



**REPORT ART. 29 OF THE FRENCH ENERGY AND CLIMATE ACT
FOR FY 2023**

CCR RE A RESPONSIBLE INVESTOR





We are very pleased to present CCR Re's ESG Report for 2023. It demonstrates the company's long-term commitment to integrating legal and regulatory provisions into its operations as a responsible investor and international reinsurer.

With over two-thirds of our income generated from Property Damage and Specialty Lines, this year has once again highlighted the growing significance of natural catastrophes, which are becoming increasingly frequent due to climate change. We are therefore particularly conscious of this phenomenon, its scale, and its increasing pace.

Since 2022, we have increased the size of the ESG asset portfolio by 20%. It now stands at over €1 billion, out of €3.6 billion in Assets Under Management (AUM). This strong growth reflects our determination to promote sustainable and responsible investment. In a similar fashion, all the AUM we delegate are managed by fund managers who are signatories to the Principles for Responsible Investment.

One of our most notable achievements is the successful transition of our entire building stock to green energy sources, significantly reducing overall energy consumption. This initiative is part of our policy to reduce our environmental footprint. It highlights our commitment to sustainable operational practices.

We have also sustained our efforts to align with the objectives of the Paris Agreement. In 2023, we succeeded in reducing our CO₂ emissions by 15% year-on-year, a major step towards our carbon-neutral goal.

We are pursuing our efforts in corporate governance under the guidance and support of the Board of Directors and its Audit and Risk Committee. In 2023, we strengthened our control and compliance procedures and improved the presentation of this report, enabling our shareholders and partners to better understand our approach and performance. CCR Re is thus continuing its long-term approach as targeted by the ACPR in its annual reviews of the insurance sector's application of the provisions of the French Energy and Climate Act.

This 2023 ESG Report not only highlights our achievements but also showcases the ongoing dynamics within the company. Our actions and progress to date reinforce our determination to pursue these efforts steadily to contribute to the essential transition to a more sustainable, inclusive, and resilient economy.

This report presents the information required by French Decree no. 2021-663 of 27 May 2021 pursuant to Article 29 of Act no. 2019-1147 of 8 November 2019 on Energy and Climate for the CCR Re portfolio as of 31 December 2023. It also presents the information recommended by the *Task Force on Climate-related Financial Disclosure* (TCFD).



2023

MAIN FIGURES

EUR 1 billion in ESG assets

4.6% of the portfolio composed of directly held sustainable bonds

96% of the portfolio is looked through including **84%** of the collective funds

2.3°C temperature until 2100 of the financial portfolio (under direct and delegated management)

Signatory to the CDP (former Carbon Disclosure Project)

100% of delegated assets managed by management companies that are PRI signatories

30% of office buildings with an environmental certification

100% of residential and office buildings supplied with green energy

PRI Signatory (Principles for Responsible Energy)

Contents

1°: General approach of CCR Re on the consideration of environmental, social and governance criteria	6
1. A/ CCR Re Profile and Mission.....	6
1. B/ Responsible Investment Strategy	7
Portfolio Structure and Look-Through	8
1. C/ Adherence to a Charter, Code or Initiative.....	18
2°: Internal resources deployed by CCR Re	20
2. A/ Description of the Resources Dedicated to Considering ESG Criteria in the Investment Strategy.....	20
2. B/ Resources rolled out for a better understanding of ESG issues.....	21
3°: Approach for the consideration of environmental, social and governance criteria at the level of CCR’s governance	22
4°: Engagement strategy with issuers or management companies and on its implementation	23
5°: European taxonomy and fossil fuels	24
5. A/ Share of AUM relating to activities in compliance with EU Taxonomy	24
6°: Strategy to align with the international objectives of the Paris Agreement on mitigating greenhouse gas emissions	27
6. A/ Commitment for a Low-Carbon Economy	27
6. B/ Financing the Transition.....	29
6. C/ Alignment with the Paris Agreement.....	30
Financial assets	30
Real estate.....	36
7°: Strategy for the alignment with long-term biodiversity objectives	39
7. A/ Protecting Biodiversity within the Investment Strategy	39
Financing and Exclusion Policies	40
7.B/ Identifying Impacts and Dependencies on Biodiversity.....	41
Qualitative measures.....	42
Quantitative measurement	44
7. C/ Improvement Plan.....	46
8°: An approach that includes ESG criteria in risk management, specifically the physical, transition and liability risks associated with climate change and biodiversity.	47
8. A/ Identifying ESG Risks	47



8. ESG analysis results (excluding direct real estate).....	47
8. C/ Climate Risks.....	50
Transition risk.....	50
Physical Risk.....	53
Directly-owned real estate exposure to climate risks	55
APPENDICES	59



1°: CCR Re's Overall Approach to the Consideration of Environmental, Social and Governance Criteria

1. A/ CCR Re Profile and Mission

CCR Re is an international reinsurer on a human scale, based in Paris. Operating across more than 80 countries, CCR Re leverages its expertise in traditional General Insurance (P&C), Life and Health business lines, and Specialty areas such as credit, marine, aviation, space, and agri-food.

As a multi-regional and diversified player, CCR Re delivers competitive, bespoke, and innovative services to its clients, in line with its solvency and profitability goals. CCR Re is characterised by its enduring and steady relationships, attentive listening, thorough understanding of needs, prompt and pertinent responses, and a commitment to long-term partnerships.

The consortium composed of two French mutual insurers, SMABTP and MACSF, acquired control of CCR through a €200 million capital increase in mid-2023. Together, they now hold 75% of the voting rights, while CCR maintains a 25% stake in the company. This transaction equips CCR Re with the resources to advance its development strategy, which has been effectively executed since 2017.

CCR Re's strength is underpinned year after year by the diversity of its underwriting and investment portfolio, the prudence of its provisioning policy, the safeguarding of its balance sheet and earnings against peak risks, and the further reinforcement of its governance, organisation, and internal control system.

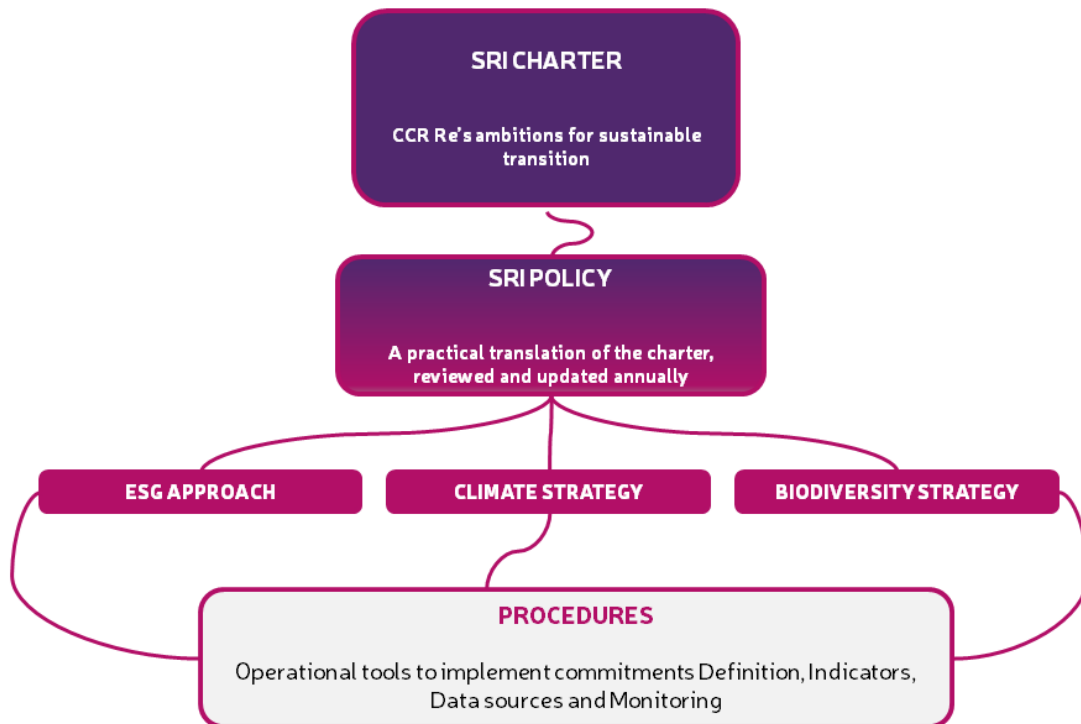
Since July 2023, CCR Re has maintained a single A rating with a stable outlook by both S&P and AM Best.

1. B/ Responsible Investment Strategy

Strategy

CCR Re's SRI Charter Re defines its responsible investment strategy and policy.

Figure 1: Operational Implementation of the SRI Charter



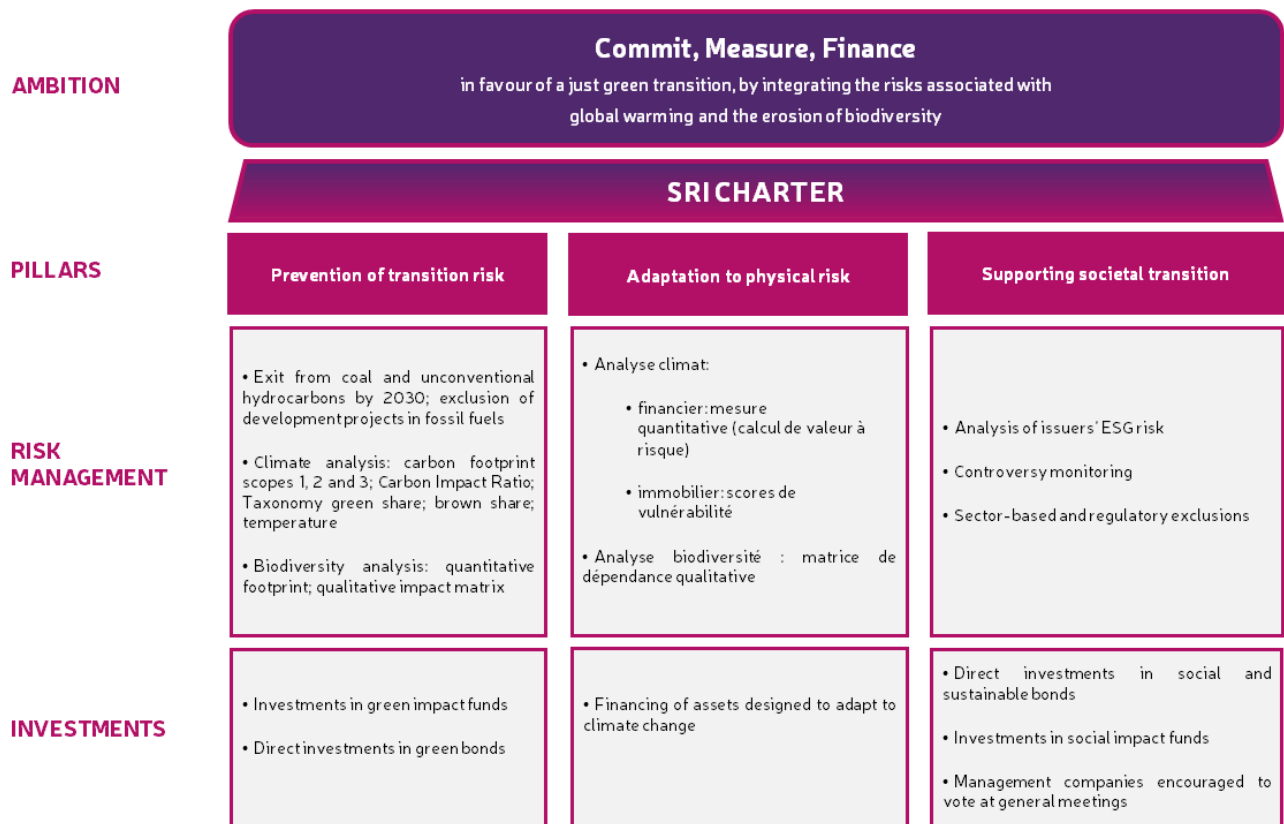
The SRI charter presented in Figure 2 is based on three pillars: the prevention of transition risk, the adaptation to physical risks and the support for social transition.

Through this charter, CCR Re has chosen to enhance the management of ESG risks by integrating them into its investment policy, assessing their impact on portfolios, and measuring the impact of its portfolios on the environment (double materiality approach), while contributing to the financing of initiatives supporting the environmental and social transition.

CCR Re's commitment is based on three pillars: commitment, measurement, financing

The Responsible Investment Policy is based on the definition of an ESG risk management framework for each of the three pillars and a targeted responsible investment programme, with the objective of generating long-term financial performance.

Figure 2: Overall Target to Contribute to the Long-Term Performance of CCR Re



Portfolio Structure and Look-Through

In 2023, CCR Re continued improving the granularity of the information provided on its portfolios. CCR Re indeed considers the use of comprehensive and quality data to be fundamental.

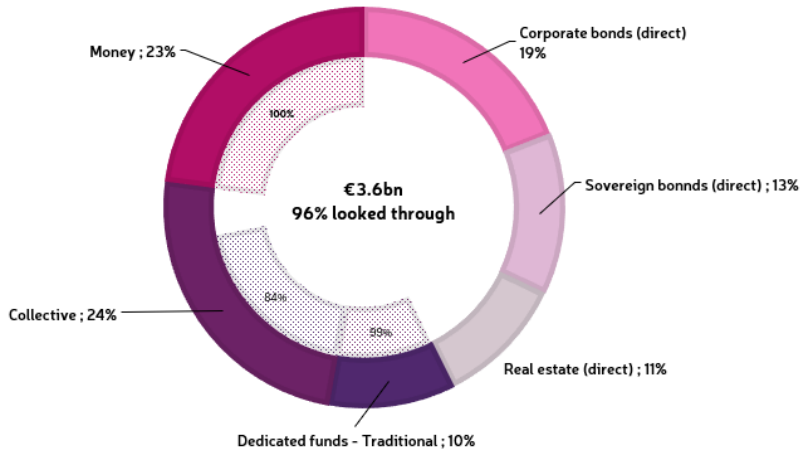
Fine granular understanding is needed on two levels:

- control of investments: which issuers are invested in, including within open-ended collective funds. To this end, the entire portfolio is systematically looked through. This practice goes well beyond the current regulatory requirements.
- expert understanding of the methodologies used by data suppliers and the correct integration of such data into our systems.

CCR Re is committed to transparency and ongoing improvement.

As of 31 December 2023, CCR Re had €3.6 billion of assets under management. CCR Re's management of assets is primarily driven by liability constraints within the framework of prudent management.

Figure 3: CCR Re's portfolio structure as of 31/12/2023 and look-through (in % by investment category; market value).



96% of the portfolio, all asset classes combined, was looked-through in 2023

The remaining 4% were funds of funds or newly invested funds.

CCR Re has chosen to make all its assets under delegated management transparent through look-through analysis¹, to trace the detailed positions of the ultimate issuers. The asset managers can thus monitor issuers of collective and dedicated funds to identify positions that would go against its SRI policy. This look-through analysis and the verification of issuers are carried out at least on a quarterly basis.

This approach ensures that sustainability indicators are consistent across the entire portfolio: collective funds are treated and considered as a sub-fund of directly owned assets, with all investment lines looked-through/known.

This detailed understanding of the portfolio is considered essential for effective risk monitoring.

The ESG approach

The management teams apply ESG criteria within their daily investment process. The approaches are differentiated according to the type of management.

¹ The look-through achieved is Level 1: a fund is broken down into direct and delegated investment lines. For example, if X% of a fund is invested in another fund (e.g. a money market fund), X% will appear as non-looked through.

Figure 4: Summary Table of the Sustainability Analyses by Asset Class

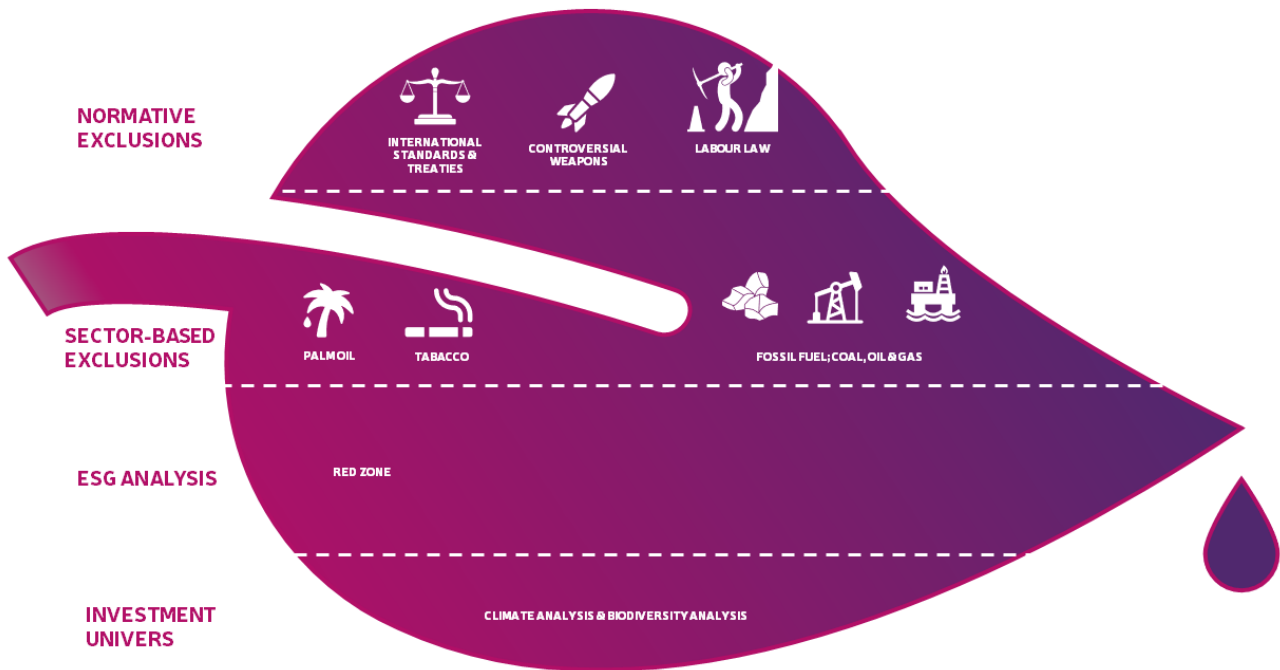
	ESG	Climate	Biodiversity
DIRECT MANAGEMENT			
Sovereign bonds 19%	Coverage by Sustainalytics: 87% ESG score and controversies Proprietary analysis: 100% Sustainable bonds	Coverage by C4F: 81% Transition risk: carbon impact ratio and temperature Coverage by Climafin: 100% Physical risk: VaR Transition risk: VaR Proprietary analysis: 100% Green bonds	
Equity & Corporate bonds 13%	Coverage by Sustainalytics: 100% ESG score and controversies Proprietary analysis: 100% Sustainable bonds	Coverage by C4F: 88% Transition risk: carbon impact ratio and temperature Coverage by Climafin: 100% Physical risk: VaR Transition risk: VaR Proprietary analysis: 100% Green share and fossil fuel exposure Climate analysis of issuers Green bonds	Coverage by C4F: 95% Transition risk: biodiversity footprint Proprietary analysis: 100% Footprint and qualitative dependencies (ENCORE & Sustainalytics)
Real Estate 11%	Proprietary analysis: 100% 20 indicators (based on OID materiality matrix)	Proprietary analysis: 100% Energy consumption: audit and water consumption monitoring Carbon footprint	Development and rehabilitation of green spaces
DELEGATED MANAGEMENT			
Dedicated funds 10% Look through: 99%	Coverage by Sustainalytics: 92% ESG score and controversies (via look-through analysis of the funds) Proprietary analysis: 100% Integration of ESG criteria within the management companies' policies and those applied to the fund	Coverage by C4F: 74% Transition risk: carbon impact ratio and temperature Coverage by Climafin: 100% Physical risk: VaR Transition risk: VaR Proprietary analysis: 100% Green share and fossil fuel exposure Climate analysis of issuers Green bonds	Coverage by C4F: 82% Transition risk: biodiversity footprint Proprietary analysis: 100% Footprint and qualitative dependencies (ENCORE & Sustainalytics)
Collective funds 24% Look through: 84%	Coverage by Sustainalytics: 75% ESG score and controversies (via look-through analysis of the funds) Proprietary analysis: 100% Integration of ESG criteria within the management companies' policies and those applied to the fund	Study integrated in the overall analysis of the portfolio	Study integrated in the overall analysis of the portfolio
Money market 23% Look through: 100%	Study integrated in the overall analysis of the portfolio	Study integrated in the overall analysis of the portfolio	Study integrated in the overall analysis of the portfolio

The coverage rate shown reflects the data provider's coverage of the entire asset class held by CCR Re.

A/ Direct Financial Investments

The responsible investment process for directly held securities combines exclusions and extra-financial analysis²:

Figure 5: ESG Approach



ESG Analysis

Any new investment is subject to ESG analysis. Since 2022, access to Sustainalytics' fundamental research has enabled us to gain a better understanding of the ESG risks of each issuer, thereby improving the quality of the information available to fund managers for their analysis³.

- *For sovereigns:*
 - *Country Risk Rating* combines ESG and economic analyses for country-risk assessment.

² See Appendix on CCR Re's exclusion policy

³ Previously, the asset managers solely had access to ESG risk scores via the Sequantis™ platform

- *For private issuers:*
 - *ESG Risk Rating:* measures the residual risk to which the company is exposed (gross risk - risk management). It ranges from 0 to 100, with 0 meaning no risk and 100 meaning maximum risk.
 - *Controversy Analysis:* assesses the impact of contentious facts or actions on stakeholders and consequently, on the company's own business. A low controversy score (1 to 2 on a scale of 1 to 5) indicates a limited-impact event.

Analysis of the Sustainable Bonds

When investing in sustainable bonds, as with any investment, the management team optimises the risk/return trade-off. Additionally, the bond must meet “environmental, social, or sustainable” quality standards.

To meet this requirement, the management team is continually refining its analysis methodology specific to sustainable bonds. It is based on analyses conducted as soon as from the time of issuance, which include assessments of the issuer and the projects funded, as well as ongoing monitoring of allocation, impact, and look-through indicators for the financed projects until the security matures or is sold.

B/ Delegated Management Investments

During the selection process, the delegated management teams pay particular attention to non-financial criteria. Given equivalent performance (risk/return profile) and targets, the fund managers prioritise funds with a robust SRI policy.

A Demanding Selection based on Best Practice

All assets under delegated management are entrusted to asset managers that are signatories to the Principles for Responsible Investment (PRI). Since 2022, this has been a prerequisite for any new investment. This endorsement is a guarantee that ESG criteria are considered within the management process.

Figure 6: Portion of Assets Delegated to Management Companies (% of delegated AUM)

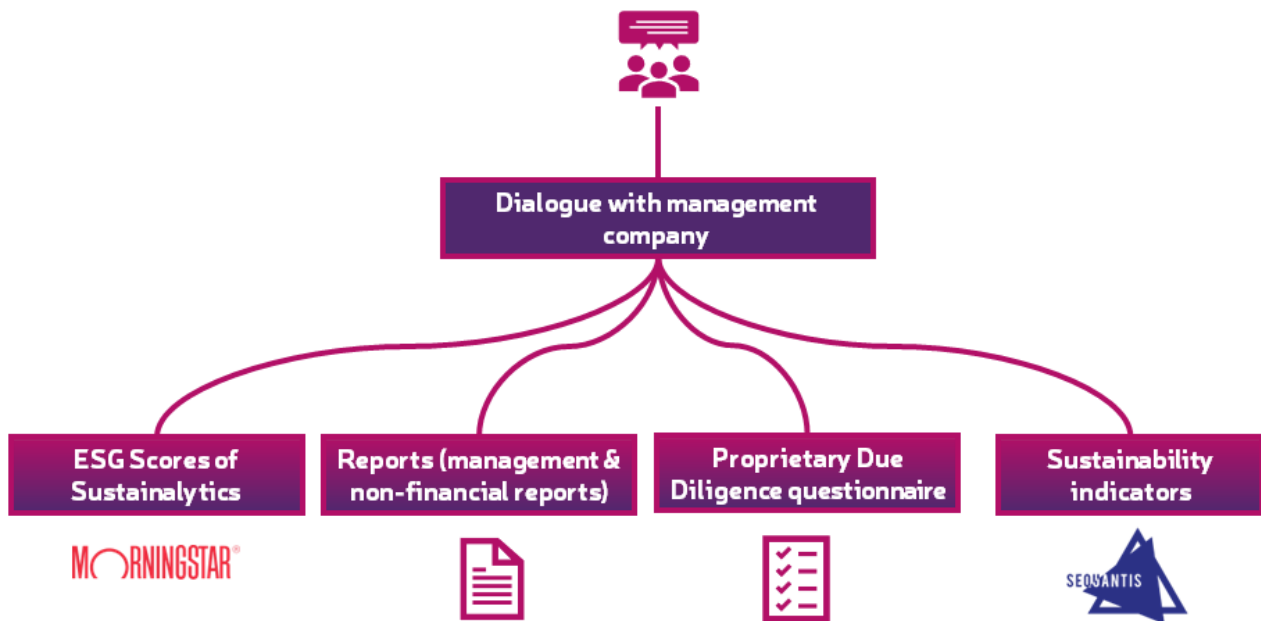


Source: Proprietary questionnaire

Selection strengthened by proprietary analysis

The fund managers carry out their own qualitative analysis on the integration of ESG criteria in each strategy based on different additional sources:

Figure 7: Sources of Information

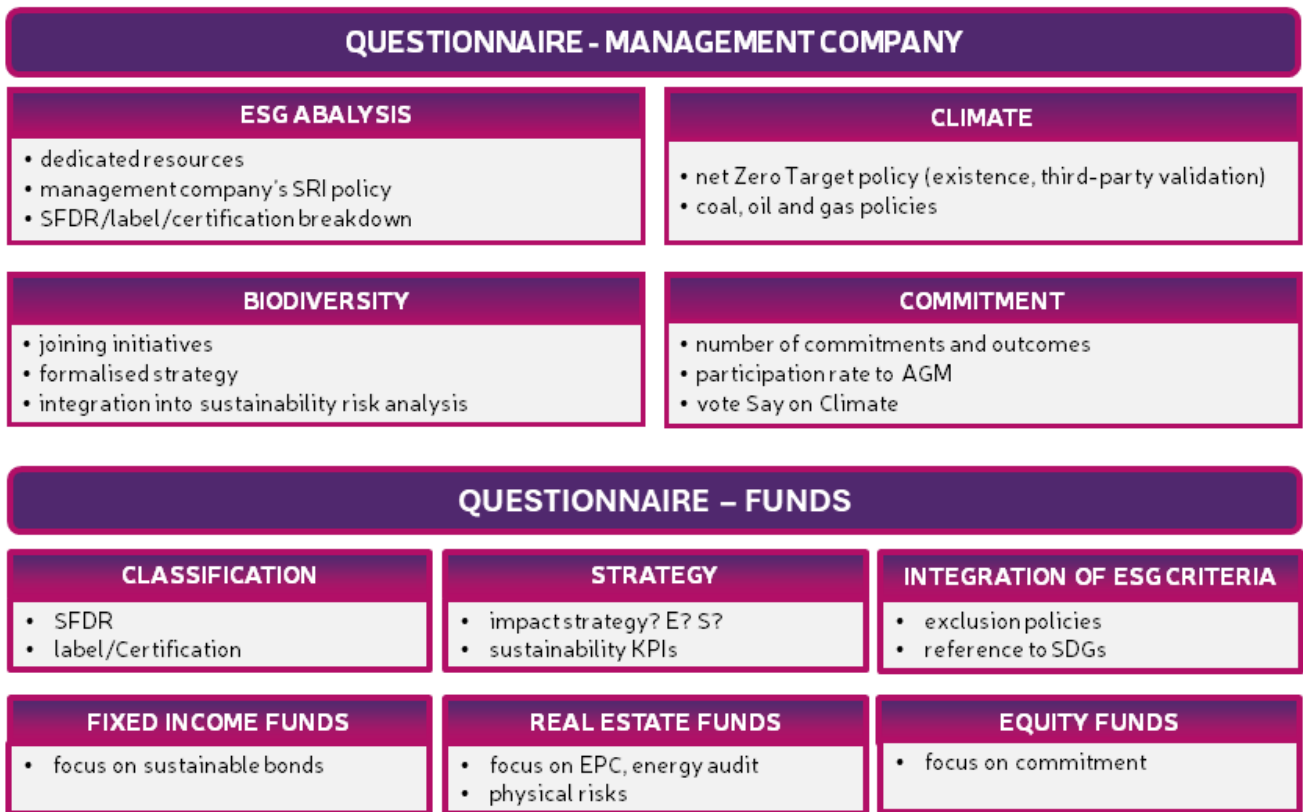


Since 2021, the fund managers have been using two proprietary Due Diligence questionnaires to pursue their objective of transparency and a better understanding of the ESG practices and policies of the management companies and funds they invest in.

These questionnaires are both a tool for measuring progress (sent annually) and a selection tool (sent before any new investment). Thanks to these questionnaires, fund managers can also test the consistency between management company practices and their actual implementation within the funds.

The questions are reviewed on an annual basis to ensure that they are relevant to changes in CCR Re’s commitments, best practice in the industry and scientific and regulatory recommendations.

Figure 8: Questionnaire Themes



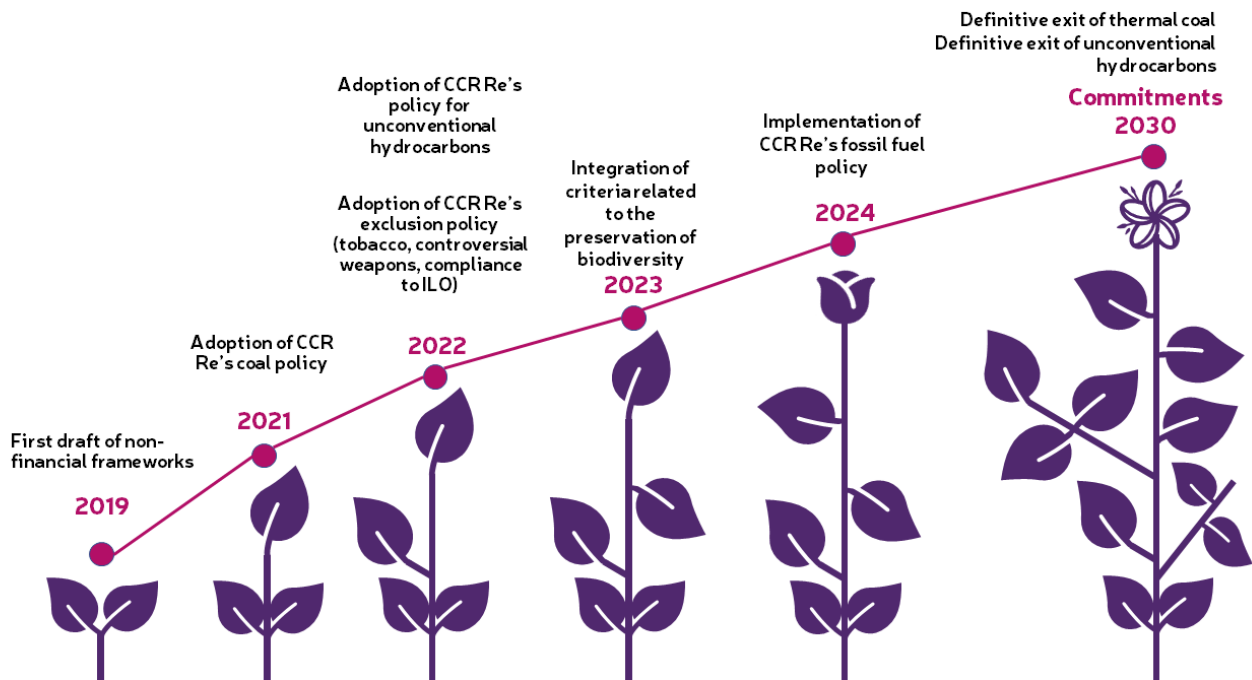
This year, 51 management companies and 94 funds were reviewed via these questionnaires (for an AUM coverage rate of 100%).

Dedicated funds: a constructive partnership with management companies

Since 2021, CCR Re encourages asset management companies to translate its commitments in its dedicated funds⁴.

⁴ 5 traditional management funds (bond and equity funds)

Figure 9: Increased Importance of Extra-Financial Policies in Dedicated Funds



By sharing and implementing CCR Re's fossil fuel policy, which is often more stringent than those of other asset management companies, we promote the dissemination of best practice and alignment with a low-carbon trajectory. In the same way, the expertise of the management companies enables the teams to develop and extend their knowledge and improve the non-financial profile of the funds.

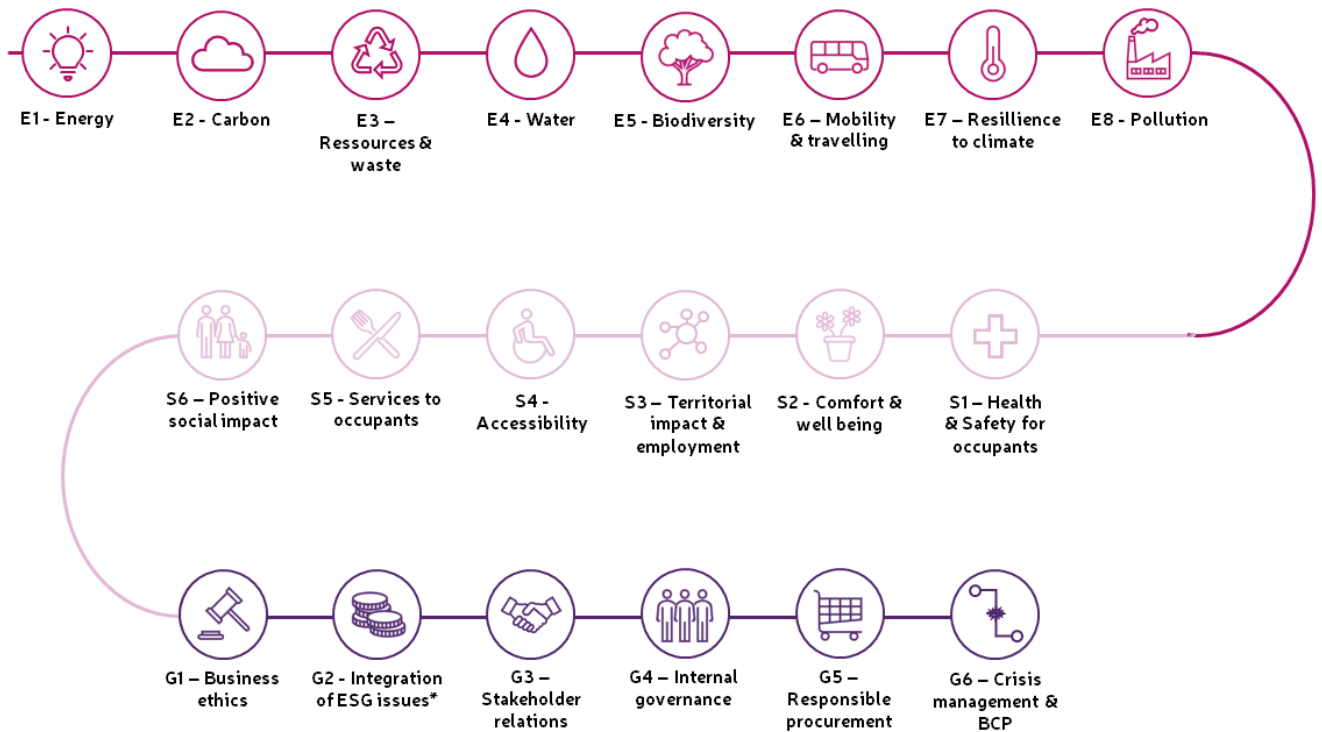
C/ Direct Real Estate Investments

CCR Re's directly owned real estate portfolio consists of 9 buildings, including 5 residential buildings and 4 office buildings, located mainly in Paris.

Since 2019, CCR Re has been analysing its real estate assets using the materiality matrix of the *Observatoire de l'Immobilier Durable* (OID)⁵, which integrates the three ESG pillars within 20 metrics.

⁵ The materiality matrix of the OID is based on a market study of the materiality matrices published by some thirty real estate players (listed real estate companies, investors, developers, users) between 2013 and 2018 and on a cross-analysis of French and international normative and regulatory standards.

Figure 10: ESG Issues Defined in the OID Materiality Matrix



Source: OID

During the Purchasing Phase: ESG criteria are systematically integrated into the assessment prior to any purchase as part of the due diligence process. CCR Re set itself the objective that all new acquisitions of new or renovated office buildings should be subject to environmental labelling or certification.

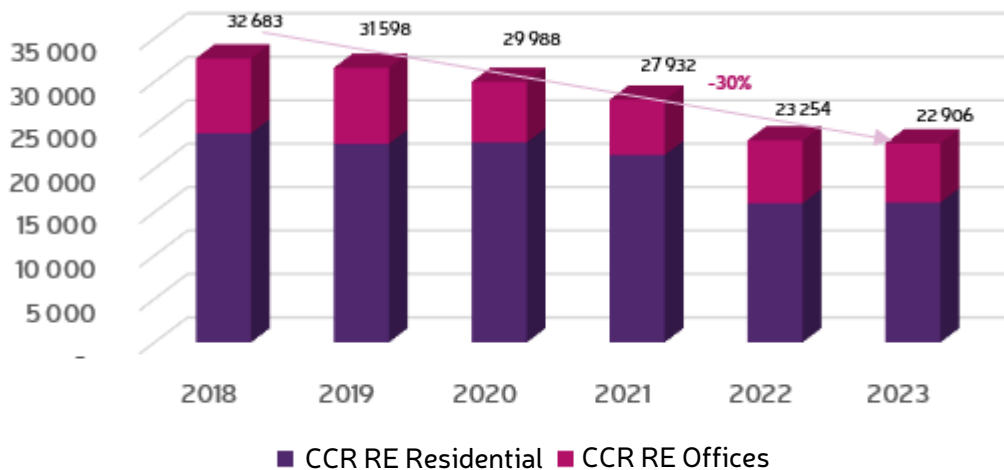
During the Period of Investment: action is being taken to influence:

- The energy sobriety (through use and refurbishment) but also the energy mix used by its buildings. This takes the form of green energy contracts (electricity and gas), connection to district heating, a budget devoted to improving energy performance
- The social impact: by measuring and improving occupant comfort (e.g. thermal and acoustic comfort). The social issue also concerns the health and safety of residents within the buildings
- The quality of the governance of the teams in charge of operating the buildings, by getting them to take ESG issues into account

Therefore,

- 100% of office buildings have taken out green energy contracts (electricity and gas)
- 48% of office buildings are connected to district heating, with CPCU connecting properties wherever possible
- Each restructured office building obtains a label or certification. 30% of the office buildings have an environmental label or certification.
- 100% of the energy consumption data is collected (common and private areas)
- In 2023, water consumption decreased by 1.25% YOY, and by almost 30% in 5 years

Figure 11: Water Consumption in Offices and Residential Buildings



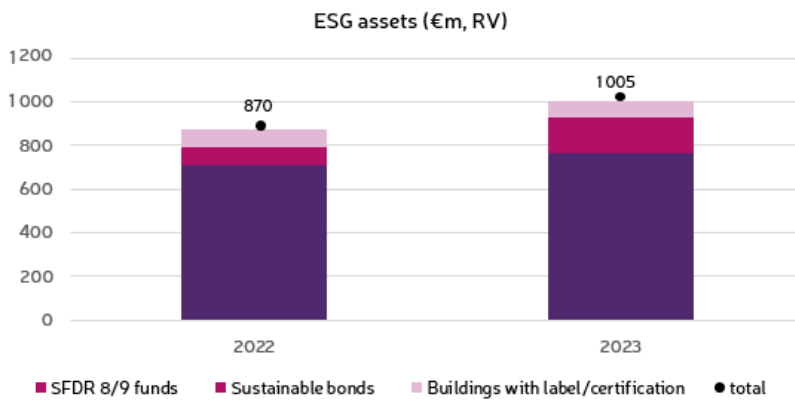
D/ Focus on CCR Re’s Responsible Investments

CCR Re is working to define criteria to qualify its investments as sustainable, as part of a stance to improve transparency and appreciation of its responsible investments. For example, for sustainable bonds, this would mean at least meeting the standards of the International Capital Market Association (ICMA) and having received a favourable Second Party Opinion at the time of issuance.

Pending the finalisation of its own methodology, CCR Re measures its investments based on ESG characteristics, known as “ESG assets”, using the SFDR as well as market labels and certifications.

As of December 2023, CCR Re’s ESG-climate assets comprised over €1 billion, accounting for approximately 28% of the portfolio.

Figure 12: ESG Asset Allocation (in EUR)



28% ESG-Climate assets:

- 4.6% sustainable bonds
- 2.1% of real estate assets with a certification
- 16.6% SFDR Fund Art.8
- 4.7% SFDR Fund Art.9

1. C/ Adherence to a Charter, Code, or Initiative

As a result of belonging to the CCR Group at the beginning of 2023, CCR Re in the previous financial year was:

- **Signatory to the PRI** (Principles for Responsible Investment) since 2021
 - Under the aegis of the United Nations, this initiative encourages investors to integrate ESG issues into the management of their portfolios
 - CCR Re was given access to theoretical resources backed up by practical case studies, and was able to use the reporting exercise to better identify the strengths and weaknesses of its responsible management
- **Member of the OID** (*Observatoire de l'Immobilier Durable* or Sustainable Property Observatory) since 2023
 - The OID aims to boost the ecological transition of the industry in France
 - As a member of this association, CCR Re can access resources and analysis tools covering its entire directly owned real estate portfolio (exclusively French)
- **Signatory of the Plan Bâtiment Durable charter**
 - This charter is designed to unite the real estate industry around ambitious targets for the energy and environmental efficiency of buildings

- Contributor to discussions on the integration of ESG issues in the marketplace as:
 - **Member of the France Assureurs Sustainable Development Commission:** a commission that provides information and regulatory watch
 - **Member of the France Assureurs ESG-Climate Working Group:** which monitors regulations and debates interpretations. Being a member of this working group also gives CCR Re the opportunity to participate in the drafting of guides and/or recommendations and to contribute to the publication '*Chiffres Finance Durable*' [Sustainable Finance Figures].
 - **Participant in the Biodiversity working group of the Sustainable Finance Institute:** a group that monitors the advancement of any work aimed at integrating biodiversity into finance (biodiversity credit themes, data providers, etc.)
 - **Participant in the Af2i workshops of the Responsible Investment Commission:** and thus, contributing to the elaboration and update of questionnaires for management companies
 - **Participant in ACPR round tables:** including on climate change risk governance.

CCR Re is a signatory to the CDP (former Carbon Disclosure Project) since 2023. The CDP encourages investors, companies as well as towns and cities to measure and understand their environmental impacts. This organisation owns the largest database of environmental performance data, which is an asset for the qualitative analysis carried out on the issuers in CCR Re's portfolio.

Moreover, the CDP contacts a large number of companies each year on behalf of investor signatories including CCR Re. to report on their climate, water, and deforestation data.

2°: Internal Resources Deployed by CCR Re

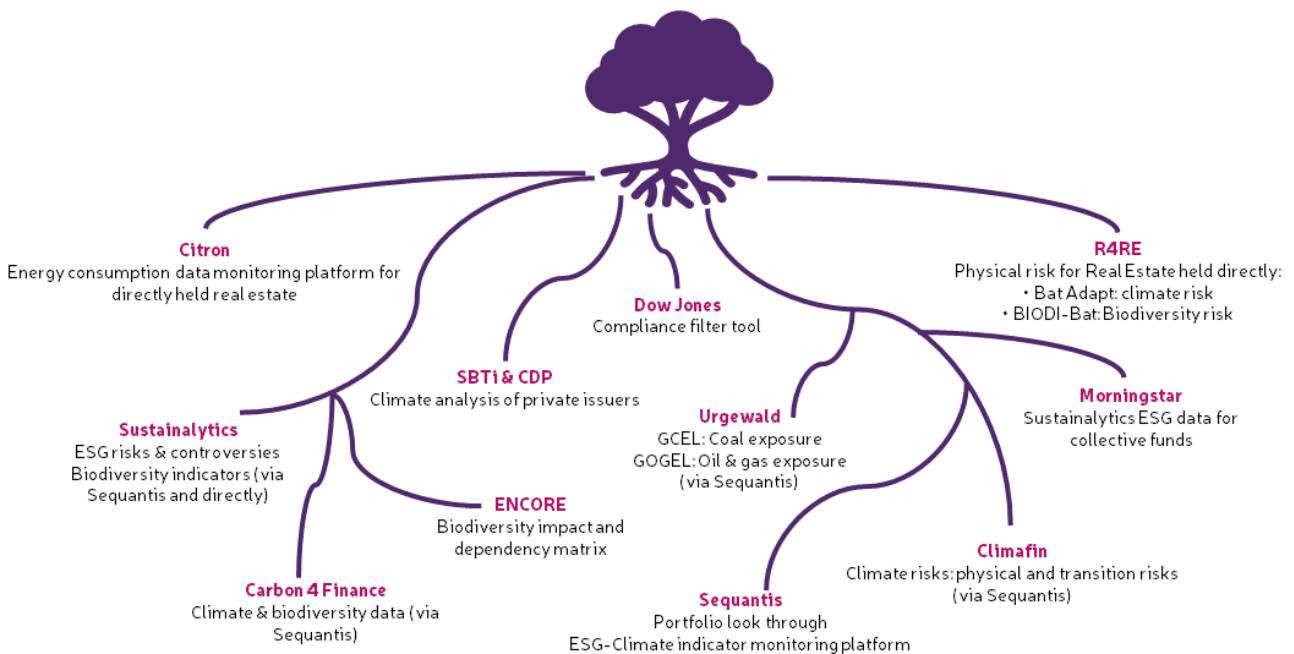
2. A/ Description of the Resources Dedicated to Considering ESG Criteria in the Investment Strategy

The integration of extra-financial criteria into the asset management process is carried out by the entire Investment team including the executive managers, fund managers and ESG analysts of CCR Re, supported until July by the teams of CCR.

In order to integrate sustainability criteria into the investment process, CCR Re uses the Sequantis Transition Monitor (STM) platform, which tracks the ESG-Climate-Biodiversity indicators of direct portfolios (not including directly held real estate) and delegated management portfolios that have been looked through.

Alongside data received from external service providers, proprietary analyses are developed to enhance the qualitative analysis of issuers.

Figure 13: ESG Data Providers and Sources



2. B/ Resources rolled out for a better understanding of ESG issues

Since 2019, the management teams receive annual training on sustainable finance from certified institutes on a variety of topics, including a regulatory watch on the European framework (Novethic), and training on impact investing and biodiversity (Moonshot Consulting).

The teams were also able to take part in a “Biodiversity Fresco” workshop.

In addition, specific *ad hoc* sessions are organised on a regular basis to:

- Increase skills in accessible data (e.g. from Sustainalytics)
- Delve deeper into a theme and decide to integrate a new database
- Monitor regulations and the competition

3°: Approach for the consideration of environmental, social and governance criteria at the level of CCR’s governance

The members of the Board of Directors of CCR Re are regularly faced with the issue of how to deal with the consequences of global warming in the context of the reinsurance activities.

The SRI strategy, its objectives and its implementation are presented to and validated by the Board of Directors. This body is consulted at least twice a year on ESG-Climate-Biodiversity issues:

- For the *ex-ante* review and validation of the investment policy upon proposal of the Audit, Risk and Accounts Committees
- For the *ex-post* review of the previous year’s SRI report in view of its publication, to reiterate all the issues related to the content of the regulatory report and to exchange on the implementation and the extensions of the mentioned measures

2024 will be an opportunity for the Board of Directors to continue integrating ESG issues into its operations and compensation policy.

Figure 14: SRI Comitology



4°: Engagement strategy with issuers or management companies and on its implementation

Shareholder engagement or dialogue is defined as a medium- to long-term process in which investors seek to influence the behaviour of companies in which they invest by interacting with them. Motivated by a sustainability goal, shareholder engagement can help transform the activities of players in the real economy.

CCR Re does not hold any shares directly and therefore does not currently have a formal shareholding or voting policy. However, an indirect commitment is made through:

- Partner management companies: study of their voting policy, monitoring of annual reports, etc.
- Participation in roadshows organised by public and private issuers
- Signatory to the CDP
- Signatory to the PRI principles

CCR Re believes that participating in collective initiatives is more effective than sending individual voluntary letters to companies in which it only holds a small proportion of debt.

Furthermore, choosing to finance carbon-intensive issuers that have adopted a transition plan validated by an external third party and/or through green bonds is a way of demonstrating our commitment to a more sustainable economy.

5°: European Taxonomy and Fossil Fuels

5. A/ Share of AUM relating to activities in compliance with EU Taxonomy

The EU Taxonomy is a classification system that determines eligibility for and alignment with the term ‘sustainable’. If an activity is deemed eligible, it can then be qualified as ‘aligned’ if it complies with a number of cumulative stages:

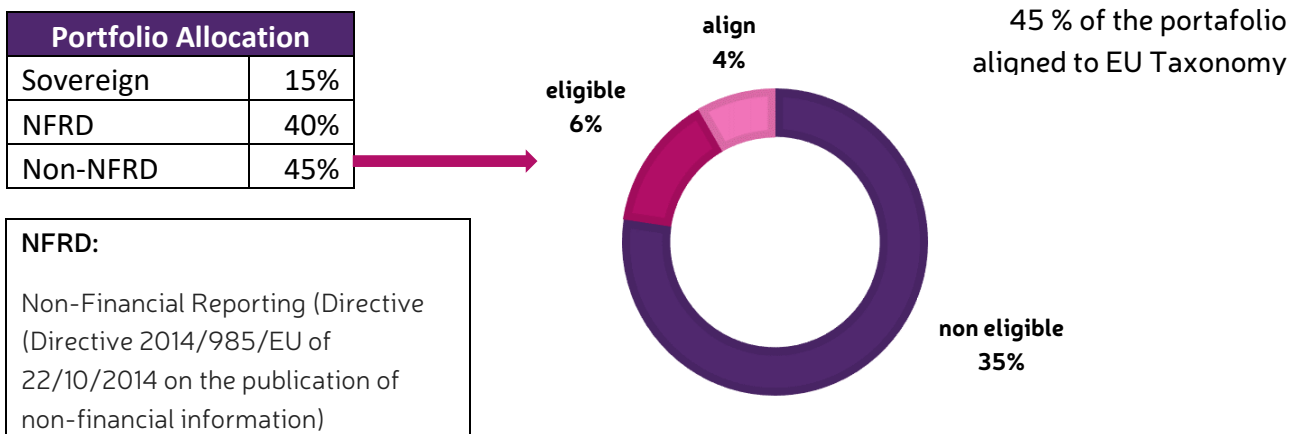
- Make a significant contribution to one of the 6 environmental objectives (and comply with the technical review criteria)
- Not have a significant negative impact on the other objectives;
- Comply with minimum social standards (human rights, etc.).

Although it is not subject to the Taxonomy Regulation, CCR Re has chosen to carry out this process in the interest of transparency and constant improvement, using data from the Sequentis platform⁶ (companies covered by the NFRD are considered to be subject to EU Taxonomy).

At this stage, the eligible and aligned shares are still estimates and concern climate-related environmental objectives (climate change mitigation and adaptation goals), based on turnover.

The analysis covers assets held under direct management (excluding real estate) and under delegated management (excluding non-looked through funds), i.e. 89% of the portfolio assets.

Figure 15: Share of AUM in Compliance with EU Taxonomy



Thus, 45% of CCR Re’s portfolio is concerned by EU Taxonomy. Within this scope, 8% of the assets are aligned to EU Taxonomy in line with the real economy (EY barometer 2023).

⁶ Sequentis uses two criteria to determine whether a company is eligible for the study: the country of incorporation (the issuer must be European) and the listing on a regulated market.

5. B/ Share of AUM Exposed to the Fossil Fuel Sector

Knowing our allocation to issuers linked to fossil fuels (coal, gas and oil) enables us to measure our exposure to highly polluting assets that are likely to become 'stranded' as a result of the transition to a low-carbon economy. It is thus a 1st transition climate risk indicator that CCR Re monitors quarterly to ensure that it is on a downward trajectory.

CCR is indeed committed to phasing out thermal coal and exiting unconventional hydrocarbons by 2030⁷.

To measure its exposure to fossil fuels, CCR Re uses data from Urgewald, an NGO that provides lists of companies active in the fossil fuel sector. This data is integrated into the SequantisTM platform, giving a view across the entire portfolio.

- The **GCEL, Global Coal Exit List**, covers companies involved in the coal value chain (exploration, drilling, mining, transport and logistics, engineering, trading, construction, maintenance, infrastructure, power generation etc.).
- The **Global Oil and Gas Exit List (GOGEL)** covers the entire oil and gas sector, at both upstream (extraction) and midstream (transport and processing) levels. The definition of non-conventional hydrocarbons is in line with that of the Scientific Expertise Committee of the Sustainable Finance Observatory (except for methane hydrates which are not included).

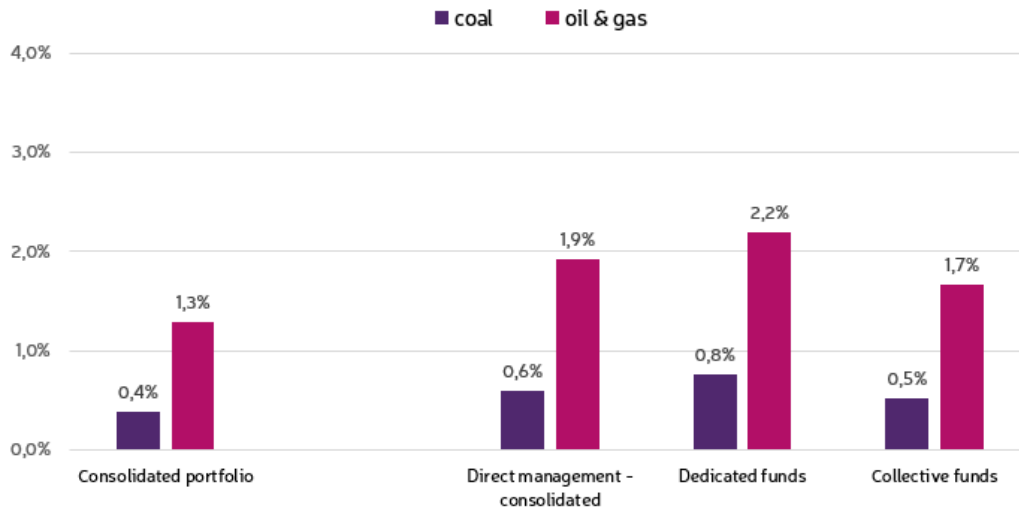
CCR Re analyses its entire portfolio of financial assets (not including real estate), covering directly owned issuers, in dedicated funds and in collective funds that have been looked-through (i.e. 89% of assets). Green bonds issued by issuers with links to fossil fuels are excluded from the scope.

The exposure is not adjusted for the weight of fossil fuels in issuers' sales, and therefore corresponds to investments in the companies concerned without adjustment, in accordance with the ACPR recommendation.

Exposure via collective funds is the most complicated to manage. CCR Re strives to select the asset management companies most in line with its fossil fuel policy through particularly its proprietary non-financial questionnaire.

⁷See Appendix – Fossil fuel policy

Figure 16: Exposure to Fossil Fuels (% of assets in the relevant portfolio)



Sources: GCEL and GOGEL via Sequantis, CCR Re

As of 31 December 2023, the exposure of CCR Re’s portfolio to fossil fuels was minimal: coal-related issuers represented less than 1% of the portfolio and oil and gas-related issuers less than 2%.

Last year, the consolidated portfolio's exposure to coal remained stable at 0.4% year-over-year, while exposure to oil and gas was 1.4% (see in last year's ESG report p.72). Thus, coal exposure remained unchanged, while oil and gas exposure decreased slightly.

6°: Strategy to Align with the International Objectives of the Paris Agreement on Mitigating Greenhouse Gas Emissions

6. A/ Commitment for a Low-Carbon Economy

As early as 2021, CCR Re committed to aligning its portfolio with a greenhouse gas emission reduction trajectory compatible with the global warming mitigation objectives of the Paris Agreement: **The report states that the global temperature increase should be “well below 2°C, striving for 1.5°C [above pre-industrial temperatures by 2100]”.**

As part of this long-term objective, CCR Re aims to contribute to the global goal of carbon neutrality by 2050. This ambition is underpinned by an ongoing improvement process based on the best practices defined by regulators and on scientific recommendations⁸.

CCR Re is thus focusing on financing the energy transition and excluding high emitters that are not part of this transformation process to a low-carbon economy.

CCR Re endeavours to:

- **Continue to finance the transition** through green bonds (directly and via dedicated funds), labelled/certified buildings and climate funds
- **Reduce the carbon footprint** of its financial and commercial real estate portfolios. specifically, reduce the carbon footprint of its directly owned corporate bonds by 50% by 2030, with 2020 as the reference year (in tonnes of CO₂ equivalent per million euros invested, Scopes 1 and 2).

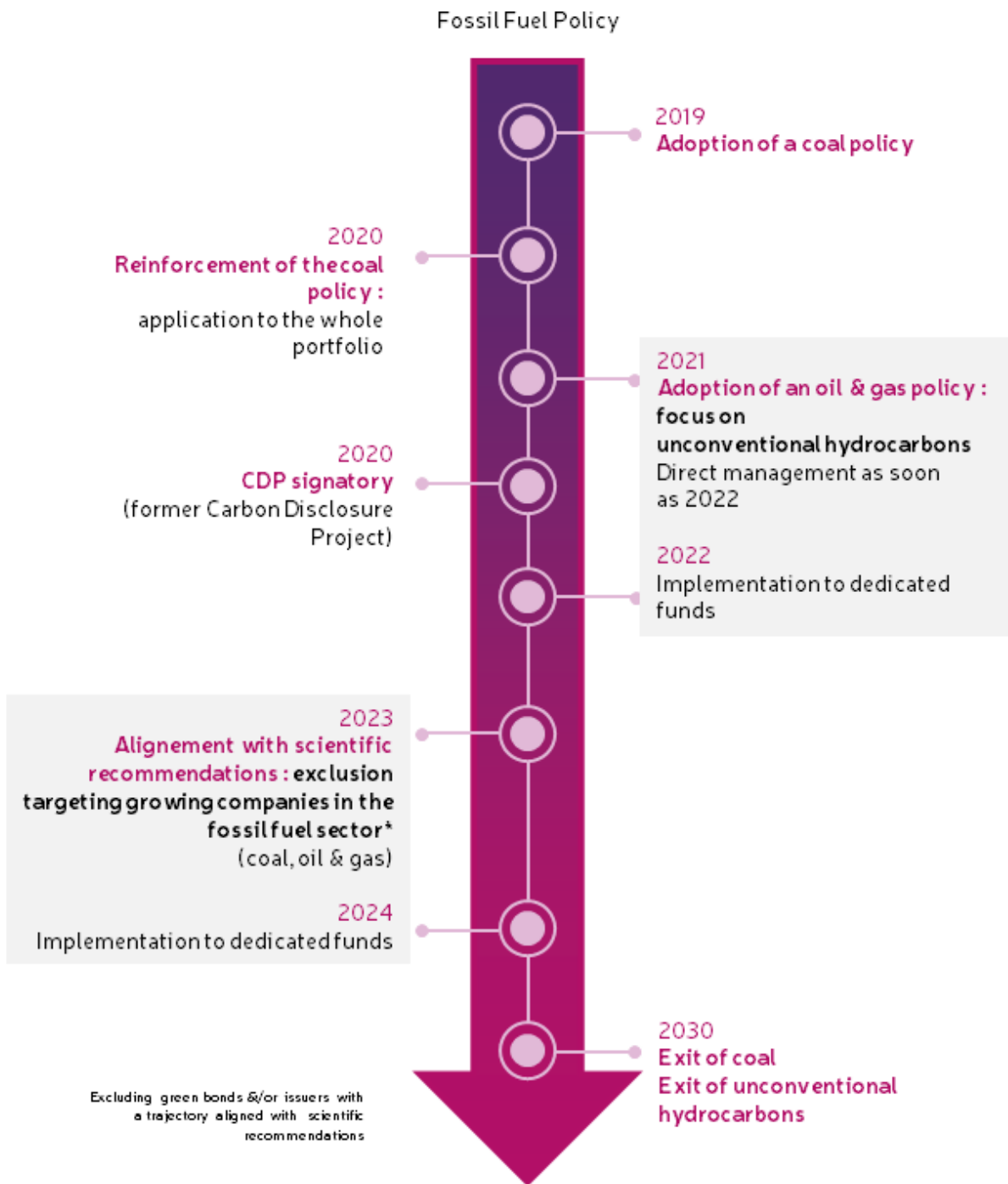
CCR Re is aware that this objective is necessary, but also believes that it is ambitious and can only be achieved if the stakeholders (companies and governments) actively implement a transition policy

- **Involve stakeholders** around the global carbon-neutral goal, a collective commitment, as well as through dialogue with issuers and asset management companies

This strategy will be enhanced and reviewed at least every 5 years.

⁸ International Energy Agency “Net Zero by 2050 A Roadmap for the Global Energy Sector” published in May 2021. France Assureurs published a guide on ‘Carbon neutrality and investment portfolios’ in December 2022, which could be used to enhance and/or clarify the policy in 2023.

Figure 17: Summary of Fossil Fuel Commitments



The gradual implementation of a low-carbon business model to limit global warming to below 2°C raises a transition risk for all agents, and more particularly for the financial system, which is at the heart of capital allocation. *According to TCFD segmentation*, this risk is mainly defined by:

- **Legal and regulatory risk** linked to the evolution of laws and standards aimed at guiding agents towards a low-carbon economy,
- **Technological risk** arising from research and technological innovations which help improve the energy efficiency of production processes and equipment
- **Market risk** resulting from the impact of climate change on supply (scarcity of certain resources) and demand (changes in consumption behaviour)
- **Reputational risk** linked to changes in the perceptions of all stakeholders, in particular customers and consumers, about the challenges of climate change and the positioning of agents in relation to these challenges

6. B/ Financing the Transition

CCR is financing the energy transition, namely through investments:

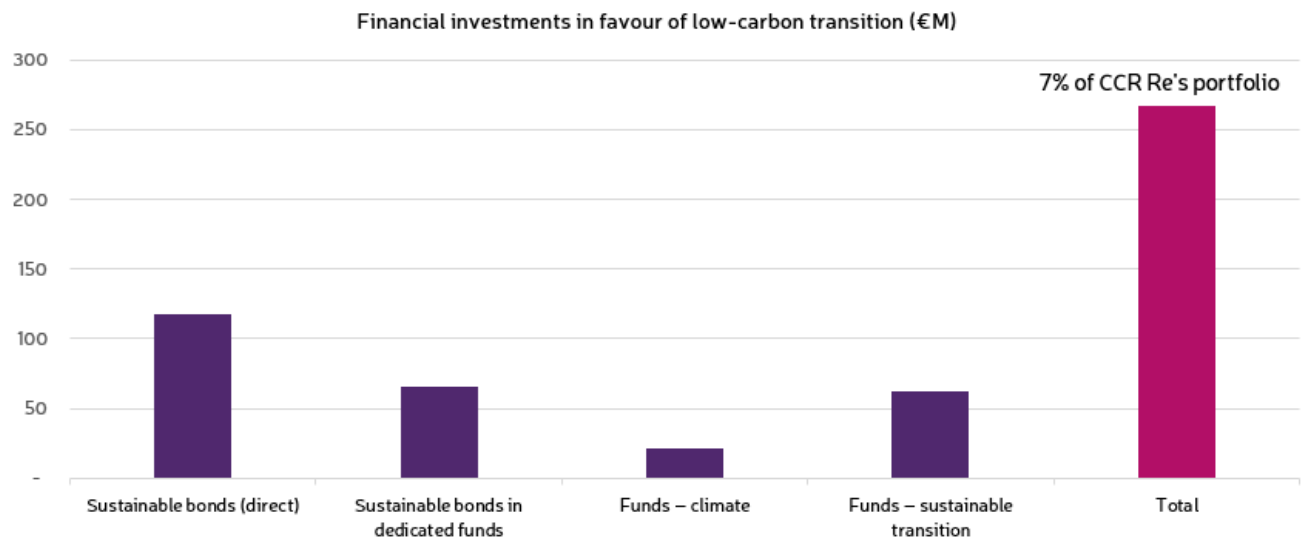
- in green bonds which differ from traditional bonds in that they finance exclusively environmentally friendly projects. CCR Re believes that 'sustainable' bonds, which combine projects with an environmental and social impact, are instruments that can be used to finance a just low-carbon transition.

These can be held directly or via funds

- in funds: whether these are funds that have obtained an environmental label, funds that do not have a label but for which the documentation indicates a strategy that considers environmental issues (targets and indicators) or infrastructure funds that contribute to the transition to a low-carbon economy.

- through its real estate portfolio, enabling it to control and reduce energy consumption and improve energy performance (with building renovation projects, for example). As a result, green projects constituted 55% of the investment work undertaken on the building stock in 2023.

Figure 18: Financial Investment in the Energy Transition (in €m)



6. C/ Alignment with the Paris Agreement

Financial assets

The alignment with Paris Agreement targets is assessed using Carbon4Finance’s Carbon Impact Analytics (CIA) methodology via the STM platform. The portfolio exposure analysis is carried out on the looked-through portfolio (i.e. 89% of assets).

CCR Re has adopted a comprehensive approach: the study covers all asset classes and all GHG scopes (1.2 and 3).

This methodology measures four key indicators:

1/ Saved emissions: sum of avoided and reduced emissions

- Avoided emissions: replacement of emissions that would have occurred without the company’s activities (based on a comparison with a reference scenario)
- Reduced emissions: based on the efficiency of the process over a long period (study of the carbon intensity of an emitter)

The higher a company’s saved emissions, the greater its contribution to mitigating climate change

2/ Carbon footprint: emissions induced by investments:

- High-stake sectors, emitting a significant amount of greenhouse gases (energy companies, transport, heavy industry, etc.) are analysed through a bottom-up approach, integrating Scope 1, 2 & 3 emissions (as defined by the GHG Protocol).
- Low-stake sectors, with low greenhouse gas emissions, are subject to a simplified analysis: only Scope 1 and 2 emissions are considered (actual data used if available, otherwise recalculated using sector averages).

A double-counting adjustment is made.

The larger a company's carbon footprint, the higher the transition risk.

3/ Carbon Impact Ratio

Ratio of saved emissions to induced emissions.

The CIR represents a company's capacity to reduce GHG emissions in relation to the emissions generated by its activity and products. As such, it represents a company's contribution to the transition to a low-carbon economy at a given time.

4/ Portfolio temperature

Determined by positioning investments on an average global rating scale of the underlying constituents, calibrated with two benchmarks representing the 2°C and 3.5°C "Business as Usual" trajectories^{9*}. A curve, using these two references, starting at +1.5°C and capped at +5°C allows^{10**} us to assess the temperature rise of the investments through its overall average score.

76% of eligible assets were covered by the CIA methodology (62% under the in-depth approach and 14% under the simplified approach).

⁹ The Euronext Low Carbon 100 index represents the 2-degree path. It was specifically created to reflect the investment needs required to reach the two-degree world on the basis of the IAE outlook. The Business-As-Usual scenario is based on IPCC scenario SSP3-7.0.

¹⁰ Corresponding to IPCC scenarios SSP1-1.9 and SSP5-8.5

Figure 19: Summary of CCR Re's 2023 Climate Indicators

	Carbon footprint (tCO ₂ /€M ev)*	Emissions saved (tCO ₂ /€M ev)	Carbon impact ratio	Temperature (°C to 2100)
2023	162	13,1	0,08	2,3

* carbon footprint measured in tonnes of CO₂ per million euros invested

Source: Carbon4Finance via SequantistM, CCR Re

Figure 20: Results in terms of carbon footprint, emissions saved and Carbon Impact Ratio

	CCR Re		Euro corporate index	Euro equity index
	2022	2023	2023	2023
Carbon footprint (tCO ₂ /€M ev)	191	162	161	151
Emissions saved (tCO ₂ /€M ev)	26	13,1	22,5	13
Carbon impact ratio	0,14	0,08	0,14	0,09

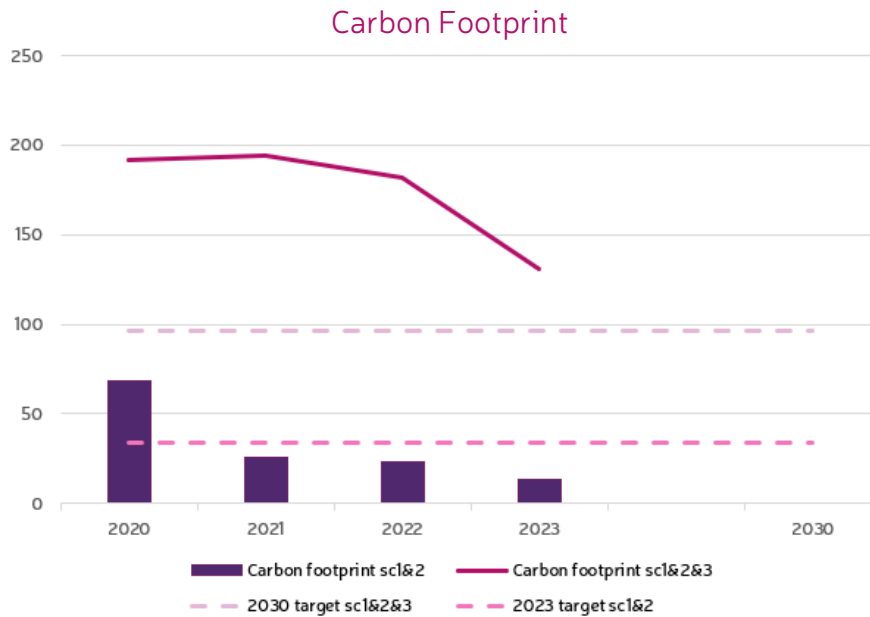
Source: Carbon4Finance via SequantistM, CCR Re

The carbon footprint of the portfolio, which includes all asset classes (excluding directly held real estate and non-looked through funds), has decreased by 15% held in comparison with 2022 (scopes 1, 2 and 3).

Emissions saved fell, mainly due to a change in C4F's methodology for green bonds. These financial instruments produce avoided emissions, thanks to projects in low-carbon transport (train infrastructure, buses, electric vehicles, bicycle lanes), in renewable energy (electricity production, transmission and distribution, energy efficiency) and in the building trade (construction and renovation).

The portfolio's Carbon Impact Ratio is lower than in 2022 as a result of the change in emission saving methodologies, with 0.08% in 2023 versus 0.14% in 2022.

Figure 21: Footprint Results - Direct Management (bonds issued by private issuers)



Source: Carbon4Finance via SequantisTM, CCR Re

The target of reducing the carbon footprint (scopes 1 and 2) by 50% by 2030 compared with the baseline year of 2020 was already achieved in 2021, ahead of schedule.


CCR Re wants to align with scientific and marketplace recommendations by including scope 3 in its carbon footprint reduction target.

At this stage however, the availability and reliability of data on Scope 3 emissions is limited, given among other challenges, the complexity of estimating all upstream and downstream emissions in the life cycle of a product. Despite this, CCR Re chose to include it in its GHG reduction objective for the sake of comprehensiveness, transparency and in anticipation of improvements in the data, which will be all the more informative as it will be increasingly requested by institutional players.

As the investment universe of the group is predominantly European, CCR Re believes that the forthcoming application of the CSRD regulation will involve more private issuers and help to reduce the portfolio’s carbon footprint. In addition, the EU’s ‘Fit for 55’ roadmap¹¹ should improve the energy mix of countries, and therefore the energy profile of companies.

¹¹ In June 2021, the European Climate Act set a new, more binding target of a 55% reduction in greenhouse gas (GHG) emissions by 2030 compared with 1990 levels.

Figure 22: Temperature Results

 Temperature (°C to 2100)	CCR Re		Euro corporate index	Euro equity index
	2022	2023	2023	2023
	2,4	2,3	2,7	2,8

Source: Carbon4Finance via SequantisTM, CCR Re

The CCR Re portfolio is aligned with a 2.3°C trajectory equivalent to a better performing model than the *Business as usual* (3.5°C) and benchmark scenarios. CCR Re’s ambition is to achieve the Paris Agreement’s target of limiting global warming to below 2°C.

Qualitative analysis of transition plans

Aware of the methodological limitations of the above two quantitative approaches, CCR Re is working on a qualitative analysis of the trajectory of its portfolios, in accordance with the recommendations of the *Observatoire de la Finance Durable*¹².

To this end, the transition plans of private issuers were assessed. Initially, CCR Re focused on the portfolio of corporate bonds held directly. This analysis can subsequently be extended to dedicated funds and then to collective funds.

The analysis of the transition trajectory of private issuers is based on two criteria:

- Transparency and disclosure of their greenhouse gas emissions (data used: CDP)
- The ambition and credibility of the targets (data used: SBTi)

¹²[Publication_de_recos_n3_Indicateurs_du_Comite_Scientifique_dExpertise_de_IOFD_v2.pdf \(observatoiredelafinancedurable.com\)](#)

Figure 23: CDP mapping: 2023 Climate score

Companies that complete the CDP questionnaire are given a score according to their level of commitment and their management of climate issues: ('leader' is the highest, 'reporting' the lowest):

- Leader: a company that is fully aware of environmental issues and their impact, and is taking strong, tangible action to remedy them.
- Management: a company that manages issues relating to its impact and its management of resources (increased awareness).
- Awareness: a company that is aware of the influence of environmental issues but does not take them into account in its strategy.
- Reporting: a company that provides minimal information in response to the questionnaire and for which environmental issues are not part of its core strategy.

2023 Climate score	Number of issuers	Allocation (number of issuers)	Allocation AUM in market value
Covered	107	95%	95%
Leader	65	58%	43%
Managed raising awareness	19	17%	25%
Reporting	6	5%	7%
reporting soon	1	1%	1%
not covered	16	14%	19%
	6	5%	5%

95% of the portfolio of corporate bonds held directly is covered by the CDP questionnaire. Nearly three-quarters of the issuers exhibit high ratings, with 43% demonstrating the application of environmental best practices and 25% implementing actions to address environmental issues, minimise risks, and capitalise on opportunities.

Figure 24: SBTi Mapping

The *Science Based Targets initiative* (SBTi) offers a benchmark for corporate transition targets, introducing the first global scientific standard aligned with the 1.5°C trajectory. The validation of these targets follows strict criteria specific to each business sector, ensuring ambitious, reliable, and achievable commitments for investors. The 1st step is a written commitment from the company, which then has two years to validate its objectives.

	Number of issuers	Allocation (number of issuers)	Allocation AUM in market value
SBTi committed	78	57%	57%
validated target	65	49%	49%
committed	13	7%	7%
Not SBTi committed	35	43%	43%
not committed but members of the NZBA alliance	15	13%	23%

Thus, 57% of the directly managed portfolio is credibly committed to the transition, 49% of issuers already have a SBTi-validated trajectory and 7% are committed to building their trajectory and having it validated within the next two years. Of the 43% that have not committed, CCR Re identifies issuers that have committed to other initiatives (e.g. Net Zero Banking Alliance), and those for which SBTi has not yet established a methodology to best interpret this result.

The portfolio of corporate bonds is therefore already on a natural path towards decarbonisation (provided that the companies committed to SBTi respect their commitments).

Real Estate

CCR Re is dedicated to improving the energy performance of its directly owned buildings, by devoting a significant portion of its works budget to this effort. Additionally, CCR Re has commissioned energy audits for each of its buildings to identify areas for improvement and develop a multi-year works plan.

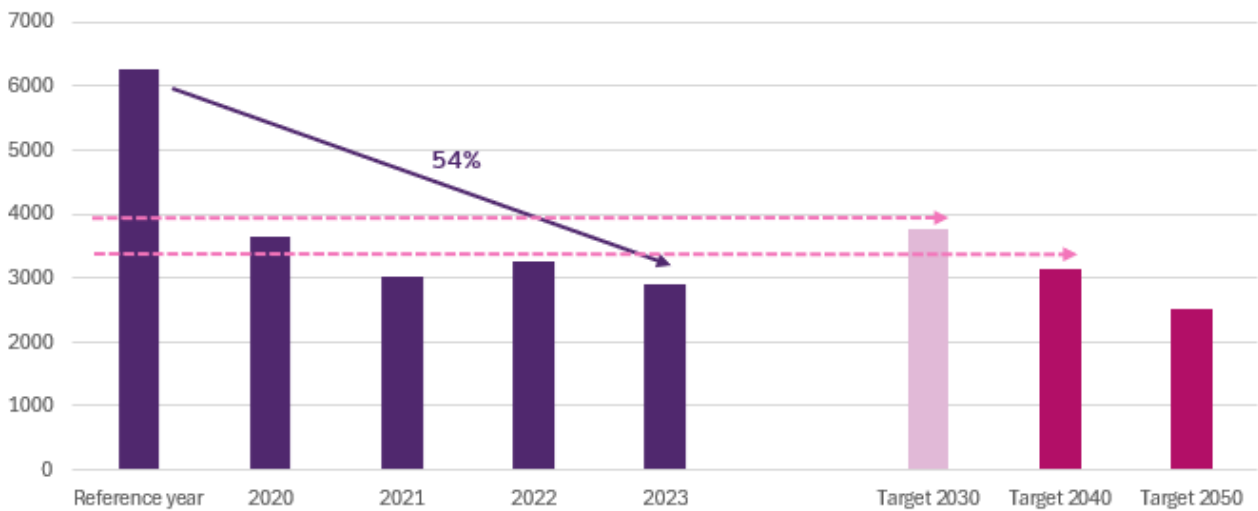
Office Space

A partnership was renewed with Citron® Energie, which centralises and analyses the energy consumption of buildings and thus enables CCR Re to prepare its energy reduction actions in accordance with the provisions of the French “Tertiary Eco-Energy” Decree.¹³

¹³ The Tertiary Decree requires the implementation of actions to reduce the final energy consumption of existing office buildings to achieve a reduction in final energy consumption of at least 40% in 2030, 50% in 2040 and 60% in 2050 compared to 2010

The tertiary eco-energy scheme has now entered its operational phase. In accordance with Article 175 of the Elan Act, the objective is to achieve a reduction in final energy consumption by 40% by 2030, 50% by 2040, and 60% by 2050, compared to a reference energy consumption level or by reaching a specified level of final energy consumption in absolute terms. The regulations thus set 31 December 2022 as the deadline for owners or tenants of office buildings of more than 1,000 m² to enter their energy consumption data for 2020 and 2021, as well as for the reference year, on the OPERAT platform.

Figure 25: Tertiary Decree Performance (MWh)



Source: CCR Re

The 2030 and 2040 targets were achieved ahead of schedule. A 14% reduction is still to be achieved to meet the 2050 target.

Residential Real Estate

CCR Re wants to include residential real estate in its strategy of alignment with the Paris Agreements and plans to use Energy Performance Certificates¹⁴ (EPCs) to achieve this, despite existing methodological debates.

An EPC can be used to classify a property as energy-decent and serves as a benchmark (particularly when it comes to renting or selling dwellings that consume a lot of energy, also known as “thermal sieves”).

¹⁴ Energy Performance Certificates (EPCs) provide information on the energy and climate performance of dwellings and buildings, using A to G ratings to assess their energy consumption and impact on greenhouse gas emissions

EPCs have gained significant importance since the 2021 Climate Act:

- It influences the sale price, as buyers consider the energy rating along with the cost, difficulty, and timeline of the work required to make a property energy-efficient when making an offer
- It impacts the rental market, as the outcome determines whether a property can be rented and at what price

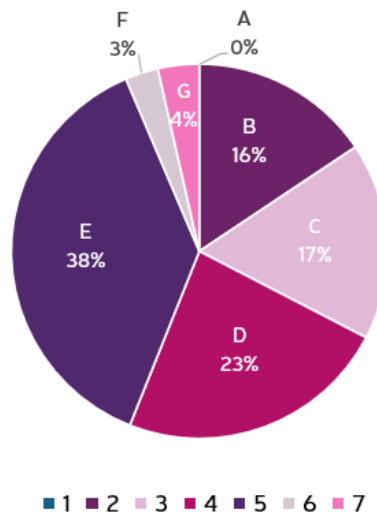
The reliability of the EPC outcome has been questioned because the calculation method is seen as insufficiently scientific, overly standardised, and unreflective of the property’s actual use.

Figure 26: Breakdown by lot by EPC classification

CCR RE EPC Classification



CCR RE GHG Classification



93% of EPCs are rated between A and E

94% of GHGs are rated between A and E

CCR Re does not have any properties with EPC ratings of G, as the majority of its properties are D-rated.

However, CCR Re acknowledges certain difficulties:

- related to the instability of the EPC assessment methodology
- related to its residential property portfolio: mainly composed of Haussmann-style buildings in the heart of Paris, which makes renovation and refurbishment a complex task (especially when tenant-occupied)

7°: Strategy for the alignment with long-term biodiversity objectives

For several years now, scientific reports, namely those of the IPBES¹⁵, have been warning of the increasing deterioration of biodiversity and making companies aware of the risks linked to the loss of biodiversity and the need to control their impacts or pressures on the diversity of ecosystems and species.

The IPBES identified five direct drivers of biodiversity loss as changing use of sea and land, overexploitation of resources, climate change, pollution, and invasive non-native species.

The 1992 Rio Earth Summit¹⁶ and the Aichi Strategic Plan 2011-2020 set out a framework for a sustainable future in advance of COP 15, with 'the urgent goal of society-wide action to preserve and sustainably use biodiversity by 2030 and 2050'¹⁷.

COP15, or the Conference of the Parties on Biodiversity, held in Kunming in October 2021 for its 1st session and finalised in Montreal in December 2022, established a new global strategic framework for biodiversity post-2020¹⁸ with the establishment of 23 targets to be achieved by 2030 if we are to live in harmony with nature by 2050.

The most emblematic targets are to 'Protect 30% of Earth's lands, oceans, coastal areas, inland waters'; 'Reduce by half both excess nutrients and the overall risk posed by pesticides and highly hazardous chemicals'; 'Phase out subsidies that harm biodiversity; and 'Raise international financial flows to developing countries, to at least US\$ 30 billion per year by 2030'.

7. A/ Protecting Biodiversity within the Investment Strategy

In line with its commitments, CCR Re enhanced its SRI policy by integrating the concept of biodiversity and, the company adopted a biodiversity strategy.

To define and structure its commitments, CCR Re based itself on two goals of the 1992 Convention on Biological Diversity: the conservation of biodiversity and the sustainable use of its components.

¹⁵ IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem, the equivalent institution to IPCC for biodiversity

¹⁶ <https://www.cbd.int/doc/legal/cbd-en.pdf>

¹⁷ <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>

¹⁸ The 20 Aichi targets adopted in 2010 were due to expire in 2020.

To clarify the goals, CCR Re also based itself on COP15. This approach is part of a continuous learning and improvement process and is also based on industry recommendations¹⁹.

Since 2022, CCR Re has been committed to four objectives:

1. Understanding concepts and methodologies
2. Identifying, assessing, and measuring dependency-impact relationships to analyse biodiversity-related risks and opportunities
3. Reducing the impact of portfolio investments on biodiversity
4. Financing solutions that help restore or preserve biodiversity

To meet these four objectives, CCR Re uses a number of levers:

- Regulatory and scientific watch
 - Qualitative and quantitative measures of the portfolio (impacts and dependencies on biodiversity)
 - Implementation of a biodiversity benchmark, particularly in sectors with high impacts
 - Communication with companies through the collective dialogue conducted by the CDP
- CCR Re is working to define sector-based policies, targets and action plans.

Financing and Exclusion Policies

- Exclusion policy for issuers not committed to a sustainable approach:

As a first step, CCR Re chose to focus on palm oil because of the massive deforestation caused by its cultivation and the consequences of this deforestation on the fauna, flora, activities and lifestyles of local populations. This means that issuers with palm oil sales exceeding 5% and that are not RSPO-certified, are excluded from the investment universe.

- Financing policy for solutions that help to preserve biodiversity

This policy is expressed through investment in sustainable bonds. Although the market centred on this concept is still underdeveloped, CCR Re considers that green bonds, through the “climate-biodiversity nexus”²⁰ have a positive impact on the preservation of biodiversity. Credible funds on the theme of biodiversity preservation and/or funds offering an environmental sustainable investment objective linked to biodiversity within the meaning of Article 9 of the SFDR Regulation are also subject to investment analysis.

¹⁹Guides from France Invest ‘The integration of biodiversity in private equity’ and France Assureurs ‘Insurance and biodiversity: challenges and outlook’.

²⁰ Term used by Banque de France, the French central bank, to explain the ties between biodiversity and climate [Biodiversity, macroeconomics and finance: what we do know, what we don't know yet, and what we have to do | Banque de France \(banque-france.fr\)](https://www.banque-france.fr/en/press-releases/2022/06/biodiversity-macro-economics-and-finance-what-we-do-know-what-we-dont-know-yet-and-what-we-have-to-do)



In real estate management, we are looking at a number of avenues: the greening of buildings, the reuse of resources, and the Biodiversity certification awarded to a restructured CRE building in the Greater Paris region.

7.B/ Identifying Impacts and Dependencies on Biodiversity

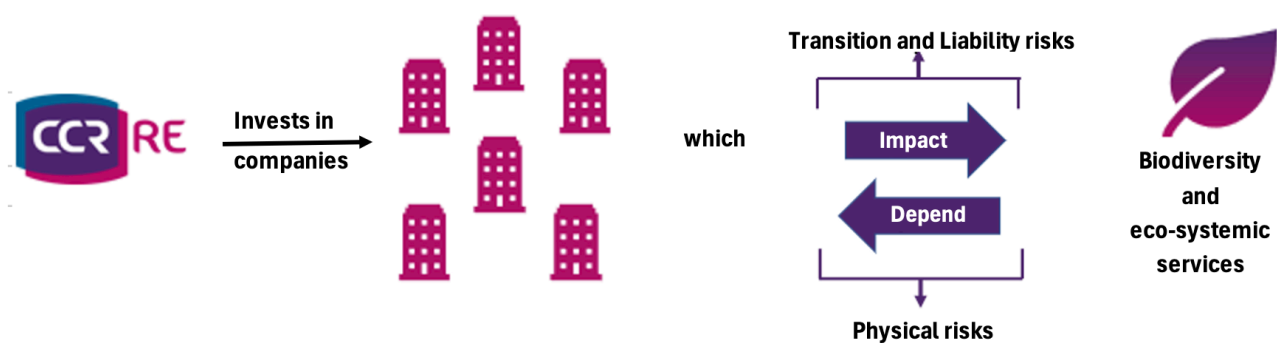
CCR Re considers that, if the entire value chain of its activities is considered, 100% of its assets depend on biodiversity and are at risk of its erosion.

As UN Development Programme (UNDP) Administrator, Achim Steiner, pointed out during COP15, “Biodiversity is interconnected, intertwined, and indivisible with human life on Earth. Our societies and our economies depend on healthy and functioning ecosystems. There is no sustainable development without biodiversity.”

CCR Re did not want to only use one indicator to capture the multidimensional and complex nature of biodiversity. Biodiversity is not only about ecosystems and life forms, but also about the relationships and interactions between the different organisms in the biosphere and between these organisms and their environment. *“It is illusory to hope to describe biodiversity by a single indicator”* (Chevassus-au-Louis et al., 2009).

Reflecting this complexity, academic research offers a wide range of quantitative and qualitative indicators. Rather than comparing them, **CCR Re has chosen a complementary approach by monitoring a quantitative indicator (biodiversity footprint) and maintaining a qualitative analysis of these issuers.**

In addition, to ensure a dual materiality approach, the dependency of companies in the portfolios on ecosystem services and the pressures exerted by these companies on biodiversity were assessed.



Qualitative measures

Methodology

CCR Re has chosen to use the ENCORE tool, *Exploring Natural Capital Opportunities, Risks and Exposure*, which offers a comprehensive approach. This tool was developed by the Natural Capital Finance Alliance in partnership with the United Nations Nature Conservation Monitoring Centre.

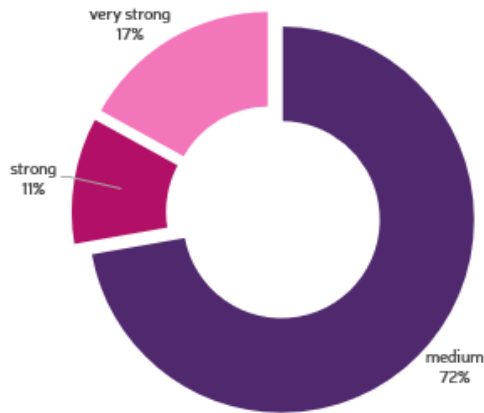
ENCORE adopts a dual approach to biodiversity, assessing both exposure to biodiversity-related risks through the dependency indicator and negative impacts on biodiversity through the impact indicator.

Covering many business sectors (86 production processes), ENCORE makes it possible to identify for each production process its impact level on (11) natural capital assets and its level of dependency on (21) ecosystem services. The materiality of the impact of dependency is assessed on a scale of 0 to 5 (increasingly important). Dependency scores are the product of two factors: the degree of disruption to production processes if the ecosystem service were to be lost, and the expected financial losses that would result.

Results

The study was carried out on the portfolio of directly owned corporate equities and bonds, excluding public sector issuers (which account for 15% of the portfolio).

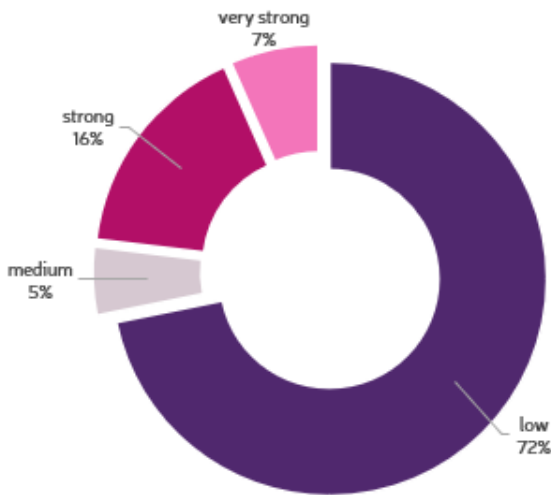
Figure 27: Biodiversity Impact of CCR Re’s Direct Investment Portfolio



30% of the strong or very strong pressures on biodiversity come from water use

Impact: 28% of AUM have a strong (11%) or very strong (17%) impact on biodiversity

Figure 28: Biodiversity Dependency of CCR Re’s Direct Investment Portfolio



36% of high or very high dependency is explained by dependency to surface water and 18% by dependency to groundwater

Dependencies: 23% of AUM are highly or very highly dependent on biodiversity

The results of this analysis show the need to adopt a specific approach to water in the biodiversity strategy.

Limits

The main limitation of the ENCORE methodology is that it remains very generalistic as it does not take into account the diversity of companies' activities, their location (and related regulations), or the quality of the production process. There is therefore a significant sector bias.

The methodology provides a general understanding of the risks associated with biodiversity without any notion of a company's performance, initiatives, actions or mitigation measures.

Quantitative measurement

To assess the quantitative impact of investments on biodiversity, CCR Re used data produced by Carbon4 Finance which, in partnership with CDC Biodiversité, developed a joint methodology: *Biodiversity Impact Analytics– Global Biodiversity Score (BIA-GBS)*.

The impact of investments is assessed by the biodiversity footprint, which is comparable to a carbon footprint: the larger a company's footprint, the greater the transition risk.

Methodology

The GBS tool allows for the quantitative assessment of the contribution of companies to the various pressures on biodiversity and the translation of these pressures into potential impacts using the GLOBIO model. Carbon4 Finance then applies this tool to the portfolio through BIA.

GBS calculates the biodiversity footprint of an economic activity, measured by the *Mean Species Abundance (MSA)* indicator which is the ratio of observed biodiversity to undisturbed biodiversity. The MSA indicator assesses the ecological integrity of ecosystems on a scale of 0% to 100%. As the pressure increases, the percentage decreases. Thus, a natural virgin forest will have an MSA indicator of 100% while a cement slab will have an MSA indicator of 0%.

This assessment is carried out along the entire value chain. Scopes 1, 2 and 3 impacts on the operational sites and upstream (suppliers, distribution chain, etc.) are covered in this study (downstream on a case-by-case basis).

GBS has implemented the MSA.m² equivalent which provides the quality and quantity of biodiversity: 1 MSA.km² lost is equivalent to the total destruction of 1 km² of initially intact natural landscape. This metric shows two levels of aggregation: the combination of terrestrial and aquatic biodiversity (MSAppb) and the combination of static and dynamic impacts (MSAppb*). Thus, stocks and flows of impacts are accounted for: the accumulation of past impacts represents static impacts, ongoing impacts, dynamic impacts.

This measure has its limitations, namely because of the unavailability of the data necessary for its calculation, as well as the use of approximations and the failure to take into account all the pressures identified by the IPBES (the marine environment and invasive species).

Result: Biodiversity footprint – intensity

To compare the impact of portfolios, it is necessary to use the MSA. m²/€K intensity indicator, which links the biodiversity footprint to the amount invested.

This study was carried out using the SequantisTM platform. It covered all corporate bonds and equities held directly or via looked-through dedicated funds (i.e. 29% of total assets by market value)²¹. Coverage was respectively 95% and 82% for each portfolio.

Figure 29: Biodiversity Footprint and Breakdown of Global Score by IPBES²² Pressure

	Direct Management	Dedicated Funds
MSA.m²/€K intensity		
aquatic - dynamic	0.1	0.1
aquatic - static	5.6	4.8
land - dynamic	3.3	3.4
land - static	76.7	67.5
IPBES breakdown		
Change use of land	33%	13%
Climate change	63%	76%
Pollution		
Direct operation		

Source: Carbon4Finance via SequantisTM, CCR Re

Climate change and land use are the predominant pressures exerted by the companies in which the portfolios invest. These results justify CCR Re’s initial approach of considering biodiversity in the fight against global warming.

²¹ The current methodology overestimates the impacts for sovereign bonds (it does not deduct the impact of exports in the calculation of country impacts), so CCR Re has opted to exclude them from the scope under review this year. Once the methodology matures and stabilises, this will be reconsidered.

²² Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

7. C/ Improvement Plan

CCR Re is committed to a process of ongoing improvement in terms of knowledge of concepts and the application of scientific recommendations. A number of areas for improvement have been identified in terms of understanding the risks associated with the erosion of biodiversity, which will help enhance the strategy:

- **Improving the qualitative knowledge of the portfolio's risk exposure**, specifically concerning water (from the results obtained from ENCORE) and deforestation risk (with a view to voluntarily comply with the agreement on the European regulation to fight deforestation and forest degradation of Dec. 2022)
- **Enhancing the quantitative approach by applying the SFDR and Taxonomy regulations:**
 - The SFDR regulation incorporates biodiversity issues, in particular through the 'Principals Adverse Impacts' or PAIs. These pressure indicators can feed into the funds' biodiversity analysis grid (for example with the mandatory PAI "Activities negatively affecting biodiversity-sensitive areas").
 - The 6th objective of the Taxonomy Regulation involves "the protection and restoration of biodiversity and ecosystems". It will provide a common framework for the identification of activities that contribute to the conservation or enhancement of ecosystems ("contribution" approach) and those that significantly reduce the pressures on ecosystems ("mitigation" approach).
- **Setting quantitative targets.** Once a consensus will have been reached on a key indicator to be monitored, CCR Re will be able to follow the scientific and marketplace recommendations and makes any necessary commitments.

8°: An approach that includes ESG criteria in risk management, specifically the physical, transition and liability risks associated with climate change and biodiversity.

8. A/ Identifying ESG Risks

Sustainability risk is defined in the SFDR as an “environmental, social or governance event or condition which, if it occurs, could cause an actual or potential material negative impact on the value of an investment”.

These sustainability risks are identified, assessed, and monitored on a regular basis prior to any investment and then on a quarterly basis on the inventory.

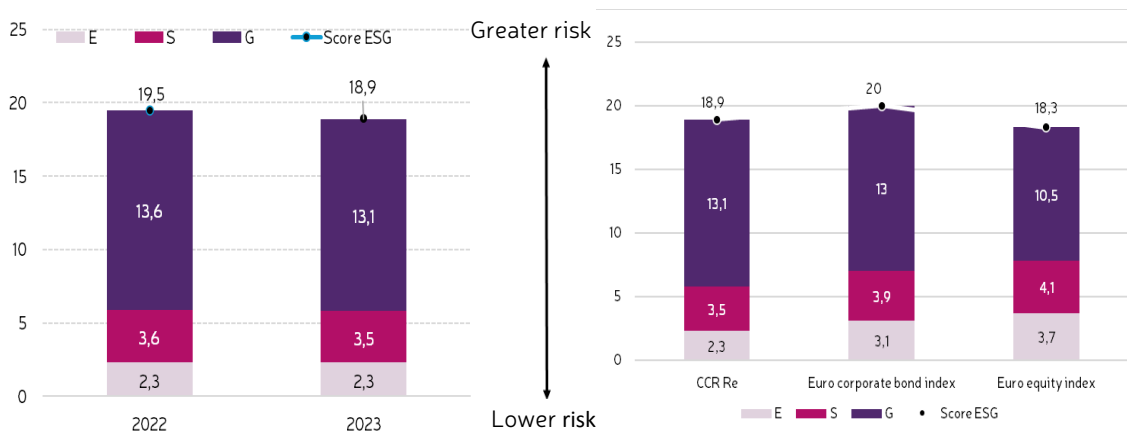
ESG criteria are integrated into investment decisions through exclusion policies and issuer selection based on ESG risk analysis and controversy monitoring. The monitoring process covers all the financial asset classes in CCR Re’s portfolio.

8. B/ ESG analysis results (excluding direct real estate)

The ESG risk of the financial portfolio is based on Sustainalytics data (via the Sequantis™ platform) and covers assets held under direct management (excluding real estate) and under delegated management (excluding non-looked-through funds), i.e. 89% of the portfolio assets.

87% of the scope is covered by analysis.

Figure 30: CCR Re ESG Risk - Historical Comparison and Benchmarks



The portfolio's ESG risk is considered low and under control

Source: Sustainalytics via SequantisTM, CCR Re

The Sustainalytics ESG Risk focuses on issuers. The types of investment in the portfolio are not taken into account. For a given issuer, the ESG score of a sustainable bond should be better than that of a conventional bond. The ESG risk of the portfolio seems overestimated to us: the ongoing investment effort in sustainable bonds is not reflected in this assessment.

Nevertheless, the ESG risk of the portfolio is low at 18.9/100, down on 2022 and below the corporate bond benchmark.

Figure 31: ESG Score by Geography and by Sector

Sector	Weight	ESG Risks	Contribution
Finance	49%	20	9,8
Public Sector	17%	13	2,2
Industry	7%	21	1,5
Discretionary consumption	5%	19	0,9
Non-cyclical consumption	4%	23	1,0
Utilities	3%	21	0,7
Information technology	3%	17	0,6
Healthcare	4%	21	0,9
Materials	2%	20	0,4
Real Estate	2%	11	0,2
Energy	1%	31	0,4
Telecom	2%	20	0,4
	99%		19,00

Geography	Weight	ESG Risks	Contribution
Europe	76%	18,7	14,3
North America	16%	20,9	3,3
Asia Pacific	3%	20,6	0,6
Africa / Middle East	2%	17,4	0,3
Latam & Carabean	1%	24,5	0,2
Supranationals	2%	7	0,2
	100,00%		18,9

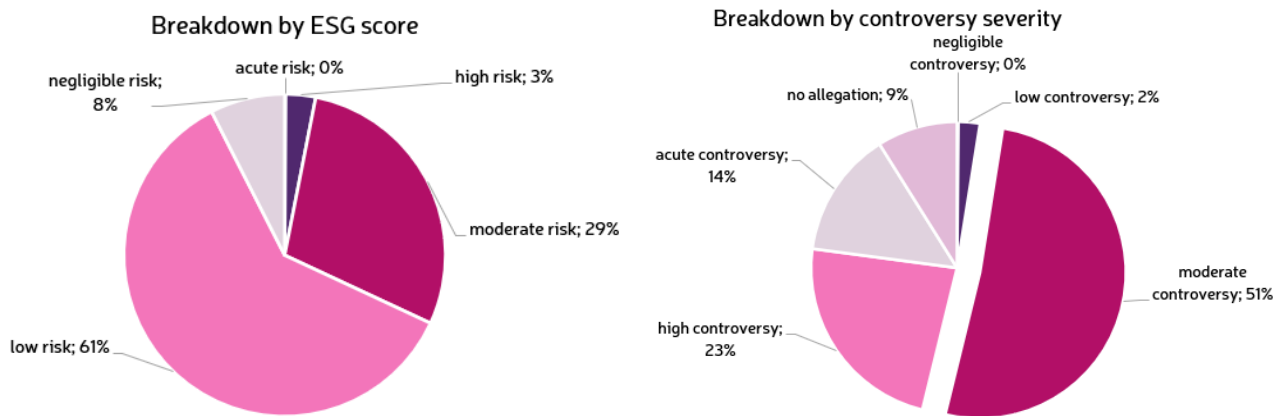
Source: Sustainalytics via Sequantis, CCR Re

The low level of ESG risk in the portfolio is primarily due to its geographical allocation and the significant weighting of European issuers.

The risk stems mainly from governance risk, which emerges essentially from the financial sector, which accounts for a significant proportion of the portfolio analysed (49%). Additionally, CCR Re has minimal exposure to high-risk sectors, with only 1% in energy.

A quantitative estimate of the financial impact of ESG risks is not presently available. However, CCR Re uses the proportion of its portfolio invested in issuers with high risk and/or facing severe controversy as an initial approach and proxy.

Figure 32: Portfolio Breakdown by ESG Score and Controversy Level



high risk	30-40
moderate risk	20-30
low risk	10-20
negligible risk	<10

Source: Sustainalytics via Sequantis, CCR Re

The distribution of ESG risks shows very low portfolio exposure to issuers with high or acute risk (above 30).

Similarly, exposure to issuers with severe (4) and very severe (5) controversy levels is extremely low.

8. C/ Climate Risks

The valuation of assets can be impacted by climate change through transition risks and physical risks, otherwise known as “Climate risks”.

To assess the financial impact of these two risks, CCR Re has chosen to use the method developed by ClimaFin, a choice justified by the scientific quality of their methodology (recognised and used by EIOPA), for its entire looked-through portfolio.

CLIMAFIN is a fintech founded by three global climate risk experts: S. Battiston, A. Mandel and I. Monasterolo. They have developed a methodology to incorporate climate scenario projections into financial valuation models. This methodology has been the subject of a series of scientific publications²³. It is referenced in the latest IPCC report and has been used by EU regulators²⁴.

Transition risk

Transition risk is the financial risk associated with the process of adjusting to a low-carbon economy: regulatory and market changes, technological innovations, and disruptions.

This transition to a low-carbon economy will generate economic shocks, particularly if it is implemented in a haphazard manner, i.e. insufficiently anticipated, poorly coordinated, or delayed.

The sectors exposed to this risk are those with high greenhouse gas emissions (fossil fuels, energy-intensive industry, agriculture, transport, etc.).

CLIMAFIN enables the NGFS²⁵ forward-looking climate transition scenarios to be translated into financial shocks, providing investors with risk metrics²⁶. Their methodology covers listed company shares, corporate bonds and loans, and sovereign bonds.

²³Namely Battiston *et al.* “A climate stress-test of the EU financial system” published in Nature Climate Change, Mandel *et al.* (2021) “Risks on Global Financial Stability Induced by Climate Change” published in Climatic Change or Battiston *et al.* “Accounting for finance is key for climate mitigation pathways” published in Science.

²⁴ See the December 2019 EIOPA report on financial stability, which uses the ClimaFin methodology: [Financial Stability Report - December 2019 \(europa.eu\)](#). The PRIs also list ClimaFin as one of the suppliers of climate risk data: [Providers of Scenario Analysis and Climate Risk Metrics | PRI Web Page | PRI \(unpri.org\)](#)

²⁵Network for Greening the Financial System, a network of central banks and financial supervisors aiming to boost the greening of the financial system. Since June 2020, the NGFS has been developing climate scenarios that explore different possible trajectories for the transition to a low-carbon economy (by simulating more or less ambitious public climate policies with varying levels of planning) and the associated physical impacts. [NGFS Scenarios Portal](#)

²⁶The method is based on the Climate Stress-test by Battiston et Al. (2017, academic reference tool)

Climafin Methodology

The transition risk model developed by Climafin considers the orderly²⁷ and disorderly²⁸ scenarios compatible with a temperature rise of between 1.5°C and 2°C. The model simulates variations in economic and technological trajectories resulting from the introduction of climate policies, comparing these to a baseline scenario (in this case the NDC trajectory²⁹). It infers the impact on the value of a financial asset as a function of the issuer's sector and technological characteristics.

For a given issuer, the shock depends on 5 factors:

- the degree of planning and the level of ambition of the GHG emissions reduction policy
- the model used to translate climate targets into macroeconomic variables³⁰
- the time horizon (2030, 2040, 2050 and 2080)
- the issuer's country of incorporation: each country has its own current energy mix, its own ambitions for 2050-2100 and its own degree of credibility,
- the economic sector³¹

The model generates a distribution of shocks, each shock corresponding to a difference between the base scenario and the simulated scenario (orderly or disorderly transition), which may be positive for sectors benefiting from the transition or negative for sectors set back by the transition.

²⁷ Orderly transition: ambitious climate policies, implemented early and strengthened gradually

²⁸ Disorderly transition: climate policies are delayed, implying a more sudden and disruptive transition to comply with the Paris Climate Agreement (2015)

²⁹Trajectory of NDCs (Nationally Determined Contributions): NDCs represent each country's efforts to reduce their greenhouse gas (GHG) emissions, to which countries commit at Climate COPs.

³⁰ Also known as IAM models: Integrated Assessment Model. Climafin uses the IAM REMIND-MAgPIE 1.7-3.0 and MESSAGEix-GLOBIOM 1.0 models, and the GEM-E3 computed general equilibrium model for

³¹Issuers are classified according to the CPRS (Climate Policy Relevant Sectors) classification defined by CLIMAFIN on the basis from of the materiality of the impact of public climate action on the sector (this materiality is three-dimensional: contribution to GHGs, role in the energy value chain, sensitivity to the cost of public action).

Figure 33: Outcome of the Transition Risk Stress Test by 2030

		Shock by Sector 2030					
		Shock with orderly transition			Shock with disorderly transition		
CPRS Sector	Weight	Shock			Shock		
1- fossil fuel	1.53%	-12.91%			-26.18%		
2- utility	1.54%	-0.76%			6.03%		
3- energy-related	7.72%	1.76%			1.48%		
4- buildings	10.52%	2.40%			2.31%		
5- transport	4.88%	1.08%			0.69%		
6-agriculture etc.	0.23%	1.84%			2.21%		
7-finance	41.73%	2.68%			2.16%		
8- scientific R&D	0.01%	0.29%			0.27%		
9-other	24.19%	0.92%			0.72%		
TOTAL	92.35%						

		Contribution by Sector 2030					
		Contribution with orderly transition			Contribution with disorderly transition		
CPRS Sector	Weight	Contribution			Contribution		
1- fossil fuel	1.53%	-0.20%			-0.40%		
2- utility	1.54%	-0.01%			0.09%		
3- energy-related	7.72%	0.14%			0.11%		
4- buildings	10.52%	0.25%			0.24%		
5- transport	4.88%	0.05%			0.03%		
6-agriculture etc.	0.23%	0.00%			0.01%		
7-finance	41.73%	1.12%			0.90%		
8- scientific R&D	0.01%	0.00%			0.00%		
9-other	24.19%	0.22%			0.17%		
TOTAL	92.35%	1.58%			1.16%		

Source: Climafin via Sequantix TM, CCR Re

Between now and 2030, the CCR Re portfolio is unlikely to lose value whether the transition is orderly or disorderly. On the contrary, the value of the portfolio would increase relative to its market trend value (+1.58% in an orderly transition and +1.16% in a disorderly transition), demonstrating the resilience of the portfolio, in contrast to benchmark indices with a negative shock in a disorderly transition (-0.32% for the eurozone corporate bond index and -1.19% for the eurozone equity index).

Its diversification helps to smooth out shocks, especially as portfolios are well exposed to low-carbon activities that support the transition.

The most penalising sector is the fossil fuel sector, which is most directly impacted by the transition risk. Because of its low weighting in the portfolio, it does not cause an overall negative shock.

Physical Risk

Physical risk refers to damage caused to property, people, and natural capital as a result of climate-related events, which can be of two types:

- Slow changes in climate conditions (rising water levels, gradual increase in temperature, deterioration in soil quality, etc.), corresponding to **chronic risks**;
- Sudden and unpredictable weather phenomena (hurricanes, fires, drought, etc), which will increase in intensity and frequency, represent **severe risks**.

The TCFD identifies two main transmission channels through which these shocks will spread to the economy: the deterioration of physical assets and the disruption (or even interruption) of operations (value chain, workforce, sales, etc.).

Methodology

Climafin covers to date four physical risks³²:

- coastal flooding
- river flooding
- hurricanes/cyclones
- forest fires

To simulate the loss of production assets for each counterparty, CLIMAFIN uses the geolocation of production sites³³ and on Sequant's sector-based activity (breakdown between intangible and tangible assets). This loss is reflected in the model by a loss of production assets and future cash flows, and therefore in the valuation of the impacted issuers³⁴.

³² For each of these risks, Climafin relies on climate impact models developed by recognised scientific consortia (DIVA, Hinkel *et al.* 2018 for coastal flooding; GLOFRIS, Ward *et al.* 2018 for river flooding; Ranson *et al.* 2014 for hurricanes; Howard 2014 for forest fires).

³³ Geographic granularity is 50*50 km

³⁴ Vulnerability is reflected differently across asset classes. For example, for a sovereign bond, the shock translates into a change in tax revenues and expenditure, whereas for a corporate bond, the shock translates into a change in the probability of default (see [CLIMAFIN Handbook: Pricing Forward-Looking Climate Risks Under Uncertainty by Stefano Battiston, Antoine Mandel, Irene Monasterolo :: SSRN](#))

Figure 34: Physical Risks: Estimated loss³⁵ by Peril until 2030 under RCP 4.5 Scenario

RCP 4,5 - 2030 Physical hazards	CCR Re	Corporate bond index - ZE	Equity index - ZE
Coastal flooding	0,23%	0,11%	0,35%
River flooding	0,45%	0,31%	1,16%
Wildfire	0,00%	0,01%	0,01%
Hurricane	0,18%	0,09%	0,53%
Total	0,86%	0,52%	2,05%

Source: Climafin via Sequantis TM, CCR Re

The portfolio's value at risk due to physical climate risks is low between now and 2030. It is 0.86% in a RCP 4.5 scenario (i.e. global warming between 1.1°C and 2.6°C). The main risk to which the portfolio is exposed is river flooding, while the risk of forest fires is negligible.

The portfolio therefore seems highly resilient, especially when compared to the benchmark indices. Portfolio diversification in terms of geography and sector helps limit the extent of the shock.

It should be noted that the financial loss is underestimated here, as extreme events are considered to be independent and uncorrelated. This limitation is one of the areas for improvement on which Climafin is currently working to refine its methodology.

Figure 35: Sector-Based Allocation of Physical Risk - RCP 4.5 Scenario until 2030, Main Sectors

Sector	Weight	Total	Coastal	River	Wildfire	Cyclone
K - Financial activities	43,65%	0,42%	0,12%	0,21%	0,00%	0,09%
C - Manufacturing	14,12%	0,13%	0,02%	0,07%	0,00%	0,04%
L - Real Estate	10,61%	0,12%	0,04%	0,06%	0,00%	0,02%
O - Public Administration	12,00%	0,06%	0,01%	0,04%	0,00%	0,01%

Source: Climafin via Sequantis TM, CCR Re

³⁵99% Value at Risk: product of counterparty exposure (capital intensity and geographical distribution of assets) * hazard (according to IPCC climate scenario and adaptation scenario) * vulnerability (damage intensity according to climate impact models).

Figure 36: Geography-Based Allocation of Physical Risk - RCP 4.5 Scenario until 2030, Main Countries

Country	Weight	Total	Coastal	River	Wildfire	Cyclone
K - Financial activities	41,26%	0,43%	0,13%	0,21%	0,00%	0,09%
C - Manufacturing	10,09%	0,10%	0,01%	0,09%	0,00%	0,01%
L - Real Estate	5,30%	0,05%	0,02%	0,01%	0,00%	0,02%
O - Poublic Administration	6,47%	0,04%	0,01%	0,03%	0,00%	0,01%

Source: Climafin via Sequantis TM, CCR Re

Furthermore, this information is based on an analysis the accuracy of which depends on the granularity of the information available (sector/geographical breakdown). 13.4% of the portfolio is subject to an in-depth breakdown³⁶, 11% to an average breakdown³⁷ and 75.6% to a basic breakdown³⁸. The results will be refined as the census of issuers evolves.

Climate-related financial risks face uncertainties linked to the implementation of collective action and its consequences, as well as uncertainties related to climate change and its consequences.

However, CCR Re notes that the objective of raising awareness and strengthening expertise is at least as important as the results of the risk assessment itself.

Exposure of Directly Held Real Estate to Climate Risk

Definition

The climate risk a building faces depends on its exposure to various climate hazards and its vulnerability to these hazards.

For a given climate hazard, a building's exposure is measured by the nature, intensity, and frequency of the hazard, along with the environmental factors that may enhance or mitigate its impact.

A building's vulnerability depends on its sensitivity, determined by technical criteria such as construction choices, and its usage factors, which include adaptation measures and crisis management processes.

The risk of climate-related hazards can therefore be assessed on the basis of a cross-analysis of exposure and vulnerability.

³⁶Geographical locations of production sites and primary activities

³⁷National location and primary activities

³⁸National location and NACE code

Risk Assessment for Buildings in France

To assess the exposure of its real estate portfolio to climate risks, CCR Re has opted to use the Bat ADAPT tool, newly integrated into the R4RE platform of the *Observatoire de l'Immobilier Durable* (OID).

This tool uses different types of data:

- Exposure levels are based on cross-references between various forward-looking climate indicators (projected climate risk for different levels of warming)
- Territorial indicators are not forward-looking (known existence of certain parameters of the territorial context relating to the risk studied, to date) and depend on location

To date, Bat-Adapt evaluates medium-term (2050) exposure to four hazards under an IPCC business-as-usual scenario (RCP 8.5 or SSP5-8.5): heat waves, droughts, precipitation, floods, and extreme cold.

Regarding vulnerability and cross-analysis, they pertain exclusively to the two hazards of heat waves and flooding.

By cross analysing a building's vulnerability with its exposure to climate risk, a risk level can be determined for each hazard. A higher score indicates a greater risk.

CCR Re's entire real estate portfolio is located in the Greater Paris region, which is highly exposed to the heatwave hazard.

However, 78% of its properties have a low level of vulnerability and 22% a medium level. Cross-analysis indicates a significant level of risk from the heatwave hazard.

44% of CCR Re's buildings have a low exposure to flooding and 56% a medium exposure.

The vulnerability of the overall portfolio is high, mainly due to the presence of lower-ground floors, which has an impact on this result.

Cross-analysis indicates a medium to high level of risk from flooding.

8.D/ Risks associated with the erosion of biodiversity

Three categories of risk are related to the erosion of biodiversity:

- Physical risks resulting from the potential loss of ecosystem services on which economic activities depend. These risks may be chronic (more long-term, resulting from changes in environmental conditions) or acute (resulting from one-off events)
- Transition risks defined as the exposure to changes brought about by the ecological transition. They occur when the actions of an economic player do not align with stakeholders' expectations regarding biodiversity. These risks may be political, market-related, technological, or reputational

- Liability risks arising from legal action under regulations or case law relating to the protection of nature

The aim of risk analysis is to identify the financial materiality of a company's impacts and dependencies on biodiversity, based on the specific characteristics of the risk: its nature (current or emerging, exogenous or endogenous), its occurrence, its intensity, and its timeframe.

Particular attention must be paid to the difference between the gross risk faced by the company and the measures implemented to control or mitigate this exposure, in order to determine the net risk.

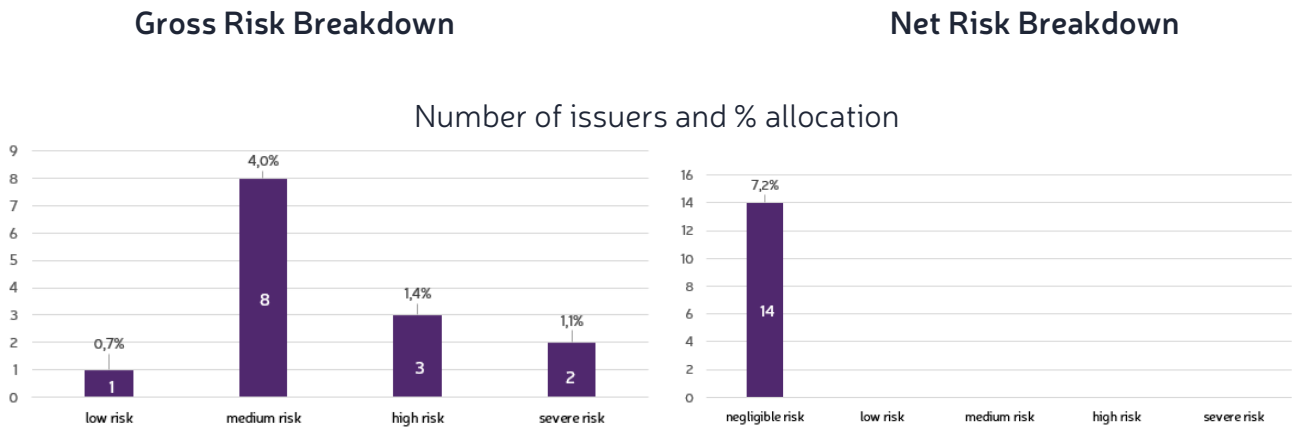
To quantify biodiversity risks financially, CCR Re opted as a first step to identify the proportion of its portfolio at risk and the amounts invested in high-impact sectors, using data provided by Sustainalytics³⁹. This risk study is conducted quarterly on the portfolio of corporate issuers directly managed by CCR Re.

CCR Re presents here the analysis of the listed corporate issuers of the directly held bond portfolio, i.e. 48% of this portfolio (representing 33% of CCR Re's total assets). The approach taken is conservative and cautious, as CCR Re does not differentiate between green and non-green bonds. Given CCR Re's investment in issuers through various financial instruments, it has opted to focus on issuers rather than incorporating a bond-type distinction, which may result in a slight overestimation of risk.

It is the exposure to the 'land use and biodiversity' risk by Sustainalytics, as well as the quality of the management of this risk, that are studied. This issue focuses on how companies manage the impact of their own operations on land, ecosystems, and wildlife. Topics covered include land conversion, land rehabilitation and forest management, as well as the protection of biodiversity and ecosystems. This issue is considered material for several industries: commercial services, food products, consumer services, chemicals, diversified metals, oil and gas producers, paper and forestry, precious metals, refiners and pipelines, steel, traders and distributors, utilities and transport infrastructure.

³⁹ The implementation of forward-looking scenarios, which would offer a more comprehensive and detailed perspective (similar to those used for climate risks), hinges on the development of credible methodologies.

Figure 37: Exposure to Biodiversity Risk in terms of Number of Issuers and Portfolio Weight (Gross and Net)



Only 14 issuers, representing 7% of this portfolio allocation, are materially exposed to the ‘land use and biodiversity’ issue.

Gross exposure is mainly categorised as low risk (8 issuers representing 4% of the portfolio) and CCR Re does not have any companies in its portfolio facing severe risk. All issuers have strong management executives, so residual risk is limited and becomes negligible. In fact, the risk can be limited by existing good practice in the sub-sectors (specific programmes, certification, transparency, communication with local communities, etc.).

CCR Re has chosen to complement this approach by identifying the issuers in its portfolio affected by:

- An environmental controversy within its own operations and in its supply chain concerning the issues at stake. Controversies relate to two issues: ‘Land use and biodiversity’ (incidents of non-compliance with sustainable land use practices, resulting in negative impacts on land or ecosystems) and ‘Water use’ (incidents of excessive water use associated with a company’s operations in areas where water is scarce).
- A business that is significantly detrimental to biodiversity; this includes palm oil, fur and leather, pesticides, and genetically modified organisms.

CCR Re does not have any positions involving issuers facing significant environmental controversy⁴⁰ or issuers generating high revenues from significantly harmful businesses⁴¹.

⁴⁰ Level 4 and 5 controversies are considered significant

⁴¹High income is defined as income in excess of 25% of turnover

APPENDICES

1. Exclusion policy
2. Fossil fuel policy
3. Climafin stress test
4. Focus on methodology

Appendix 1 – CCR Re’s Exclusion Policy

Exclusions apply:

- to new investments: there may be issuers in stock related to the excluded theme which were therefore owned prior to the adoption of the said exclusion,
- to direct management investments. Dedicated funds are rolled out according to a specific timetable and problematic positions are reviewed with the management companies

Regulatory exclusions

- | | <u>Adoption
year</u> |
|--|--------------------------|
| <ul style="list-style-type: none"> - Controversial weapons: This means companies involved in the production, use, stockpiling, marketing or transfer of anti-personnel mines or cluster bombs, which are prohibited by the Ottawa (1999) and Oslo (2010) conventions | 2020 |
| <ul style="list-style-type: none"> - Companies or countries that may be subject to an embargo or financial sanction: This means companies and states that do not comply with anti-money laundering and anti-terrorist financing regulations, states under embargo, states and territories deemed non-cooperative in terms of tax information exchange by the Financial Action Task Force (FATF) | 2020 |
| <ul style="list-style-type: none"> - Companies that flout the principles of the International Labour Organisation. | 2020 |

Sector-based exclusions

- | | |
|--|----------------------|
| <ul style="list-style-type: none"> - tobacco: tobacco producers (2020) | |
| <ul style="list-style-type: none"> - Fossil fuels: companies expanding in the coal, oil and gas sector; with specific thresholds and criteria for thermal coal (in particular companies generating more than 10% of their sales from coal mining or coal-fired power generation). | Initiated
in 2020 |
| <ul style="list-style-type: none"> - Non-sustainable palm oil: issuers with palm oil sales exceeding 5% and which are not ‘Roundtable on Sustainable Palm Oil’ (RSPO) certified | 2022 |

ESG exclusion

- | | |
|---|------|
| <ul style="list-style-type: none"> - Red-zone issuer: Any issuer with severe ESG risk (above 40 on the Sustainalytics scale) and facing acute controversy (Sustainalytics level 5) | 2022 |
|---|------|

Appendix 2 – CCR Re's Fossil Fuel Policy

Exclusions apply to new investments: there may therefore be positions on the issuers related to the excluded theme which were therefore owned prior to the adoption of the said exclusion.

Fossil Fuels: coal, oil and gas

Since 2022, CCR Re no longer finances issuers with fossil fuel development projects (expansion plans for infrastructure, mines, power stations or production capacity, transformation, transport - all parts of the value chain are therefore concerned: upstream, midstream, downstream). This exclusion has been applied to the coal sector since 2021 and to non-conventional hydrocarbons since 2022.

Possible exception: Issuer committed to a greenhouse gas reduction trajectory compatible with the goal of the Paris Agreement to limit global warming under 2°C, or if the financing involves a financial vehicle dedicated to the energy transition (namely green bond).

Covered scope: direct management (2023) and dedicated funds for delegated management (2024)

Specific thermal coal policy: coal phase-out by 2030 for all portfolios

Application conditions:

- Exclusion of companies with a coal-related portion of their income exceeding 10% of their turnover, except in cases involving a green bond or if the issuer has a credible transition plan.
- Exclusion, until 2025, of companies with installed coal-fired capacity in excess of 10 GW. From 2026, this threshold will be lowered to 5 GW.

Covered scope: direct management (2020) and dedicated funds for delegated management (2022)

Specific policy for unconventional hydrocarbons: Exit by 2030

Application conditions:

Exclusion of issuers producing unconventional hydrocarbons (upstream phase) unless it is a green bond and/or the issuer has a credible transition plan

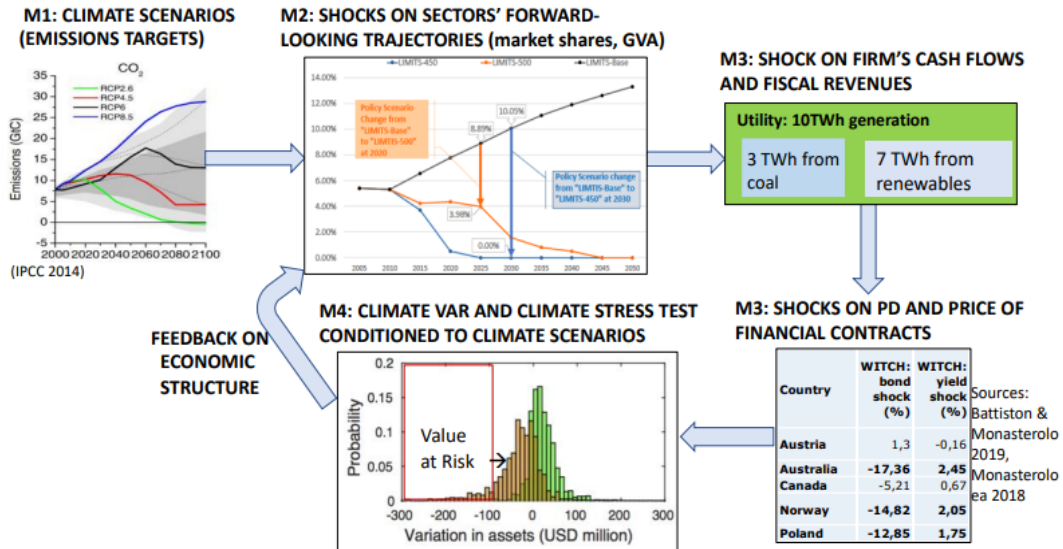
Covered scope: direct management (2022) and dedicated funds for delegated management (2023)

Definition of unconventional hydrocarbons: coalbed methane or coal seam gas; tight oil and gas reservoir; oil shale and shale oil; shale gas and shale oil; oil from tar sands; extra-heavy oil; ultra-deep offshore oil and gas; and fossil oil and gas resources in the Arctic (as defined by the Arctic Monitoring and Assessment Program). Definition in line with that of the Scientific and Expertise Committee and based on the geological characteristics of hydrocarbon reservoirs (including reservoir viscosity and permeability), as well as on extraction methods.

Appendix 3 - Climafin Stress Test

Transition risk

The Climafin methodology is based on four modules:



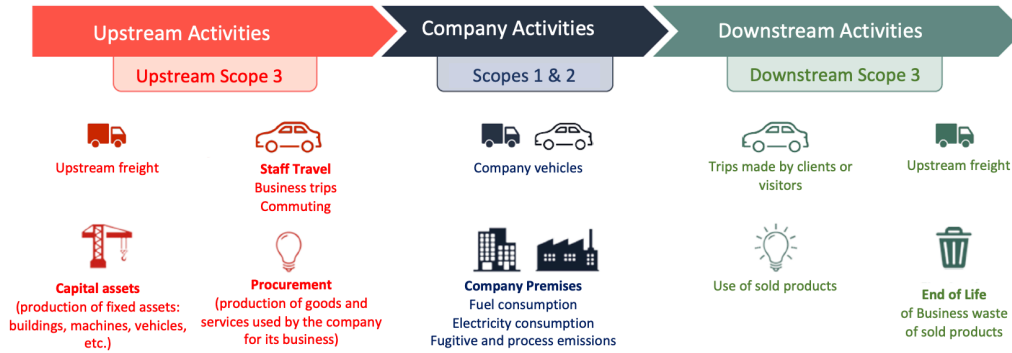
1. Set of scientific information, economic and market trajectories (IPCC, IAMs.)
2. Information on (positive and negative) economic shocks associated with the transition scenario, broken down by economic activity and by region
3. Integrated forward-looking approach
4. Translation into financial risk metrics

Physical Risk

Description of the methodology of shock transmission channels by financial instruments: [CLIMAFIN Handbook: Pricing Forward-Looking Climate Risks Under Uncertainty by Stefano Battiston, Antoine Mandel, Irene Monasterolo: SSRN](#)

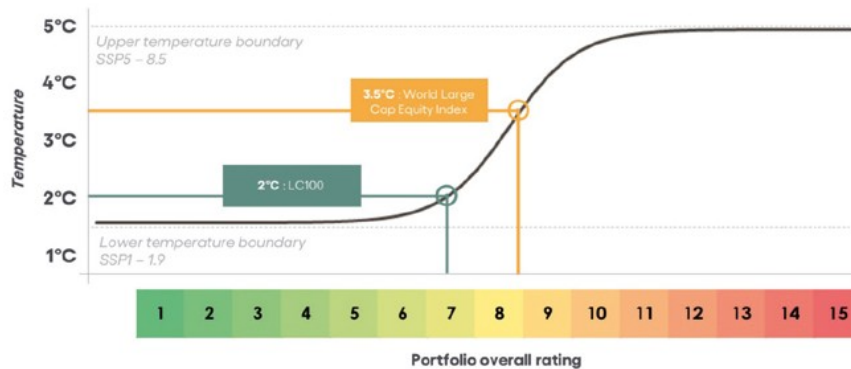
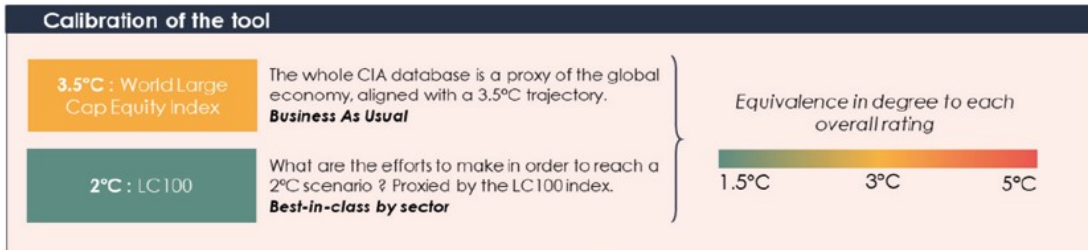
Appendix 4- CIA Method, Focus on the Calculation of the Carbon Footprint

Scopes 1, 2 and 3



The methodology and sources used are based on the Greenhouse Gas Protocol developed by the WRI and the WBCSD.

Scenarios used



Appendix 5– Double-Counting Treatment in the CIA Methodology

Double counting emissions occurs when the same tonne of GHG emissions is counted more than once in a portfolio, usually due to the compilation of induced and saved emissions:

- Within the sectoral value chain
- Between different sectors of the world economy
- Within a sovereign entity and all the companies included in such entity.

The CIA methodology treats each case separately to minimise double-counting issues.

Double-counting treatment in the same value chain

Measuring Scope 3 indirect emissions can lead to double counting for companies in the same sector - at company level - particularly for vertically integrated companies.

To avoid this first double-counting set, CIA considers that the sum of all induced emissions and saved emissions that have been accumulated in the creation of the final product is proportional to the company's value in creating the final product. The total induced emissions and saved emissions from sold products (quantified at company level) are multiplied by the company's share of the total value added along the value chain. However, the value added by a company on specific products is rarely disclosed, so the CIA methodology calculates the company's share in its value chain.

Thus, for a given product category, multiplying the indirect emissions induced by the company's share in the value chain becomes equivalent to multiplying the indirect emissions induced by €1 of the final product by the company's added value, in financial terms. The same rule applies to saved emissions.

Double-counting treatment between different sectors of the world economy

Double counting also tends to occur between three categories of players in the global economy:

- Energy suppliers (e.g. the oil company that supplies fuel)
- Energy and carbon intensive businesses (e.g. trucking companies)
- Companies providing equipment and solutions (e.g. the truck manufacturer).

Therefore, the CIA methodology restates the total GHG emission figures by allocating one third of the emissions from each category. Both induced emissions and saved emissions are restated in this way, eliminating most multiple counting at portfolio level.

Treatment within a sovereign entity and all the companies included in such entity.

Another double counting elimination is applied to the portfolios. Indeed, on the macroeconomic front, GDP is impacted by corporate and sovereign income. To eliminate multiple counting issues in the portfolios, a ratio is applied to each category of issuer, representing the share of the company or sovereign in the average GDP.



The following figure describes how CIA specifically solves this double-counting problem.

With these three principles, the CIA methodology avoids the most common problems of double counting. In addition, the separate treatment of induced emissions and saved emissions provides valuable information, especially as the results are not distorted and highly comparable.

Appendix 6 - Definition of Biodiversity and Pressures from Human Activity

There are several levels of biodiversity:

- Genes: what makes us up
- Species: living things
- Ecosystems: things that are not alive

Biodiversity can be broken down into 8 natural capital assets...:

Atmosphere	Minerals	Land relief	Species
Habitats	Underwater relief	Soils and sediments	Waters

... which each provide ecosystem services that can be grouped under 4 major themes:

- Supply: tangible benefits that can be derived from ecosystems (which can be from plants or animals)
- **Regulation: to make the planet habitable (e.g. climate regulation through carbon sequestration)**
- Housing: that which enables living species to live and reproduce in a suitable environment
- Cultural aspect: the intangible or spiritual benefits that humanity can get from ecosystems through knowledge enhancement.

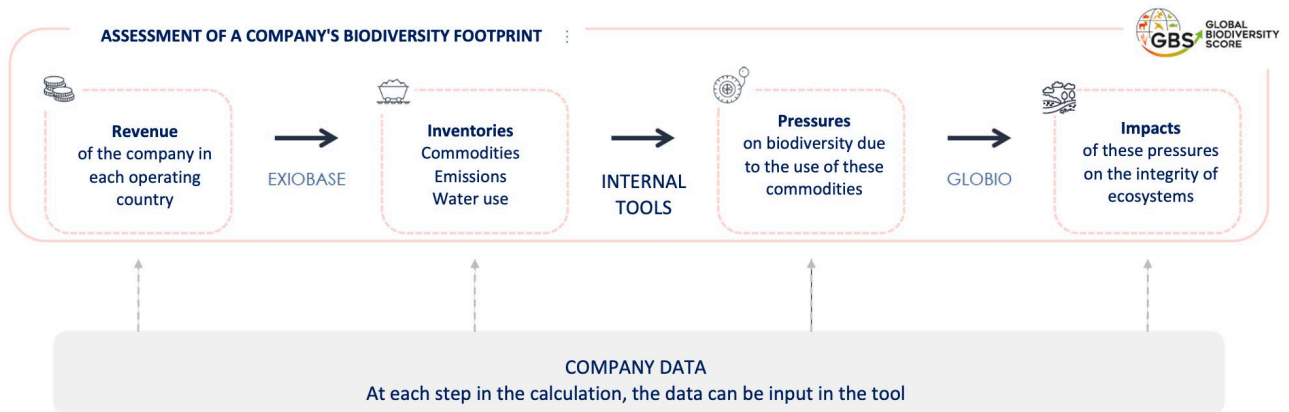
Appendix 7 - BIA GBS: Methodology

IPBES has mapped five main direct pressures responsible for biodiversity loss.

The GBS model covers most of it:

IPBES PRESSURES	GBS / GLOBIO PRESSURES		
	Terrestrial	Freshwater	Marine
Land and Sea change of use	Use of land Fragmentation Riprap	Conversion of humid areas	Not covered
Direct exploitation	Pressure due to the extinction of resources (agriculture, wood, mines, etc.)	Hydrologic system disturbance due to water use	
Climate change	Climate change	Hydrologic disturbance due to climate change	
Pollution	Atmospheric nitrogen deposition Ecotoxicity	Use of land in humid areas Eutrophication of freshwater Ecotoxicity	
Invasive species	Not covered		

GBS assesses the pressures on biodiversity and their impact on the state of ecosystems using the GLOBIO model.



Source: Carbon4Finance



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