectives* (ETP) providing compliant SDA assessment parameters with a global warming of 1.75°C, 2°C and 2.7°C. The integration of a 1.5°C scenario is in progress.

GEVA approach

The second methodology (GEVA) applies to companies whose activities are more heterogeneous or characterised by low carbon emissions. This approach assumes that many companies have diverse business activities for which specific trajectories are not available at the scale of physical production. For these companies, the GEVA method assumes that all the heterogeneous sectors of the economy must reduce their emissions at the same rate. Thus, if the global economy must reduce its emissions by X% per year until 2050, then according to the GEVA approach, each company must also reduce its emissions at the same rate of X% per year, regardless of the starting intensity. In absolute terms, this condition implies that the companies that emit the most must reduce their emissions much faster than those that emit the least. Unlike the first methodology, the value-added unit approach is based on an economy-wide scenario, and emissions intensity is measured against a financial denominator, not a physical one. Each company's transition trajectories are measured in terms of carbon per unit of value added, adjusted for inflation, which represents their contribution to total global emissions. These results are then compared to global decarbonisation trajectories satisfying a given warming scenario.

The scenarios used in the GEVA approach are the *Representative Concentration Pathways* scenarios used in the IPCC's AR5 report, providing GEVA assessment parameters consistent with 1.5˚C, 2˚C, 3˚C, 4˚C and 5˚C warming scenarios.

Evaluation horizon and data sources

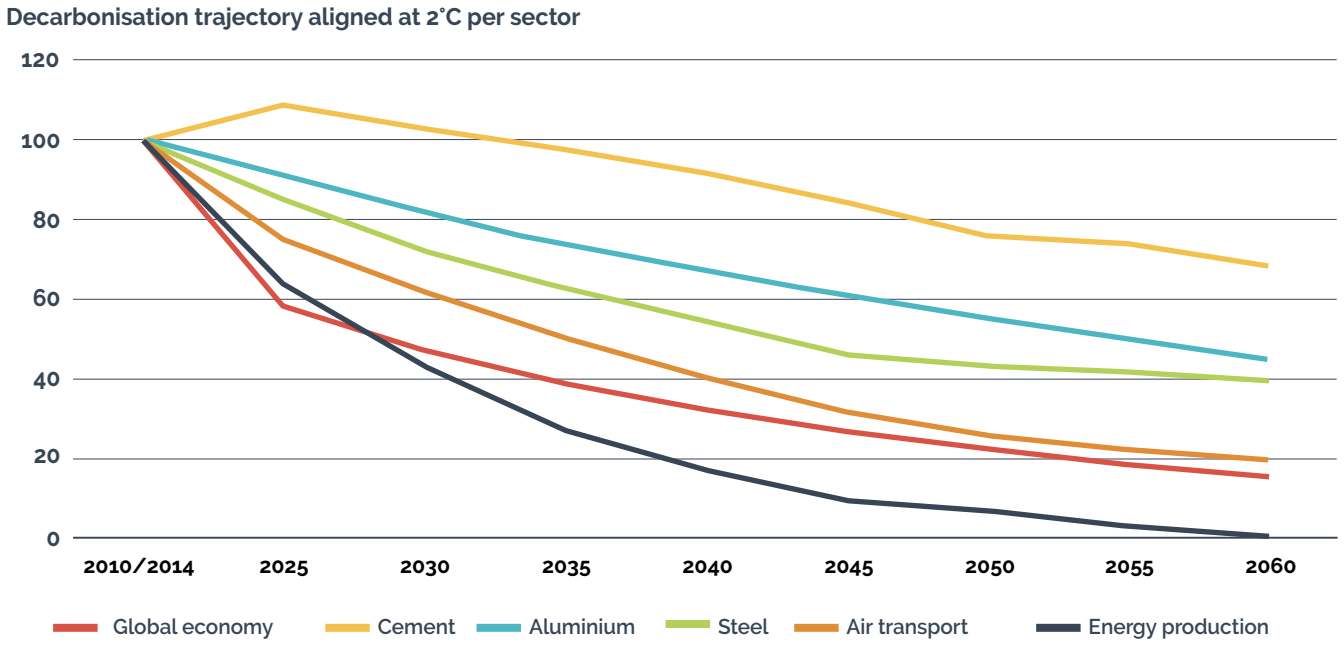
The transition trajectories analysed incorporate both historical and prospective data to provide an assessment over the medium term. This minimises the uncertainties of using only forward-looking data and provides sufficient time horizon to minimise the effect of any year-to-year volatility. Historical data on greenhouse gas emissions and business activity levels are incorporated from a reference year of 2012. Forward-looking data sources are used to track likely future transition trajectories from the most recent year of disclosed data through 2025. Forward-looking data is used based on an established data hierarchy, consisting of the following sources:

1. Emission reduction targets disclosed by the company
2. Asset-level data sources that provide signals about potential future changes in production from high-emitting sources.
3. Historical trends in company-specific emissions for companies assessed on the basis of homogeneous business activities.
4. Average historical trends in emissions by sub-sector for companies assessed on the basis of heterogeneous business activities.
5. No change in emissions intensity beyond the last year.

Evaluations of the portfolio use the combined Scopes 1 and 2 emissions as the evaluation limit.

The graph below illustrates the different decarbonisation trajectories for the five sectors covered in the SDA approach, as well as the trajectory used for the remaining sectors in the GEVA approach ("Global Economy" in the legend). Each sector's unique intensity unit has been indexed out of 100 for ease of comparison. Sectors where carbon-saving technologies and/or processes are most profitable are expected to decarbonise faster and end at a lower overall intensity than sectors where these measures are not profitable. For example, carbon intensity reductions are expected to be greater in power generation than in cement production.

Decarbonisation trajectories aligned at 2°C per sector



Annex 5 – Environmental Footprint Methodology

Traditional approaches to measuring environmental impact provide a variety of different metrics. For example, carbon and other pollutants are measured in tons, and water is measured in cubic meters. This makes it difficult to compare the relative contribution of each impact and therefore to prioritise the risks. Trucost solves this problem by applying monetary assessments to each impact, providing a common global metric to assess risk and opportunity across companies and portfolios.

The analysis quantifies the impacts associated with the company's own activities and those of its upstream suppliers, up to the extraction of raw materials. Environmental impacts are often hidden in global supply chains, so we use an Extended Environmental Input-Output (EEIO) model to isolate responsibilities at each level of the value chain for a holistic analysis of risks and opportunities.

Environmental indicators:

- Greenhouse gases: carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, perfluorocarbons, hydrofluorocarbons and nitrogen trifluoride.
- Water abstraction: direct cooling and direct process water but also purchased water (i.e. water acquired from utility companies).
- Waste generation: waste incineration, landfill waste, nuclear waste (e.g. from product manufacturing, nuclear fuel combustion or other industrial and medical processes) and recycled waste.
- Air pollutants: all emissions released into the air from fossil fuel consumption and company-owned or controlled production processes. This includes acid rain precursors (nitrogen oxide, sulphur dioxide, sulphuric acid, ammonia), ozone depleting substances (HFCs and CFCs), dust and particulates, metal emissions, smog precursors and volatile organic compounds (VOCs). Each has a set of impacts on human health, buildings and/or crop and forest yields.

- Land and water pollutants: pollutants from fertilizers and pesticides, metal emissions in soil and water, acid emissions in water and nutrient and acid pollutants.
- Use of natural resources: extraction of minerals, metals, natural gas, oil, coal, forestry, agriculture and aggregates.

Annex 6 – Physical Risk Methodology

The publication of the TCFD recommendations has highlighted the importance of climate change as a significant financial risk driver for businesses and investors and the fact that these risks need to be assessed, disclosed and managed. The task force divided these risks into two broad categories, the first being transition risks (including political and legal risk, technology risk, market risk and reputational risk), and the second being physical risks. Trucost has developed physical risk assessment data and analytics to complement the existing suite of transition-focused products. Key features include:

- A robust and scientific methodology for characterising physical risks related to climate change based on public and private datasets.
- Coverage of seven key indicators: water stress, wildfires, floods, heat waves, cold waves, hurricanes and sea level rise.
- Coverage of three climate change scenarios (high, moderate, low) and three reference years (2020 (baseline), 2030 and 2050).
- Built on a proprietary database of nearly 2.8 million physical assets linked to corporate entities and ultimate parent entities - based on S&P Market Intelligence and all data gathered by Trucost.
- An estimation methodology for businesses without asset information, covering Trucost's CorePlus universe of over 15,000 companies.

Companies are scored from 1 to 100 for all individual risk types, in addition to a composite score that provides an assessment of each company's overall risk level. The scoring framework is based on four key analytical steps:

1. Mapping of climate risks
2. Allocation of asset locations and risk assessment
3. Physical risk exposure rating
4. Adjustment by a vulnerability study

The details of each of these steps are described below.

1. Mapping of climate risks

Trucost assembled models and data representing the estimated absolute risk of seven climate change-related hazards for three climate change scenarios and three time horizons to produce hazard-specific global hazard maps. These maps form the basis of the Trucost Physical Risk Assessment Framework and are based on climate change models from leading research groups, data providers, academic research papers and Trucost data. The three scenarios used are based on the IPCC's Representative Concentration Pathways (RCPs) and informed by the TCFD's Technical Guidelines. They include:

- **High (RCP 8.5)**: Continuation of "business as usual" with emissions at current rates. This scenario is expected to lead to a warming of more than 4˚C by 2100.
- **Moderate (RCP 4.5)**: Strong mitigation measures to cut current emissions in half by 2080. This scenario will likely lead to a warming of more than 2˚C by 2100.
- **Low (RCP 2.6)**: Aggressive mitigation measures to halve emissions by 2050. This scenario will likely result in a warming of less than 2˚C by 2100.

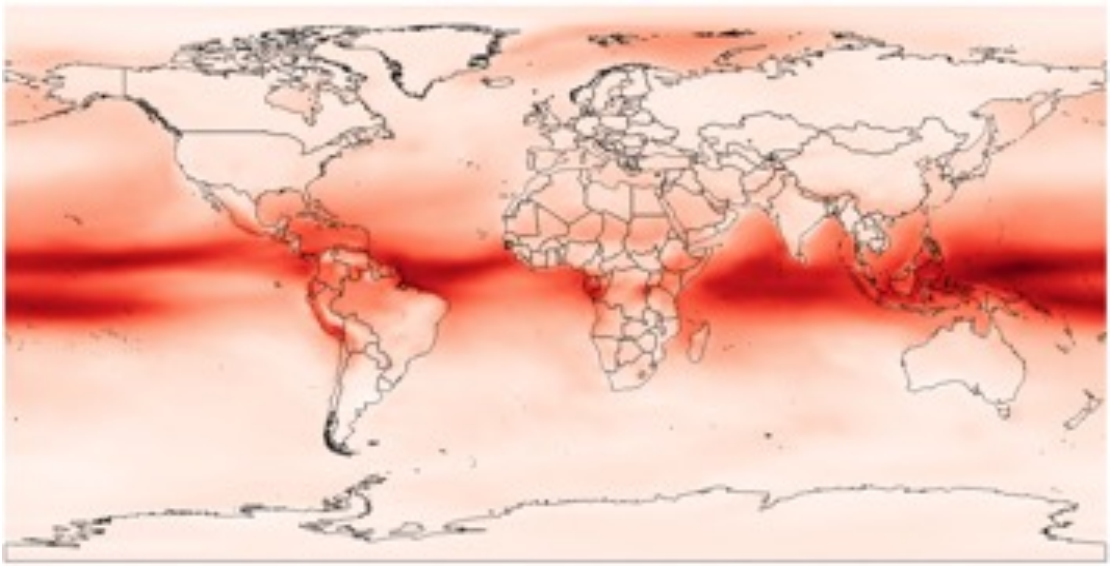
Input data for all indicators for each scenario and all years were not always available. The table below highlights the current status of data availability:

The data used to complete the assessments were taken from the General Circulation Models (GCMs) of the CMIP5 project. The table below shows the sources and models used by Trucost for each of the individual risk types.

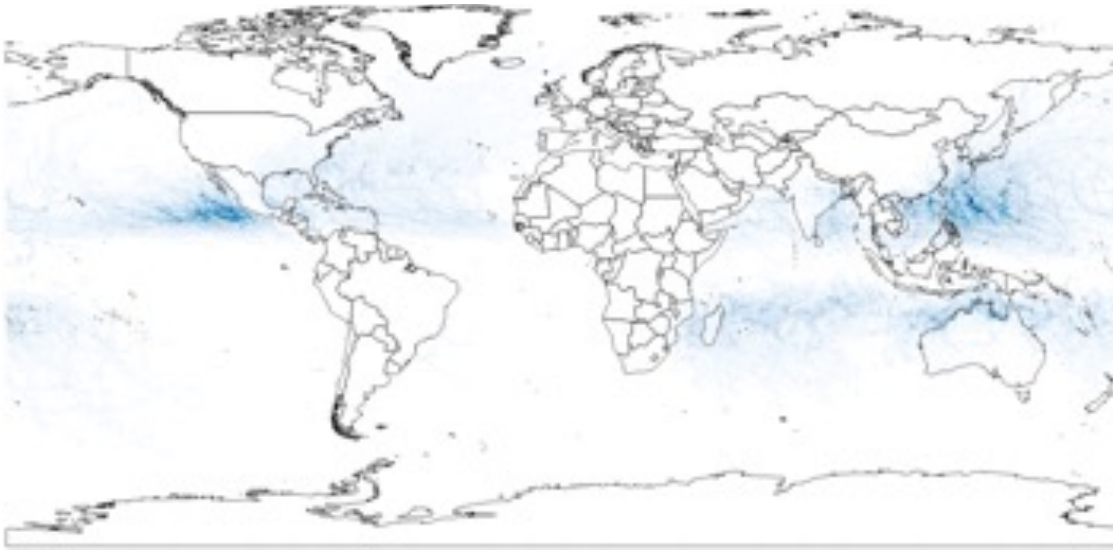
	Risk description	Risk indicator	Indicator description	Author of the model used	Spatial resolution
Water stress	Anticipated future proportion of water abstraction to the total renewable water supply in a given area.	Reference water Stress index	Baseline water stress is the ratio of the total water abstraction in an area to the available surface and groundwater. The analysis covers water abstraction with and without water consumption for domestic, industrial, irrigation and livestock purposes. Higher values indicate greater competition among users for available water resources.	"World Resources Institute Trucost Analysis"	River basin
Flood	Index representing the population's weighted exposure to river flooding in the watershed.	Risk of river flooding	The risk of river flooding indicates the proportion of the population of each river basin that is expected to be affected by river flooding in an average year. The metric focuses on flooding caused by overflowing rivers and takes into account existing flood protection measures.	"World Resources Institute Trucost Analysis"	1x1 km
Heat wave	The occurrence and severity of periods of extreme heat relative to local climatic conditions, measured by the excessive heat factor.	Excessive Heat Factor (EHF)	The EHF index measures the occurrence and intensity of heat waves based on two factors: 1) whether the daily average temperature over a three-day period is above the historical 95th percentile, and 2) how high the daily average temperature is compared to the previous 30 days.	1. NOAA2. Met Office Hadley Centre3. Institut Pierre-Simon Laplace4. Max Planck Institute for Meteorology5. Meteorological Research Institute	100x100kmto 200x200km
Cold wave	The occurrence and severity of extreme cold relative to local climatic conditions, measured on the basis of the excessive cold factor.	Excessive Cold Factor (ECF)	The ECF index measures the occurrence and intensity of cold waves based on two factors: 1) whether the daily average temperature over a three-day period is below the historical 5th percentile and 2) how cold the daily average temperature is compared to the previous 30 days.	1. NOAA2. Met Office Hadley Centre3. Institut Pierre-Simon Laplace4. Max Planck Institute for Meteorology5. Meteorological Research Institute	100x100km to 200x200km
Hurricane	A composite index representing the historical incidence and severity/ strength of hurricane, typhoon or cyclone activity at a given location.	Hurricane index	The index is based on historical hurricane data compiled by NOAA between 2000 and 2019. It is calculated by multiplying the number of hurricanes passing through a given point on the globe by the intensity (category) of each hurricane. A weight adjustment based on the date of occurrence is also applied in order to overweight the importance of more recent hurricanes.	Trucost	Approx. 110x110km
Forest fire	Risk of wildfire occurrence by modelled area based on location of burned vegetation.	Burned area	The fraction of entire grid cells that is covered with burnt vegetation.	Max Planck Institute for Meteorology	100x100km to 200x200km
Sea level rise	The metric measures predicted coastal flooding associated with sea level rise, combining modelled sea level rise projections from the CMIP5 and the global land elevation model, CoastalDEM.	Floodwater depth	The extent and depth of coastal flooding due to sea level rise at a given location in a given year		30x30m

The result is a set of climate hazard maps such as those shown below.

Map of heat wave risks according to a "high" scenario in 2050



Map of hurricane risks according to a "high" scenario in 2050



2. Allocation of asset locations

Trucost has established a database of nearly 2.8 million physical asset locations – including asset descriptions – which have been mapped to a universe of over 15,000 listed and private entities. The assets are superimposed on the climate hazard maps to characterise the level of risk at each period in each scenario. The data sources used include S&P MI Real Estate, S&P MI Metals & Mining, S&P MI Power Plants, S&P MI Bank Branches, as well as data compiled by Trucost from government regulatory databases.

3. Physical risk exposure rating

At the asset level: Each asset in the database is assigned a physical risk score from 1 (lowest risk) to 100 (highest risk) for each of seven risk categories, based on its location on the climate risk maps. The score is intended to represent the relative level of risk for each indicator at each location compared to the overall conditions for all scenarios and time horizons.

At the company level: If asset data are available for the company, the company-level score for each risk type represents the average of the asset scores. If only the head office location is available, the company level score is a combination of the physical risk score for the company head office and a weighted average

of the average physical risk scores across the countries in which the company generates income. The latter is calculated by multiplying the company's revenue share by country (as a percentage of total revenue) with the average physical risk score for each country. The physical risk score of the head office is weighted at 20%, and the revenue-based score is weighted at 80% of the final company score.

At the portfolio level: Portfolio level scores are calculated based on a weighted average. This is calculated by adding up the physical risk score of each company multiplied by their weight in the portfolio.

4. Adjustment by a vulnerability study

The "gross" physical risk exposure score described above indicates the relative exposure of an asset, company or portfolio to each risk indicator compared to global conditions but does not indicate to what extent the manifestation of each risk may be detrimental to the operation of the asset by the company. Along with these scores, Trucost also provides a "vulnerability-adjusted" physical risk score to take into account the potential significance of events for asset owners' activities.

Raw scores were adjusted using "vulnerability factors" calculated by Trucost by linking each physical risk indicator to a set of tangible business impacts and a metric that can be measured at the company level to reflect each company's relative vulnerability to each risk indicator and its impact. The table below outlines the three company-level vulnerability factors included in the calculation of the vulnerability-adjusted physical risk score.

Vulnerability indicator	Type of risk	Business impact	Rationale
Water intensity (direct or indirect)	• Drought	• Raw material shortages • Higher operating costs • Stranded assets	Water-intensive companies are more likely to be affected by water stress
Capital intensity	• Flood • Sea level rise • Forest fire • Hurricane	• Depreciation of assets • Loss of inventory • Production disruptions • Infrastructure damage	Capital-intensive companies are more likely to be affected by climate events causing physical damage
Labour intensity	• Heat wave • Cold wave	• Productivity losses	Companies requiring a lot of labour are more likely to be affected by a deterioration in working conditions

In addition to individual risk scores, Trucost provides company-level composite risk scores that are intended to provide a combined measure of exposure to the seven risk indicators. The final composite score is calculated based on a logarithmic curve, designed to highlight companies with high exposure or sensitivity on a single indicator, which might otherwise be masked when averaging the seven physical risk indicators.

The main limitations of Trucost's physical risk analysis include:

- **Modelling uncertainty**: The climate models that underpin physical risk analysis are complex and subject to uncertainty. Trucost sought to mitigate this uncertainty by basing the physical risk assessment on the averages of the results of multiple CMIP5 GCMs.
- **Uncertainty regarding the location of assets**: Trucost's physical risk assessment incorporates a range of asset location datasets, some of which are actively managed and updated regularly, while others are updated less frequently. Therefore, the database may not reflect recent changes in asset ownership and activity. Trucost has sought to mitigate this uncertainty by limiting data from historical datasets to the past three years.
- **Spatial resolution**: Trucost has sought to integrate climate modelling at a sufficient spatial resolution to allow robust estimation of exposure to physical hazards, but this analysis could be improved in the future through the integration of regional climate models on a smaller scale.
- **Aggregation of the company score**: Due to data limitations, it is currently not possible to reliably assign weights to each asset based on the economic value or activity level of each asset when calculating the average physical risk score of the company. Therefore, all assets held by a company are equally weighted in the calculation of the company's physical risk score. This can result in overweighting or underweighting assets within a company's portfolio relative to the true value or importance of each asset to the company's operations.
- **Relative vulnerability analytical framework**: The vulnerability weighting analytical framework is designed to weight the seven physical risk indicators based on the expected vulnerability of individual companies to each indicator. The framework will be improved in the future to better reflect the financial importance of different forms of physical risk for companies across all sectors and regions.

Annex 7 – Exposure to the European taxonomy methodology

Analytical approach

The taxonomy describes around 70 business activities related to 7 NACE macro-sectors. Business activities include those that have direct carbon mitigation potential (e.g. renewable energy) as well as those that are relatively carbon intensive but have significant potential to reduce their carbon emissions (e.g. steel manufacturing).

At this stage, Trucost only looks at revenue exposure. It does not look at performance thresholds (e.g. tCO_2e/ unit of production) or the "do no significant harm" principle (DNSH). The dataset covers over 15,000 listed companies in Trucost's Core Plus universe. Trucost also offers historical data for each company.

Trucost uses a blended approach to assess a company's revenue eligibility for the taxonomy. First, Trucost performed a direct mapping between the 464 business activities of its proprietary sector classification system with the taxonomy activities mentioned above. All business activities that are not mapped directly by this process are reviewed using a bottom-up assessment of their alignment with the taxonomy goals. During this stage, Trucost reviewed the company's revenue and emissions data in its Core Plus universe. Any remaining business activities after this step are considered not taxonomy-aligned.

Transition and empowerment activities

This component assesses the share of revenue from products, services and technologies that contribute more directly to climate change mitigation ("Transition Activities") and activities that are more indirectly related that involve providing services and products to transition activities ("Enabling Activities").

The portfolio's exposure to these two types of activities is evaluated as a weighted average as well as in terms of the value of the holdings (VOH). The taxonomy defines most activities as transitional or enabling. However, on occasions where this distinction is not explicitly made, Trucost uses indirect references from the taxonomy to decide which activities are transitional and which are enabling.

The "multiple" sector category

During the business activity mapping process, three Trucost business activities were mapped to several specific NACE business activities in the EU taxonomy. These are summarised below:

- "Water, sewage & other systems" was mapped to the "Generation and distribution of electricity, gas, steam and air conditioning" and "Generation and distribution of water, sewage, waste management and depollution" activities
- "Non-residential maintenance and repair" was mapped to "Transport & warehousing (low carbon emission infrastructure construction)" and "Construction & real estate" activities
- "Other non-residential structures" was mapped to "Transport & warehousing (low carbon emission infrastructure construction)" and "Construction & real estate" activities

Annex 8 – Data Collection Methodology

Trucost's unique approach to environmental data collection and modelling allows for near-complete coverage of most investment universes, despite often low levels of reporting amongst companies. A four-step process is used in our data collection exercise:

1. **Analysing financial and sector data** - A company's financial statements are analysed by collecting consolidated revenues from all companies and specifying their reporting scopes and operational limits.
2. **Mapping activities to Trucost's Environmentally Extended Input-Output (EE-IO) model -** Trucost's EE-IO model uses over 450 business activities (largely aligned with NAICS, with some additional sectors included to distinguish key activities with significantly different physical impacts) to model the environmental impacts of a company by allocating a portion of each company's revenue to one or more of these activities. The EE-IO model then estimates the pollutant emissions and resource use associated with each business activity, both directly (for a company's own operations) and through the supply chain, using a breakdown by income sector.
3. **Incorporating disclosures and public registry data** - Trucost searches all publicly disclosed company data sources to find usable environmental data that will be used to make modelled estimates. Trucost verifies that the scope and time horizon of all environmental data found matches that of its financial statements.
4. **Company engagement and data verification** - Trucost analysts verify the quality of the entire research process internally, then share the results with each company directly through a secure online portal. Companies have one month to respond to Trucost to verify its data or directly commit to providing additional or non-public information. If appropriate and applicable data are provided, Trucost will incorporate the data into its analysis before publishing the data.

Annex 9 – Previous & terminated commitments

◆ Ircantec joined the *Assessing Low Carbon Transition* initiative in 2018 (led by the *Carbon Disclosure Project and Ademe*) to encourage companies to take relevant action in terms of climate strategy.

◆ The commitment group *Climate Change Transition for Oil and Gas* discussed (between March 2018 and October 2020) with 25 companies in the energy sector on the evaluation of their exposure to climate risks, the implementation of the TCFD recommendations, the adaptation to the climate regulations, as well as the structure of their future investment expenses. Ircantec was the leader of the initiative to engage with Total.

TCFD/Art. 29 LEC concordance tables

TCFD Recommendations	Page number of the relevant chapter
Governance	
Describe how the Board of Trustees oversees climate change-related risks and opportunities	7-10
Describe the management's role in assessing and managing climate-related risks and opportunities	7-10
Strategy	
Describe the risks and opportunities identified by the company over the short, medium and long term	21-24; 33-35
Describe the impact of these risks and opportunities on the company's strategy, markets and financial planning	10-11
Describe the resilience of the organisation's strategy with respect to different scenarios, including a 2°C or lower scenario	38-41; 15-21
Risk management	
Describe the process of identifying and assessing climate risks	15-21
Describe the process of managing climate risks	21-24
Describe how the processes of identifying, assessing and managing climate risks are integrated into the risk management system	21-24
Indicators and targets	
Disclose the indicators monitored by the company to measure and quantify climate change-related risks and opportunities	6; 15-21
Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 of GHG emissions and the associated risks	26; 29; 31
Describe the targets set by the company to manage the risks and opportunities and monitor the achievement of these targets	25-26; 10-11

Article 29 Energy-Climate Law (resulting from the draft decree of Feb. 2021)	Page number of the relevant chapter
Summary of the entity's general approach to taking into account environmental, social and quality of governance criteria, particularly in the policy and financing and investment strategy	42-43
Content, frequency and means used by the entity to inform subscribers, affiliates, contributors, beneficiaries or customers regarding criteria on the environmental, social and quality of governance objectives taken into account in the policy and the financing and investment strategy	12-13
Overall share, in percentage, of assets under management taking into account environmental, social and quality of governance criteria in the total amount of assets under management managed by the entity	13
Adherence of the entity or of certain financial products to a charter, code, initiative or label on the consideration of environmental, social and quality of governance criteria, as well as a brief description thereof	31-32; 33; 35; 53; 54-56
Description of the financial, human and technical resources dedicated to taking into account environmental, social and quality of governance criteria in the investment strategy by comparing them to the total resources of the entity.	7
Means of informing holders and subscribers on how the entity meets regulatory requirements in terms of extra-financial reporting.	12-13
Actions taken to strengthen the entity's internal capacities.	7
The knowledge, skills and experience of governance bodies, in particular administrative, supervisory and management bodies, in terms of decision-making relating to the integration of environmental, social and governance quality criteria into the entity's policy and investment strategy	11
The integration, where appropriate, of sustainability risks in compensation policies	12
The integration of environmental, social and quality of governance criteria in the operation of internal committees.	7
Information on the entity's engagement strategy with issuers or asset management companies	54-58
Presentation of the voting policy, filing of resolutions, voting instructions and voting on resolutions on environmental, social and quality of governance issues at general meetings	58-59 + Online voting report
Consideration of environmental, social and quality of governance criteria in the decision-making process for the allocation of new management mandates	7; 24
Decisions taken in terms of sector disengagement policy	21-24
Information relating to the share of assets under management invested in activities based on the exploration, production, transformation, transport, refining and marketing of fossil fuels.	17-18
Information on the strategy for alignment with the international objectives for limiting global warming defined by the Paris Agreement	25; 38-41
Information on the strategy for alignment with long-term objectives related to biodiversity	35-37
The process of identifying, evaluating, prioritising and managing risks related to the consideration of environmental, social and quality of governance criteria	43-48; 50-51
A description of the main environmental, social and quality of governance risks analysed and taken into account (including physical risks, transition risks)	44-48; 50-51; 15-21
An indication of the review frequency of the risk management framework	6-7
An action plan aimed at reducing the entity's exposure to the main environmental, social and quality of governance risks taken into account	21-24; 25; 43
A clear distinction between the risks emanating from impacts caused by the investment strategy and the risks emanating from the biodiversity dependencies of the assets and activities in which the entity has invested	36-37

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