Climate Action and ESG Report

ircantec
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Contents

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Foreword

Jean-Pierre Costes,
Chairman of Ircantec Board of Trustees

Throughout my term as chairman, I have strived to maintain a clear direction: to ensure that Ircantec is able to pay for your pensions whilst addressing the social and environmental impacts of the fund's investment decisions.

Intergenerational solidarity has guided Ircantec's actions in recent years. We refused the tempting siren-song of short-term results. We have opted for a long-term vision with a strategy that addresses climate change, fair transition, Human Rights in business, gender equality and many other issues.

Despite the troubled times we are experiencing, these priorities must not be abandoned. On the contrary, early observations tend to confirm our intuition: investments incorporating environmental, social, and governance (ESG) criteria appear to be more resilient to market volatility.

Supporting each other and working together is more important than ever before. Calls for support have been numerous, particularly for health professionals and care workers, and Ircantec has acted accordingly. The hotels owned by Ircantec in it's real estate portofolio were made available to health professionals and care workers who stayed away from home to protect their loved ones from the virus.

The pandemic is giving us a preview of the sweeping effect a systemic crisis has on the world's economies and populations. It is a reminder that we absolutely must try to slow down climate change. In 2019, Ircantec undertook to participate.

The results are presented in the following pages.

We have often outperformed our benchmarks, and results show we are going in the right direction.

One of the most iconic and recognised indicators is the goal set by the Paris Agreement to limit global warming to below 2°C by 2100 above pre-industrial levels. For the third consecutive year, Ircantec has measured the temperature of listed companies in the fund's portfolio. The result is stable at 2.1°C. I am pleased that the result is significantly better than the benchmark at 2.6°C. But I am conscious that efforts must be stepped up to reach 2°C as soon as possible. And we need to be even more proactive if we are to reach the 1.5°C goal recommended by scientists participating in the 2018 Intergovernmental Panel on Climate Change (IPCC).

I am sure that Ircantec will continue to set strong goals to advance intergenerational solidarity which is an important priority.

Laetitia Tankwe,
Advisor to the Chairman of the Board of Trustees

I have been assigned to represent Ircantec in several organisations, both in France and internationally. The aim is to boost Ircantec's capacity to achieve the fund's financial and extra-financial objectives. Each organisation, including the United Nations Principles for Responsible Investment (UN PRI), the Forum for Responsible Investment (FIR) and Climate Action 100+ (CA100+), helps to advance Ircantec's priorities. Read about the results in the shareholder commitment section of this report.

Ircantec's involvement with these organisations continues in 2020. Given the pandemic and looming economic and social crisis, the need for collective action might be accentuated in the future. It is too soon to report the first results of the fund's actions with these organisations, but projects are already underway. The aim is to support companies throughout this difficult period, but also to ensure that we do not see a return to unwanted environmental, social, and governance practices post-crisis.

The objective is clear, but the journey will be long and sinuous. Ircantec's capacity to adjust is vital. Ircantec has demonstrated this capacity. For example, in 2019, Ircantec's Responsible Investment Charter was updated. The Trustees decided to commit to the 17 Sustainable Development Goals set by the United Nations and confirm their commitment to fair transition.

Ircantec is ready to face the imminent turmoil but plan to stand by its priorities.

Executive Summary

As a responsible investor, Ircantec is convinced that it can contribute to a sustainable, inclusive, less carbon-intensive growth and help to meet the climate-change challenge. The climate is a core issue for Ircantec's investment policy as part of an overall approach as a socially responsible investor. Ircantec takes into account social, Environmental, Social and Governance (ESG) issues for all asset classes, with a voting policy and proactive engagement.

Climate Strategy

Since 2015, Ircantec has been measuring the carbon footprint of one asset class in the fund's portfolio: corporate bonds and shares listed on the stock exchange. In 2017, other asset classes were added to this evaluation: all real assets (real estate, infrastructures, etc.) and sovereign bonds and equivalents. The aim is to understand exactly how the portfolio impacts on the climate and related risks. Ircantec also developed other indicators to ensure a more holistic and forward-looking view. The positive impact of the fund's portfolio on the climate has also been assessed for the third year. However, due to changes in methodology, it is difficult to compare many indicators from year to year.

The Ircantec portfolio shows positive performance for all key measurement indicators and asset classes.

The result for listed companies in the portfolio outperforms the fund's benchmark regarding its carbon intensity, and improved between 2016 and 2018. Climate-risk assessment measures the portfolio's carbon risk (exposure to highly carbon-dependent sectors) and transition risk. The results compared with the fund's benchmarks are favourable in both cases. Finally, the average global-warming temperature for listed companies in the portfolio is estimated to reach 2.12°C by 2100. Admittedly over 2°C, but it is much lower than the 2.6°C benchmark.

Results are mixed for sovereign bonds. The carbon footprint is higher than Euro zone and OECD results but improving. The allocation to brown investments is in line with the benchmark. In the same time, exposure to asset failure (transition risks) exceeds the benchmark with slightly less positive exposure to physical risks (from a purely sectoral perspective). Finally, despite converging at 3.3°C for the temperature alignment, the sovereign portfolio is in line with the benchmark.

The contribution to the green proportion and ecological footprint of the fund's listed shares and sovereign bonds to the French initiative for ecological and energy transition (TEE) outperforms the fund's benchmarks significantly. Ircantec's other asset classes, chosen for their favourable role in meeting current climate, environmental and social issues, also show very positive results (green collective real estate investments at 43% and green infrastructure assets at 62%). However, when the new European green taxonomy is applied, the green share of investments drops slightly compared with 2018. The new taxonomy is more accurate and provides more precise information, particularly for green bonds. However, the information available is still limited and does not satisfy the new criteria.

ESG Strategy

Ircantec has a holistic approach that combines exclusion with selection of issuers with a positive model for environmental, social and governance issues, and investment priorities with positive impact.

All the fund's assets are managed according to the Socially Responsible Investment (SRI) strategy.

The fund's consolidated portfolio is assessed biannually by an extra-financial rating agency, Vigeo Eiris. In 2019, the performance of shares and bonds of listed companies was positive, with a robust ESG score of 53.6/100, higher than the benchmark. The result is particularly positive for the environment/local development criteria: 74% of the fund's investments are placed in companies rated from "robust" to "advanced". The overall score of the sovereign portfolio was 71.9/100, slightly lower than the benchmark in the three ESG areas.

Why disclose a Climate and ESG Report?

Intergenerational solidarity is one of Ircantec's core values. Ircantec's investments must optimise financial return to guarantee pensions for current and future beneficiaries. But the fund's investments must also have positive environmental and social impact, contributing to social progress and a sustainable economy.

Since 2009, the Ircantec Board of Trustees has chosen a responsible investment strategy. The policy is based on founding texts that provide the frame of reference:

- The SRI charter;
- The voting policy;
- The shareholder and institutional engagement policy.

Ircantec commits to being transparent and accountable to its affiliates and stakeholders. Ircantec reports annually the following:

- Annual Activity Report and investment decisions;
- Climate Action and ESG Report. This review complies with requirements to the Article 173 of the TEE Law for Green Growth and TCFD[1] recommendations;
- Annual voting report and implementation of Ircantec's voting policy.

Develop transparency and awareness about the impact of investments

Since the end of 2015, Ircantec has stepped up SRI communication targeted at peers and affiliates, using a range of media: printed, dematerialised (internet) and events.

The message is that choosing a socially responsible financial management policy actively contributes to securing Ircantec's reserves and respects the fund's core value of intergenerational solidarity.

The goal is to present Ircantec's involvement in a practical and educational way. Ircantec has developed a communication strategy that reaches out to all stakeholders:

- Retired affiliates
  - publications about *Ircantec's latest news*: biannual printed magazine, monthly online magazine and bimonthly digital newsletter. An update as well as new information about Ircantec's climate strategy and actions have been published every year since 2016. According to the communication plan, information is to be sent at least once a year.
- People in employment
  - The creation of a YouTube channel showing tutorials and practical videos to simplify procedures, and corporate videos with a presentation of Ircantec and reports about SRI events and other relevant information;
  - An annual digital newsletter was added to the communication plan in 2019.

1 The Task Force on Climate-related Financial Disclosures (TCFD) develops voluntary and transparent financial reporting about climate risks faced by investors, lenders, insurers, and other stakeholders. TCFD recommendations help issuers understand the expectations of financial markets for transparency and information about climate risks.

- Decision-makers: key employer accounts, elected officials and institutions
  - In 2019, *the digital newsletter, Le Point sur l'I* informed decision-makers (three issues per year) about climate strategy and highlights;
  - The digital annual report. The 2019 edition complies with Article 173.

- Elected representatives

Ircantec met with elected representatives at the annual exhibition for mayors and local authorities, which was also the case in 2018. Ircantec is present throughout the exhibition with an eco-designed stand. The aim is to inform elected officials, contributors and employers about the fund's operations and how the SRI approach is applied to managing reserves. Environmentally sustainable design was used for the stand which showcased posters about the methods and materials used.

- Peer investors and asset management companies
  - Organising events:

    In 2019, Ircantec organised an international conference with Agirc-Arrco and the PRI (Principles for Responsible Investment) French-speaking advisory committee. Participants exchanged views and reflections about the development of responsible investment in French-speaking countries with the theme: "Ambitions and challenges for sustainable development focusing on social objectives." (see below) The event confirmed Ircantec's commitment to communication about the development of good practices for responsible investment.
  - Participating in events:

    In addition to reference documents (SRI Charter, voting policy, PRI signatory, shareholder and company commitment policy), Ircantec presents its commitment by participating in various conferences.
  - Working with other investors:

    In 2019, Ircantec signed the Charter of Sustainable Development Goals (SDGs).

- All stakeholders with Ircantec's website and social networks
  - Several pages of the website feature Ircantec's commitments to socially responsible investment. All Ircantec's SRI publications and information about events are published on the site;
  - Social networks (Twitter and Ircantec's YouTube channel) regularly publish information about the latest developments in their extra-financial management.

- The press: press releases and conferences, for example on 27 June 2019 about the fund's financial results and SRI approach.

Conference about responsible investment in French-speaking countries and social objectives for sustainable development

In front of over 200 experts on Thursday 12th September 2019 in Paris, Ircantec and Agirc-Arrco promoted the management of pension reserves in accordance with principles of responsible investment. This event was organised in partnership with French-speaking PRI. The aim for Ircantec and Agirc-Arrco was to focus on social criteria for investment approaches.

After presentation of the action plan of French-speaking PRI and an unprecedented session about Human Rights awareness, a roundtable discussion with a panel of representatives of organisations active in French-speaking countries highlighted consensus about integrating social SDGs into sustainable investment policy:

The main themes:

- ⟶ the need to focus investment approaches on social issues and to integrate social impact measurement at different stages of the investment process,
- ⟶ the universality of social issues affecting both developed and developing countries,
- ⟶ the diversity of possible actions likely to have social impact, such as economic laws, commitment, governance, etc.

Ircantec's Scope for Action

Ircantec Governance

Board of Trustees

Since the 2008 reform, the Board of Trustees has been responsible for Ircantec's long-term management. The Board follows a four-year plan to ensure conditions for the fund's long-term balance. The plan is based on preparatory work by the technical and financial steering committee. The Trustees are responsible for making decisions for a socially responsible investment strategy and monitoring all financial, operational and extra-financial risks. They receive technical and operational support from the *Caisse des Dépôts* the French public institution for investments.

Technical and Financial Steering Committee

The technical and financial steering commission prepares work for the Board about investment policy, actuarial management and Ircantec's long-term solvency. Responsibilities include preparing:

- The Board of Trustees annual technical and financial report;
- Internal audit report for the previous financial year, including assessment of all technical, financial and operational risks.

This report includes information about financial and extra-financial management. The Committee discusses issues and makes recommendations.

Twice a year, Ircantec's portfolio is reviewed by an external agency specialising in extra-financial risk analysis. They track the performance of Ircantec's investments and potential conflicts with regard to environmental, social and corporate governance.

The committee's preparation and recommendations are forwarded to the Trustee Council and Board for decisions.

Finally, Ircantec has appointed two senior Trustees to focus on matters related to ESG policy by supervising the use of voting rights and shareholder and institutional commitment.

Caisse des Dépôts: Ircantec's manager

The French public institution for investment, *Caisse des Dépôts* is delegated to manage Ircantec's assets. It develops investment policy proposals, assists Trustees in strategy development and ensures the application of the investment policy in accordance with guidelines decided by the Board of Trustees. The *Caisse des Dépôts* also assists the Board of Trustees with the development of the SRI policy. It reports to the Board of Trustees regularly about application of SRI principles in investment strategies.

Asset Management Companies

Asset management companies are selected through calls for tenders both for their financial capacity and their ability to apply SRI methodology according to Ircantec's policy. They must be PRI signatories. If they are not, they are asked to explain their position. To date, all the asset management companies Ircantec has worked with are PRI signatories.

The asset management companies integrate Ircantec's SRI principles into their methodology and investment process to make investments consistent with the strategy and principles defined by the Board. They inform Ircantec about how they apply their SRI principles, report difficulties, and identify and track risks for the fund's image and reputation.

Trustees receive training and guidance throughout their mandate

Ircantec's training programme for Trustees has been extensively revised to improve preparation for their mandate.

In 2019, new Trustees participated in a three-day course customised for Ircantec about financial and extrafinancial issues: technical and financial management, financial management styles and SRI principles.

Ircantec's Trustees also receive assistance for regulation changes that affect financial and extra-financial management, such as the Digital Republic and TEE (energy and ecological transition) laws. Trustees can also participate in lectures in Paris by peers or experts about extra-financial risks and opportunities. Through Ircantec's membership in other organisations, Trustees can also benefit from instructive exchange in small groups (for example: Novethic's Investors' Circle).

The 2016-2020 Roadmap: incorporating climate issues into the SRI approach

As a responsible investor, Ircantec is convinced that it can contribute to sustainable, inclusive, less carbonintensive growth and help to meet the climate-change challenge.

Ircantec's investment policy for the period 2016-2020 is based on four principles:

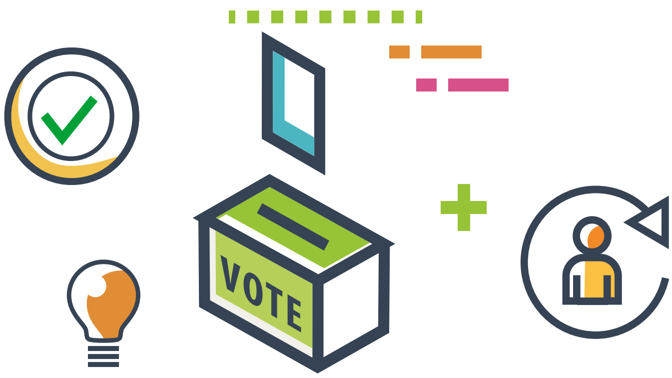
(I) Optimise long-term return on investments within the limit of risks defined in Ircantec's Responsible Investor Charter;

(II) Reinforce the fund's responsible investor approach;

III) Integrate climate issues in investments and finance the transition to a low-carbon economy consistent with the national and international commitment to limit global warming to 2°C;

(IV) Be a recognized investor in the field of supplementary pensions.

The climate is a core issue for the 2016-2020 Roadmap. The climate is a fundamental risk that can potentially have negative effect on short- and medium-term Ircantec investment results. For an investor like Ircantec, the fight against climate change is a cross-cutting issue. The fund intends to use its voting policy and shareholder communication to promote positive change for the climate, particularly by reducing the portfolio's exposure to fossil fuels, monitoring climate risk management and financing transition actors.



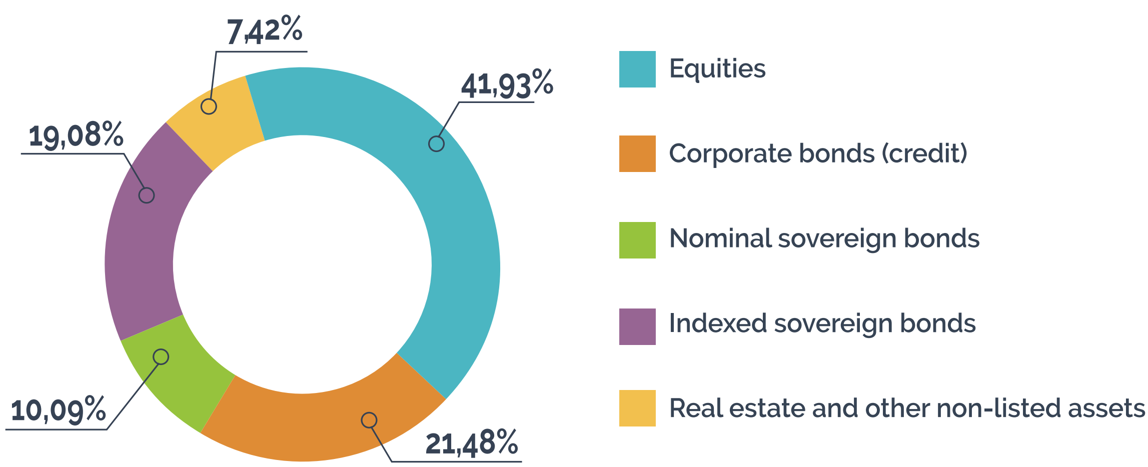
Invest, measure, analyse

The Ircantec portfolio is diversified. It is divided into large asset classes with interest rates, equities and real estate and other non-listed assets. Ircantec has chosen to invest in unlisted assets related to climate, environmental and social issues to participate to these challenges.

At the end of 2019, the portfolio reserve was €12.6 billion. Housing and diverse investments (unlisted assets and impact investments) up 7.4% of the portfolio.

Breakdown of assets at 31 December 2019

Breakdown of assets by type



Climate Strategy

Strategy: investing with climate criteria and measuring climate risks and opportunities

Ircantec's reserve-placement ratio, featured in the roadmap, optimises long-term returns within the limit of accepted risks and integrates the 2°C climate goal. It combines a range of complementary strategies:

Incorporate climate issues in the asset-allocation model to ensure that investments are compatible with the 2°C target and consider climate issues.

Protect investment value by reducing exposure to carbon risk by controlling carbon footprints and excluding targeted activities. Since 2015, Ircantec has been measuring the carbon footprint of one asset class in its portfolio: corporate bonds and shares listed on the stock exchange.

In 2017, other asset classes were added to this evaluation: all real assets (real estate, infrastructures, etc.) and sovereign bonds and equivalents. The aim is to understand exactly how the portfolio impacts on the climate and related risks.

Focus: carbon footprint is not a sufficient measure

Measuring the carbon footprint is useful and a starting point for addressing carbon risk, but it is insufficient for assessing the impact of climate issues on the portfolio. Other indicators have been developed to provide a more comprehensive and forward-looking view. The positive impact of the fund's portfolio on the climate has also been assessed for the third year. It is complex to extend measures to encompass both positive and negative impacts and to increase the scope from one asset class to all classes. It is a forward-looking approach Ircantec plans to incorporate in the coming years to be able to evaluate and add to its portfolio depending on developments in methodologies and market reflection.

To that end, Ircantec measures and communicates information for two additional indicators that complement the carbon footprint and enable a better understanding of its climate strategy:

→ The NEC (Net Environmental Contribution[2]): This indicator measures the overall environmental impact (positive or negative, ranging from -100% to +100%) of a company, state or other type of entity, taking into account several environmental aspects, such as proposed sustainable solutions and physical risks. As a result, it will be possible to identify entities that contribute or obstruct the fight against climate change.

→ The green share: this indicator identifies the green activities of a company or entity as defined by the European Commission's taxonomy. The Technical Expert Group's final report in March 2020 proposes unified European classification of green industrial activities to enable financial flow to these sectors in the future.

Participate in the transition to a low-carbon economy and take advantage of related opportunities. The dilemma for investors, apart from outright or thematic exclusions, is whether to reduce the footprint by withdrawing from high-carbon emission sectors, hence applying sectoral allocation, or to focus on intra-sectoral choices. The problem is that high-carbon emission industries are often those subject to climate regulation that can create both the highest risks and the best opportunities. Such leverage is accepted and investment continues in high-stake sectors and securities that - despite their high carbon footprint - allow for a stronger impact in the transition to a low-carbon economy (not a low-carbon portfolio).

2 https://nec-initiative.org/

Finance energy and ecological transition. Ircantec invests in funds specifically dedicated to financing energy and ecological transition and green bonds which are treated as a separate asset class to ensure quantitative and qualitative monitoring.

Focus: financing energy and environmental transition

Ircantec supports energy transition in regions by financing local authorities, public institutions, small infrastructure projects - mainly French - in the fields of renewable energy, energy transition, the environment, etc. These investments are made through:

- a dedicated multi-asset fund, invested directly in projects or unlisted companies compatible with the objectives and 11 funds (infrastructure funds and thematic investment capital) that contribute to the objectives: BTP Impact Local, CapÉnergie 3, Demeter 4 Infra, Infragreen II, Eurofideme 3, Eurofideme 4, Effithermie, EnRciT, Infragreen IV, Paris Fonds Vert and Swen Impact Fund for Transition. Ircantec has committed up to €223.7M to green infrastructure. On 31 December 2019, €113.4M had already been invested;
- seven specialised funds in companies contributing to energy and ecological transition (renewable energies, energy efficiency [buildings, industry, transport], etc.) for €55.3M, one of which has the Greenfin label (Sycamore Eco-solutions);
- a dedicated green bonds fund amounts to €576.9M which represents 4.6% of the reserves;
- a dedicated fund for European actions, 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 construction. Investments amount to €683.2M (5.4% of the reserves).

The main industrial issuers of green bonds are energy providers. This explains their significant contribution to the corporate shares and bond portfolio given Ircantec's green bond strategy. Green bonds account for about 6% of the sovereign portfolio.

Ircantec has committed a total of 12.2% of its reserves to fund environmental and energy transition.

Climate risk management

Listed companies

The scope for measuring greenhouse gas (GHG) emissions covers emissions from Scope 1, Scope 2, upstream Scope 3 and downstream Scope 3 for the automotive industry only (see methodology).

Carbon footprint and intensity

The three most common indicators used to measure a company's carbon emission to calculate a portfolio's carbon footprint are absolute total CO_2 emissions, financed emissions (absolute total CO_2 emissions expressed in invested euros), and carbon intensity (as a proportion of turnover). This data can be compared with benchmark indicators for informed strategic portfolio allocation (see methodology).

Carbon measures for Ircantec's portfolio are made by two external agencies. The measures are not fixed: modifications to methods and reporting practices each year make results increasingly precise and indicators are added to ensure an increasingly fair and comprehensive overview. The scope and methods for analysis are constantly evolving but modifications to methods and to the composition of portfolios and benchmarks can make comparison difficult. For optimal transparency, Ircantec communicates the changes to each metric every year and explains the impact of such changes.

The portfolio outperforms the benchmarks for the three indicators. The carbon intensity of the portfolio improved more than its benchmark between 2016 and 2018[3].

	Indicators	Units	Portfolio	Benchmark	Deviation (Portfolio vs. Benchmark %)
ABSOLUTE CARBON PERFORMANCE					
Weighted carbon intensity	GHG (Scope 1+2+3)/ Turnover	tCO_2e/€M	207	250	-17.3%
Total carbon emissions	Total GHG emissions (Scope 1+2+3)	tCO_2e	1,479,352	1,975,551	-25.1%
Intensity per €M invested	GHG (Scope 1+2+3)/ Total invested value	tCO_2e/€M	189	253	-25.3%
PAST PERFORMANCE					
Development of carbon intensity	% development from 2016 to 2018	%	-16.5%	-16.0%	-0.5%
Development of carbon emissions	% development from 2016 to 2018	%	+6.7%	+6.5%	+0.2%

17% less emissions than the benchmark in 2019 for weighted carbon intensity

The intensity of the 2019 portfolio was 207 tCO_2/€M of turnover. The majority of portfolio emissions (43%) are from Scope 2: indirect emissions related to energy consumption, mainly electricity.

€1,000,000 invested by Ircantec = 189 tCO_2 issued by the selected companies

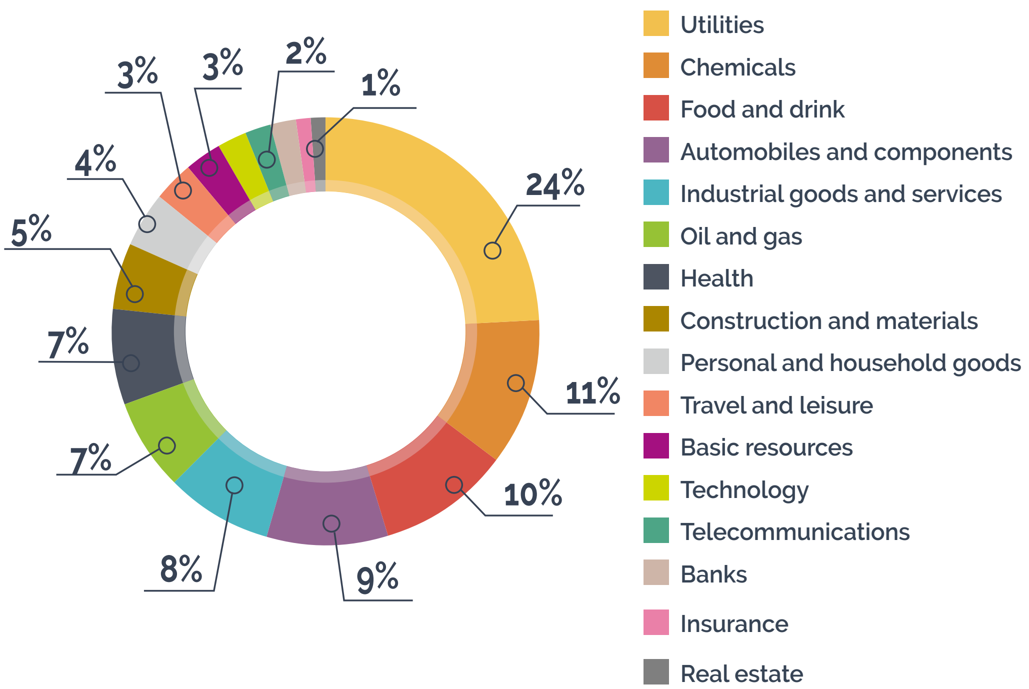
Carbon emissions per €M invested are all carbon emissions compared to the total amount invested. The portfolio reached 189 tCO_2/€M invested, outperforming the benchmark by 25%.

A decline in carbon intensity but an increase in carbon emissions between 2016 and 2018

The current portfolio is 16.5% less emissive in 2018 than in 2016, based on carbon intensity of total GHG/turnover but 7% more emissive based on total carbon emissions (Scope 1+2+3), which is in line with the benchmark. The scope for performance analysis from 2016 to 2018 was the same: companies that were in the portfolio for both periods to ensure comparable figures. The allocation value for calculating intensity is now company value, replacing company turnover used the year before.

3 Data used for the analysis is dated 31/12/2018 for greenhouse gas and 31/12/2019 for financials.

Weighted carbon contribution by sector



The public sector includes all the energy distribution utilities which have high energy intensity (50 tCO_2/€M) and major issuers of green bonds. This sector alone accounts for 25% of the portfolio's weighted carbon intensity.

Weighted carbon contribution by value: Top 20

The top 20 contributors account for half of the portfolio's overall weighted intensity, yet only 4.5% of the value of corporate shares and bonds. Note: classification is based on GHG emissions from Scope 1 and 2 only because Scope 3 is based on estimated and less accurate data than Scope 1 and 2.

Exposure to transition and physical risks

Climate-related risks are defined by the Task Force on Climate Disclosure (TCFD) which divides them into two broad categories: transition risks and physical risks. Exposure to highly carbon-dependent sectors and so-called stranded assets are two indicators of transition risks.

Focus: Exclusions for climate

Coal

In the 2016-2020 financial roadmap, the Board of Trustees endorsed coal divestment based on the following exclusion criteria:

→ Mining companies with coal-related production of over 1% of the global market.

→ Energy-producing companies, with coal-related energy mix over 30% or carbon intensity over 500 gCO_2/kWh.

→ For the two sectors, the coal-related turnover must not exceed 10% of total turnover. Previously set at 20%, this limit was lowered in September 2019.

However, exceptions on a case-by-case basis are possible, particularly if the company demonstrates a strong commitment to energy transition. For example, a green bond issued by a company that meets the criteria for divestment can be kept if they improve their energy mix.

Oil and gas

In the 2016-2020 financial roadmap, the Board of Trustees endorsed gradual targeted divestment in fossil-fuel energy based on the following calendar:

→ Divestment from Specialised Oil & Gas issuers as defined by the stock-market index (2018).

→ Divestment of bonds from Integrated Oil & Gas issuers whose investment expenditure is incompatible with a 2°C strategy (2018).

→ Divestment of shares in Specialised Oil & Gas issuers (2019).

→ Divestment of shares in Integrated Oil & Gas issuers whose investment expenditure is incompatible with the 2°C strategy (2018).

Funds from these bond divestitures were reinvested in green bonds in 2018. In 2019, in line with this strategy, the amounts from the divestment of shares were reinvested in seven funds specialising in companies contributing to ecological and energy transition.

Bonds (green, social, etc.) issued by companies meeting criteria for divestment are authorised if they improve their practices in line with a 2°C strategy. Sectoral definitions are sometimes inaccurate. Securities making a positive contribution to green practices and energy transition are authorised in the portfolio.

Ircantec decided to limit investment in companies that are or will soon face higher low-carbon transition risks than others. Companies considered to be specialised in the energy industry make a substantial part of their revenue from fossil-fuel development: drilling, exploration, storage, refining, etc. They have less opportunity to diversify than integrated companies which typically have higher investment capacity to scale their business mix and gradually align with the 2°C target.

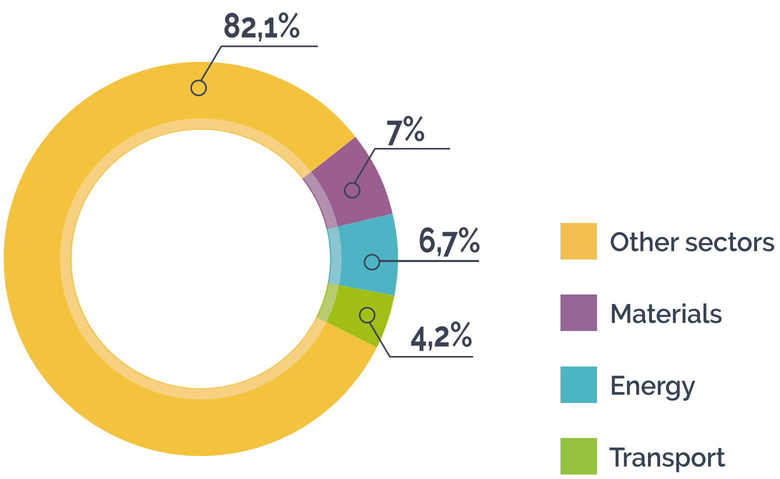
Exposure to transition risks: exposure to highly carbon-dependent sectors and failed assets

Exposure to highly carbon-dependent sectors outperforms the benchmark

The methodology chosen by I Care & Consult (the external provider chosen by *Caisse des Dépôts* to measure the carbon performances of Ircantec's portfolio) is very comprehensive. It takes into account the total proportion of the three sectors most dependent on fossil fuels, either directly (energy-intensive production) or indirectly (production of goods and services for companies that are fossil-energy intensive): energy[4], materials, and transportation industries.

Ircantec outperforms its benchmark by 19% with a result of 17.9%. Partial exclusion of the oil and gas industry is reflected in these figures. The allocation of the industry in the portfolio is only 1.9% compared to 5.0% for the benchmark.

Percentage of sectors with a heavy carbon dependency, Ircantec portfolio



25 companies (11 in the energy industry, 9 in the materials industry and 5 in the transport industry) are referred to as carbon intensive: 7.9% of the company portfolio.

Exposure to stranded assets

Ircantec has decided to exclude the coal sector as it is the energy most exposed to the transition risk, exceeding certain thresholds. However, some companies, mainly energy services, still have some coal in their energy mix. As a result, at the end of 2019, Ircantec had 37 securities, excluding open-end funds, that exploit coal: 5.32% of the portfolio of shares and bonds for listed companies. This exposure, however, is calculated regardless of the allocation of coal in the company's turnover, and there is no minimum threshold. Some are energy companies that have undertaken proactive transition to renewable energy. Ircantec constantly monitors these values to ensure they do not fall within the criteria for coal exclusion.

4 High proportion of the portfolio in light of Ircantec's green-bonds strategy.

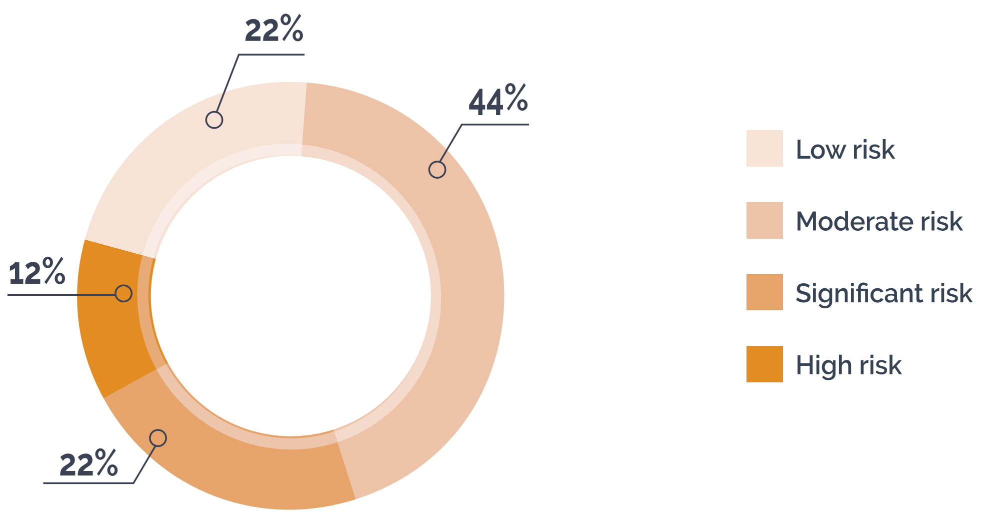
Transition risks include political and legal, technological, market and reputational risks. The transition risk is assessed for the first time for the allocation of shares and bonds of listed companies. The methodology for measuring risk development developed by the agency takes into account changing regulations, carbon cost and consumer choices, amongst other aspects.

The high-risk allocation in the portfolio is 12% (compared to 11% in 2018), compared to the benchmark at 15% (stable compared to 2018). The scale is from 0% to 100%: 0% is the best score. Such positive performance is explained by a lower exposure to the energy industry. 22% of the portfolio issuers are low risk and 12% have a high transition risk for a benchmark at 15%).

92% of these high-risk issuers are divided into seven sectors:

- The electricity industry is a risk for transition because it is subject to changes in legislation and energy constraints. The industry is easier to decarbonise than others, but significant efforts are required.
- The materials industry has very diverse risk levels depending on background activities. For example, metal production is high risk.
- The construction industry represents an important proportion of global emissions, and standards are increasingly demanding.
- The energy industry, including fossil-fuel activities, is a very high risk for stranded assets because part of fossil fuel reserves must never be exploited if Ircantec is to reach the Paris Agreement objective.
- The food, drinks and tobacco sector is a high risk to consumers in developed countries which are converting from meat to plant products.
- The capital-goods sector includes all industrial machinery and construction activities. Risks in this sector are mainly generated by the aerospace industry.
- Despite being governed by international standards and not currently subject to any fuel tax, the airline industry will have to offset emissions from 2021. However, due to the pandemic that is heavily affecting the sector, this expectation may be postponed. Furthermore, the industry is highly fuel-intensive, and heavily dependent on fossil-fuel prices.

Distribution of transition risk in the portfolio



Exposure to physical climate risks slightly higher than the benchmark

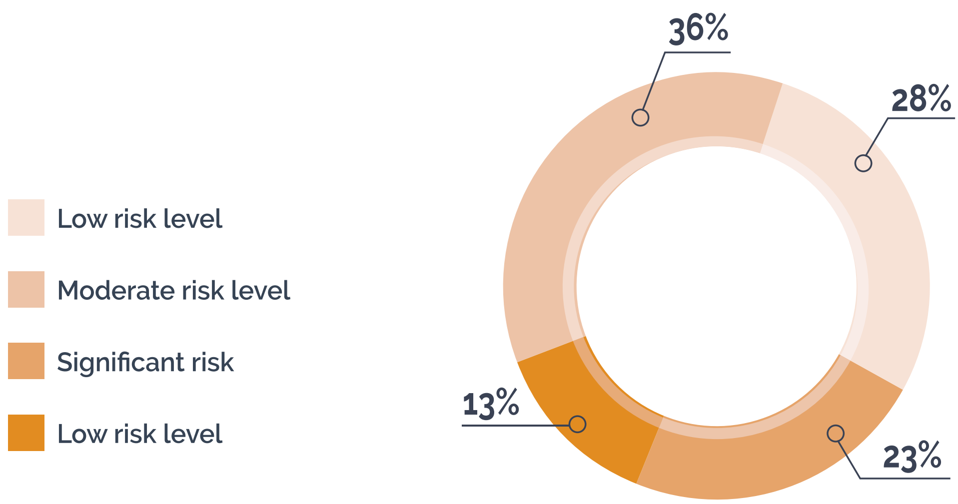
Physical risk was estimated by multiplying sectoral sensitivity (water dependence, temperature sensitivity, transport dependence, etc.) by geographic vulnerability.

The allocation of Ircantec's portfolio to high-risk physical transition is 13% (12% in 2018), compared to 12% (13% in 2018) for the benchmark, 0% being the best score. Any exposure to the agriculture sector is offset negatively by overexposure to the materials sector.
13% of the portfolio consists of high-risk issuers with a score of over 60%.

92% of these high-risk issuers are divided into six sectors:

- The agriculture sector represents a very high proportion of physical risk, being dependent on weather conditions and subject to climate effects.
- The materials sector is dependent on mines and production plants, which are not easily relocated, a high risk for the sector.
- Risks to the capital-goods sector are generated by both production plants and the downstream value chain.
- The risk for the consumer durables and apparel sector comes from the upstream value chain due to a strong dependence on natural capital and agricultural products.
- The IT sector presents a risk for three reasons: production is concentrated in high-risk Southeast Asia; strong dependence on energy supplies, and reliance on stable temperature conditions, for data centres for example.
- The household and personal products sector is high risk due to its upstream value chain and hence its dependence on natural products.

Distribution of transition risk in the portfolio



Allocation and portfolio selection effects on carbon exposure

Reducing risk through choice of allocation and selection

The positive carbon performance of the portfolio compared with benchmarks strengthens Ircantec's strategy that does not seek short-term reduction in the carbon footprint but that prefers to invest in companies committed to reducing their climate impact in order to support society's transformation to low-carbon economy. Companies have a more important role to play in energy transition via these climate-affected sectors. The positioning matrix illustrates the positive and coherent share in the portfolio where share by sector value and value selection generate low carbon intensity: low representation of sectors and companies with the highest carbon intensity levels.

States: sovereign and equivalent assets

The concept of State carbon footprint is similar to the concept of risk management: energy mix, state climate policy, etc. The chosen methodology reflects the role of the public sector as key for the country's footprint, both as legislator and major service provider. All emissions by national organisations are taken into account for emission analysis. The portfolio is compared with the benchmark and other comparable entities, such as the Euro zone and OECD countries.

Carbon Footprint

A portfolio that outperforms comparative entities and improves with time

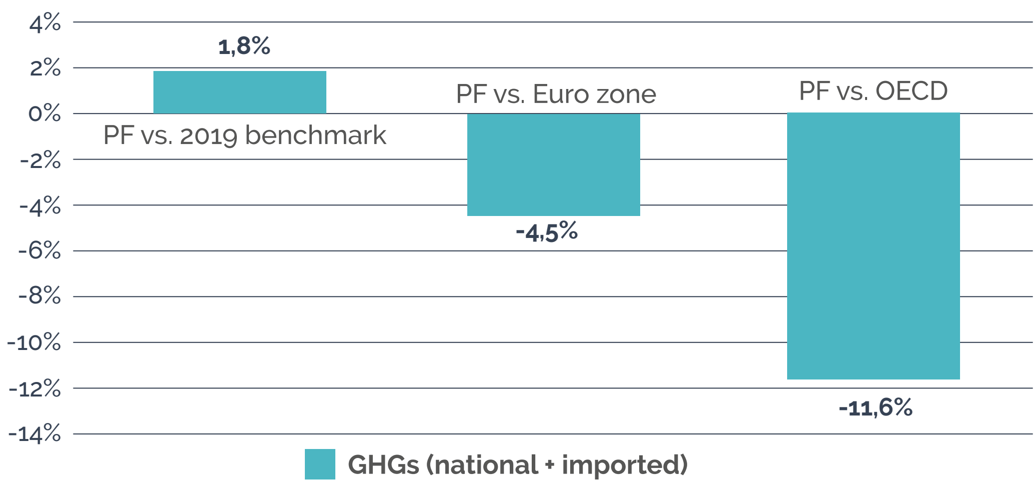
The carbon-exposure level of the portfolio is slightly higher (1.8%) than the benchmark, due mainly to France's low values and higher values for countries such as Germany, Spain, and other supranational entities.
When the green bonds[5] are included, the portfolio's carbon intensity is only 0.8% less than the benchmark.

Intensity measurements, comparisons and developments

	Holding Date	Carbon exposure 2019	PF vs. BM 2019
Ircantec PF 2019	31 December 2019	393.7 tCO_2e/€M GDP	1.8% under the benchmark
Ircantec PF 2019 (green bond adjustment)	31 December 2019	389.9 tCO_2e/€M GDP	0.8% under the benchmark

The performance of the sovereign portfolio tends to be better than that of comparative entities: Euro zone and OECD countries.

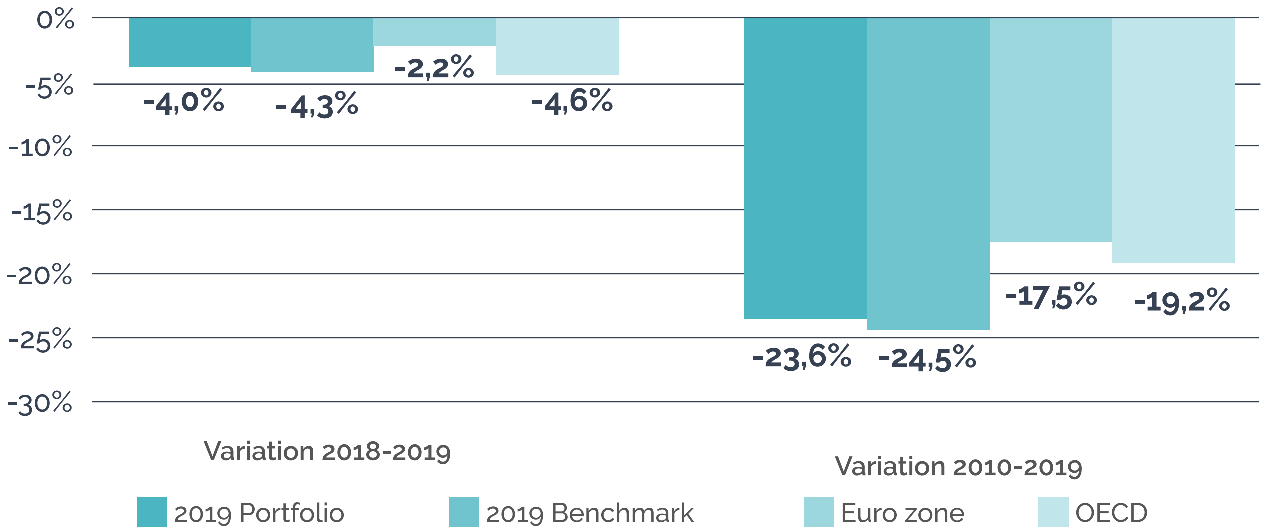
Carbon exposure vs. Comparative zones



Portfolio intensity has also improved over time: -23.6% intensity from 2010-2019 and -4.0% for 2018-2019. The positive trend since the beginning of the decade also applies to comparative entities: reference index, Euro zone and OECD countries.

5 By default, the carbon intensity level of green bonds is that of the issuing entity.

Development of the carbon intensity of the sovereign portfolio

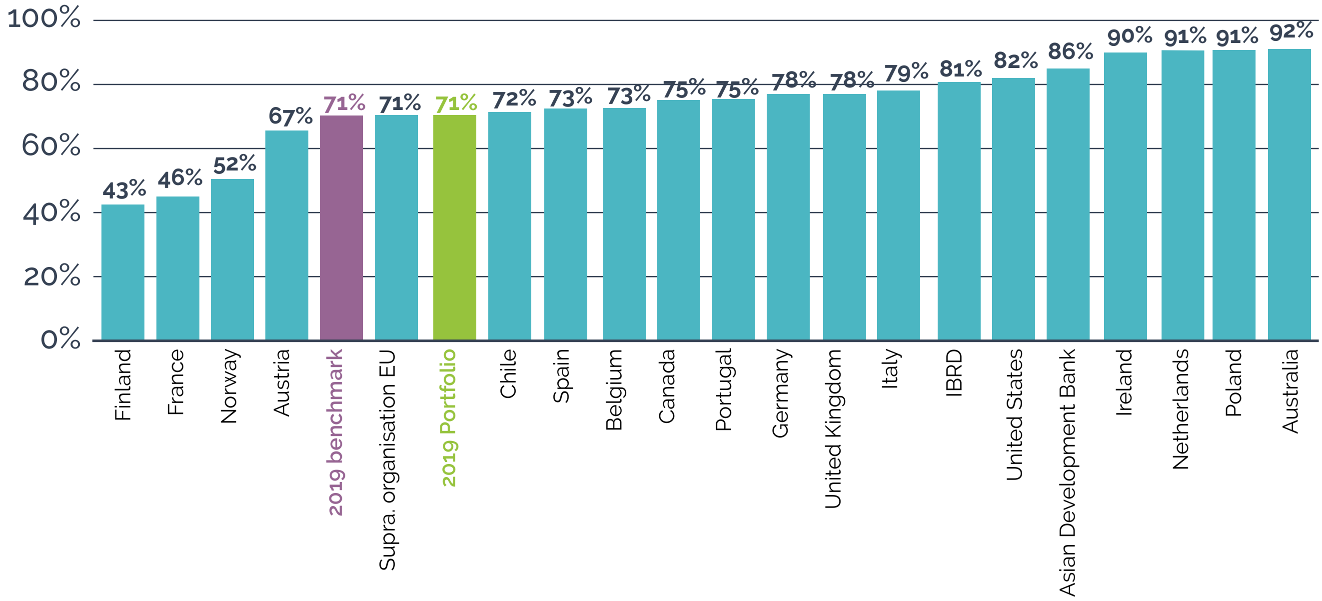


Exposure to transition and physical risks

Exposure to transition risks: brown investments in line with the benchmark

The allocation of fossil fuels in primary energy consumption is 71%, in line with the benchmark.

Allocation of fossil fuels in primary energy consumption



The sovereign portfolio's exposure to stranded asset risks, using fossil reserves for analysis, is **2.8**% higher than the GHG/GDP benchmark for fossil reserves.

The reserve's exposure to transition risk is calculated based on country reserves (fairly stable year after year, unless dramatically re-evaluated) and the weight of the countries in the portfolio, which can vary greatly. As a result, even a small change in the weight of an issuer with large reserves (such as the US) can have a significant impact on the portfolio and/or benchmark.

Changes to fossil reserves between the 2019 analysis (portfolio weight at 28 December 2018) and 2020 analysis (portfolio weight at 31 December 2019) are due to portfolio positioning between the two dates:

- High increase in the weight of the United States (+8.9 points, from 18.2% to 27.1%) with significant carbon content in reserves;
- Very slight increase in the weight of Australia and Canada (+0.2 points in both cases). In both cases, they have very high carbon fossil reserves, particularly in Australia.

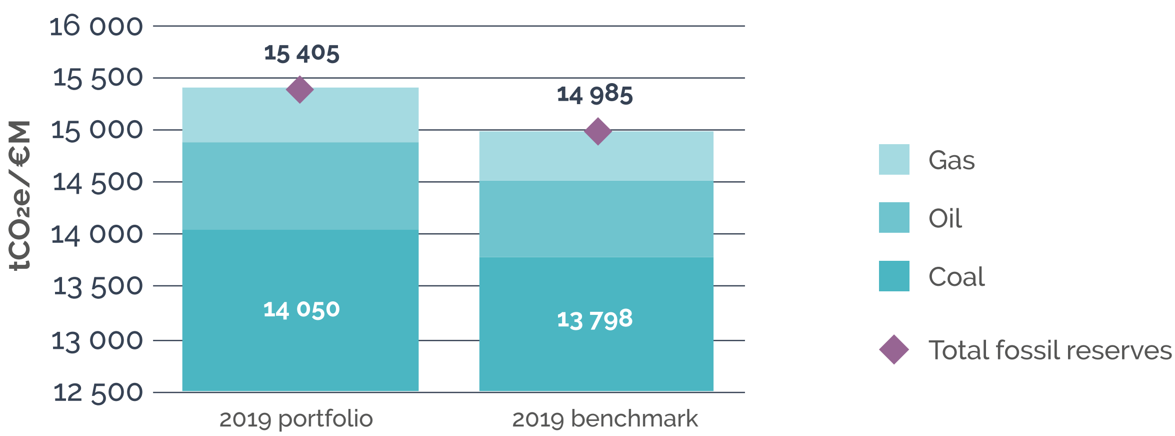
As a result, the carbon content of the portfolio reserve is higher in the 2020 analysis than in the 2019 analysis.

On the other hand, benchmarks are very stable. Although the weight of the United States increased slightly, some proportionate effects also contribute to a slight reduction in the benchmark ratio:

- a very slight decline in Australia's weight;
- a very slight increase in the weight of countries with low ratios such as France, Italy and Spain.

Finally, taking into account various effects for the period, the benchmark is slightly lower than for the previous year. On the other hand, the portfolio's intensity increased slightly, just above the benchmark. This is explained by higher portfolio exposure at the end of 2019 to a number of countries with high GHG reserve content: Australia, Canada, Poland, IBRD countries and the Asian Development Bank.

GHG content of portfolio and benchmark reserves (GHG/GDP)

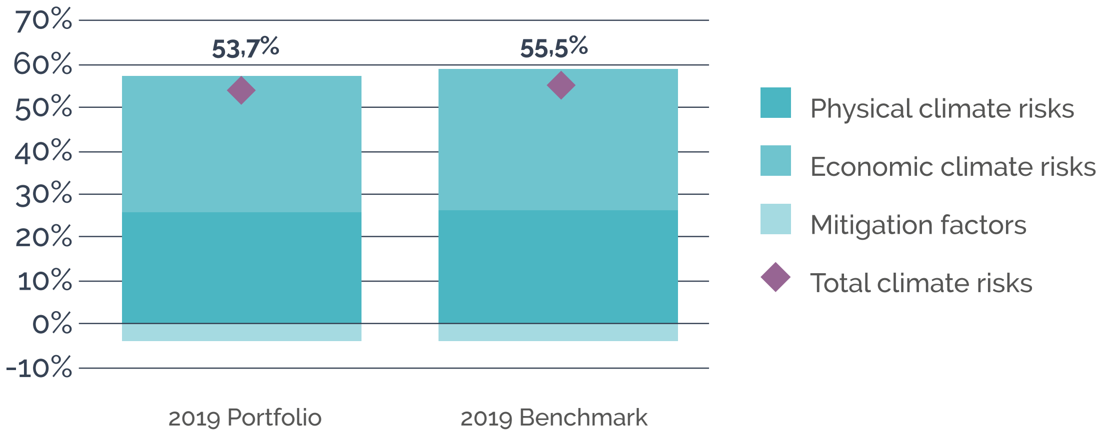


Exposure to physical hazards with fairly positive performance

The methodology is based on three dimensions: physical climate risks (temperature change, water stress, etc.), economic climate risks (economic damage as a % of GDP, etc.) and climate risk mitigation factors (economic and social indicators to measure a country's resilience to climate risks).

The portfolio is slightly under the benchmark at 53.7% compared with 55.5% (0% being the highest risk level), but both have fairly positive performance. Italy and Spain represent a significant weight in the portfolio and a significant level of relative risk (28% and 26% respectively), making a negative contribution to the overall risk level.

Percentile of physical climate risk based on Beyond Ratings scores



The effects of allocation and portfolio selection on carbon exposure

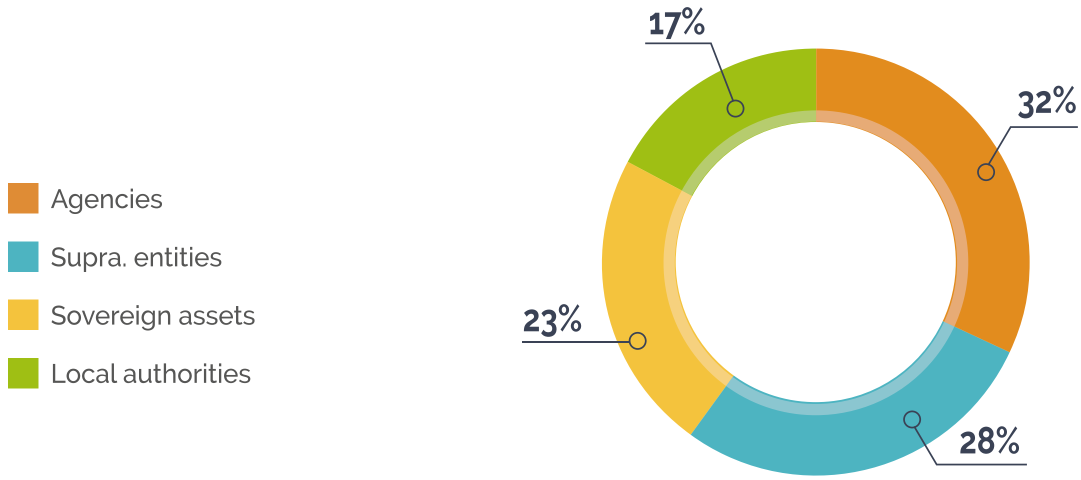
5 countries contribute to 87% of the carbon footprint of the sovereign portfolio: US, France, Italy, Spain, and Germany. France's weight (22.8%), with good carbon footprint levels, has a positive effect.

Note that Ircantec's 2019 portfolio has better results than the 2018 portfolio (-2.9% carbon intensity), but equivalent to 2017. This is largely due to the decline in France's weight in the portfolio and the increase in the weight of the US.

There is also a negative contribution due to the carbon footprint of development banks not being included in the benchmark. The calculation of GHG emissions for these supranational entities take into account carbon intensity of member states, which often have higher carbon intensities than European or OECD countries.

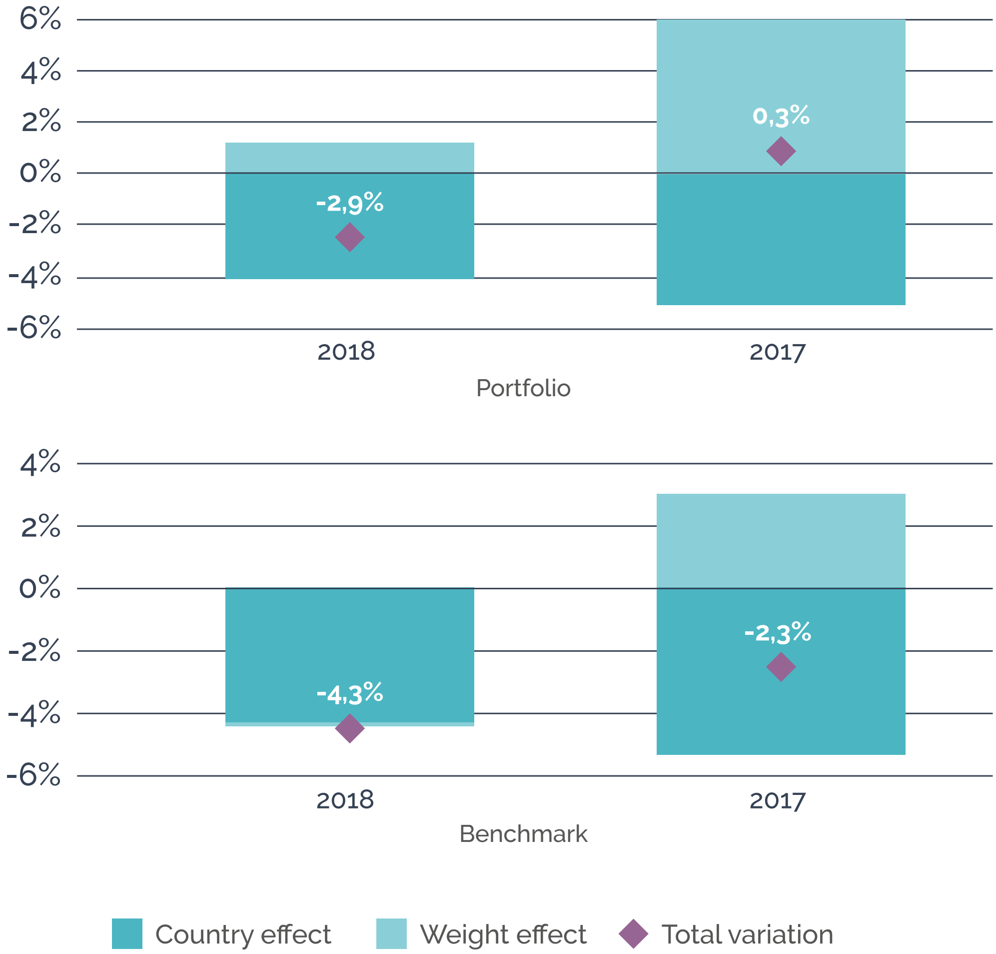
Ircantec's green-bond strategy explains why these supranational entities are in the sovereign portfolio. The main segments of green bonds are agencies, sovereign assets, and supranational entities that account for 83% of all green bonds.

Green Bonds Allocation (in value)



Country selection has a positive effect of 4.1% on carbon intensity.

Development in GHG/GDP carbon exposure (national level): country effects and weight effects compared to previous years



Real Assets

Real estate

Ircantec invests in collective housing for the elderly and students, and accommodation for social tourism. In existing investments, particular attention is paid to energy performance and the quality of life for tenants.

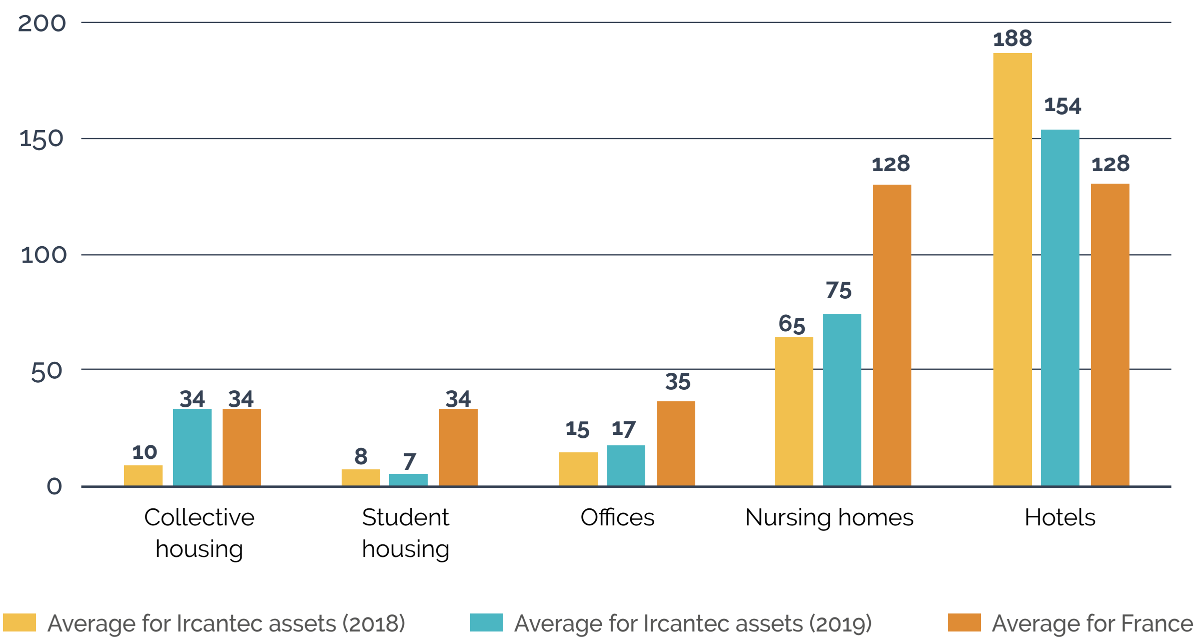
30 assets were analysed (collective residential, student housing, offices, a nursing home and 5 social-tourism complexes) with a total of 205,039 m² net floor area.

The carbon footprint of these assets is 11,476 tons of CO_2 per year, compared to 6,664 t in 2018. That is an increase of 72%. The average is 56kg CO_2/m^2/year, compared to 58 in 2018.

Such a sharp increase in the absolute carbon footprint is due to a growing portfolio: 24 assets in 2018 compared to 30 in 2019, including a 20% stake in the VESTA real estate portfolio, 28% of the total. Most of the real estate portfolio is residential and mainly in the Paris region (*Île-de-France*).

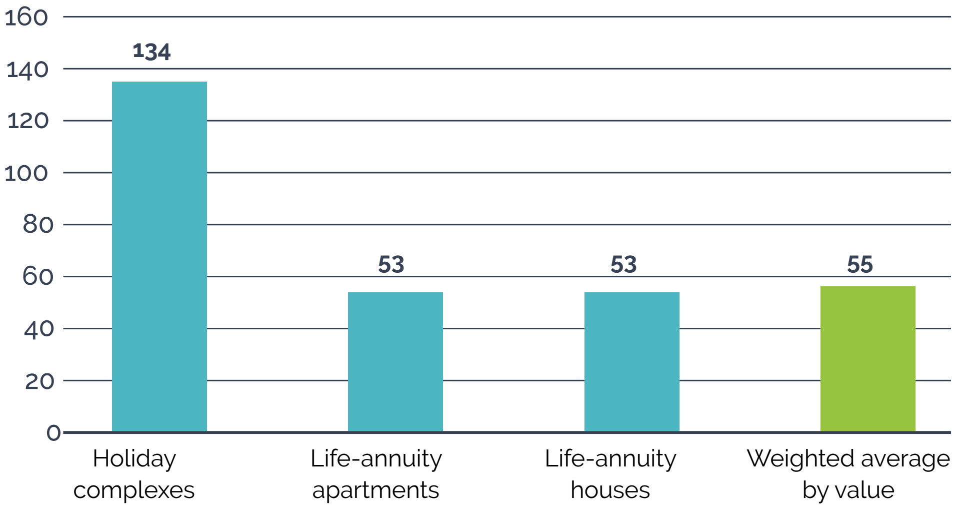
The average includes significant disparities, particularly for social-tourism complexes which account for only 19% of the portfolio surface but 51% of the carbon footprint. At the same time, recently built student housing generally has excellent energy performance.

Average carbon performance by asset class (kgCO_2/m²)



The average carbon emission for social-tourism complexes (social-impact tourism fund) and apartments and homes subject to life-annuity (*Viager Certivia fund*) is 56kg CO_2/m^2 /year. The value is similar to 2018 data.

Average carbon performance by asset class ($kgCO_2/m^2$)



Note that it is difficult to track the carbon footprint of a real estate portfolio over time due to buying and selling strategies. Hence Ircantec's attention to the energy aspects of this part of the portfolio.

Contribution to energy and ecology transition

To respect Ircantec's commitment to a 2°C alignment, the company portfolio is overexposed to securities that make a positive contribution to energy and environmental transition.

It is therefore necessary to measure the amount of carbon and other greenhouse gases that can still be released into the atmosphere and remain below the 2°C limit and evaluate the emission-reduction strategies of issuers. Once these carbon budgets are exhausted, Ircantec is certain to reach and even exceed the 2°C limit.

For the third year, analysis of the impact of Ircantec's portfolio on climate includes an additional measure of the contribution to climate and the environment for all asset classes with indicators specific to each asset class: publicly traded shares and corporate bonds, sovereign bonds and unlisted assets.

These contribution indicators to energy and ecological transition are calculated for a subset of the class with sectors particularly exposed to energy and environmental transition, including energy, local-authority services and materials.

The objective is to assess the extent to which the activities funded by Ircantec are positive for energy and ecological transition.

Listed Companies

Green Share

A green share way over the benchmark

The green share is defined as the green part of the issuer's activity, in other words, activities with a positive contribution to the energy and ecological transition. The **green share** is the part of issuer turnover generated by green activity as defined in the European Commission's green taxonomy, published in March 2020. The green taxonomy lists 70 activities that contribute to climate change mitigation and 68 activities that contribute to climate change adaptation. Other activities will gradually be added to achieve the following objectives: protection and sustainable use of water and aquatic resources, transition to the circular economy and waste management, pollution prevention and control, and ecosystem protection. To date it is for information purposes only, but the report will serve as the basis for binding European regulation, expected in June 2021.

The new taxonomy is more demanding. As a result, the green contribution of some listed companies has changed. For example, rail carriers could previously be rated 100% green, but are now attributed with a lower contribution if their activity includes coal transport. According to the European taxonomy, coal transport, even if by rail, is not a green activity.

I-care & Consult presents an initial application of the new taxonomy based on public information available for listed companies in this report.

It identifies the proportion of green activities according to the GreenFin[6] label (formerly TEEC) amongst activities financed.

For the 14 main climate sectors which account for 37% of the portfolio, Ircantec's green investments at 24% are well above the green benchmark set at 10%. Such high green share confirms the positive effect of Ircantec's green bonds strategy. This positive performance is due to improved sectoral allocation (more services to local authorities, sectors with a larger green share than the benchmark average, less energy and automotive manufacturers, sectors with limited green activity) and by a share-picking effect (choice of securities) for certain sectors (electricity supply, building materials, electrical components, transport). The overweight chemicals sector (with green share below the benchmark average) has a negative impact on portfolio performance.

Changes to the green taxonomy, both for methodology and sectors, improve portfolio coverage from 22% to 37% compared with the same scope the previous year. However, the green share has dropped from 28% to 24% due to new, more stringent criteria, particularly in the cement and food and drink industry.

6 https://www.ecologique-solidaire.gouv.fr/label-greenfin

Green Share overview in key sectors

Green share	2019 portfolio		2019 benchmark	
	Weight in the portfolio	Green share (EU taxonomy)	Weight in index	Green share (EU taxonomy)
Automotive manufacturers	1.6%	3%	3.4%	3%
Building materials	1.9%	35%	0.6%	15%
Cement	0.3%	0%	0.7%	0%
Chemicals	4.5%	3%	2.3%	1%
Utilities – Electricity	7.2%	48%	4.1%	30%
Utilities – Electricity (Open Market)	2.0%	33%	1.2%	14%
Food, drink and tobacco	5.9%	24%	6.6%	11%
Industrial conglomerates	0.8%	26%	1.4%	21%
Metal and extraction	0.4%	24%	1.7%	0%
Oil and gas	2.5%	5%	6.1%	1%
Real estate	4.3%	15%	3.0%	11%
Transport	2.6%	31%	2.1%	10%
Transport (open market)	1.6%	2%	2.3%	2%
Utilities – Water & Waste	1.3%	41%	0.4%	35%
TOTAL	**37%**	**24%**	**36%**	**10%**

Ecological footprint or Net Environmental Contribution (NEC)

The net environmental contribution significantly exceeds the benchmark.

The ecological footprint is an environmental assessment method that accounts for human pressure on natural resources. In this case, it covers five categories: energy and climate, resources and waste, biodiversity, water, and air quality. The NEC is a complementary indicator for the green share which assesses where the issuer's overall environmental performance lies between the industry average and best current performance. The NEC uses physical indicators that indicate a company's environmental performance with no financial bias. The NEC score (between -100 and +100) highlights the positive or negative impacts of a company or industry on its environment. The NEC score also takes into account all the positive and negative impacts on the whole value chain, and the effect on biodiversity. Recent developments illustrate the growing importance of biodiversity and the urgency to preserve it for the future of the planet and human population. Ultimately, Ircantec's goal is to improve measures and understand more about its contribution to biodiversity protection, and as a result to Sustainable Development goal 15 – Life on Land.

The characteristics of green bonds have been incorporated in the NEC score this year.

The net environmental contribution of the portfolio is 13%, significantly above the benchmark at -4%. This positive performance compared to the benchmark is due to positive sectoral allocation with overweight in the materials sectors and underweight in sectors with a below-average NEC score such as oil and gas, metals and mining.

Changes to the green taxonomy, both for methodology and sectors, improve portfolio coverage from 22% to 37% compared with the same scope the previous year.

NEC's overview by sectors

NEC	2019 Portfolio		2019 Benchmark	
	Weight in the portfolio	NEC	Weight in index	NEC
Car manufacturers	1.6 %	-8 %	3.4 %	-5 %
Building materials	1.9 %	17 %	0.6 %	10 %
Cement	0.3 %	-20 %	0.7 %	-24 %
Chemicals	4.5 %	4 %	2.3 %	3 %
Utilities – Electricity	7.2 %	43 %	4.1 %	21 %
Utilities – Electricity (open market) → *Open Electricity Market*	2.0 %	31 %	1.2 %	12 %
Food, drink and tobacco	5.9 %	-15 %	6.6 %	-13 %
Industrial conglomerates	0.8 %	12 %	1.4 %	7 %
Metal and extraction	0.4 %	-9 %	1.7 %	-22 %
Oil & gas	2.5 %	-15 %	6.1 %	-22 %
Real estate	4.3 %	17 %	3.0 %	16 %
Transport	2.6 %	18 %	2.1 %	-13 %
Transport (open market) → *Open Electricity Market*	1.6 %	0 %	2.3 %	-6 %
Utilities – Water & Waste	1.3 %	54 %	0.4 %	41 %
TOTAL	**37 %**	**13 %**	**36 %**	**-4 %**

Positive impact of green bonds for the green share and NEC

Specific analysis was conducted to assess the green bonds to identify their level of eligibility for the European taxonomy. As a result, for the same issuer, green bonds with a green share are evaluated differently from other bonds. Green bonds were also evaluated according to the issuer's NEC rating.

In the core climate sectors, which account for 37% of the portfolio, green bonds that could be specifically evaluated represent 1.9% of the portfolio. In those cases, data for activities financed by these bonds was sufficiently precise for evaluation.

	Portfolio weight	Related green share	Related NEC
Core-climate sectors	36.8 %	24 %	13 %
Green bonds	1.9 %	93 %	88 %
	Weight impact within analysed portfolio	Contribution of green bonds to the green share	Contribution of green bonds to NEC
Green bonds contribution	5.2 %	20 %	38 %

Note the strong impact green bonds can have on the green share and NEC of the portfolio. Green bonds only account for 5.2% of shares (in the core-climate sectors analysed) but they are 20% of the green share and 38% of NEC shares.

The positive impact of investing in equity funds of companies in compliance with the French energy and ecological transition initiative (TEE)

In 2019, Ircantec targeted divestment of certain companies in the energy industry, particularly oil and gas, found to be out of step with the climate change strategy. Divested amounts were invested in seven funds opened for companies contributing to energy and ecological transition for a total of €55.3M. These funds mainly focus on environmental opportunities for energy and ecological transition: energy efficiency, renewable energy, energy distribution, energy management and natural resource management.

Focusing these funds on energy and ecological transition issues results in overall positive environmental performance that contributes to the general performance of the portfolio, with:

→ Green share: 36%

→ NEC: 30%

→ Carbon budget ratio at 84%, i.e. below the 2°C goal with temperature +1.7°C

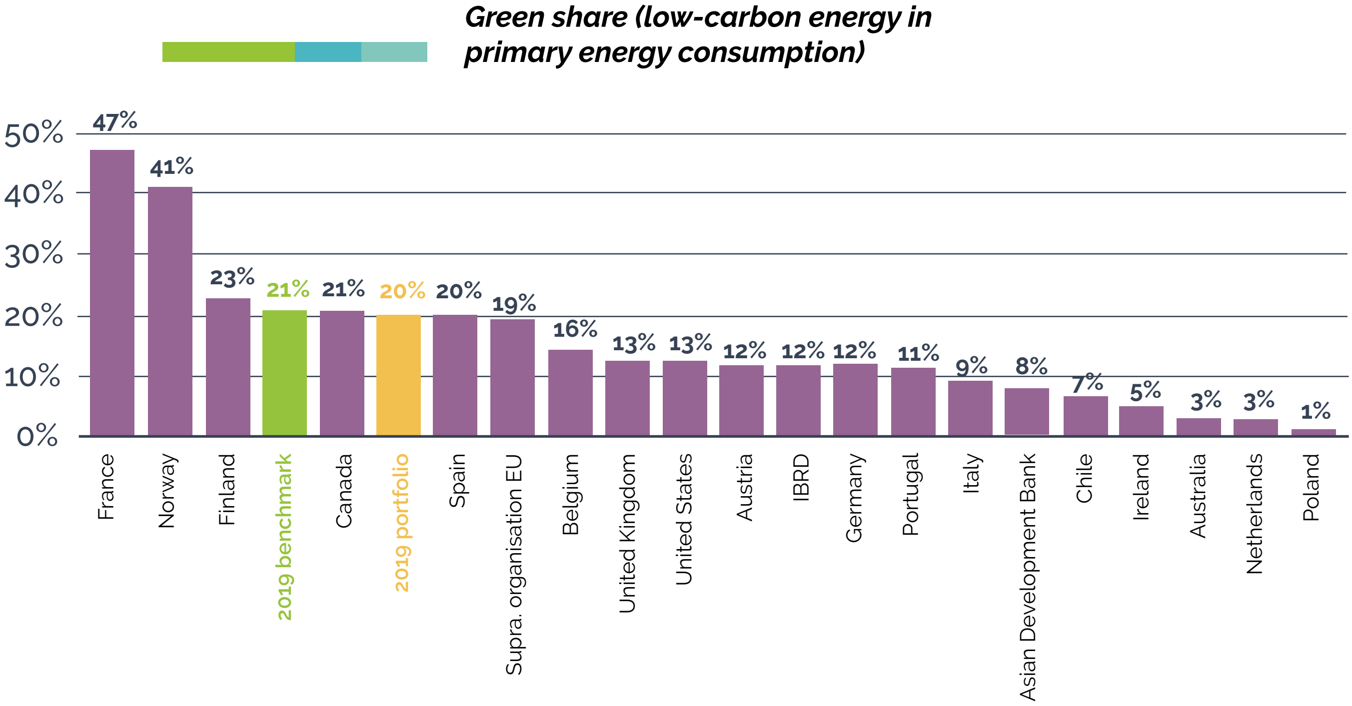
This positive performance is explained by choices and the overweight of the electricity and electricity equipment sectors which have renewable energy activities.

States: sovereign and equivalent assets

Green share and ecological footprint

A sovereign portfolio with a slightly lower green share than the benchmark

Green sovereign assets are low-carbon energy activities for primary energy consumption such as hydropower, wind, solar, geothermal, tidal energy and nuclear. Ircantec's green share is 20%, lower than the benchmark of 21%.



For sovereign assets, a country's ecological footprint can be compared to global biocapacity: the number of global hectares available to produce renewable resources and absorb CO_2 for one year of consumption. The average global biocapacity is 1.6 hectares per capita.

The ecological footprint of the portfolio production is 1.6% under the benchmark. The ecological footprint of the portfolio consumption is 0.9% under the benchmark. This small difference reflects the composition of the portfolio and the benchmark.

Real assets and unlisted assets

Green Share

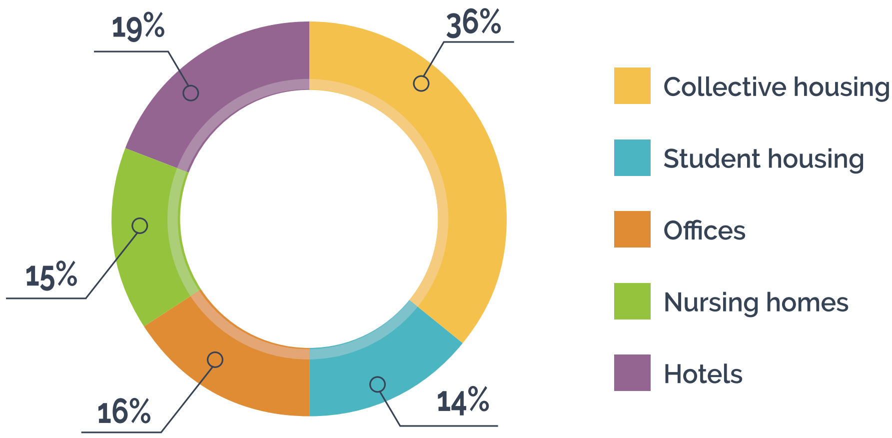
Real estate

A total of 30 assets were analysed, for a total 205,039 m² net floor area.

Compared to 2018, the total area increased significantly: 118,265 m² net floor area in 2018. This is due to changes in the composition of the portfolio with the takeover of Vesta's Villiers Immobilier which represents 28% of total portfolio surface. Five other acquisitions contributed to an increase in the total area for each sector in absolute terms. These additional acquisitions include a collective residential building, one nursing home, one student residence and two hotels.

Thanks to the new 2019 European green taxonomy, standard criteria now exist to define the green share:

Surface area of asset types



- **Explicit criteria for climate performance**:

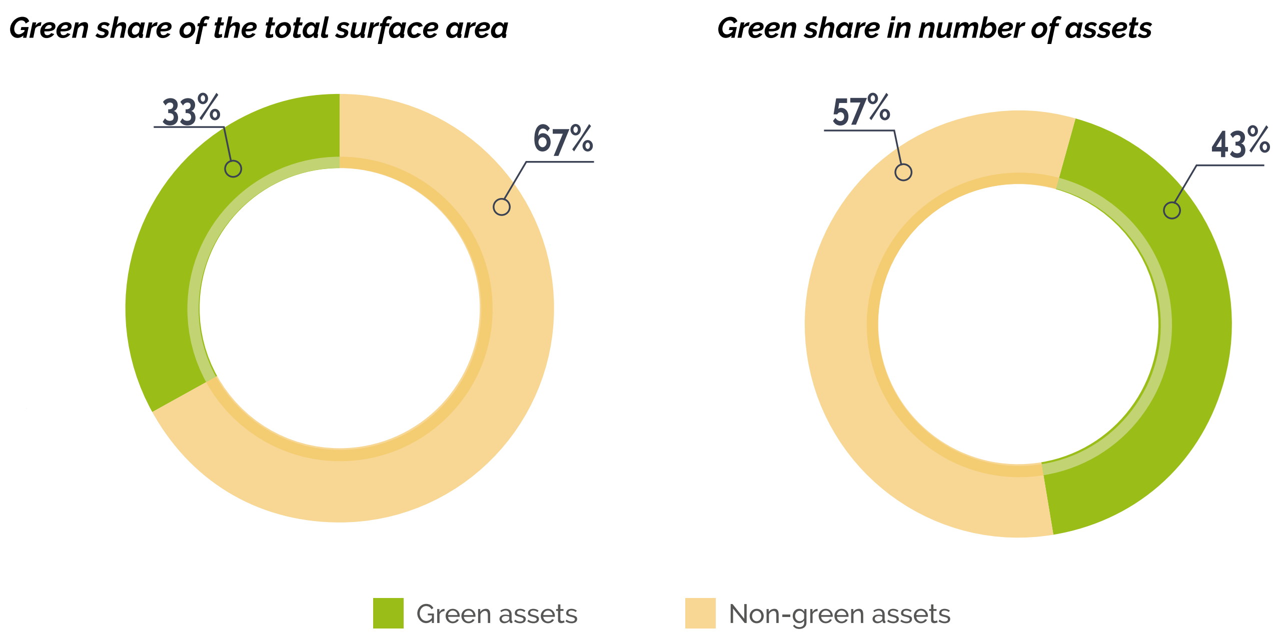
For new buildings: level B in the EPC rating scheme and "Near Zero Energy Building", which basically corresponds to the French RT 2012: about 50 kWh primary energy/m².

For existing buildings: energy renovation level exceeded 30% in the past.

- **Average criteria**: an asset with an official high environmental score that respects the above requirements. For further analysis, only the Net Zero Energy Level label was used to define the green share. That is a significant difference compared with the year before when the Advanced Level was also taken into account.

The European taxonomy is much stricter than previous practices, including last year's method which was largely based on environmental labels, particularly regarding eligibility criteria for the green share/m². What's more, due to a lack of information about past energy renovations, not all green buildings in the portfolio are identified.

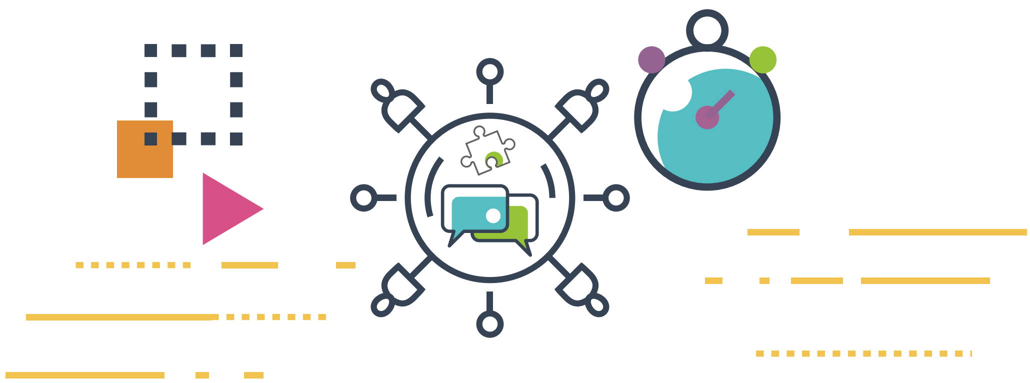
Two methods for assessing the green share are proposed: by number of assets and by m² surface area. The weight by area gives a rate of 33% (72% in 2018), less than the weight by number of assets at 43% (70% in 2018).



Infrastructures

Ircantec has chosen to directly support the energy transition of regions with a dedicated multiple asset fund and complementary infrastructure funds, particularly for financing small infrastructure projects, mainly in France, in the fields of renewable energy, energy transition and the environment. The green share of infrastructure assets for renewable energy and low-carbon transport infrastructure comprises 79 assets for €102.2 M. That is 62% of this segment of Ircantec's portfolio, 20 percentage points down from 2018, whereas the NEC is 52%. The reason for this decline in the green share is:

- mainly due to an increase in shares in the telecom sector from 1% to 23% of the portfolio. This sector has a green share and a zero score NEC.
- to a lesser extent, due to the application of the new European green taxonomy which leads to a slight decrease in the associated green share given the degree of accuracy required for calculations compared with the limited information available.
- by negative developments in the Finnish electricity production mix and the non-integration of urban heating into the green part of the "electricity distribution and urban heating" sector.



Types of infrastructure	Distribution	Green share (EU taxonomy)	NEC
Renewable energies	55.5 %	100 %	83 %
Telecommunications	19.6 %	0 %	0 %
Urban electricity distribution and heating	14.8 %	38 %	30 %
Gas cogeneration	3.4 %	0 %	30 %
Fibre optic	2.9 %	0 %	0 %
Energy efficiency/green construction	2.1 %	0 %	20 %
Biomass cogeneration	0.7 %	100 %	47 %
Project portfolio	0.5 %	0 %	0 %
Tourist train	0.3 %	0 %	0 %
Aquatic centre	0.1 %	0 %	0 %
School buildings	0.1 %	0 %	0 %
Nursing homes	0.0 %	0 %	0 %
Recreational hall	0.0 %	0 %	0 %
TOTAL	100 %	62 %	52 %

Forests

The analysis included eight forests with a total area of 2,176 ha valued at €30M.

Forest assets can be positive for energy and ecological transition if logging practices are sustainable. All Ircantec's managed forests are PEFC certified, generating a green share of 100 % and an NEC of 72 %, identical to 2018 values.

Unlisted assets

For assets invested through thematic private equity funds, the analysis included 24 companies for an investment of €23.6M.

The average weighted green share of the portfolio is 31% with NEC at 23%.

- The positive result on the green share is explained by high performance of many companies offering solutions with positive environmental impact including Sulo, Alterea, Green Creative, Hesus, IES Synergie and NED.

- The effect is also positive for the NEC which has significantly improved compared with the previous year. This is largely due to Sulo's entry into the portfolio with NEC 100% for 26% of private equity. The aviation and road logistics industries account for 15% of the portfolio. They have a negative NEC of approximately -40%. The NEC takes into account specific efforts, but also the overall impact of the value chain.

As for outstanding private debts (4 companies for €17.7 M), the sectors concerned are not relevant or information is insufficient for assessment of the green share or NEC, so they are estimated at 0%.

In the social and solidarity economy category, Ircantec has shares in 49 organisations for an investment of €6.4M.

The weighted average of the green share is 11% and the NEC is 11%. The green share is less than last year due to the application of the European taxonomy for which it is impossible to assess the green share when information is insufficient. This has particular impact on the construction and agriculture sectors.

The activities of 13 of the 49 organisations contribute to the energy and ecological transition (sustainable forest, reuse of materials, waste treatment, sustainable real estate, energy consumption) and aim for both environmental and social impact.

Aligning the portfolio with climate change scenarios

Alignment with the 2°C trajectory assesses whether issuers are in step with the required GHG emission strategy. The 2°C trajectory between 2010 and 2050 is defined by expected emission reductions given planned technological developments. The aim is to keep global warming under 2°C compared to average global temperatures in the pre-industrial era (see methodology section).

Listed Companies

In 2019, the methodology used by the auditor to assess whether the portfolio was aligned with the 2°C goal used two indicators:

- The "2° Carbon Budget Ratio" indicator compares GHG emissions over the period 2010-2050 with their carbon budget. The indicator will show whether issuers will have emitted more or less than 2°C between 2010 and 2050.
- The "**Equivalent Warming Temperature**" converts the excess carbon emissions into an estimated temperature increase in 2100. The measure makes it possible to foresee performance compared with the 2°C or 1.5°C goals.

See the methodology section in the appendix for more details.

A carbon budget ratio much lower than the benchmark of 30 percentage points at 22%.

From 2010 to 2050, the carbon budget ratio of the Ircantec portfolio is 107%. This indicates that the sectors analysed may exceed the carbon budget by 7% for the same period (compared to 37% for the benchmark).

Some sectors in the Ircantec portfolio are aligned with the 2°C goal, such as the electricity-production sector and their OEMs, while others, such as the transport and automotive industries, are a long way off.

Carbon budget ratio by sector

	2019 Portfolio		2019 Benchmark	
	Weight in the portfolio	Carbon ratio budget	Weight in index	Carbon ratio budget
Automotive manufacturers	1.1%	144%	3.4%	142%
Cement	0.2%	120%	0.6%	121%
Electricity Utilities	4.7%	81%	3.9%	129%
Electrical Components & Equipment	1.3%	70%	1.2%	94%
Metals and Mining	0.2%	113%	0.2%	144%
Oil & Gas	1.7%	133%	6.0%	142%
Transport	1.8%	147%	2.1%	159%
Transport OEM	0.3%	142%	0.5%	145%
TOTAL	11%	107%	18%	137%

Generally, divestment of oil and gas interests, reduced from 4.4% to 1.7% of the portfolio, helped to reduce the carbon budget ratio. Other elements, however, have had a negative effect:

- The carbon budget ratio of the automotive sector has increased sharply. Application of new European emission test standards - the Worldwide Harmonized Light Vehicles Test Procedure (WLTP) - shows an average increase in CO_2 emissions per vehicle, which weakens the positive trend for vehicle carbon intensity and increases the sector's carbon ratio.
- Less investment in electricity utilities which have a low carbon budget ratio.
- Increases in the passenger transport sector where the aviation sector has a high carbon budget ratio.

Impact of green bonds on the carbon budget ratio

Analysis of information available found that green bonds had an average carbon budget ratio of 9% which significantly reduced the portfolio's carbon budget ratio.

	The weight of green bonds subjected to alignment measure	Carbon ratio budget	Comment
Electricity Utilities	8.2 %	7 %	Renewable energies
Oil & Gas	0.4 %	0 %	Renewable energies
Transport	0.2	92 %	Electric and hybrid vehicles
Total green bonds	8.8 %	9 %	

The carbon budget of the listed companies in the portfolio converts to a projected average temperature of 2.1°C by 2100, for a benchmark at 2.6°C. The deviation from the benchmark is slightly higher than in 2018 at 0.4°C. The temperature increases by 0.1°C for the benchmark, but is stable for the portfolio. Changes in method compared to 2018 (improved portfolio coverage, addition of three new sectors and changes in weighting methods) and incorporation of new sectors in the calculation make it difficult to compare with absolute values from 2018.

	Portfolio	Reference Index
Equivalent Heating Temperature (°C)	2.1	2.6

States: sovereign and equivalent assets

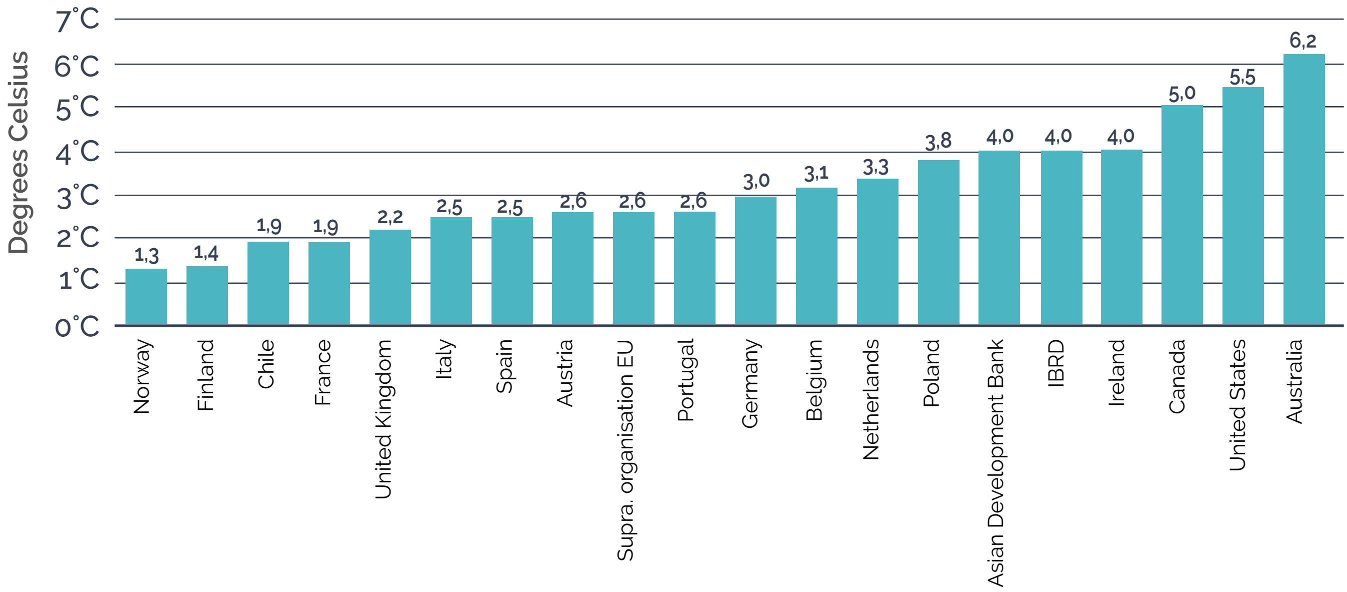
The sovereign portfolio is currently heading for 3.3°C, equivalent to the benchmark

The average temperature of the sovereign portfolio is the projected global temperature increase based on a country's long-term emission targets compared to budgets. In 2019, it was equivalent to the benchmark's temperature at 3.3°C.

These figures are largely due to the failure of some countries to meet their emission target to limit global warming to 2°C. Based on their current results (using 2019 estimated data), emissions in the countries concerned should fall by 66% (weighted average for the portfolio) by 2030.

France is set to reach 1.9°C, making a positive contribution to the portfolio goal. On the other hand, most of the other portfolio countries are above 2°C: United Kingdom (2.2°C), Italy (2.5°C), Spain (2.5°C), Germany (3.0°C), United States (5.5°C).

The projected global warming trajectory and benchmark by country in the portfolio



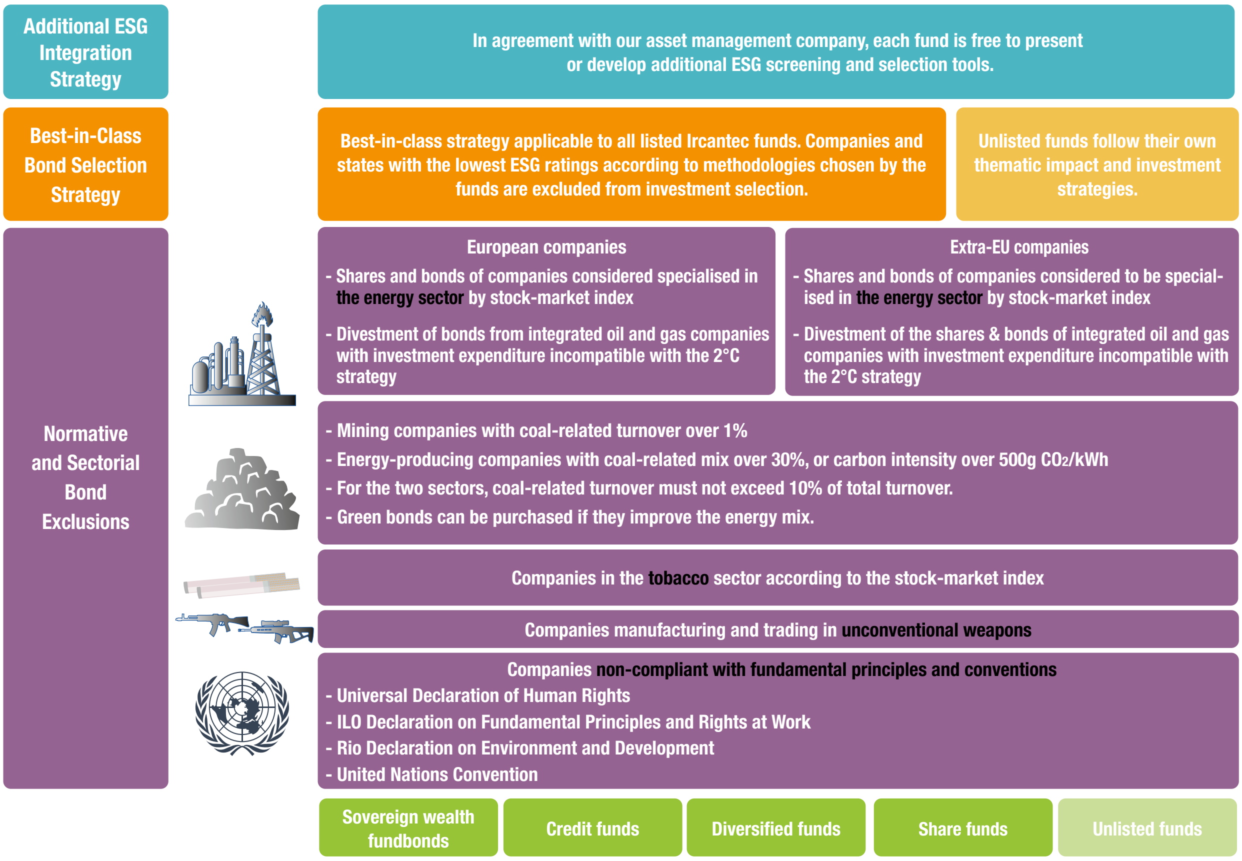
ESG Strategy

Strategy and context

The ESG criteria for Ircantec's investment policy is formalised in the SRI Charter which applies to all investments.

All Ircantec's assets are managed according to SRI principles.

By incorporating environmental, social, and governance criteria into investment decisions for all asset classes, Ircantec aims to understand the investment risks and opportunities to secure the reserve's long-term value. The ultimate aim being to serve an economy that preserves natural and human capital for current and future generations. Ircantec has a holistic approach that combines exclusion, selection of issuers incorporating externalities in their growth model, integration of environmental, social and governance issues, and investment priorities with positive impact.



ESG Assessment

Listed Companies

Ircantec's SRI principles are set out in its SRI Charter. The fund's asset management companies must incorporate the charter into their investment methodology and processes. Asset management companies report biannually to the financial management department about how they manage the funds entrusted to them, both for financial and extra-financial performance. Ircantec also assessed the listed elements of its consolidated portfolio biannually (shares and bonds except sovereign issuers) by an extra-financial rating agency, Vigeo Eiris. The ESG score of portfolio companies is based on the three areas chosen by Ircantec: environment and sustainable local development, human and social progress, exemplary governance, with particular attention on conflicts.

Methodology

Assessing conflicts

The Vigeo Eiris ranking of risk management for conflicts has five levels:

- Advanced
- Robust
- Limited
- Weak
- Warning List

Performance is assessed for conflict severity, conflict frequency and company responsiveness.

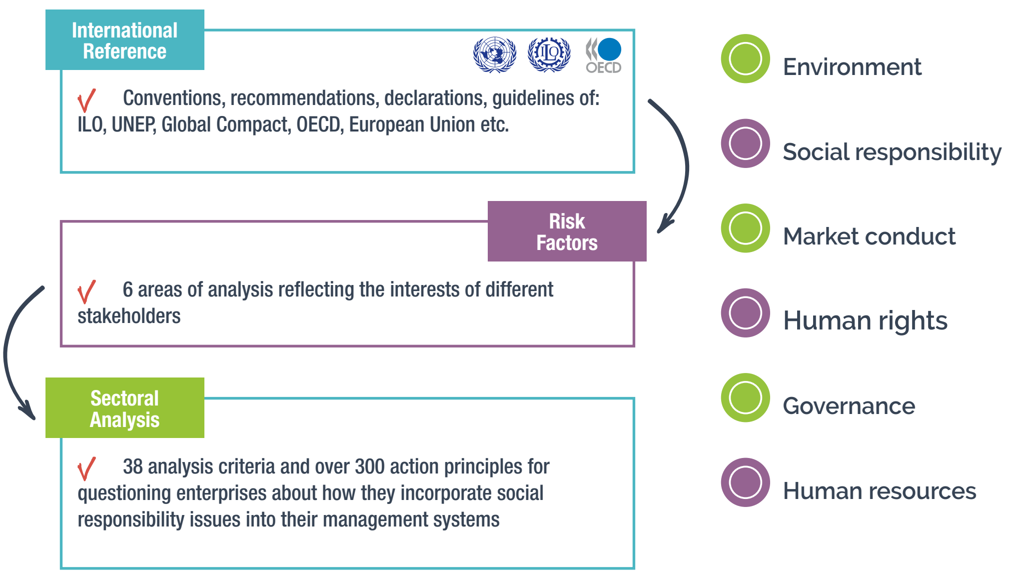
A company is included in the Warning List if it is involved in a critically severe conflict or has frequent or persistently high conflict severity due to lack of responsiveness.

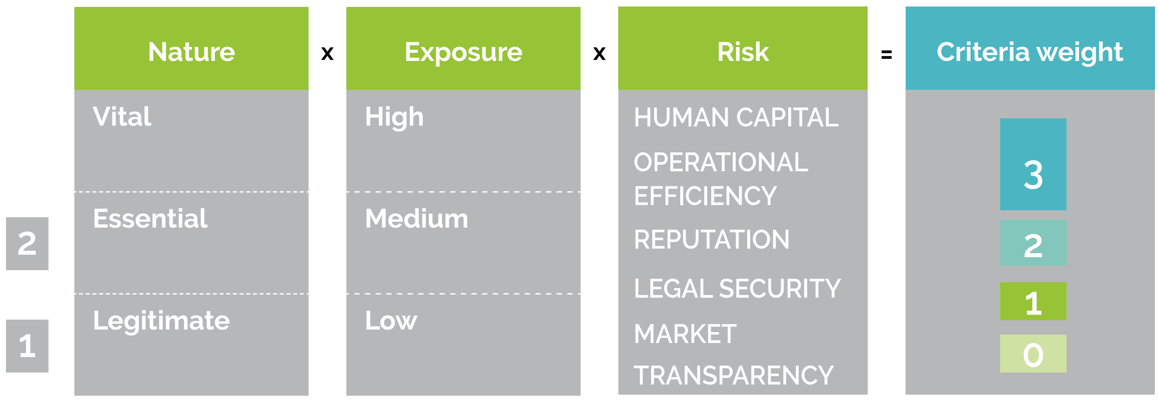
ESG Analysis

Companies are assessed in the three areas defined by Ircantec. They include several sustainability factors:

- Preserving the environment and sustainable local development
- Making Humanity a priority and promoting social progress.
- Practising exemplary governance.

These factors reflect international benchmarks, risk factors, and sectoral specificity.





Each company is rated on a scale of 0 to 100 to reflect their management's commitment to consider and report on sustainability issues (policies, deployment and results) from a risk-control perspective.

Scores are then weighted depending on the proportion of each company in the funds managed on behalf of Ircantec. This results is an average ESG rating for each portfolio, as well as an average rating for the overall consolidated portfolio.

Scores are equivalent to the following scale

0 - 29		Low performance
30 - 49		Limited performance
50 - 59		Robust performance
60 - 100		Advanced performance

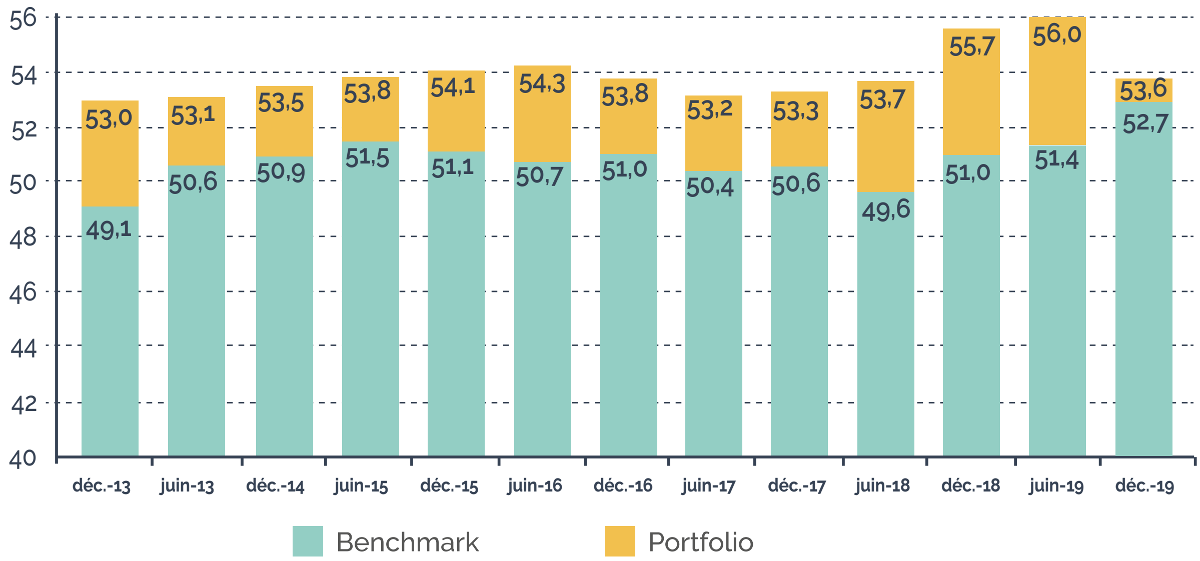
Result: the ESG score is decreasing.

The latest score for Ircantec's listed-company portfolio (December 2019) was 54/100, a two-point decrease compared with the previous report (June 2019). This decrease can be explained by:

- higher investment in low-performance securities: 5% at the end of 2019 compared to 2% in June 2019;
- less investment in high-performance securities: 38% at the end of 2019 compared to 47% in June 2019.

The portfolio's score decreased due to broader international diversification, with increase in US weight which typically has lower performance than European securities. Ircantec's total portfolio has been above the benchmark for five years.

Development of overall performance of the Ircantec portfolio and the benchmark



The scores are the following:

- 60 for Environment and Local Development
- 48 for Humanity and Social Progress
- 53 for Exemplary Governance

The result is particularly positive for the environment/local development criteria: 74% of investments are in companies rated as "Robust" to "Advanced". Companies with headquarters in Europe have much higher scores than companies based in North America, the Asia-Pacific or areas considered to be emerging markets.

"At Risk" Issuers

Two companies in Ircantec-managed funds were considered "at risk" in December 2019. Their management of conflicts is weak and they have low or insufficient ESG performance. These companies differ from one semester to another. Ircantec's financial management department ensures that issuers considered "at risk" by the extra-financial rating agency are closely monitored by the asset management companies responsible for them.

States: sovereign and equivalent assets

Methodology

For Ircantec's sovereign bond portfolio, the assessment is based on the 17 Sustainable Development Goals adopted by UN member states in 2015.

Like the company portfolio, analysis is based on three themes:

- Preservation of the environment
- Social progress
- Exemplary governance

These three areas are analysed using 116 indicators of either engagement or outcome. When the sovereign matrix was recently revised, several indicators were adjusted. Others were added, such as environmental taxation, union density, parity in national parliaments, fiscal transparency, renewable freshwater resources, ratification of the Paris Agreement, production of electricity using fossil fuels and proportion of overweight and obese population.

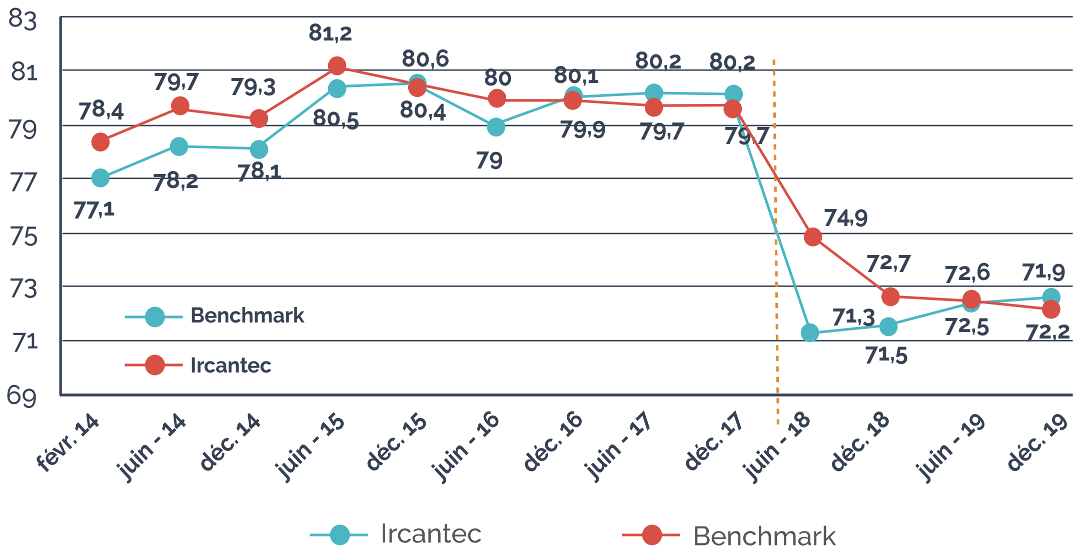
Results: performance drops compared to the benchmark

The overall score of the sovereign portfolio is 71.9/100: 2.7 points lower than the benchmark: 74.6/100. The portfolio is underperforming compared to the benchmark in all three themes.

Average scores by theme				
	Average score	Max. Score	Min. Score	Standard deviation
Preservation of the environment	67.0	81	49	11
Social progress	70.8	86	63	5
Exemplary governance	77.9	92	66	8
Overall rating	71.9	84	61	7

13 countries are represented in the Ircantec portfolio. The most weighted countries have particularly high ESG ratings (79 for France, 82 for Germany, 74 for Spain, and 73 for Italy). The United States is the exception, with the highest weight and a score of 61.

Development of Ircantec's sovereign portfolio score and it's benchmark



Thematic and impact investments

For Ircantec, humanity and social progress are top priorities. Particular attention is given to employment and decent work conditions throughout the supply and value-creation chain; decent living conditions, particularly for access to housing and gender equality, through investments, the voting policy, and shareholder and institutional engagement policy.

Supporting regional employment and growth

Through thematic and impact funding, Ircantec aims to strengthen and consolidate its societal commitment by promoting regional development and innovative enterprises that contribute to growth that generates activity and jobs.

1.25% of Ircantec's reserves are allocated to French and/or European SME/ETIs strongly committed to ESG, via private equity and debt financing to protect and create jobs in France. Priority is given to French companies with turnover of less than €500M for debt, and turnover of less than €250M for capital investment. Investments are made through a dedicated fund managed by Access Capital Partners. At 31 December 2019, €33.2M i.e. 31% of the commitment. Ircantec intends to increase this investment in the future. Complementary funds ensure diversification of the allocation and exposure to complementary underlying assets: Meeschaert Capital Partners, Alter Equity 3P, Omnes Growth 4, Alter Equity 3P II and *Paris Fonds Vert*.

Overall, Ircantec has committed up to €157.6M to financing SME/ETIs. At 31 December 2019, €33.2M was invested, a commitment of 37.5%.

Ircantec is also invested in two social and solidarity economy funds. €5M has been invested in the NovESS fund, launched by the *Caisse des Dépôts*, as well as €5M in the Amundi Finance and Solidarity fund.

Finally, Ircantec provides financial support through two funds to local actors with projects that boost the local economy and promote growth:

- a support fund for local tourism (*Tourisme Social Investissement - TSI*): Ircantec has committed to invest €22.5M. The aim is to support social tourism operators wanting to renovate and/or reconfigure their facilities to maintain a high volume of accommodation to promote local development and access to holidays for all;
- a fund of disintermediated loans to finance local authorities with over 10,000 residents (Arkea-Tikehau fund), subject to ESG monitoring. The fund was established in 2012, at a time when the banking sector was withdrawing from local government funding. This fund is fully invested with a maximum commitment of €14.7M.

Support for inclusive and unified growth

Ircantec invests in responsible real estate. Villiers Immobilier collective housing is in line with Ircantec's social policy with four priorities that were renewed in 2019: affordable housing, social tourism, student housing, healthcare facilities and nursing homes. Ircantec is particularly committed to maintaining existing real estate as part of a sustainable development approach, and improving the environmental quality of buildings and the quality of life for tenants. Ircantec also promotes intergenerational solidarity and accessibility for all.

Ircantec has also invested €30.4M in two life-annuity funds (Certivia and Certivia 2) to provide a solution to the structural decline in the incomes of the elderly and improve their lifestyle. Life-annuity solutions enable elderly people to stay in their homes while providing them with additional income.

Focus: collective real estate

The SRI policy of the fund, applied by Ircantec and the asset management company, has three levels:

→ An **asset allocation strategy that incorporates social utility**;

→ **Selection of assets** based on their SRI contribution. The SRI contribution is assessed based on environment qualities: such as presence of quality labels and environmental auditing, and the potential for asset improvement, particularly for better energy consumption;

→ Application of **a management strategy** to improve the SRI quality of assets.

Management uses a specific ESG reference document to evaluate its SRI actions. This reference was developed with Ethifinance, a specialist extra-financial agency. The reference is used as an analysis tool in both the acquisition phase and the operational phase to pilot and monitor the SRI strategy. It differs depending on asset categories (health, social tourism, students, etc.) and uses a range of tools such as software developed by Deepki to evaluate GHG levels. Our ESG reports provide very concrete data for each asset: ESG assessment, SWOT analysis, action plans in progress (such as installation of water-saving systems in hotel bathrooms), awareness of promoters and tenants, etc.).

Environment	Consumption of natural resources	Energy Water
	Contribution to global warming and waste management	CO_2 emissions Selective sorting
	Labelling	BREEAM, HQE, LEED, H&E, BBC, DGNB, HPE, THPE etc.
Social	Health and Safety	Air Quality Lift Compliance Number of work accidents during maintenance
	Comfort and ease of use	Building environment (services and transport) Tenant satisfaction Accessibility for people with a disability
	Social responsibility	CSR commitments*, sustainable development, tenant diversity Control of nuisances during technical work
Governance	Commitments and ESG risk management	...by the former owner (in existing acquisitions) ...by the property manager ...by the maintainer ...by the contracting authority and site manager if necessary
	Participatory management	Raising awareness amongst tenants about the SRI plan

*CSR: Corporate Social Responsibility

Source: Swiss Life Reim

Votes and Engagement

Votes

Being an active shareholder encourages companies to show greater transparency, to adopt better governance practices, and to consider social and environmental impact. With the voting policy adopted in 2013, Ircantec decided to commit to more independent and female representation on Boards, to support energy and ecological transition, to practice tolerable levels of remuneration for leaders and responsible dividends, and to practise transparency for accounts and tax responsibility.

Voting rights for securities owned by Ircantec are exercised by the asset management companies in accordance with Ircantec's voting policy and rules. It is part of their mandate and stipulates that "from the start of the mandate, voting rights linked to financial instruments for investment must be exercised in Ircantec's sole interests."

Asset management companies exercise voting rights for the securities owned by Ircantec for shares in the portfolio.

Application of voting rules allows Ircantec to process all decisions and to show its approval or opposition depending on the company's position on each of the priority themes.

Since 2015, with the help of an external agency, Ircantec has also put in place specific monitoring of 30 companies in its portfolio, known as the Focus List. Each resolution proposed at the general meetings of these 30 companies is organised individually to ensure uniform and consistent application of voting rules.

Votes particularly active in favour of the climate and energy and ecological transition

Since 2018, Ircantec has sharpened its focus on support for energy and ecological transition:

- The list of 30 companies has been amended to include Ircantec's 20 largest holdings, as well as the five largest CO_2 issuers and the five largest holders of stranded assets;
- Analysis of the energy and ecological transition strategy of 14 high-stake securities was carried out by the voting consultancy and asset management companies prior to general meetings.

Six of the fourteen monitored companies were considered to have positive energy and ecological transition strategies. Strategies for seven of them were not sufficiently developed. One was judged neutral.

Ircantec sent a letter to each of these companies explaining why their energy and ecological transition strategy was considered insufficient. Lack of ambition regarding greenhouse gas emission targets, continued increase in emissions in the past, or a lack of information about how carbon-intensity reduction targets were calculated were the reason for a negative result. The main purpose of this approach is to recommend companies to undertake current and future analysis about the issues.

In 2019, the energy and ecological transition contribution of these 14 Focus List companies was measured against 148 resolutions. 47 of them received negative votes:

- social accounts were not approved when the energy and ecological transition strategy was insufficient;
- dividend payments were rejected when investments for energy and ecological transition and R&D were insufficient;
- some resolutions about executive remuneration were rejected when variable remuneration was not based on ESG criteria and indicators;
- some resolutions about re-election of leaders were not approved when the energy and ecological transition strategy was considered insufficient.

For Ircantec, exercising voting rights motivated by energy and ecological transition at corporate general meetings is another way to contribute to SDG 7 and SDG 9. Lack of support for energy and environmental transition explains the steep increase in negative votes for dividend distribution: from 8% in 2018 to 18% in 2019. Generally, the opposition rate continues to increase for companies in the Focus List: 54% in 2019 compared to 53.2% in 2018, with 526 resolutions put to the vote.

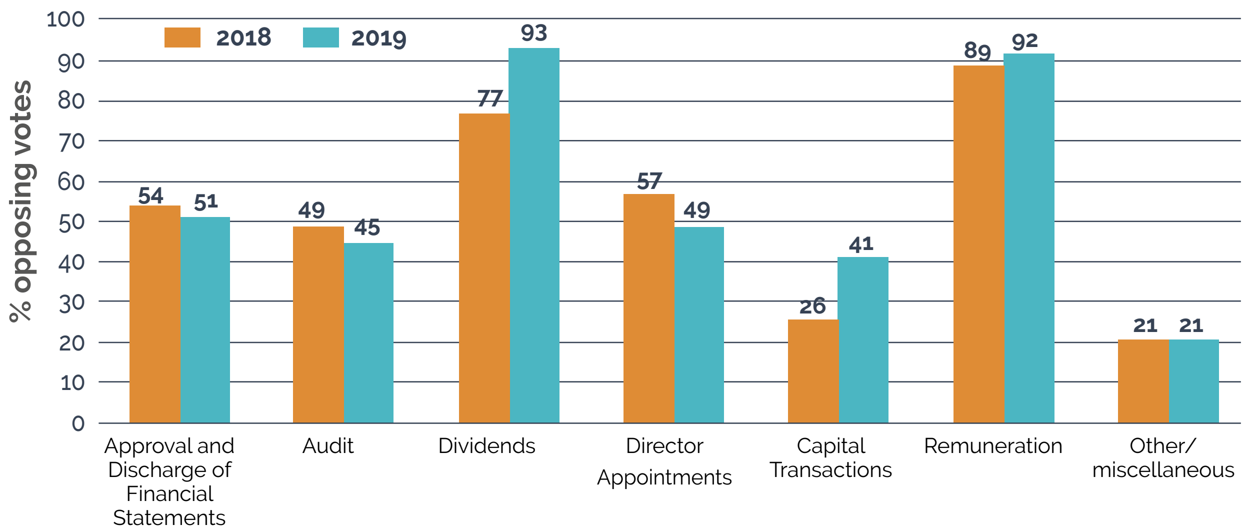
Engaging in more fair remuneration

Ircantec also aims to reduce the remuneration of executives of large listed companies to a maximum limit that is socially tolerable. In 2019, Ircantec opposed 93% of dividend allocation resolutions: 43% of the negative votes were due to negative social cohesion[7]. The opposition rate is 92% for executive remuneration resolutions, 29% of which were rejected because they were socially intolerable.

Furthermore, Ircantec opposed 41% of resolutions for capital transactions, compared to 26% the previous year. 64% were votes against share buybacks.

In some cases, buying back shares can be considered as indirect remuneration for shareholders and directors through the mechanical increase in the value of the share, and hence increases in future dividends. Resolutions deemed excessive for shareholder remuneration in comparison with average wages or company investments were opposed. The purpose of the vote is to encourage leaders to maintain and develop their assets and related jobs.

Focus List: development of the opposition rate between 2018 and 2019



Voting records are published annually and posted on Ircantec's website[8].

7 *Social cohesion supervision: in this case, dividend developments over the last three years deviate significantly from average employee remuneration.*

8 *https://www.ircantec.retraites.fr/actualite/bilan-2018-votes-en-assemblees-generales*

Commitments

In 2017, Ircantec formalised its commitments in a document, validated by the Board of Trustees on 27 September. It focuses on three main themes:

- Human Rights in Business,
- Fair Ecological and Energy Transition,
- Corporate Tax Responsibility[9].

The public document describing the overall commitment strategy is intended to be long-term, whereas commitment periods can vary from two to three years.

The following priorities were identified for 2017-2019:

- Extensive protection of trade union rights,
- Assisting employees in sectors impacted by energy and ecological transition,
- Fiscal balance of companies in France.

Many actions are being carried out collectively by investor coalitions for greater leverage with companies. The PRI has established a dedicated platform that is the most cross-cutting and collaborative place to carry out far-reaching actions. The average PRI commitment cycle spans two to three years.

Fair Energy and Ecological Transition

The *Climate Change Transition for Oil and Gas* group intends to challenge 39 oil and gas companies to assess their exposure to climate risks and implement TCFD recommendations with actions to adapt to climate regulations and to structure their future investments.

Ircantec is co-leader in the exchange with Total, a major French company in the industry. The PRI's commitment is linked to the Climate Action 100+ initiative, which aims to question the world's 100 most greenhouse-gas-emitting companies about their governance and strategy for climate risks and opportunities. It also takes into account the social impact of ecological and energy transition.

Ircantec also participates in the design and development of the initiative as member of the steering committee. Ircantec has also signed the *Global Investor statement to Governments about Climate Change* declaration, which calls on governments, among other entities, to reiterate their willingness to pursue Paris Agreement objectives and to direct private investment toward low-carbon transition. Ircantec has also joined the *Assessing Low Carbon Transition* (ACT) initiative launched by the Carbon Disclosure Project (CDP) and ADEME and signed the commitment charter which aims to encourage companies to take action for climate strategy, business models, products and services, investments, operations, GHG emission reductions and management.

In 2018, Ircantec led the collaborative engagement with Total to address the different topics, working with two research centres: *Carbon Tracker* (link between investment spending and carbon budget) and *the Transition Pathway Initiative* (company's maturity for climate issues).

In May 2019, Ircantec pursued its commitment with a collaborative exchange about the allocation of investment spending and the weight of ENRs (renewable energy); the inclusion of an emission-reduction indicator in the variable part of CEO remuneration; the relevance of the reduction/challenge objectives for integration of scope 3 and intermediate targets; the relationship between emission targets and 2°C alignment scenarios; and continued tar-sand projects.

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

Finally, fair transition based on social cohesion and employee support is an important theme for Ircantec. The fund has also reinforced its action by signing the "Statement of Investor Commitment to Support a Fair Transition on Climate Change." In this declaration, investors undertake to incorporate the social impact of their climate-related investment decisions. As part of this action, Ircantec has initiated dialogue with a company and participated in conferences to share best practices for fair transition. The fund has also co-led a working group in France about fair transition. The results were presented at the annual PRI in Person conference in Paris.

Finally, with the Quebec solidarity fund (FTQ), Ircantec co-chairs an international task force for fair transition launched by the PRI in September 2019. The group works to highlight tools and guidelines for operational integration of fair transition by investors.

Human Rights in Business

Humanity and social progress are amongst Ircantec's main priorities. Ircantec pays particular attention to employment and decent work conditions throughout the supply chain in a context where the globalisation of markets has generated companies with considerable impact on the prevention and management of human rights violations, both natural and civil.

As a result, Ircantec has signed two declarations aimed at combating modern slavery: all exploitation practices through labour that endanger dignity and human rights including forced labour, deprivation of liberty, and dehumanisation.

Canada's "Investor Statement on Supply Chain Modern Slavery" which gathered 129 investors and nearly $300 billion in managed assets, called on the Canadian government to adopt legislation against modern slavery in the supply chain. As the 6th largest importer of goods and services in the world, Canada does not yet have such legislation.

Furthermore, investors including Ircantec mobilised to implement the "Modern Slavery Act" voted in 2015 by the British Parliament. The act requires certain companies to publish an annual report summarising actions taken to limit modern slavery in their production lines. Under the auspices of the British Anti-Slavery Commissioner, the coalition of investors, representing £817 billion in managed assets, sent a letter to the six FTSE companies (100 largest UK capitalisations) not yet complying with the legislation. Three responded favourably and announced that the transparency report was underway.

Ircantec joined a commitment group led by Know the Chain, a partnership between NGOs, study centres and extra-financial auditors, that produces benchmarks for the respect of human rights in companies subcontracted by market leaders.

The current commitment phase (2018-2019) concerns the textile and footwear industry. Ircantec is working with LVMH, which has a low score of 14/100. In April 2019, Ircantec contacted LVMH to point out major human rights deficiencies in its supply chain: lack of detail and transparency for first-tier subcontractors, practices of recruitment agencies, training for decision-makers about forced labour, more transparent audits. This exchange resulted in recommendations made to LVMH and continued dialogue.

As part of its commitment to the *Investor Alliance for Human Rights (IAHR)*, Ircantec signed several statements regarding these issues in 2019.

➡ February 2019: "Make finance work for people and planet"

As part of the European Commission's Action Plan for Financing Sustainable Growth, legislation was proposed regarding communication about sustainable investment, including the integration of ESG criteria into risk management processes. According to the IAHR, the proposal is insufficient. A statement was made inviting commission members to demand that investors implement, without exception, due diligence throughout the value chain.

➡ August 2019: Amendments to the draft of the 4th version of the Equator Principles

The IAHR considers the EP4 (Ecuador Principles) project, published in June 2019 for consultation, to be misaligned with certain international principles, including the United Nations Guiding Principles on Human Rights and business and the United Nations Declaration on the Rights of Indigenous Peoples. The Alliance presented recommendations to the Ecuador Principles Association for amendments. Investor members of the Alliance were invited to sign these proposals.

➡ September 2019: "Investor Case for Mandatory Human Rights Due Diligence" statement

The IAHR, supported by signatory investors, calls on governments to implement and enforce mandatory human rights due diligence for all companies based or operating under their jurisdiction, or to strengthen existing regulations. In addition to achieving better economic performance for companies, due to better risk management, investors would improve how they integrate human rights in responsible investment decisions.

Corporate Tax Responsibility

Ircantec also participates in other projects. During 2018, Ircantec signed the investor declaration

In a globalised world, where multinational companies must arbitrate with different fiscal strategies and incentives from country to country, tax responsibility promotes payment of taxes where value is created. The objective is to ensure companies contribute to the community and government budgets where they conduct their activities. The PRI launched a tax responsibility program in 2015 with the creation of a task force and commitment group which includes Ircantec. This commitment group which unites 35 investors and US$2,600 billion of managed assets targets 46 companies in the health and communication services sectors. The objective is to learn more about internal tax operations to promote better tax transparency, governance and risk management in this area. Ircantec is co-leader for exchange with two companies, and communication was established very quickly. Ircantec has also committed to tax responsibility for CAC 40 companies through the FIR[10]. At the outset, the aim of the FIR initiative, with strong participation from Ircantec, was to assess the maturity of tax responsibility strategies. A campaign was then launched about tax practices of the CAC 40 companies to generate exchange with French multinationals about tax responsibility. The objective is to encourage companies to address the tax issue as a fully-fledged theme of their sustainable development policy, and not only for regulatory and administrative compliance.

FIR consultation provided an overview of how tax responsibility was perceived and practiced by CAC 40 groups in 2019. The FIR has advocated several changes in the tax practices of CAC 40 companies which will help companies to develop their roadmaps for sustainable development policy.

about exclusion of manufacturers of unconventional weapons from standard indices proposed by index providers. Initiated by Swiss Sustainable Finance, the declaration united 141 investors and US$6,800 billion. The goal is to encourage index providers (FTSE Russel, Morningstar, MSCI, S&P Dow Jones Indexes, STOXX) to propose investment products that exclude manufacturers of unconventional weapons by default. As a result, investors with passive management - which is not the case for Ircantec - would stop indirectly supporting such companies.

Ircantec has also signed the French Public Investors' Charter for Sustainable Development Goals. Via five principles, signatories are broadly committed to the SDGs through their investment strategies, internal processes, and communication of best practices.

10 FIR: Forum pour l'Investissement Responsible

Charter of French public investors in favour of Sustainable Development Goals (SDGs)

Principle no.1: Incorporate SDGs in investment decisions.

French public investors (IPF) integrate their contribution to the SDGs in their investment strategy, focusing on priority SDGs, and integrating the SDGs in their responsible investor approach.

Principle no.2: Ensure internal operations are consistent with SDGs.

French public investors adopt internal operating principles consistent with the SDGs. Through their practices, they aim to reduce their environmental impact and generate positive social impacts through a responsible approach.

Principle no.3: Disseminate best practices

French public investors help to disseminate best SDG practices to their staff, peers, and through extensive exchange with companies, financial institutions and other stakeholders.

Principle no.4: Appreciate the impact of their activities on the SDGs.

French public investors commit to engaging the companies, funds, and local governments they invest in, in their contribution to the SDGs.

Principle no.5: Report about how these principles are applied.

French public investors report about the application of the principles and results achieved through appropriate public documentation.

Commitment by Asset Management Companies

The staff and programmes of management companies are increasingly committed. Management agreements signed with the most recently created funds (Europe and OECD ex-Europe) require that companies that have made the commitment during the year to include themes addressed, results achieved and expected results in their annual reporting.

Three management companies have recognised expertise and seniority, with relevant strategies and annual commitment reports: Phitrust, Mirova and Robeco.

Development of institutional commitment initiatives

Principles for Responsible Investment (PRI)

As signatory, Ircantec has been assigned an important role: to appoint a female administrator for the PRI investors college. Ircantec is also on the French-speaking advisory committee which aims to promote responsible investment in French-speaking countries and to promote actions carried out by French-speaking PRI members. Ircantec is also member of the ESGE Committee (ESG commitment) which supports the development of commitment and promotes best practices.

Forum pour Investissement Responsable (FIR)

Ircantec also elected members of the FIR Board and acts on the fund's commitment by participating in FIR working groups and commissions:

- FIR *Dialogue & Engagement Commission*: actions to engage companies on specific topics (e.g. taxation in 2019).
- FIR *Research Commission*: strengthening the link between SRI practitioners and academics for finance and sustainable development research, particularly with the ESG/Asset-Liability Management Working Group.
- Article 173 Working Group (planned): to supervise changes in the stock market and best practices.

- Working Group for Impact Measurement (planned).
- Social Disclosure Working Group: reflection about the emergence, harmonisation and good use of social data for companies and funds.
- Working Group on Human Rights and Poverty: reflection about more consideration of these topics in shareholder dialogue.

Climate Action 100+

Climate Action 100+ (CA 100+) is an international initiative led by five international groupings (PRI, Ceres, AIGCC, IGCC and IIGCC) and five investors (Manulife I, Calpers, HSBC AM, Australian Super and Ircantec). Over 400 investors worldwide, representing nearly US$40 Trillion managed assets pledged to initiate exchange with at least one of the 160 companies identified as the most greenhouse-gas-emitting companies.

Ircantec participates in CA100+ actions as a member of the supervisory committee and various working groups. CA100+ is considered as one of the most emblematic of its time, and was one of the 12 engagements to be tracked at President Emmanuel Macron's Climate Summit.

SBT Group – Financial Sector

WWF France has formed a group of financial institutions: French SBT4Finance Peer-review Leadership Club (SBT4F plc.). The purpose of this group is to inform and respond to work undertaken by the Science Based Targets Initiative, a group of experts assigned to propose a methodology that will enable financial institutions to set credible targets for reducing their GHG emissions in accordance with the Paris Agreement. The working group delivered its recommendations during summer 2019.

ACT– Assessing Low Carbon Transition

An ADEME and CDP ACT initiative, ACT aims to contribute to the implementation of ambitious and credible low-carbon trajectories. The methodology is based on a holistic analysis of the company including climate strategy, business model, products and services, investments, research and development and management.

Methodologies have already been developed for the electrical, automotive and retail sectors. Consultation for the construction and real estate sectors has been finalised. Methodologies for the oil and gas, cement and transport sectors are being developed. The objective is to have methodologies for all non-financial sectors by 2021.

Ircantec signed the ACT initiative in November 2018 and committed to encouraging companies and managers they work with to use the methodology. More broadly, Ircantec is committed to promoting the initiative. To that end, Ircantec organised a presentation of ACT for the Climate Action 100+ supervisory committee so the methodology would be listed for potential partners in CA100+ phase 2. Ircantec presented the methodology as part of their commitment with Engie.

Appendix

Climate methodology

Ircantec works with I Care & Consult, a strategy and environment consultancy, selected by tender, to assess the exposure of the fund's investment portfolio to climate risks and opportunities. The consultancy specialises in the development of indicators for contribution to energy transition and physical risk analysis. To complete the assignment that began with evaluation of the 2017 portfolio, I Care & Consult worked with Grizzly RI, research and analysis experts in carbon analysis of portfolios (shares and bonds) and companies, and Beyond Ratings, a macro-financial risk services company specialised in country and sovereign risks.

Grizzly RI has since been acquired by Beyond Ratings, and in 2019, Beyond Ratings was acquired by the LSE Group London Stock Exchange to add extra-financial services to its existing services: FTSE and Russell Index.

Given that stock-exchange standards have not yet been defined, it is important to note that comparisons between portfolio carbon footprints is not always possible:

- different scopes and types of assets;
- different calculation and evaluation methodology;
- carbon emissions double counted, or not, depending on the methodology;
- different denominators used for calculating the indicators which can bias results.

Ircantec has been working with a different consultancy since 2017 and given the changes to analytical methodologies and perimeters, measurements of the fund's portfolio for different years are not necessarily comparable.

Data Security:

The group comprising I Care & Consult, Grizzly RI and Beyond Ratings depend on international organisations such as the International Energy Agency to obtain different climate scenarios and NGOs such as Science Based Targets Initiative and Sectoral Decarbonization Approach (SDA) for information about sectoral differences for compatible 2°C trajectories. For companies, raw data is found in information published by issuers and publicly available: annual reports, data collected by major operators such as CDP, Bloomberg and Thomson Reuters. For states and agencies, raw data sources are a combination of public and private databases, as well as sources from companies, international organisations and non-profit organisations such as: Enerdata, WRI, Eora MRIO database, IMF, FAO, United Nations, etc.

GHG Scope:

For this analysis, GHG emissions in Scope 1, 2 and 3 (downstream Scope 3 only for the automotive sector) were analysed.

Scope 1: Direct emissions

Scope 1 emissions are greenhouse gas emissions directly related to the company's activity.

Scope 2: Emissions indirectly related mainly to energy consumption

Scope 2 emissions are greenhouse gas emissions due to indirect energy consumption for the company's activity, such as electricity.

Scope 3 upstream: other indirect emissions

Scope 3 upstream emissions are all other greenhouse gas emissions that are not directly emitted by the company, but upstream of their activity: material extraction, supply, transport, etc.

Scope 3 downstream: other indirect emissions

Scope 3 downstream emissions are all other greenhouse gas emissions that are not directly emitted by the company, but downstream of their activity: product usage, end of life, etc.

Methodology and Indicators by Asset Class in 2019

Listed Company share and bond allocation:

The result of the portfolio for GHG emissions in Scope 1, 2 and 3 (Scope 3 downstream only for the automotive sector) is 88% for a value of €6,836M.

The portfolio was compared with the provided benchmark which is also used for financial management of Ircantec's overall portfolio.

Carbon Footprint

Data is reported or estimated when necessary, using different methods (regression + linear and non-linear interpolation). The portfolio weight was constant until 2009.

Ircantec has chosen to measure its carbon footprint in absolute terms (total absolute emissions expressed in thousands of euros) as well as in terms of carbon performance per million euros of turnover. Turnover carbon intensity is the best measure of a company's operational performance for CO_2 emissions, particularly because it is a cross-sectional measure that can be used for all sectors, making comparison possible. However, if a company's activities change, comparison is no longer reliable.

- **Weighted carbon intensity**: weighted carbon intensity is the total emission ratios (Scope 1+2+3) over turnover, weighted by the weight of each company in the portfolio.

$$\sum_{n}^{i}\left(\frac{\text{actualised investment value}_i}{\text{actualised portfolio value}}\right) * \left(\frac{\text{Issuer GHG}_i}{\text{Issuer Revenue (MUSD)}_i}\right)$$

- **Total carbon emissions**: total carbon emissions are all carbon emissions (Scope 1+2+3) allocated to portfolio investments or the benchmark. They are calculated as the emissions allocated to each company, i.e. the proportion of the emissions that were financed by the value invested in a company relative to the value (VE) of the company.

$$\sum_{n}^{i}\left(\frac{\text{present value of investment}_i}{\text{issuing company value}_i}\right) * \text{Issuer GHG}_i$$

- **Carbon emissions by total amount invested**: carbon emissions per €M invested are calculated on the basis of the ratio of total carbon emissions to total amount invested.

$$\frac{\sum_{n}^{i}\left(\frac{\text{actualised investment value}_i}{\text{issuing company value}_i}\right) * \text{Issuer GHG}_i}{\text{total invested value}}$$

Contribution to Energy and Climate Transition

Due to the current state of reflections and calculation methods, pertinent analysis across sectors is not possible. For 2019, this analysis was carried out on more sectors compared to the previous year: electricity producers, electrical equipment manufacturers, automotive manufacturers, transport, transport equipment manufacturers, cement, construction components, mining and metals, oil and gas, real estate, food, drinks and tobacco, chemicals and industrial conglomerates.

◆ **Green share**: revenue from issuers with green activity as defined by the EU's Green Taxonomy. The methodology is specific to each sector. Limit: this indicator identifies a number of key technologies for energy and ecological transition but it has technological biases and does not assess the issuer's climate performance.

◆ **Ecological footprint**: the Net Environmental Contribution (NEC) methodology was selected to assess issuer performance. This methodology, initiated by Sycomore AM and co-developed with I Care & Consult, Quantis and BP2S, assesses where the issuer's overall environmental performance lies between the industry average and the best performance currently available, on a scale from –100% to 100%. 100% = environmental performance equal to green activities as defined by the TEEC label. 0% = average sectoral environmental performance.

2°C Alignment

The development of 2°C alignment indicators are even more important than other indicators for the future. The method developed for the 2019 analysis uses the SB2A method with two indicators: "carbon budget ratio" which measures whether the sum of past and future emissions is in line with the GHG emission trajectories needed to reach the 2°C global warming limit, and the "equivalent temperature" indicator that translates the carbon budget ratio into equivalent warming temperature. Note that this method requires improvement to become more pertinent and robust in the future. The main reference used is the Sector Decarbonation Approach (SDA) which proposes 2°C trajectories between 2010 and 2050, including absolute levels of carbon intensity targets for 2050 (tCO_2/ activity unit) as well as annual rates of carbon intensity (annual %).

Two indicators from this reference for 2°C alignment are proposed:

◆ **A "carbon budget ratio 2°C" indicator** for assessing a company's GHG emissions and carbon budget for the period from 2010 to 2050. This measures whether the issuers will have issued more or less than a 2°C scenario between 2010 and 2050.

◆ The "**equivalent warming temperature**" indicator measures real activity vs. the carbon budget in terms of temperature increase in 2100. This makes it possible to position an issuer's performance relative to 2°C or 1.5°C targets.

Sovereign Bonds:

Carbon Footprint

Total GHG emissions (domestic + imported)/GDP covering:

◆ Strictly domestic emissions: emissions related to the domestic production of goods and produced and consumed in the country (domestic consumption).

- Exported domestic emissions: emissions in the country for the production of exported goods and services.

- Imported emissions: emissions in another country related to the production of goods and services imported into the country.

Emissions are greenhouse gas emissions and not just CO_2. They account not only for emissions related to energy consumption but also for all non-energy emissions, such as GHGs related to land-use changes and deforestation. This analysis (geographic and across all issuers) is biased by double counting with the carbon footprint of company shares and bonds. However, from a risk perspective, it helps to asses a country's exposure to GHG emissions.

Climate-related Risks.

- **Physical Risks**: the Beyond Ratings internal methodology is based on three main indicators: physical climate risks, economic climate risks and mitigation factors. Both risks are rated from 0% to 100%, while mitigation factors have a negative or positive impact on risk scores. Final scores are converted into percentiles for clarity.

- **Transition Risks (exposure to *stranded assets*)**: exposure to this type of risk is based on an analysis of domestic fossil reserves. This concerns coal, oil and gas.

Contribution to Energy and Climate Transition

- **Green and Brown shares**: low-carbon energy and fossil energy shares in primary energy consumption respectively.

- **Ecological Production Footprint**: area necessary to ensure a country's production, based on the footprint of all resources collected and waste generated domestically. This is the area required for the collection of raw materials (cropland, pasture, forests and fishing areas), for built land (roads, factories, cities), and for the absorption of all CO_2 emitted in the country. The footprint is calculated in global hectares per capita. For sovereign assets, a country's ecological footprint can be compared to global biocapacity: the number of global hectares available to produce renewable resources and absorb CO_2 emissions generated by one year of consumption. If the per capita footprint is greater than the per capita biocapacity, it is an ecological deficit.

2°C Alignment

Beyond Ratings has developed a method for calculating the scale of GHG-emission budgets consistent with global low-carbon trajectories using the "*Sector Decarbonation Approach"* (SDA) method. The CLAIM method (Carbon Liabilities Assessment Integrated Methodology) is used to estimate the distribution of global GHG budgets corresponding to an average global temperature increase of 2.0°C to 1.5°C.

Beyond Ratings, by extension, estimates the average global temperature rise that implicitly corresponds to each of the national commitments made under the nationally determined contribution (NDC): national contribution established as part of the 2015 Paris Conference on Climate Change.

Real estate assets (TSI real estate and life-annuity portfolio).

Carbon Footprint

Scope 1 and 2 are emissions related to the use of assets (energy consumption). Scope 3 upstream includes emissions related to property construction. I Care & Consult's modelling method is unrivalled, as emissions from these assets are not postponed or too heterogeneous: when available, actual energy consumption is used, or deducted from energy performance diagnostics or simplified modelling using a number of operational characters. To do so, an I Care tool is used to compare carbon emissions of each asset with the national average for the type of asset.

Absolute GHG emissions are taken into account on a pro-rata basis % of Ircantec's assets.

Green Share

In the absence of a standard definition, a restrictive definition was adopted. It is based on means: assets with good environmental rating – only "advanced" and "net zero energy" are selected, or recently renovated assets (after 2005), or low-carbon construction options such as wood. It can be expanded by taking outcome into account, with GHG emissions/m² below the national average for the segment.

Infrastructures

Green Share:

Due to limited availability of data, only the green share is calculated for these assets. The chosen methodology classifies all the assets in the "renewable energies" and "green buildings" sectors as green. Telecom and construction assets (not green) are not counted in the green share of the portfolio.

Table of correspondence with Article 173 and TCFD recommendations

TCFD RECOMMENDATIONS		ENERGY TRANSITION FOR GREEN GROWTH ACT - ARTICLE 173		REPORTING
Governance			**No alignment between article 173 and TCFD recommendations**	
a)	Describe how the Board of Trustees oversees the climate change-related risks and opportunities			p.13 - 15
b)	Describe management's role in assessing and managing			p.13 - 15
Strategy			**Alignment between article 173 and TCFD recommendations**	
a)	Describe short-, medium- and long- term risks and opportunities identified by the company	2.a.2	Description of the ESG risks for investments and exposure of the business to these risks	p.18 - 31 p.43 - 45
		2.b.3.b.1	Consequences of climate change and extreme weather events	-
		2.b.3.b.2	Changes in the availability and price of natural resources and how they are used (in accordance with climate and ecological targets)	-
		2.b.3.b.3	Alignment of the investment spending of issuers (including those involved in the exploitation of fossil reserves) with a low-carbon strategy	p.20 - 54
		2.b.3.c.2	Elements for assessing contribution to meeting the international global-warming limit and energy and ecological transition goals	p.40 - 43
		2.b.3.c.1	Elements for assessing exposure to climate risks	p.18 - 31
		2.b.1.c	Relation between environmental criteria and climate risks: physical and transition	p.18 - 31
		2.b.1.d	Relation between environmental criteria and understanding the contribution to the international global-warming limit and reaching energy and ecological transition objectives	p.40 - 43
b)	Describe the impact of these risks and opportunities on the company's strategy, markets and financial planning	2.c.1	Integration into the investment policy	p.15 - 18
		2.b.3.b.2	Changes in the availability and price of natural resources and their exploitation (consistent with climate and ecological objectives)	-
		2.b.3.b.3	Consistency of investment spending by issuers (including those involved in the exploitation of fossil reserves) with a low-carbon strategy	p.20 - 54
		2.b.3.b.4	Elements for assessing contribution to meeting the international global-warming limit and achieving energy and ecological transition goals	p.40 - 43
		2.b.3.b.6	Measuring investments in financial products that contribute to the international global-warming limit and meeting energy and ecological transition objectives: thematic funds, financial securities, infrastructure assets, mutual funds subject to a label, charter or initiative.	p.16 - 18
		2.b.3.b.1	Consequences of climate change and extreme weather events	-
		2.b.3.c.2	Elements for assessing contribution to meeting international global-warming limit and achieving energy and ecological transition goals	p.40 - 43
		2.b.3.c.1	Elements for assessing exposure to climate risks	p.18 - 31
		2.c.2.a	Commitment strategy with issuers	p.51 - 57
		2.c.2.b	Commitment strategy for management companies	p.51 - 57

c)	Describe the resilience of the organisation's strategy, taking into consideration different scenarios, including a 2°C or lower scenario	2.b.3.b	Description of analytical methodologies used with criteria for environmental objectives and climate risks.	p.59 - 63
		2.c.1	Integration in investment policy	p.15
		2.a.2	Description of ESG risks for investments and exposure to such risks	p.43 - 47
		2.b.3.b.1	Consequences of climate change and extreme weather events	-
		2.b.3.c.2	Elements for assessing contribution to meeting the international global-warming limit and achieving energy and ecological transition goals	p.40 - 43
Risk management			**Alignment between article 173 and TCFD recommendations**	
a)	Describe the processes for identifying and assessing climate risks	1.e	Procedures for identifying and assessing ESG risks	p.43 - 45
		2.b.1.c	Relation between environmental criteria and climate risks: physical and transition	p.18 - 31
		2.b.3.c.1	Elements for assessing exposure to climate-change risks	p.18 - 31
		2.b.3.b.1	Consequences of climate change and extreme weather events	-
b)	Describe the process of managing climate risks	1.e	Procedures for identifying and assessing ESG risks	p.43 - 45
		2.b.3.c.1	Elements for assessing exposure to climate risks	p.18 - 31
		2.c.1	Integration in investment policy	p.15 - 18
		2.b.1.c	Relation between environmental criteria and climate-change risks: physical and transition	p.18 - 31
c)	Describe how processes for identifying, assessing and managing climate risks are integrated into an overall risk management strategy	1.e	Procedures for identifying and assessing ESG risks	p.43 - 45
Indicators and targets			**Partial alignment between article 173 and TCFD recommendations**	
a)	Publish the company's indicators for measuring and quantifying climate risks and opportunities	2.b.1.c	Relation between environmental criteria and climate risks: physical and transition	p.18 - 31
		2.b.3.c.1	Elements for assessing exposure to climate-change risks	p.18 - 31
		2.b.1.d	Relation between environmental criteria and understanding the contribution to the international global-warming limit and energy and ecological transition goals	p.40 - 43
		2.b.3.c.2	Elements for assessing contribution to meeting the international global-warming limit and energy and ecological transition goals	p.40 - 43
		2.b.3.b.6	Measures of investments in financial products that contribute to the international global-warming limit and meet energy and ecological transition objectives: thematic funds, financial securities, infrastructure assets, mutual funds subject to a label, charter or initiative.	P.16 - 18
		2.b.3.b.1	Consequences of climate change and extreme weather events	-
		2.b.3.b.2	Changes in the availability and price of natural resources and their exploitation (consistent with climate and ecological objectives)	-
		2.b.3.b.3	Consistency of investment with a low-carbon strategy by issuers (including those involved in the exploitation of fossil reserves)	p.20 - 54
		2.b.3.b.4	Actions related to meeting the international global-warming limit and energy and ecological transition goals	p.40 - 43
b)	Publish Scope 1, Scope 2 and, if appropriate, Scope 3 for GHG emissions, as well as the associated risks	2.b.3.b.5	Measures of greenhouse-gas emissions, past, current or future, direct or indirect, for issuers in the investment portfolio	p.19 p.25-26
c)	Describe the objectives set by the company to manage the risks and opportunities, and the monitoring of the achievement of these objectives	2.b.3.b.4	Actions related to meeting the international global-warming limit and energy and ecological transition goals	p.40 - 43
		2.b.3.c.2	Elements for understanding the contribution to meeting the international global-warming limit and energy and ecological transition goals	p.40 - 43

Notes

Notes

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