2022 REPORT

CCR GROUP, A RESPONSIBLE INVESTOR

GROUPE
CAISSE CENTRALE DE RÉASSURANCE

CCR | CCR RE

2022
HIGHLIGHTS

29% of the group portfolio is composed of ESG-Climate assets

96% of the portfolio of assets looked-through
87% of the collective funds

Signatory to the CDP (formerly Carbon Disclosure Project)

8.4% of the group portfolio is composed of directly held sustainable bonds

Strengthened commitments to align portfolios with a 1.5°C trajectory

Adoption of a new sector-based exclusion: non-sustainable palm oil

100% of partner management companies are signatories to the PRI

50% of CRE buildings with a certification

100% of residential and CRE buildings supplied with green energy

EDITORIAL

Bertrand LABILLOY
Chief Executive Officer

Laurent MONTADOR
Deputy CEO

We are pleased to present in this report the key elements of the CCR Group's responsible investment approach and the way in which the CCR Group integrates environmental, social and governance (ESG) criteria into its investment activities, as well as the way in which it contributes to the government's policy for adapting to climate change, the energy transition, and the preservation of biodiversity.

For each of these themes, the report describes the progress made in 2022 in terms of resources deployed, achievements and results obtained.

Our ongoing improvement approach is applied to all the asset classes invested in, specifically by looking through the investment portfolio, which guarantees the quality and exhaustiveness of the data used to produce this report.

For the 2nd year in a row, the asset look-through rate is significant, at 96%.

To promote greater transparency, the CCR Group joined the CDP initiative this year, which aims to encourage issuers to commit to disclosing their environmental policies.

The integration of extra-financial criteria is carried out jointly by ESG analysts and fund managers, which contributes to a good balance between financial and extra-financial performance. The decision to exclude the financing of any new fossil fuel development project is an illustration of the CCR Group's commitment to the climate.

All these efforts and initiatives are yielding results. The CCR Group is therefore positioning itself as one of the market leaders, having strengthened its commitment to biodiversity and climate protection.

These improving results testify to the commitment of all employees to responsible management of the environment and social balance, in line with the group's missions and the direction sought by its shareholder and customers. The voluntary disclosure of this report is also an illustration of this.

They namely address the urgency of climate change, which is confirmed by the group's own studies on the evolution of natural catastrophes by 2050 and also, unfortunately, by the extreme weather events that hit the news in 2022 with the drought for example turning out to be the costliest event for the natural catastrophe compensation scheme since its inception.

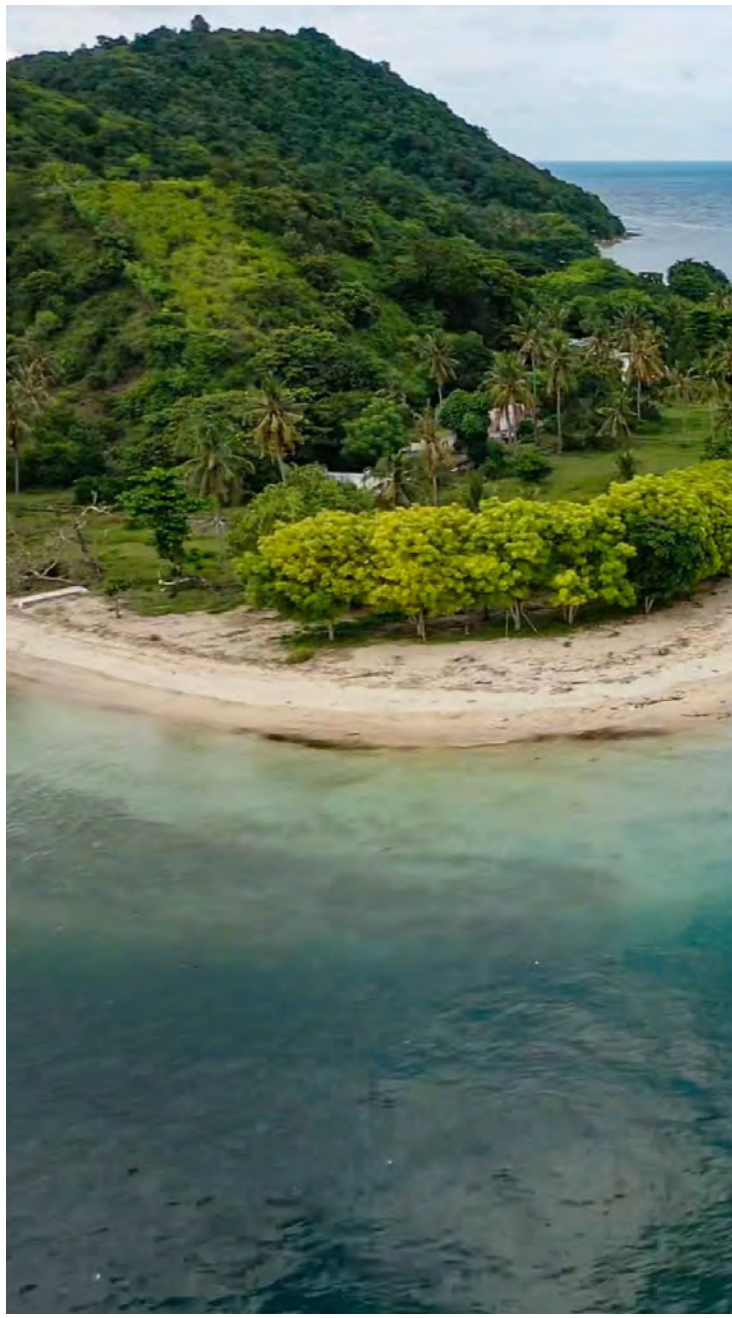
Our ambition is to pursue these important efforts in the long term to stay on top of the issues at stake.

We are working hard and consistently at it with the support of our customers, the public authorities and our partners in the scientific ecosystem, making sure to keep in line with the founding principles of the company. Finally, we are committed to our role as a responsible company and are pursuing our artistic and humanitarian patronage commitments.

CONTENTS

This report, published on a voluntary basis, 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 Group portfolio as of 31 December 2022. It also presents the information recommended by the Task Force on Climate-related Financial Disclosure (TCFD).

01. CCR GROUP, A RESPONSIBLE STAKEHOLDER



Energy Observer - Indonesia

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PROFILE AND MANDATE **OF THE CCR GROUP**

The Caisse Centrale de Réassurance Group, owned by the French State, with more than 75 years' experience in public and open market reinsurance, ranks among the 30 leading international reinsurance players.

As a public reinsurer serving the public interest, CCR provides insurance companies operating in France with state-guaranteed coverage against natural disasters and uninsurable risks.

CCR Re is an international multi-specialist reinsurer and a subsidiary of CCR. It offers L&H, P&C and Specialty lines in France and in 80 countries worldwide.

The Caisse Centrale de Réassurance Group is a key player in the field of reinsurance, recognised for its expertise in risk management, its agility and the quality of its scientific research.

For more than fifteen years, the company has been carrying out research and development work in the field of natural catastrophes. The modelling research carried out in partnership with French scientific organisations is aimed at gaining a detailed understanding of the phenomena and their impact in terms of insured damage. They help to strengthen risk culture and identify good practice in terms of prevention and crisis management.

CCR models have been used to carry out prevention studies, in particular within the framework of the agreement with the DGPR (French Ministry of Ecological Transition), the goal of which is to make CCR's expertise available to central and decentralised government departments to assist decision-making processes. In 2022, for example, CCR used its internal models to quantify the costs associated with drought, and supported government departments in drawing up and assessing prevention policies.

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2022 DROUGHT

The precipitation deficit in France for the year 2022 varied between 15 and 25%, including record months such as July which recorded an 85% deficit. The first seven months of the year were the driest on record. In terms of event duration, this drought turns out to be the 3rd longest drought ever recorded, and it lasted 8 months. It is also one of the most extensive in terms of area, with three quarters of France affected.

90 departments
affected by drought.

FROM CCR GROUP'S RESPONSIBLE STRATEGY…

The CCR Group's reinsurance strategy is based on three principles that derive from CCR's own business:

- **Principle of solidarity:** Through the public reinsurance scheme implemented with its member insurance companies, the CCR Group provides companies and individuals with access to affordable coverage for exceptional events and reimbursement in the event of claims;
- **Prevention of physical risk:** the CCR Group is a recognised reference[1] in the scientific field of research and management of physical risk linked to natural catastrophes and a multi-specialist player in other classes of insurance.
- **Societal support:** the CCR Group covers the risks of natural catastrophes to which populations are exposed and maintains an affordable insurance offer throughout France, including in the most vulnerable regions.

… TO A RESPONSIBLE INVESTMENT STRATEGY

Backed by the strength of this strategy, as soon as its first ESG - Climate report was published in 2016[2], the CCR Group has been committed to an ongoing improvement process to include environmental, social and governance (ESG) criteria within its investment decisions.

The year 2019 gave the CCR Group the opportunity to detail its responsible investor strategy and to formalise its responsible investment charter and policy.

In 2020, beyond the regulatory framework, the CCR Group voluntarily strengthened the integration of climate-related risks into its practices, by following the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

2021 marks a new development in extra-financial publication in accordance with the application decree of Article 29 of French Act 2019-1147 of 8 November 2019 on energy and climate.

The CCR Group is not subject to the requirements of EU Regulation 2019/2088 on Sustainability-related Disclosures in the Financial Services Sector *(SFDR - Sustainable Finance Disclosure Regulation)* and the EU Regulation 2020/852 on sustainable investments (the so-called "EU Taxonomy"). Nevertheless, it incorporates some of their provisions to pursue its efforts to continuously improve in extra-financial matters.

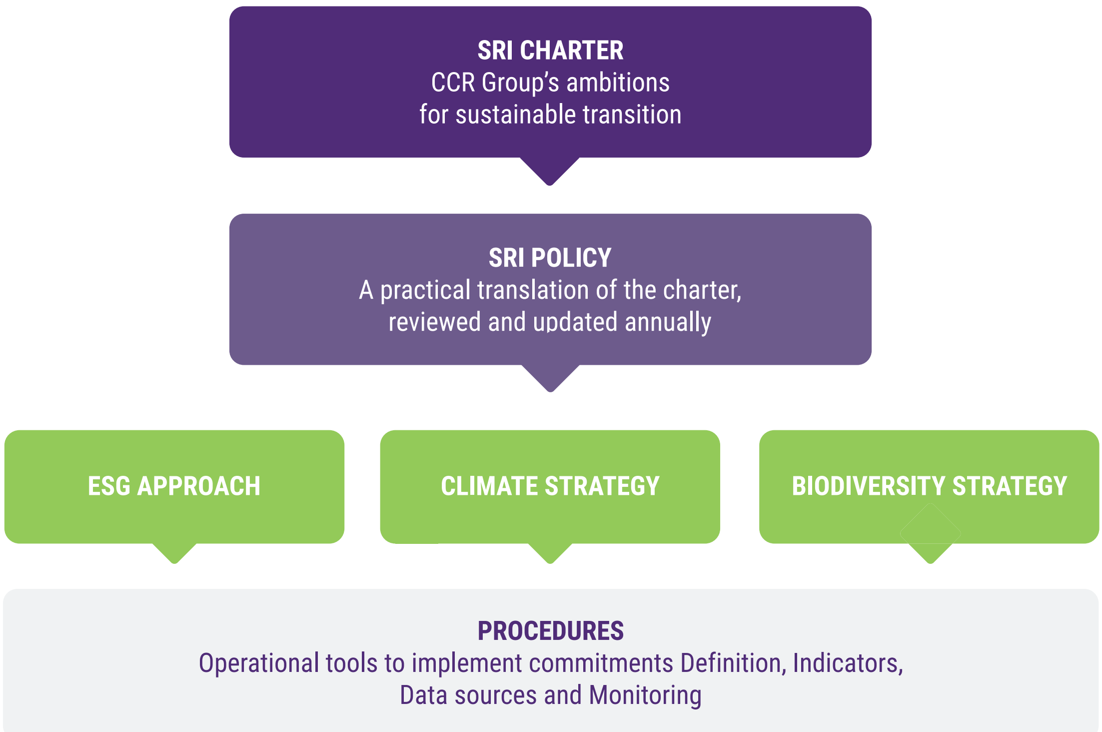
In 2022, COP15 took place in Kunming and Montreal, which led to the development of a new global framework for biodiversity, on which the CCR Group has based its biodiversity strategy.

1 Advisory role for the ACPR, Agreement with the MTE, Act of 28/12/2021, Art 8
2 In accordance with Article 173(VI) of the French Act of 17 August 2015 on the energy transition for green growth

THE RESPONSIBLE **INVESTMENT STRATEGY**

In 2019, the CCR Group adopted a SRI charter that defines its strategy and policy on responsible investment.

Figure 1: Operational implementation of the SRI Charter



A. SOCIALLY RESPONSIBLE INVESTMENT (SRI) CHARTER AND POLICY

This charter is based on three pillars:
- **Pillar 1 :** Prevention of transition risk
- **Pillar 2 :** Adaptation to physical risk
- **Pillar 3 :** Supporting societal transition

Through this charter the CCR Group has chosen:
- On the one hand, to strengthen the management of risks (transition, physical and ESG risks) by integrating them into its investment policy and by measuring their impact on the portfolios
- On the other hand, to contribute to the financing of initiatives supporting the environmental and societal transition.

The CCR Group's commitment is based on three pillars: committing, measuring, 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 for the Group.

Figure 2: Overall target to contribute to the long-term performance of the CCR Group

AMBITIONS	COMMIT, MEASURE, FINANCE in favour of a just green transition, taking into account the risks associated with global warming and the erosion of biodiversity		
	SRI CHARTER		
PILLARS	**Prevention of transition risk**	**Adaptation to physical risk**	**Supporting societal transition**
RISK MANAGEMENT	• Exit from coal and unconventional hydrocarbons by 2030; exclusion of development projects in fossil fuels • Climate analysis: carbon footprint scopes 1, 2 and 3; Carbon Impact Ratio; Taxonomy green share; brown share; temperature • Biodiversity analysis: quantitative footprint; qualitative impact matrix	• Climate analysis: - financials: quantitative measurement (Value at Risk calculation) - real estate: vulnerability scores • Biodiversity analysis: qualitative dependency matrix	• Analysis of issuers' ESG risk • Controversy monitoring • Sector-based and regulatory exclusions
INVESTMENTS	• Investments in green impact funds • Direct investments in green bonds	• Financing of assets designed to adapt to climate change	• Direct investments in social and sustainable bonds • Investments in social impact funds • Encouraging management companies to vote at general meetings

B. PORTFOLIO STRUCTURE AND LOOK-THROUGH

In 2022, the CCR Group continued improving the information provided on its portfolios. The CCR Group indeed considers the use of comprehensive and quality data to be fundamental.

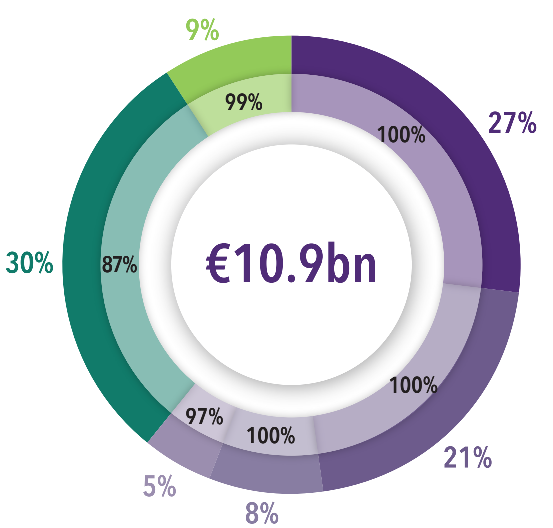
Fine granular understanding is needed on two levels:
- On the portfolio: which issuers are held, including in open-ended collective funds. To this end, the entire portfolio is systematically looked through. This practice goes well beyond the regulatory requirements applicable to the Group.
- On data provider methodologies: a series of audits was carried out, with the help of CCR's climate experts among others.

The CCR Group is committed to transparency and ongoing improvement.

The CCR Group's management of assets is primarily driven by liability constraints within the framework of prudent management.

As of 31 December 2022, the CCR Group had €10.9 billion of assets under management.

Figure 3: CCR Group portfolio structure as of 31 december 2022, and % looked-through (% by investment category; market value).



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

This detailed knowledge of the portfolio is deemed essential for risk monitoring.

With this approach, the CCR Group is fully in line with an approach valued and recommended by Febelfin as part of its *"Towards Sustainability"* label, which promotes clarity and transparency around sustainable investments: *"[evaluating the eligibility of financial assets for a socially responsible portfolio] As a guideline, when evaluating a more complex portfolio, one should look through the intermediate structures until the entities in the real economy that are being financed by the investment are reached, i.e. corporates and/or governments"*[3].

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.

96% OF THE PORTFOLIO, ALL ASSET CLASSES COMBINED, IS LOOKED-THROUGH IN 2022

Equities and corporate bonds (direct)	27%
Sovereign bonds (direct)	21%
Real Estate (direct + SAS)	8%
Dedicated Funds	5%
Collective funds	30%
Money Market	9%

3 SustainableFinancialProducts_QualityStandard_Final (febelfin.be)

C. ESG-CLIMATE-BIODIVERSITY ANALYSIS TOOLS

To include sustainability criteria into the investment process, managers use the Sequantis Transition Monitor (SequantisTM) platform to monitor ESG-Climate-Biodiversity indicators applied to direct and looked-through portfolios (excluding direct real estate).

In addition, the CCR Group continued to audit a large number of databases, to understand the methodologies applied and to choose the indicators most in line with its SRI Charter. Following this audit, the CCR Group chose to call on CLIMAFIN, a player recognised by EIOPA for the financial quantification of physical and transition climate risks.

The direct subscription to Sustainalytics in 2022 strengthened the consistency of our SRI approach. The data is used in the management processes for both directly held assets and delegated funds (via the Morningstar tool). In addition, it also improved the understanding of the data (through access to qualitative analysis, dialogue with analysts, etc.).

In addition to using external service providers, the CCR Group is developing proprietary analyses to better understand and integrate external quantitative data and strengthen its qualitative analysis of issuers.

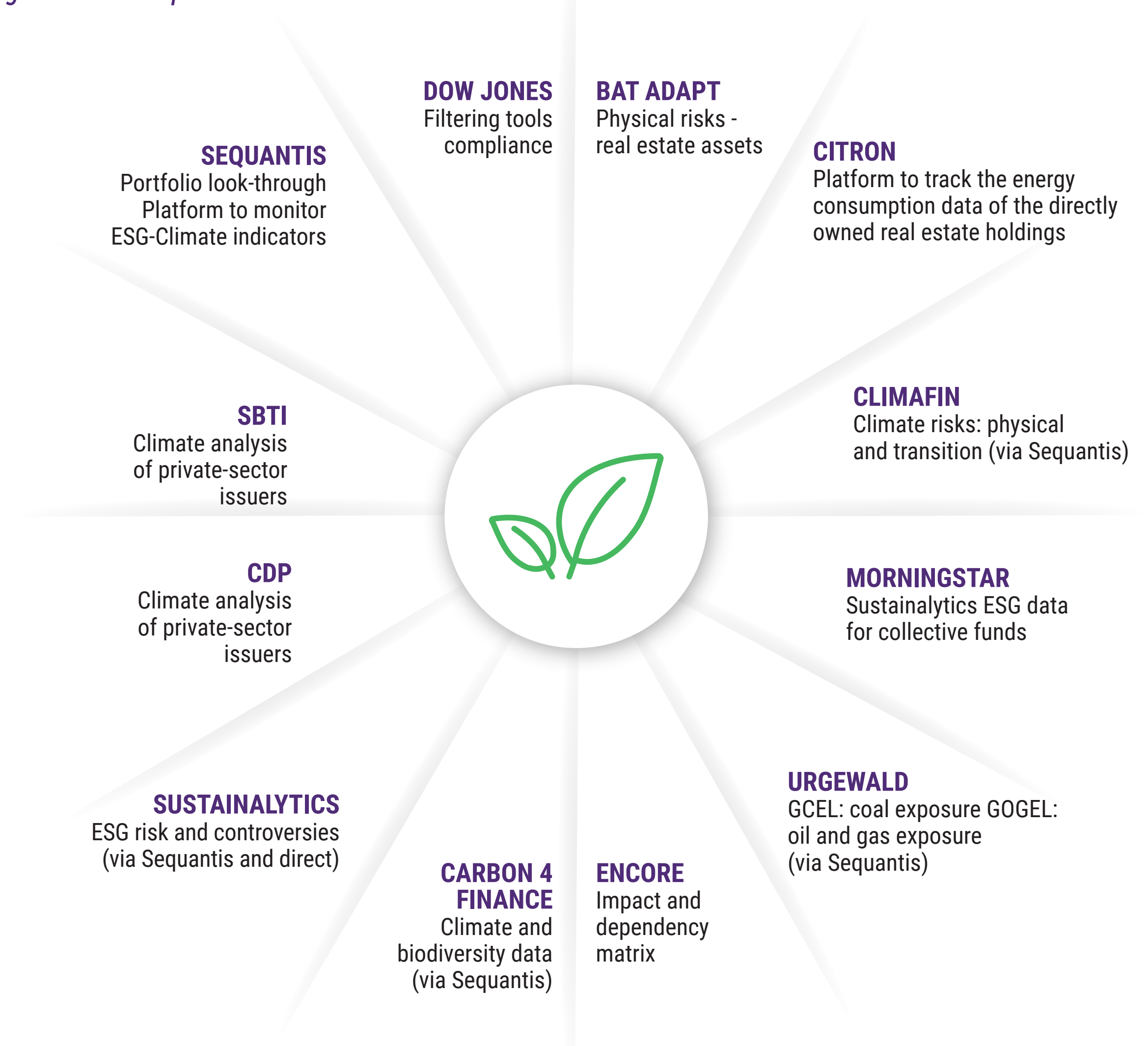


Figure 4: ESG data providers and sources

D. GOVERNANCE

Board of Directors

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

Several directors are recognised for their expertise in climate-related issues, some of whom are members of the French Ministry of Ecological Transition.

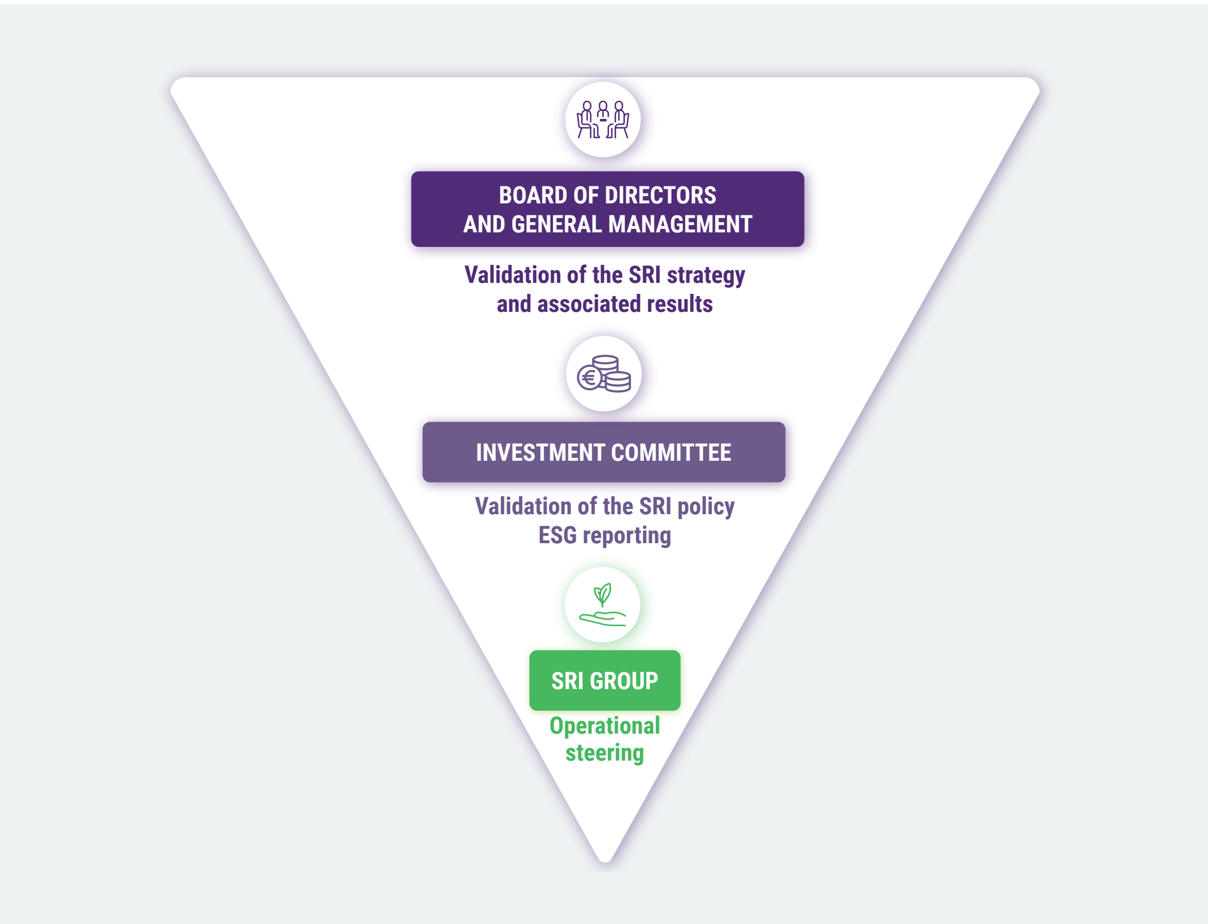
In addition, some directors participate in the Climate and Sustainable Finance Commission of the French Prudential Supervisory and Resolution Authority (ACPR or *Autorité de contrôle prudentiel et de résolution*) and contribute to monitoring and exchange services on leading ESG and climate issues

The responsible investment strategy, its objectives and its implementation are presented to and validated by the Boards of Directors. They are 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 of both entities;
- for the *ex-post* review of the previous year's ISR 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.

2023 will be an opportunity for the Board of Directors to continue integrating ESG issues into its operations.

Figure 5: SRI comitology



ESG integrated into the Business Process

In 2021, the governance of ESG issues was strengthened with the creation of an SRI working group mainly composed of the heads of financial and real estate asset managers. In 2022, working sessions were extended to all the asset managers.

Thanks to this organisation, the non-financial analysis is directly supported by the asset managers.

Sébastien JALLET
Chief Investment Officer

Extra-financial criteria are integrated into the investment policy by the management teams and the ESG analyst.

The advantage we see is that the SRI policy is driven by the fund managers, which reinforces their commitment to SRI.

The other advantage of this interweaving of asset management and ESG analysis is that it contributes to the right balance between financial and non-financial performance. In this way, the asset managers ensure that the financial performance of their investments is maintained in a universe that shrinks as commitments and exclusions increase.

Figure 6: Operating Charter - SRI Group

SRI GROUP

Objectives: Development of the SRI policy, quarterly monitoring of key indicators, drafting of regulatory reports, etc.

MEMBERS

- Chief Investment Officer
- Deputy Chief Underwriting Officer
- Head of Delegated Management
- Head of Direct Management
- General Management Advisor
- Head of Real Estate Valuation and Management Control
- Financial and Compliance Manager
- ESG Analyst (Committee Leader)

MISSIONS

- Enhancement of the SRI policy
- Monitoring and analysis of key indicators (ESG and climate commitments, mainly to steer the transition trajectory of portfolios)
- Design and production of regulatory reports
- Regulatory and competitive review
- Feedback from market meetings/SRI forums

EXHIBITS PRODUCED IN EVIDENCE

- Presentation medium
- Minutes

DURATION / FREQUENCY

Monthly meeting (minimum)
Duration: 90 minutes

Means rolled out for a better understanding of ESG issues

The CCR Group has been investing in vocational training for its employees for several years. Thus, all asset managers and EXCOM members have been receiving training on sustainable finance every year since 2019.

In 2022, the management teams were able to take part in a Biodiversity Fresco workshop as well as a training course delivered by Moonshot Consulting on the subject of impact investment.

Karine ROBIDOU
Deputy Director of Investments,
in charge of ESG Management

Through this fun and collaborative workshop, the asset managers were able to discover the systemic aspect of biodiversity: what it is, what it achieves and what deteriorates it. As a result of this training, they were also able to reflect on concrete solutions to fully integrate biodiversity into the investment strategy.

Fresque de la Biodiversité

THE MANAGEMENT TEAMS PARTICIPATED IN A BIODIVERSITY MURAL

On the occasion of COP 15, the UN Biodiversity conference, in Montreal, the CCR Group addressed the challenges of biodiversity.

The management teams took part in a Biodiversity Fresco Workshop to understand the issues and pressures surrounding biodiversity, based on the work of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).

Membership to and participation in industry initiatives

The CCR Group actively contributes to discussions on the integration of ESG issues, in particular as a:

- Member of the ESG-Climate working group of France Assureurs
- Participant in the Biodiversity working group of the Institut de la Finance durable
- Participant in the Af2i workshops of the Responsible Investment Commission
- Member of the Sustainable Development Commission of France Assureurs
- Participant in ACPR round tables (governance of climate change risk)

The CCR Group is also:

- Signatory of the Plan Bâtiment Durable charter
- Signatory to the PRI (Principles for Responsible Investment)
- Member of the CDP (formerly Carbon Disclosure Project) since 2022

THE CCR GROUP **BECAME A SIGNATORY TO THE CDP IN 2022**

The CDP encourages investors, companies and cities to measure and understand their environmental impacts. The organisation has the largest database of environmental performance. The CDP contacts a large number of companies each year on behalf of investor signatories to report on their climate, water and deforestation data.

The CCR Group also participated in a second engagement campaign aimed at contacting nearly 1,600 companies with high greenhouse gas emissions, asking them to set quantified targets to reduce their emissions and for these targets to be validated by the Science Based Target initiative (SBTi) as being compatible with a 1.5°C warming trajectory.

Mathilde MANCEL
ESG Analyst

Raising awareness of ESG issues across all departments and identifying best practices are key to the roll-out of a group's sustainability strategy. To do so, it is necessary to know the sustainability criteria, to master the tools, to audit the methodologies and to know how to interpret the data, against an ever-changing regulatory backdrop. The CCR Group is fully committed to this approach to sustainability issues with comprehensive, transparent and high-quality information.

02. CCR GROUP, A SOCIALLY COMMITTED INVESTOR

The CCR Group is a patron of PERLS *(Pour que des Enfants Retrouvent Le Sourire)*, a charity which offers its support to underprivileged children in Asia. Because every child needs a healthy, balanced diet and should be in good health, the CCR Group is helping to fund food aid for children at the Be Tho orphanage.

The Be Tho Orphanage, located in Biên Hoa, 30 km east of Ho Chi Minh City, is home to almost a hundred orphans or abandoned children, most of whom are under the age of 12.

SUPPORTING **SOCIETAL TRANSITION**

As a responsible investor, the CCR Group supports the real economy, which is why it has made support for societal transition a pillar of its Responsible Investment Charter.

Its investments range within all asset classes:
- *Social Bonds* which finances projects with a positive social impact. For example, by promoting access to household essentials for disadvantaged populations and actions to tackle poverty
- *Sustainable bonds* that finance both environmental and social projects
- Funds specialised on societal and social issues such as microfinance, long-term financing of companies and economic development in developing countries
- Real estate funds, e.g., for the construction of non-medically assisted senior residences.

SUSTAINABILITY LINKED BONDS

In full swing since 2019, this new instrument links the ESG performance of the issuer and the financial return of the bond. The advantage of SLBs is being able to support companies as part of their overall approach to improving sustainability, rather than just a specific project.

The absence to date of a recognised methodology to monitor these assets means that the CCR Group must carefully analyse them. Trust in the issuer is essential; KPIs need to be more closely monitored and controlled.

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A. DIRECT MANAGEMENT

In its social impact investments, the management team maintains the goal of optimising the risk/return trade-off and adds a quality requirement in terms of the bond's 'social and/or sustainable' characteristics.

To meet this requirement, the CCR Group is continually enhancing its analysis methodology for sustainable bonds, by conducting checks at the time of issuance and continuously monitoring the impact and look-through indicators of the projects financed, right up to the security's maturity or sale. Wherever possible, the managers also take part in issuer presentations and roadshows .

As of 31 December 2022, directly owned social and sustainable bonds represented 4.8% of the total assets in the CCR Group portfolio, up compared to 2021.

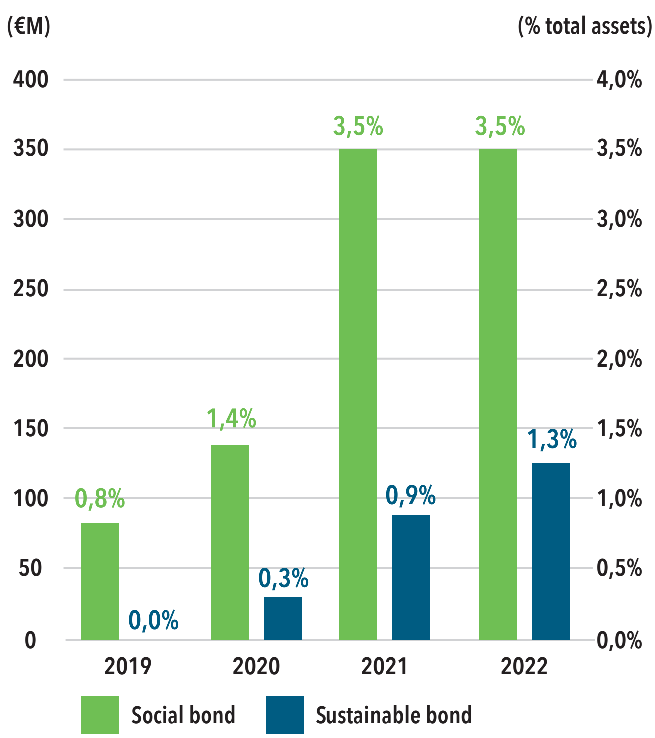
These mainly include bonds issued by public, national and supranational entities.

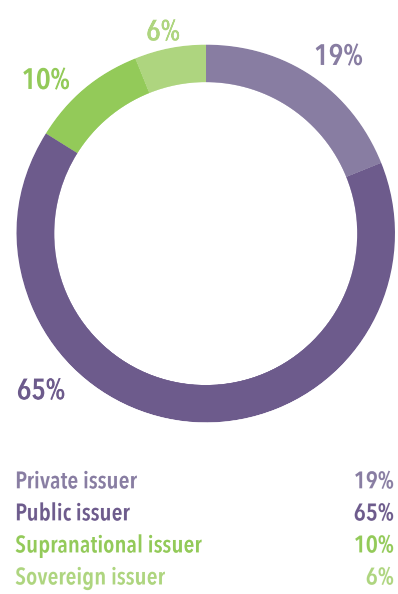
The issuers and projects financed by these bonds mainly target initiatives such as 'access to essential services', 'affordable housing' and 'socio-economic promotion and empowerment'. The latter theme is primarily driven by bonds issued by the *Caisse d'Amortissement de la Dette Sociale* (CADES).

Jean-Michel LECONTE
Money market and Bond Manager

To support the French Social Security system in its role of implementing a healthcare policy that protects all French citizens, the CCR Group invested in new 'social' bonds issued by the CADES in 2022, which made this issuer the 1st issuer of our 2022 sustainable bond purchases.

Figure 7: Social & Sustainable Bonds - Direct Management: AUM and breakdown by issuer





B. DELEGATED MANAGEMENT

Support for societal transition is also supported by the delegated management part of the portfolio, which invests in solutions with a social impact.

Pending publication of the Taxonomy's delegated acts on social issues, it is still difficult to have a consolidated harmonised approach for funds: each management company has developed its own assessment grid. However, the S challenge applies to all categories of funds:

Figure 8: Illustration of the S criterion for assets under delegated management

THE SOCIAL CHALLENGE WITHIN DELEGATED MANAGEMENT

DEDICATED FUNDS

- Integrating the positive contribution to the SDGs into investment management policies

ALBA VALEUR (MANAGED BY DNCA)

- 40% of the fund with a positive social and societal contribution.
- Impact analysis via AIM score: additionality, intentionality and measurability

OPEN-END COLLECTIVE FUNDS

- Preference given to funds covered by a credible, rigorous and demanding third-party review

RESPONSABILITY MICRO & SME FIN. DEBT BY RESPONSABILITY

- **Objectives**: promote financial inclusion, generate positive social impacts (SDGs 1, 8 and 5), whilst delivering a stable financial performance
- **Label/Certification:** LuxflagMicrofinance
- **Impact measurement:** loans and jobs created

CLOSED-END COLLECTIVE FUNDS

- Link to the real economy and direct impact on agents

IMPACT REBOND BY IMPACT PARTNER

- **Objectives**: to finance franchisees or independent businesses affected by the pandemic and recession in struggling areas
- **Impact measurement:** : jobs created and maintained, days of training and additional revenue

SENIOR RESIDENCES BY LA FRANÇAISE AM AND 123 IM

- **Objective:** to develop senior residences that meet the 'ageing well' concept: adapted accommodation (in terms of safety, comfort and accessibility), services for day-to-day living and social interaction.
- **Impact measurement:** number of dwellings

Romain LEVASSEUR
UCITS Analyst & Manager

We believe that investing in strategies with a social purpose is essential to ensure that the ecological transition does not come at the expense of people. For example, providing support to businesses affected by the Covid-19 crisis is helping to restore social ties in struggling areas.

Creating synergies between social and societal impact on the one hand and financial return on the other is one of the challenges of delegated management.

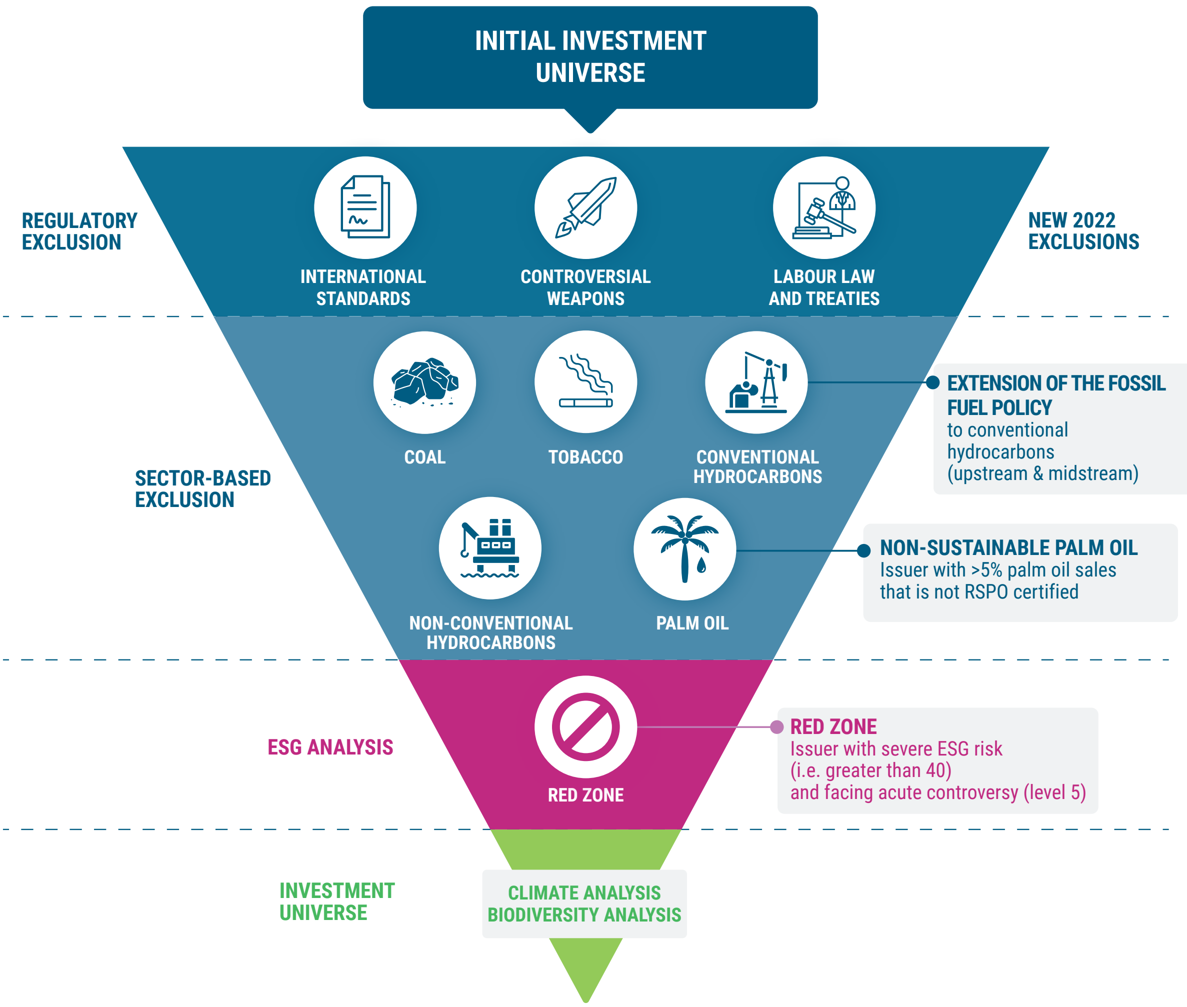
THE **ESG** APPROACH

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

A. DIRECT FINANCIAL INVESTMENTS

The responsible investment process for directly held securities is composed of exclusions and extra-financial analysis[1].

Figure 9: ESG Approach



1 See Appendix on CCR Group's exclusion policy

Marie-Laure MAHIEU
Head of Bond & Money Market Management

When selecting a new issuer, we apply a 1st exclusion filter and then a 2nd ESG analysis filter via the Sequantis platform and now via Sustainalytics.

In addition, we exclude issuers with plans to expand their fossil fuel projects.

These ambitious investment management constraints are backed up by regular SRI training courses for our fund managers.

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 analysis[2].

For sovereigns:

- **Country Risk Rating** combines ESG and economic analysis for comprehensive country risk assessment.

For private companies:

- **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.

Sarah AMZELEK
Money Market and Bond Manager

The integration of ESG factors is core to our decision-making process.

Access to the Sustainalytics website gives us access to qualitative research on ESG ratings and controversies. Detailed ESG profiles of issuers help refine our analysis and give us a better understanding of their extra-financial challenges.

We also focus on monitoring controversies and classifying them to assess any underlying risks (financial, operational, reputational, etc.).

Managers focus on communicating with issuers

The direct fund management teams regularly attend roadshows organised by issuers to foster communication with companies. These events are an opportunity to exchange information on best practices and to question them on their financial and non-financial strategies, to assess their consistency with the CCR Group's responsible investment principles, and to encourage them to better consider ESG issues where appropriate.

2 Previously, the asset managers had access to ESG risk scores via the SequantisTM platform

B. DELEGATED MANAGEMENT INVESTMENTS

The managers include extra-financial criteria in the same way as financial criteria when making investment decisions for the funds.

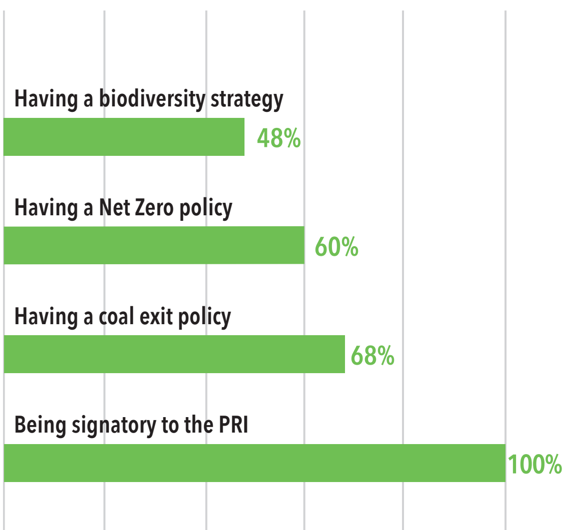
During the selection process, close attention is paid to ESG integration, which forms part of the qualitative analysis of investment management companies and funds. To carry out this specific study, the fund managers rely on different sources of information: documentary (publications, data platforms, internal questionnaire), fund classification (labels and SFDR) and communication with the management companies.

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 companies that are signatories to the Principles for Responsible Investment (PRI), which is now a prerequisite for any investment. This endorsement is a guarantee that ESG criteria are considered within the management process.

Figure 10: Portion of assets delegated to management companies



Source: CCR Group proprietary questionnaire

Changes in the SFDR regulations

Since 2021, the self-declaration of funds under Article 8 or 9 has provided an indication of how ESG issues are considered based on harmonised criteria.

However, the implementation of level 2 requirements and changes to AMF doctrine have led to a number of downgrades from 'Article 9' to 'Article 8'. 60% of delegated AUM are allocated to Article 8 (50%) or Article 9 (10%) funds. They represent resp. 15.6% and 3.4% of total AUM.

Philippe DE RAUCOURT
UCITS Analyst & Manager

Beyond the SFDR, what is important to us is above all the quality of the fund manager's ESG approach and its clear integration into the security selection process, as well as the alignment of the fund's investment strategy with the commitment and values of the CCR Group.

That's why we decided to introduce a proprietary questionnaire for asset management companies to assess the commitment to their ESG approach and its consistency over time.

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 sources:

Figure 11: 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.

This year, 64 management companies and 146 funds in the portfolio were examined using this tool. A 100% response rate was obtained covering all AUM.

The questions are reviewed on an annual basis to ensure that they are relevant in the light of changes in the CCR Group's commitments, best practice in the industry and scientific and regulatory recommendations. Therefore, in 2022, a series of questions on unconventional hydrocarbons (commitment, scope, date, data source) were added.

Thanks to these questionnaires, fund managers can carry out consistency tests between management company practices and what is applied in the funds. For example, some management companies declare a coal policy that is not applied in the funds, or conversely, some funds include a coal policy even though the management company has not yet formalised one.

Figure 12: Themes of the Questionnaires

QUESTIONNAIRE - MANAGEMENT COMPANY	
ESG ANALYSIS	**CLIMATE**
• Dedicated resources (team, data providers, etc.) • Management company's SRI policy • SFDR/label/certification breakdown	• Net Zero Target policy (existence, third-party validation) • Exit policies: - thermal coal - non-conventional hydrocarbons
BIODIVERSITY	**COMMITMENT**
• Joining initiatives • Formalised strategy • Integration into sustainability risk analysis	• Voting policy • Participation rate

QUESTIONNAIRE - FUNDS		
CLASSIFICATION	**INTÉGRATION OF ESG CRITERIA**	**POSITIVE CONTRIBUTION**
• SFDR • Label/Certification	• Exclusions and controversies • Sustainability KPIs	• Reference to the SDGs • Targets and KPIs
FIXED INCOME FUNDS	**REAL ESTATE FUNDS**	**EQUITY FUNDS**
• Focus on sustainable bonds	• Focus on EPC, energy audit and physical risks	• Focus on commitment

Questions added in 2022

CThis questionnaire was also used to carry out a survey on management company votes at 2022 Annual General Meetings (namely on environmental and compensation issues).

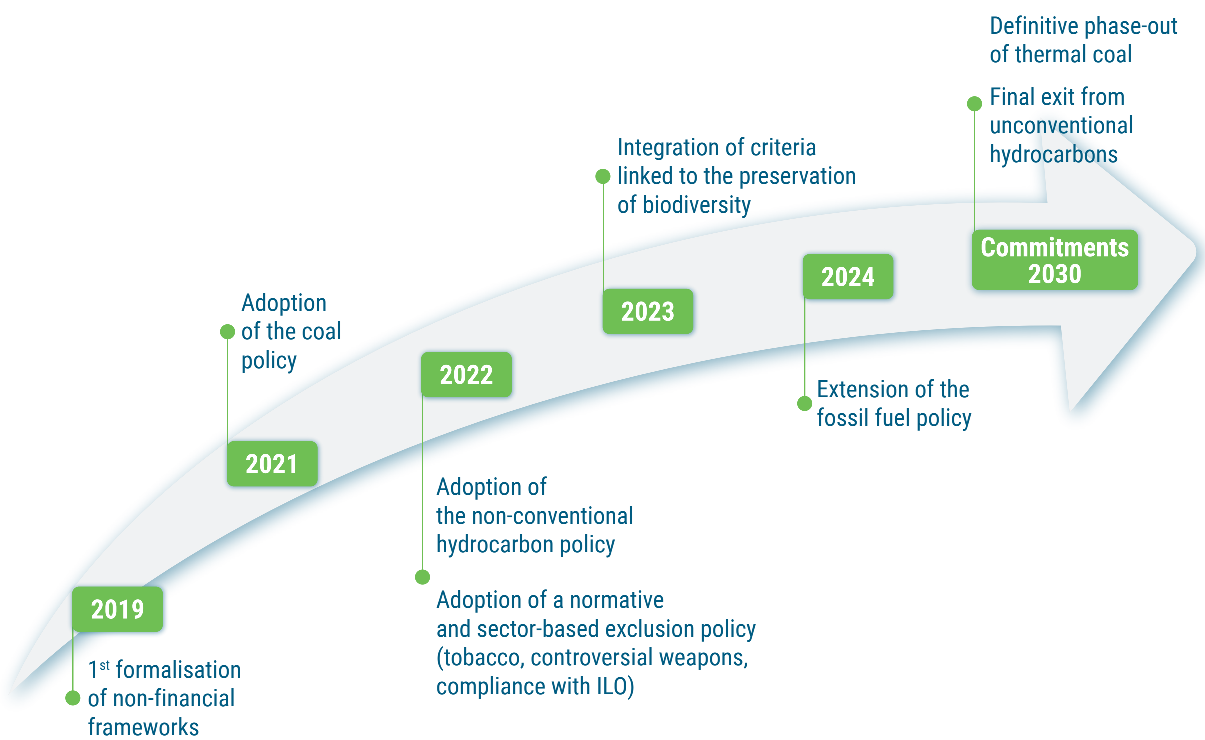
This questionnaire is sent out annually to measure progress and is also used as a selection tool prior to any new investment.

Dedicated funds: a constructive partnership with management companies

Since 2021, the CCR Group encourages asset management companies to translate its commitments in its dedicated funds[3].

Sharing and applying coal and non-conventional oil and gas policies, which are often more restrictive than those of asset management companies, helps to spread best practice and align with a low-carbon trajectory.

Figure 13: Increased importance of extra-financial policies in dedicated funds under traditional management



Elisabeth MARTY
UCITS Analyst & Manager

We want to draw on the ESG expertise of our partner asset management companies, but also encourage them to get more involved, particularly on our behalf. In the case of our dedicated CCR Crédit bond fund for example, the partner management company believes that [the fund] is among the most advanced in comparison with its other Article 8 bond strategies, with a high level of requirements concerning the exclusion thresholds for fossil fuels.

3 Five traditional management funds (bond and equity funds)

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.

Below are two examples of ongoing improvement for the dedicated funds:

1 - Alba valeur, managed by DNCA, equity fund

Based on a proposal from the management company, the fund's goal was to be Article 9 (SFDR) in 2021: this goal was achieved in 2022. This has meant changes to the portfolio:

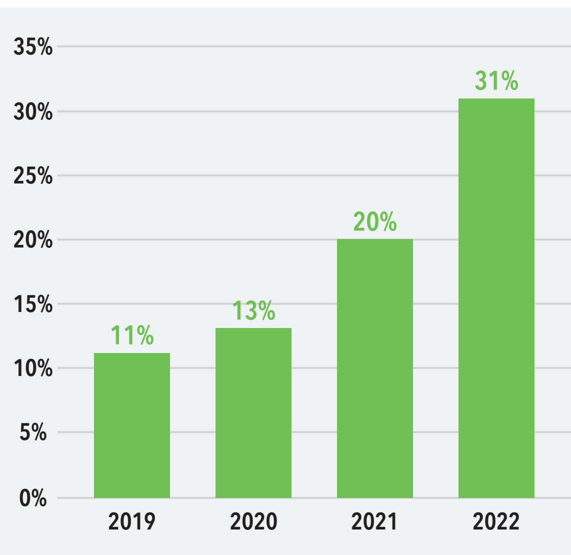
Léa DUNAND CHATELET, Fund Manager

A significant portfolio shift took place in 2022 to achieve the goal of 100% sustainable investment. New stocks were invested in, particularly in healthcare, energy efficiency and energy transition technology. Conversely, positions in sectors with a high carbon footprint, such as oil and gas, or with no real sustainable development goals, such as telecoms or the media, were divested. This shift took place in a favourable market, with rising interest rates offering attractive entry points for quality growth stocks.

2 - CCR crédit, managed by AXA IM, bond fund

Ongoing improvement has meant increasing exposure to good quality sustainable bonds.

Figure 14: Sustainable bond allocation within the dedicated bond fund



BENOIT GUERINEAU, Fund Manager

For all sustainable bonds, we produce a qualitative analysis based on 4 pillars:
- Issuer's sustainable strategy,
- Type of project,
- Use of funds,
- Impact report

This analysis enables us to determine the eligibility of a new issue when it is released on the primary market. This opinion is reviewed on a regular and systematic basis to ensure that the company's strategy, the funded projects and the reporting are in line with our expectations.

C. ENGAGEMENT STRATEGY

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.

The CCR Group 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.
- Signatory to the CDP
- Participation in the optional SBTi campaign run by the CDP
- Signatory to the PRI principles

Through its memberships, the CCR Group is part of a collective approach to greater efficiency and commitment.

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.

Figure 15: Summary table of ESG-Climate-Biodiversity analyses by asset class

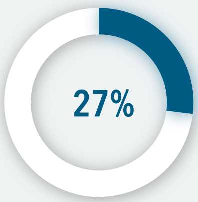
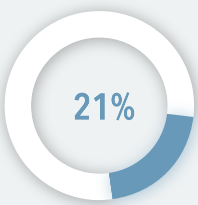
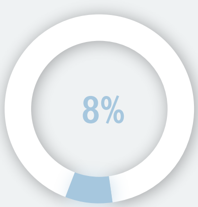
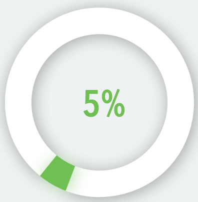
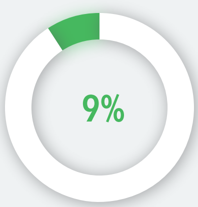
DIRECT MANAGEMENT	ESG	CLIMATE	BIODIVERSITY
SOVEREIGN BONDS  27%	Coverage by Sustainalytics: 87% ESG score and controversies Proprietary analysis: Sustainable bonds	Coverage by C4F: 81% Transition risk: Carbon Impact Ratio and temperature Coverage by CLIMAFIN: 100% Physical risk: VaR Transition risk: VaR Proprietary analysis: Greenbonds	
EQUITIES AND CORPORATE BONDS  21%	Coverage by Sustainalytics: 98% ESG score and controversies Proprietary analysis: Sustainable bonds	Coverage by C4F: 83% Transition risk: Carbon Impact Ratio and temperature Coverage by CLIMAFIN: 100% Physical risk: VaR Transition risk: VaR Proprietary analysis: 100% Green share and fossil exposure Climate analysis of issuers Green bonds	Coverage by C4F: 80% Transition risk: biodiversity footprint Proprietary analysis: 100% Footprint and qualitative dependencies (ENCORE and Sustainalytics)
REAL ESTATE **Level of look-through: 100 %**  8%	Proprietary analysis: 100% 19 indicators (based on the OID materiality matrix)	Proprietary analysis: 100% Energy consumption: Audit and monitoring Water consumption Carbon footprint	Development and rehabilitation of green spaces

Figure 15 (cont'd): Summary table of ESG-Climate-Biodiversity analyses by asset class

DELEGATED MANAGEMENT	ESG	CLIMATE	BIODIVERSITY
DEDICATED FUNDS **Level of look-through: 100%** 	Coverage by Sustainalytics: 91% ESG score and controversies (via fund look-through) Proprietary analysis: 100% integration of ESG criteria into management company policies and those policies applied to the fund	Coverage by C4F: 77% Transition risk: Carbon Impact Ratio and temperature Coverage by CLIMAFIN: 100% Physical risk: VaR Transition risk: VaR Proprietary analysis: 100% Green share and fossil exposure Climate analysis of issuers Green bonds	Coverage by C4F: 73% Transition risk: biodiversity footprint Proprietary analysis: Footprint and qualitative dependencies (ENCORE and Sustainalytics)
LISTED COLLECTIVE FUNDS **Level of look-through: 87%** 	Hedge by Sustainalytics: 76% ESG score and controversies (via fund look-through) Proprietary analysis: 100% integration of ESG criteria into management company policies and those policies applied to the fund	Study integrated into the analysis of the overall portfolio	Study integrated into the analysis of the overall portfolio
REAL ESTATE **Level of look-through: 100%** 	Study integrated into the analysis of the overall portfolio	Study integrated into the analysis of the overall portfolio	Study integrated into the analysis of the overall portfolio

The coverage rate shown reflects the data provider's coverage of the entire asset class.

D. DIRECT REAL ESTATE INVESTMENTS

The CCR Group's directly owned real estate portfolio consists of 23 buildings, including 13 residential buildings and 10 office buildings, located mainly in Paris.

Since 2019, the CCR Group has been monitoring a detailed analysis of the ESG impact of its real estate assets, based on the challenges defined in the materiality matrix of the *Observatoire de l'Immobilier Durable* (OID)[4]. All the E, S and G dimensions are considered, allowing the group to set objectives and measure the impact of the actions implemented.

Figure 16: ESG issues defined in the OID materiality matrix

Purchase phase: ESG criteria are systematically integrated into the *ex-ante* assessment. The CCR Group set itself the objective that all new acquisitions of new or renovated CRE buildings should be subject to environmental labelling or certification (HQE, LEED, BREAM, etc.).

Management period: several actions are carried out to act on energy sobriety (through use and refurbishment) but also on the energy mix used by its buildings:

- 100% of residential and CRE buildings have taken out green energy contracts (electricity and gas)
- The 3-year target set in 2020 of having 50% of buildings connected to district heating was achieved ahead of schedule in 2022. Deployment by CPU is carried out wherever possible
- 30% of the works budget is spent each year on improving energy performance
- Each restructured CRE building obtains a label or certification. The share of CRE buildings with a label or certification is almost 50% (buildings acquired or restructured), and this share is set to increase
- 100% of the energy consumption data is collected (common and private areas)

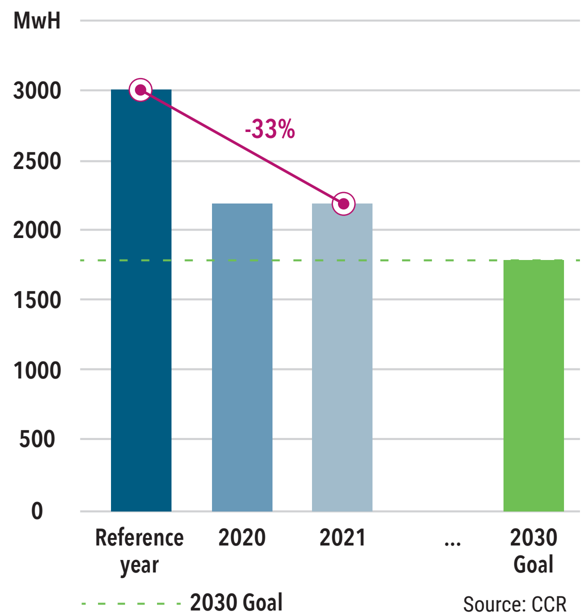
4 The definition of the 19 ESG issues is based on a market study of the materiality matrices published by some thirty real estate players (listed real estate companies, investors, developers, users) between 2013 and 2018 and on a cross-analysis of French and international normative and regulatory standards.

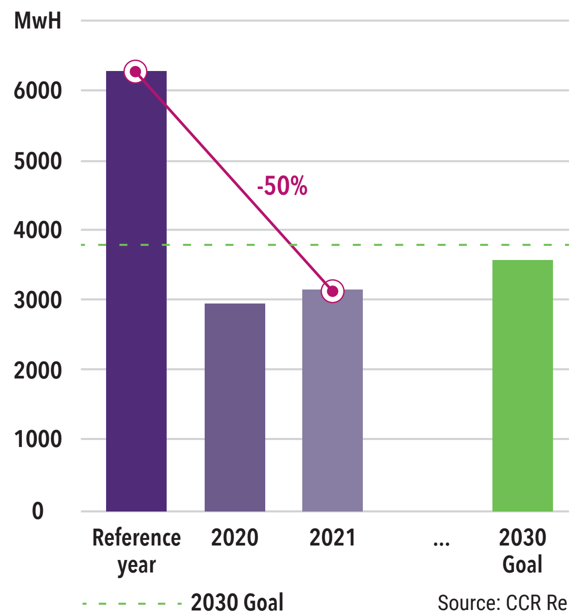
A partnership was renewed with Citron® Energie, which centralises and analyses the energy consumption of buildings and thus enables the CCR Group to prepare its energy reduction actions in accordance with the provisions of the French "Tertiary Eco-Energy" Decree[5].

The tertiary eco-energy scheme has now entered its operational phase. Under Article 175 of the Elan Act, the goal is to achieve a reduction in final energy consumption of 40% in 2030, 50% in 2040 and 60% in 2050 compared with a reference energy consumption or by reaching a final energy consumption level set in absolute terms.

The regulations 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 17: Performance of the CCR and CCR Re portfolios in terms of Tertiary Decree





The final energy consumption of CCR's CRE buildings fell by 33% vs. the reference year. This decrease, while significant, is capped by the presence of a data centre in a building.

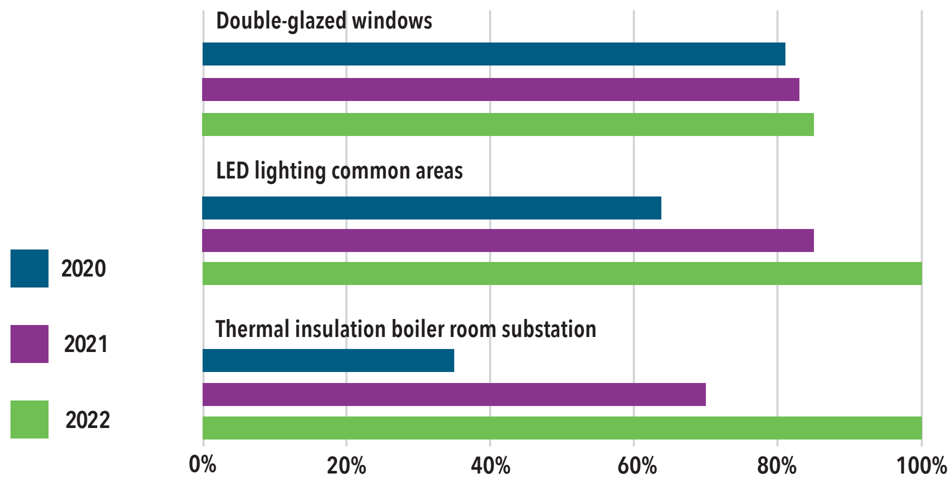
For CCR Re, the 2030 target has been achieved, as has the 2040 target of a 50% reduction in final energy consumption.

5 The Tertiary Decree requires the implementation of actions to reduce the final energy consumption of existing CRE 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.

Christophe BLANCHARD
Head of Real Estate Valuation and Management Control

While it is important to monitor and understand the energy consumption of within our portfolio of real estate, to define our energy strategy, data collection can sometimes be complex. It requires the involvement of both tenants and energy suppliers, thus engaging all stakeholders.

Figure 18: Energy performance improvement works



Work to improve energy performance, such as building refurbishment projects, contributes to achieving these final objectives.

OID indicators also cover issues related to water consumption, biodiversity and waste recovery, as well as social and governance issues. All the buildings have green spaces and bicycle rooms to encourage soft mobility.

YOHAN GRANDVAL
Real Estate Manager

In 2022, the CCR Group continued to develop green spaces for its Parisian buildings. A project to rehabilitate over 400 sqm of green spaces in a residential complex in Paris was launched. Biodiversity and urban ecology are central to the project, namely through the use of local plants and melliferous shrubs from eco-responsible and certified producers.

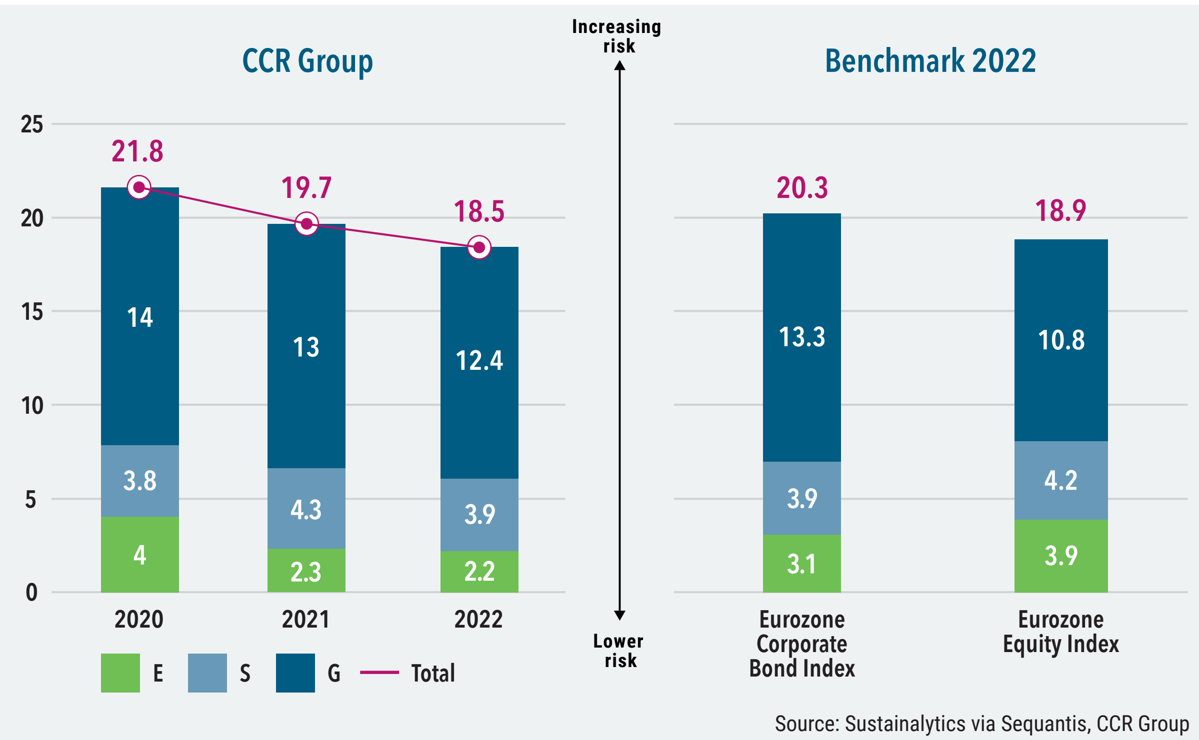
To develop this project, we chose to work with AKAGREEN, convinced by the company's commitments, which has earned a B Corp certification. This certification is awarded to companies that meet environmental, social, governance and public transparency requirements.

ESG ANALYSIS RESULTS (Excluding direct real estate)

The ESG risk of the financial portfolio is based on Sustainalytics data (via the SequantisTM 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.

In addition to the breadth of its coverage, this supplier was chosen for the quality of its methodology. Like other data providers, Sustainalytics does not rate the entire investment universe, as it relies on public company reports. Therefore, 87% of the scope is covered by analysis.

Figure 19: CCR Group ESG score - historical comparison and benchmarks



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

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.

However, the ESG risk of the portfolio is low at 18.5/100, below the benchmarks (corporate bonds and eurozone equities) and down on 2020.

This low exposure to ESG risks is mostly explained by the geographical allocation (high weighting for European issuers) and by the selection of less risky issuers.

Figure 20: Portfolio breakdown by ESG score

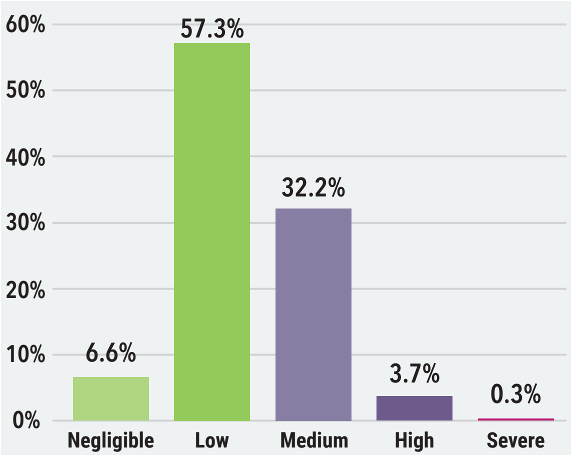
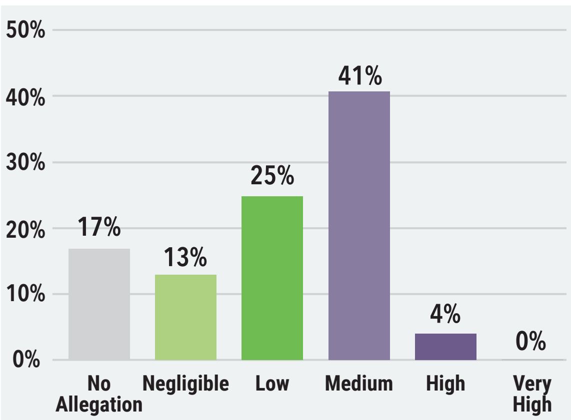


Figure 21: Portfolio breakdown by controversy level



This ESG score is mainly the result of governance risk, with environmental and social risks being low. Governance risk emerges mainly from the financial sector given its significant weight in the analysed portfolio (39%).

Nevertheless, it is important to note that despite a larger allocation to that of 2021 (36.4%), the ESG governance score has decreased, reflecting the better integration of ESG criteria during the security-picking process.

The distribution of ESG scores shows very low portfolio exposure to issuers with High or Severe risk (only 4%). Similarly, exposure to issuers with controversy levels of 4 and 5 is extremely low.

Figure 22: Geographical allocation of the ESG score

	Weight	ESG risk	Contribution
Europe	80%	18.1	14.5
North America	13%	19.8	2.6
Asia/Pacific	4%	20.1	0.8
Africa Middle East	1%	20.3	0.3
Latin America & the Caribbean	1%	24.6	0.3

Figure 23: Sector allocation of the ESG score

	Weight	ESG risk	Contribution
Finance	39.10%	20.7	8.1
Public sector	27.70%	13.3	3.7
Industrial	7.00%	21	1.4
Consumer discretionary	4.50%	18.5	0.8
Non-cyclical consumption	4.40%	21.8	1
Information Technology	4.00%	17	0.7
Healthcare	3.50%	21.1	0.7
Utilities	3.30%	22.5	0.7
Materials	2.00%	19.9	0.4
Energy	0.017%	32.7	0.5
Telecom	1.70%	18.7	0.3
Real estate	1.60%	10.9	0.2

Source : Sustainalytics via Sequantis, CCR Group

Risk scale

Negligible	Low	Moderate	High	Severe
0-10	10-20	20-30	30-40	>40

03. CCR GROUP, AN INVESTOR AT THE HEART OF THE ENERGY TRANSITION

Persévérance, the Polar POD's supply craft entered its final construction phase in 2022.

COMMITMENT TO A LOW-CARBON ECONOMY

As early as 2021, the CCR Group 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, the CCR Group 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 recommendations[1].

To achieve it, **the CCR Group is focusing on financing the energy transition and excluding high emitters that are not part of this transformation process to a low-carbon economy.**

The CCR Group aims to:

Continue to finance the transition through green bonds (directly and via dedicated funds), labelled/certified buildings and climate funds

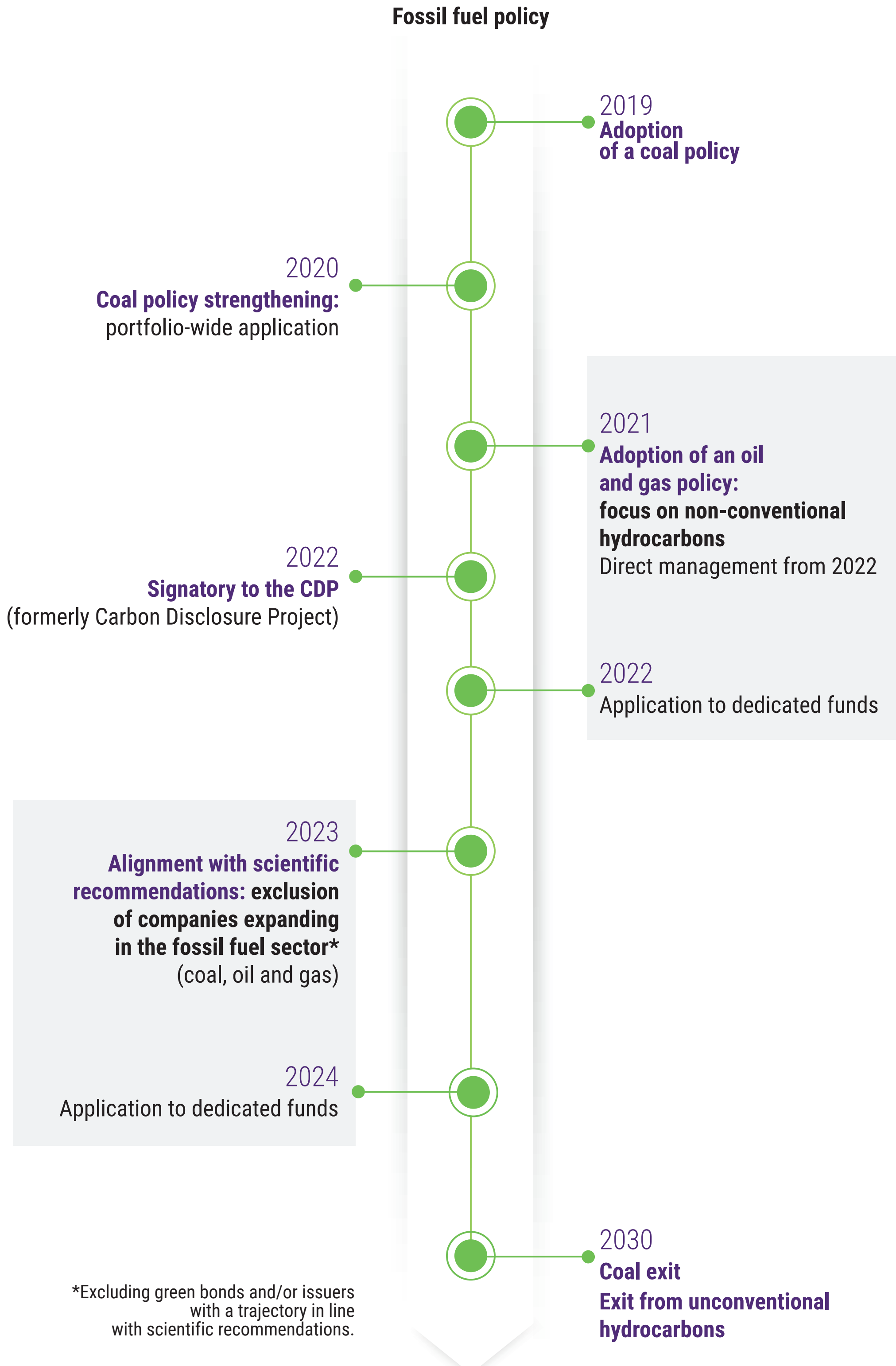
Reduce the carbon footprint of its financial and commercial real estate **portfolios**. Specifically, reduce the carbon footprint of its directly owned corporate bonds by 50% by 2030, with 2020 as the reference year (in tonnes of CO_2 equivalent per million euros invested, Scopes 1 and 2). This target will be reviewed every 5 years until 2050. The CCR Group 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.

1 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 24: 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 to 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.

FINANCING **THE TRANSITION**

The CCR Group finances the energy transition, namely through investments in green bonds and innovative solutions, such as infrastructure development.

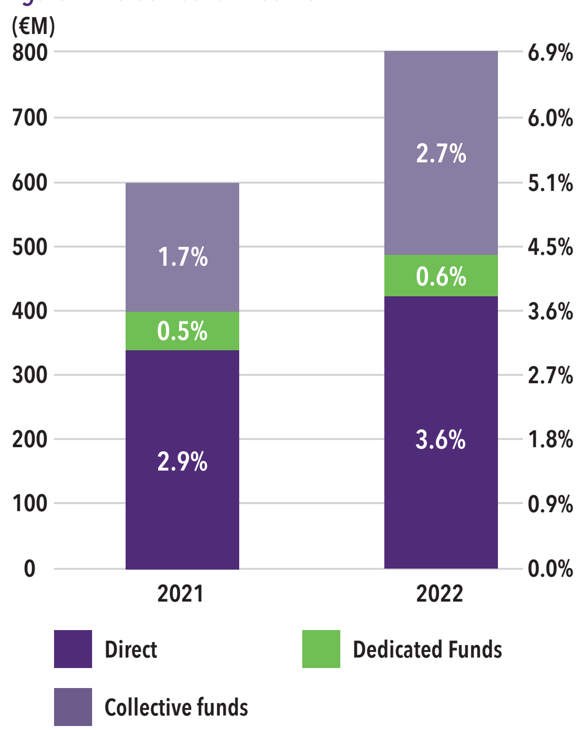
A. GREEN BONDS

Green bonds are now the main vehicle used to finance the energy transition. This type of financing makes it possible to support companies in the transformation of their business model towards a low carbon economy.

"The aim of green bonds is to help issuers finance an environmentally friendly and carbon-neutral economy and protect the environment." ICMA

As of 31 December 2022, green bonds represented €749M or 6.9% of assets under management (vs. €575M and 5.1% in 2021). They are owned both directly and through funds (dedicated and collective funds).

Figure 25: Green bond allocation



Directly owned Green bonds

In its sustainable investments, the management team optimises the risk/return profile, specifically by ensuring that the credit quality remains robust. Added to this is the 'environmental quality' requirement of the green bond.

To meet this requirement, the CCR Group is continually enhancing its analysis methodology for green bonds, by conducting checks at the time of issuance and continuously monitoring the impact and look-through indicators of the projects financed, right up to the security's maturity or sale.

As of 31 December 2022, direct holdings of green bonds represented €394M or 3.6% of assets under management (vs. €327M and 2.9% in 2021).

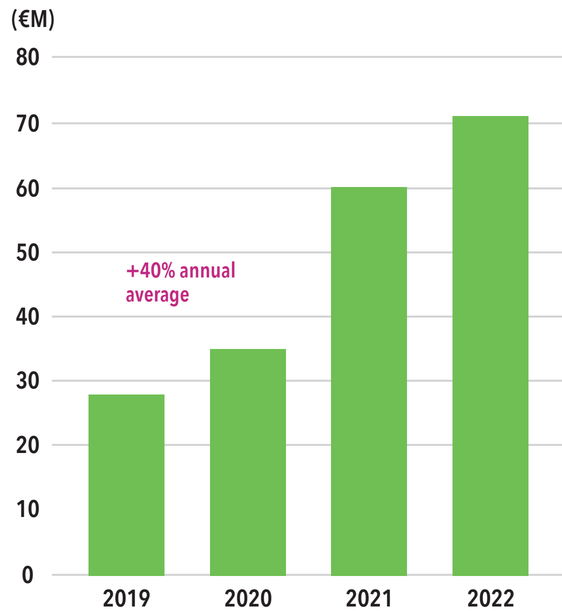
The issuers and projects financed by the CCR Group via green bonds target categories of activity that contribute directly to the development of sustainable green infrastructure, such as 'renewable energy', 'smart energy technologies and energy efficiency', 'clean transport' and 'green buildings and infrastructure'.

These investments protect the performance and resilience of our portfolios as we finance sustainable growth.

Exposure via Dedicated Funds

The fund managers encourage their partner investment management companies to invest in high-quality green bonds. This dialogue has led to an increase of these outstanding positions. As a result, the outstanding amount of green bonds has increased by 40% per annum on average since 2019.

Figure 26: Outstanding green bonds - Dedicated Funds



B. FINANCING INNOVATIVE SOLUTIONS FOR TRANSITION

In addition to financing the energy transition through green bonds, the CCR Group invests via thematic funds in solutions that can make a substantial contribution to climate change mitigation and adaptation.

To achieve this, the delegated management team favours (all other things being equal):

- Funds with an environmental certification or label (Greenfin, LuxFlag Climate Finance, LuxFlag Environnement - in accordance with the recommendations of France Assureurs)
- Funds without an environmental certification or label but have documentation indicating a strategy that considers environmental issues (objectives and indicators). These funds include green bond funds, low-carbon funds and environmental funds
- Green infrastructure funds, i.e., infrastructure investments or entities that contribute to the transition towards sustainable economic models, such as renewable energy infrastructure.

FOCUS ON SWEN IMPACT FUND FOR TRANSITION II
(SWIFT 2, managed by SWEN Capital Partners)

We believe that investing in infrastructure associated with the energy transition is the best way to have a direct, measurable, and effective impact on the climate.

This is why the CCR Group has made a significant commitment to the SWIFT 2 fund, which complements the major investment we made in hydrogen in 2021.

The fund invests in biomethane production projects as well as in low-carbon infrastructure through solid partnerships with local players.

These investments will have a direct impact on segments that are difficult to decarbonise, such as agriculture, transport, and heavy industry, which are the primary targets of the European Green Deal, and directly meet the Taxonomy's climate objectives.

By using agricultural waste, they promote a circular economy and the creation of stable local jobs, which is in line with our sustainable transition strategy.

Nicolas MARY
Head of Delegated Management Investments

With the application of the Taxonomy regulation, the CCR Group aims to include the sustainable AUM (that are eligible and aligned) according to this classification in the monitoring of energy transition financing.

C. EUROPEAN TAXONOMY AND FOSSIL FUELS

Exposure to sustainable activities

BAlthough not subject to the Taxonomy Regulation, in the interests of transparency and ongoing improvement, the CCR Group has chosen to undergo the exercise.

To date, the CCR Group has chosen to determine the proportion of its AUM considered as 'green', which refers to activities that meet climate change mitigation and adaptation objectives[2].

Once the delegated acts for the other four environmental objectives (circular economy, pollution, aquatic and marine resources, biodiversity) are published, the more global concept of a 'sustainable' share can be applied.

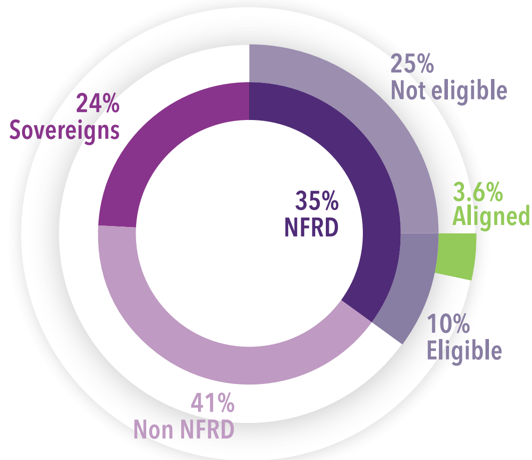
The EU Taxonomy is a classification system that determines eligibility for and alignment with the term 'sustainable'. If an asset is deemed eligible, it can then be qualified as 'aligned' if it complies with a number of cumulative stages:

- make a significant contribution to one of the six 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.).

The CCR Group used data from the SequantisTM platform to calculate the green share of its portfolio. Sequantis uses two criteria to determine whether a company is eligible for the study[3]: the country of incorporation (the issuer must be European) and the listing on a regulated market.

At this stage, the eligible and aligned shares are still estimates due to the lack of raw data from companies.

Figure 27: Exposure to Taxonomy



Within the Taxonomy eligible scope, the weight of aligned issuers is around 36%, an improvement on the 32% of 2021. This is also higher than the results obtained for the benchmarks (33% for the Eurozone corporate bond index, 13% for the Eurozone equity index).

Exposure to fossil fuels or brown share

There is currently still no consensus on the definition of what the Brown Share is. It can be seen as the reverse of the Green Share.

To assess this brown share, the CCR Group has chosen to track an indicator of exposure to fossil fuels (coal, oil and gas throughout the value chain). It thus measures its exposure to high-polluting and potentially 'stranded' assets as a result of the transition to a low-carbon economy.

It is thus a 1st transition climate risk indicator that is monitored quarterly to ensure that it is on a downward trajectory. Indeed, it must fall, given the fossil fuel policy: **The CCR Group is committed to phasing out thermal coal and exiting unconventional hydrocarbons by 2030**[4].

2 These are activities that can be low-carbon and/or adapted, transitional, enabling or facilitating.
3 Non Financial Reporting Directive, Directive 2014/95/EU of 22 October 2014 on the disclosure of non-financial information
4 See Appendices - Fossil fuel policy

To measure this exposure to fossil fuels, the CCR Group 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 global 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 companies listed in the GCEL account for over 88% of global thermal coal production and almost 85% of global coal-fired power generation capacity.

- ***The GOGEL, Global Oil and Gaz Exit List,*** covers the entire oil and gas sector, both upstream (extraction) and midstream (transport and processing). The identified companies represent 95% of hydrocarbon production and 74% of pipeline projects in 2020. 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).

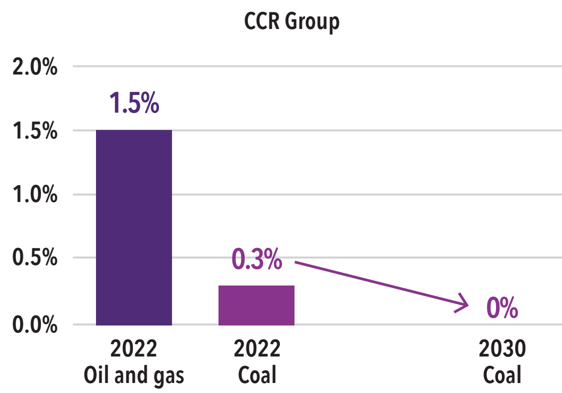
The CCR Group analyses its entire portfolio of financial assets (excluding real estate), covering directly-owned issuers, in dedicated funds and in collective funds that have been looked-through (i.e. 89% of assets).

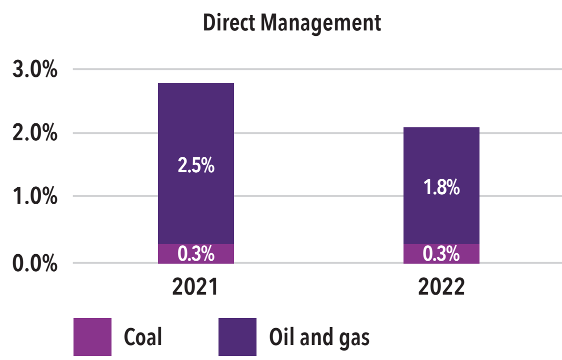
In addition, exposure is no longer adjusted for the weight of fossil fuels in issuers' sales, and therefore corresponds to investments in the companies concerned without adjustment, in accordance with the ACPR recommendation.

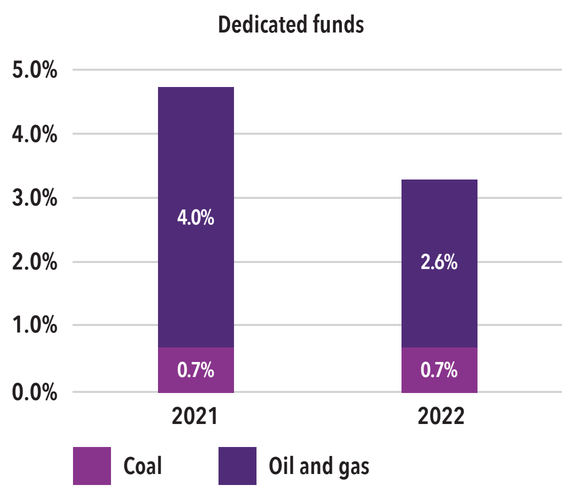
Exposure via collective funds is the most complicated to manage. The CCR Group is working to select the asset management companies most in line with its fossil fuel policy through its proprietary non-financial questionnaire.

As of 31 December 2022, the CCR Group portfolio's exposure to fossil fuels was minimal: coal-related issuers represented less than 0.50% of the portfolio and oil and gas-related issuers less than 2%.

Figure 228: Exposure to fossil fuels (% total assets)







Sources: GCEL and GOGEL via Sequantis, CCR Group

RESULTS OF THE ALIGNMENT STRATEGY AND EXPOSURE TO CLIMATE RISKS

CCR GROUP'S EXPERTISE ON THE LIABILITIES SIDE

The CCR Group is recognised for its expertise in risk management, its agility and the quality of its scientific research. CCR thus collaborated in the climate exercise conducted by the ACPR from July 2020 to April 2021. This exercise brought together the banking and insurance sectors to assess climate change by 2050 in the context of the law on energy transition and green growth and the 2015 Paris Agreement. CCR's role was to measure these consequences on the portfolios of risks underwritten by the insurers participating in the exercise for the perils concerned (floods, coastal flooding and drought).

A. ALIGNMENT WITH THE PARIS AGREEMENT

Methodology

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

The CCR Group 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 - EMISSIONS SAVED:
Sum of avoided and reduced emissions

2 - CARBON FOOTPRINT:
Investment-induced emissions

3 - CARBON IMPACT RATIO

4 - PORTFOLIO TEMPERATURE

1 - Emissions saved: 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: investment-induced emissions

- 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 and 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[5]. A curve, using these two references, starting at +1.5°C and capped at +5°C allows[6] us to assess the temperature rise of the investments through its overall average score

Results

77% of eligible assets were covered by the CIA methodology (69% under the in-depth approach and 8% under the simplified approach).

Figure 29: Summary of the CCR Group's 2022 climate indicators

Carbon footprint (tCO_2/€M EV)	Emissions saved (tCO_2/€M EV)	Carbon Impact Ratio	Temperature (°C to 2100)
175	29	0.17	2.4

Source: Carbon4Finance via SequantisTM, CCR Group

5 The *Euronext Low Carbon 100* index represents the 2°C trajectory. It is specifically designed to reflect the investment needs to reach a 2°C world based on the IEA outlook. The business-as-usual scenario is based on the IPCC scenario SSP3-7.0.

6 Corresponding to IPCC scenarios SSP1-1.9 and SSP5-8.5.

1 - Carbon footprint, emissions saved and Carbon Impact Ratio

Figure 30: Carbon footprint results, emissions saved and Carbon Impact Ratio

	CCR Group		Private Bond Index (eurozone)	Equity index (eurozone)
	2021	2022	2022	2022
Carbon footprint (tCO_2/€M EV)	195	175	212	194
Emissions saved (tCO_2/€M EV)	30	29	78	18
Carbon Impact Ratio	0.15	0.17	0.37	0.09

Source: Carbon4Finance via SequantisTM, CCR Group

For each tonne of CO_2 induced, the portfolio avoided more in 2022 than in 2021.
The carbon footprint of the CCR Group portfolio fell by 10% year-on-year, while maintaining a stable footprint in terms of emissions saved.

These are namely generated by green bonds that produce high 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 Carbon Impact Ratio of the portfolio is higher than in 2021, indicating that CCR Group has been more successful in identifying opportunities and real players of the climate transition. The CCR Group portfolio is therefore better at assessing a company's ability to reduce its emissions, or its ability to avoid emissions that would have occurred if the player had followed a so-called business as usual scenario.

Figure 31: Carbon footprint results, emissions saved and Carbon Impact Ratio – Direct Management

	Direct management - private issuers			
	2020	2021	2022	2030 Goal: -50%
Carbon footprint (tCO_2/€M EV)	180	173	168	90
Scopes 1 and 2	54	21	21	27
Scope 3	126	151	147	
Emissions saved (tCO_2/€M EV)	N/A	41	46	
Carbon Impact Ratio	N/A	0	0,27	

Source: Carbon4Finance via Sequantis TM, CCR Group

The objective of reducing our carbon footprint (Scopes 1 and 2) by 50% by 2020 has been achieved, ahead of schedule. The CCR Group is more ambitious and continues to assess its carbon footprint by including Scope 3 emissions.

At this stage, 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, the CCR Group 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 Group's investment universe is predominantly European, the CCR Group 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' roadmap[7] should improve the energy mix of countries, and therefore the energy profile of companies.

2 - Temperature

Figure 32: Temperature results

CCR Group		Private bond index (eurozone)	Equity index (eurozone)
2021	2022	2022	2022
2.6	2.4	2.6	2.7

Source: Carbon4Finance via SequantisTM, CCR Group

The CCR Group portfolio is aligned with a 2.4°C trajectory equivalent to a better performing model than the Business as usual (3.5°C) and benchmark scenarios. The target set by the CCR Group is to achieve a temperature below 2°C, in line with the Paris Agreements.

3 - Qualitative analysis of transition plans

Aware of the methodological limitations of the above two quantitative approaches, the CCR Group is working on a qualitative analysis of the trajectory of its portfolios, in accordance with the recommendations of the Observatoire de la Finance Durable[8].

To this end, the transition plans of private issuers were assessed. Initially, the CCR Group concentrated on the directly managed portfolio of corporate bonds.

This analysis will 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)

7 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.
8 Publication_de_recos_n3_Indicateurs_du_Comite_Scientifique_dExpertise_de_lOFD_v2.pdf (observatoiredelafinancedurable.com)

Figure 33: CDP mapping: 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.

2022 Climate Rating	Number of issuers	% allocation
Covered	**128**	**64%**
Leader	81	32%
Management	28	17%
Awareness	4	3%
Reporting	2	0%
Reporting in progress	13	11%

64% of the directly managed portfolio is covered by the CDP questionnaire, almost ¾ of which is highly rated, demonstrating either best practice (32%) or good environmental management (17%)[9].

9 Issuers not covered by CDP are mainly financial institutions.

Figure 34: SBTi Mapping

The Science Based Targets (SBTi) initiative provides a benchmark for the credibility of corporate transition targets, with the world's leading scientific standard aligned with the 1.5°C trajectory. The validation of targets is subject to strict criteria, depending on the business sector. This guarantees to investors that commitments are ambitious, reliable and achievable. The 1st step is a written commitment from the company, which then has two years to validate its objectives.

	Number of issuers	% allocation
SBTI	**105**	**68%**
Committed issuers	33	22%
Validated targets	72	46%

As a result, 68% of the direct management portfolio is committed to the transition in a credible way: 22% of issuers already have a SBTi-validated trajectory and 46% are committed to building their trajectory and having it validated within the next two years. Of the 32% that have not committed, the CCR Group identifies issuers that have committed to other initiatives (e.g., Net Zero Banking Asset Management), and those for which SBTi has not yet established a methodology to best interpret this result.

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

These qualitative analyses are enabling the CCR Group to work on creating a climate filter.

B. CLIMATE RISK

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, the CCR Group has chosen to use the method developed by CLIMAFIN, a choice justified by the scientific quality of their methodology (validated by CCR experts and used by EIOPA), for its entire looked-through portfolio.

1 - Transition risks

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 NGFS[10] forward-looking climate transition scenarios to be translated into financial shocks, providing investors with risk metrics[11]. Their methodology covers listed company shares, corporate bonds and loans, and sovereign bonds.

CLIMAFIN is a fintech founded by three 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 publications[1]. It is referenced in the latest IPCC report and has been used by EU regulators[2].

1 Namely 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.

2 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)

Antoine MANDEL, CLIMAFIN Founding Partner[1]

Our models are designed in a similar fashion to the CCR modelling of natural catastrophes used to assess physical damage to assets. What we are trying to do is extend the modelling chain to consider the impact of climate risk on the value of financial assets. In our view, exposure is a portfolio of financial assets rather than a portfolio of goods insured by an insurer; vulnerability is a measure of the loss in value of the financial asset rather than the destruction of the good; and hazards are potential physical risks, not only historical, but also based on projections of future risks in the context of climate change from different impact models.

1 Excerpt from the round table ‘From natural catastrophe modelling to climate risk management’ organised by CCR Re as part of the Reinsurance Hot Topics - CCR Re (ccr-re.com)

10 Network 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

11 The 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 orderly[1] and disorderly[2] scenarios compatible with a temperature rise of between 1.5°C and 2°C. The model simulates the shift in economic and technological trajectories following the introduction of climate policies compared with a base scenario (in this case the NDC trajectory[3]). 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 five 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 variables[4]
- 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 sector[5]

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.

1 Orderly transition: ambitious climate policies, implemented early and strengthened gradually.
2 Disorderly transition: climate policies are delayed, implying a more sudden and disruptive transition to comply with the Paris Climate Agreement (2015).
3 NDC trajectory (Nationally Determined Contributions): NDCs embody efforts by each country to reduce their GHG emissions for which countries commit to at Climate COPs.
4 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.
5 Issuers are classified according to the CPRS (Climate Policy Relevant Sectors) classification defined by CLIMAFIN on the basis 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 35: Results of the transition risk stress test to 2030

Shock by sector 2030	Orderly transition shock			Orderly transition contribution	
CPRS sector	Weight	Shock			
Fossil Energy	2.15%	-22.84%		-0.49%	
Utilities	1.58%	-0.48%		-0.01%	
Energy-intensive sectors	6.82%	1.97%		0.13%	
Buildings	9.85%	2.66%		0.26%	
Transport	5.46%	1.08%		0.06%	
Agriculture	0.36%	1.88%		0.01%	
Finance	32.98%	2.38%		0.78%	
Scientific R&D	0.01%	0.33%		0.00%	
Others	30.18%	0.77%		0.23%	
Total	89.39%			0.98%	

Shock by sector 2030	Disorderly transition shock			Contribution in disorderly transition	
CPRS sector	Weight	Shock			
Fossil Energy	2.15%	-35.26%		-0.76%	
Utilities	1.58%	6.92%		0.11%	
Energy-intensive sectors	6.82%	1.64%		0.11%	
Buildings	9.85%	2.54%		0.25%	
Transport	5.46%	0.66%		0.04%	
Agriculture	0.36%	2.16%		0.01%	
Finance	32.98%	1.96%		0.65%	
Scientific R&D	0.01%	0.28%		0.00%	
Others	30.18%	0.59%		0.18%	
Total	89.39%			0.58%	

Source: CLIMAFIN through Sequantis TM, CCR Group

Between now and 2030, the CCR Group portfolio will not lose value under either orderly or disorderly transition. On the contrary, the value of the portfolio would increase relative to its market trend value (+0.98% in an orderly transition and +0.58% in a disorderly transition), demonstrating the resilience of the portfolio, in contrast to benchmark indices with a negative shock in a disorderly transition (-0.11% for the eurozone corporate bond index and -1.48% for the eurozone equity index).

Sector 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.

2 - 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), 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 four physical risks[1] :
- coastal flooding
- river flooding
- hurricanes/cyclones
- forest fires

1 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

To simulate the loss of production assets for each counterparty, CLIMAFIN uses the geolocation of production sites[12] and on Sequantis' 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 issuers[13].

Figure 36: Physical risks: Estimated loss[14] by peril until 2030 under RCP 4.5 scenario

2030	CCR Group	Corporate bond index (eurozone)	Equity index (eurozone)
Coastal flooding	0.21%	0.11%	0.56%
River flooding	0.41%	0.32%	1.17%
Forest fires	0.00%	0.01%	0.03%
Hurricanes/Cyclones	0.17%	0.09%	0.55%
Sum of perils	0.79%	0.53%	2.28%

Source: CLIMAFIN through Sequantis TM, CCR Group

The portfolio's value at risk due to physical climate risks is low between now and 2030. It is 0.79% 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 appears to be highly resilient, nespecially 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.

12 Geographic granularity is 50*50 km.
13 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).
14 99% 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 37: Sectoral allocation of physical risk - RCP 4.5 scenario until 2030, main sectors

	Allocation	Sum of perils	Coastal flooding	River flooding	Forest fires	Hurricanes/ Cyclones
Financial activities	36.42%	0.30%	0.09%	0.15%	0.00%	0.06%
Manufacturing	13.35%	0.14%	0.02%	0.08%	0.00%	0.04%
Public administration	17.28%	0.09%	0.02%	0.05%	0.00%	0.02%

Source: CLIMAFIN through Sequantis TM, CCR Group

Figure 38: Geographical allocation of physical risk - RCP 4.5 scenario until 2030, main countries

	Allocation	Sum of perils	Coastal flooding	River flooding	Forest fires	Hurricanes/ Cyclones
France	36.80%	0.29%	0.09%	0.14%	0.00%	0.06%
United States	10.26%	0.11%	0.01%	0.09%	0.00%	0.01%
Germany	6.09%	0.06%	0.02%	0.03%	0.00%	0.01%

Source: CLIMAFIN through Sequantis TM, CCR Group

Furthermore, this information is based on an analysis the accuracy of which depends on the granularity of the information available (sector/geographical breakdown). 9.4% of the portfolio is subject to an in-depth breakdown[15], 10.1% to an average breakdown[16] and 80.5% to a basic breakdown[17]. 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, the CCR Group notes that the objective of raising awareness and strengthening expertise is at least as important as the results of the risk assessment itself.

15 Geographical locations of production sites and primary activities.
16 National location and primary activities.
17 National location and NACE code.

3 - Directly-Owned Real Estate Exposure to Climate Risks

Thanks to its expertise in physical risk modelling, the CCR Group has a very detailed analysis of the exposure of its directly held real estate assets to the risks of natural catastrophes and those linked to climate hazards.

Risk diagnosis for buildings in France

All assets are subject to physical risk mapping using the 'Bat-ADAPT' (Bâtiments- adaptés) tool developed by the OID[18].

The tool analyses climate risk at the location of the building with time projections up to 2030, 2050, 2070 and 2090. Heat waves, droughts, floods and coastal flooding are assessed. A cross analysis of the climate risks and the sensitivity of the building makes it possible to obtain the vulnerability to the various hazards on a scale of 1 to 5 (the higher the score, the greater the risk). The tool provides a diagnostic of a building's climate vulnerability. Based on its expertise in modelling physical risks, CCR has a more detailed and comprehensive approach to flood risk, incorporating additional indicators such as run-off.

Proprietary tool integrating CCR modelling with the Bat-ADAPT tool

The 'CCR Real Estate Dashboard' is a tool developed with a web application from Portal for ArcGIS Enterprise (ESRI technology) and comes from CCR's Reinsurance and Public Funds Department

The summary of the impact of flooding proposed by CCR is the result of a multi-criteria geomatic analysis to represent the impact of flooding phenomena on the territory of Metropolitan France in a homogeneous way.

To do this, two indicators were used:

- An actual claims indicator based on historical claims from the CCR database (located down to each address, from 1995 to 2019 and analysed according to cost and frequency).
- An indicator of potential losses calculated by cross-referencing an indicator of flood hazard frequency based on probabilistic CCR modelling of flood return periods: **overflow, runoff, and coastal flooding, and an indicator of the challenges faced by areas in the face of flooding** based on 'OSO Théia' land use data at 10m spatial resolution.

The analysis involves summing the scores for each indicator on a 25 x 25 m grid across Metropolitan France.

The synthesis layer is thus classified into six impact classes, ranging from very slight to major. The water surfaces (permanent waters of IGN's TOPO BD) were not considered in the multi-criteria analysis.

CLAIMS AREAS CCR HISTORICAL DATA

The claims areas are mapped on the basis of Nat Cat claims recorded by CCR and geolocated at the addresses of the claims.

These claims relate to flooding (flooding and/or mudslides, flooding due to rising water tables, coastal flooding), drought, landslides, earthquakes, avalanches and other perils (other perils covered by the Nat Cat cover - e.g. torrential lava).

For confidentiality reasons, the claims were randomly positioned in a 100m square centred on their original positions. A circle with a 75m radius is then created to chart the disaster zone. Areas containing fewer than five buildings were removed to make it impossible to identify the affected building(s). The oldest recorded and geolocated claim in this database dates back to 1989. The claims database, which is used to map claims areas, has been expanded over the years.

18 In partnership with the Ville de Paris, ADEME, the Agence Parisienne du Climat, the Association des Directeurs Immobiliers and the Plan Bâtiment Durable

Results

Figure 39: Vulnerability score – CCR Re

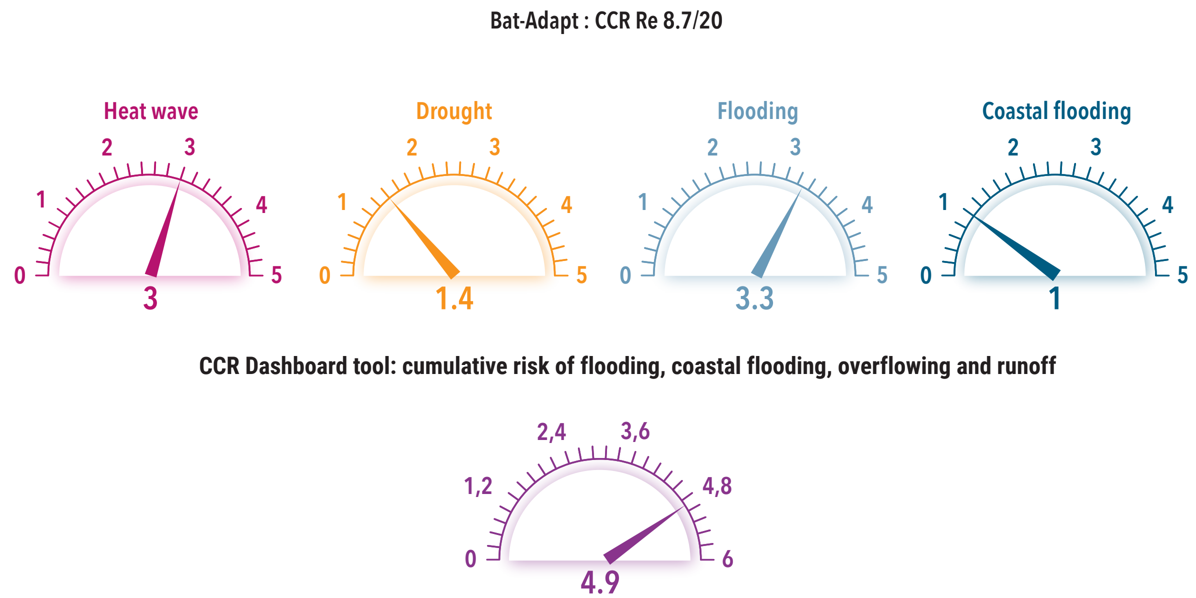
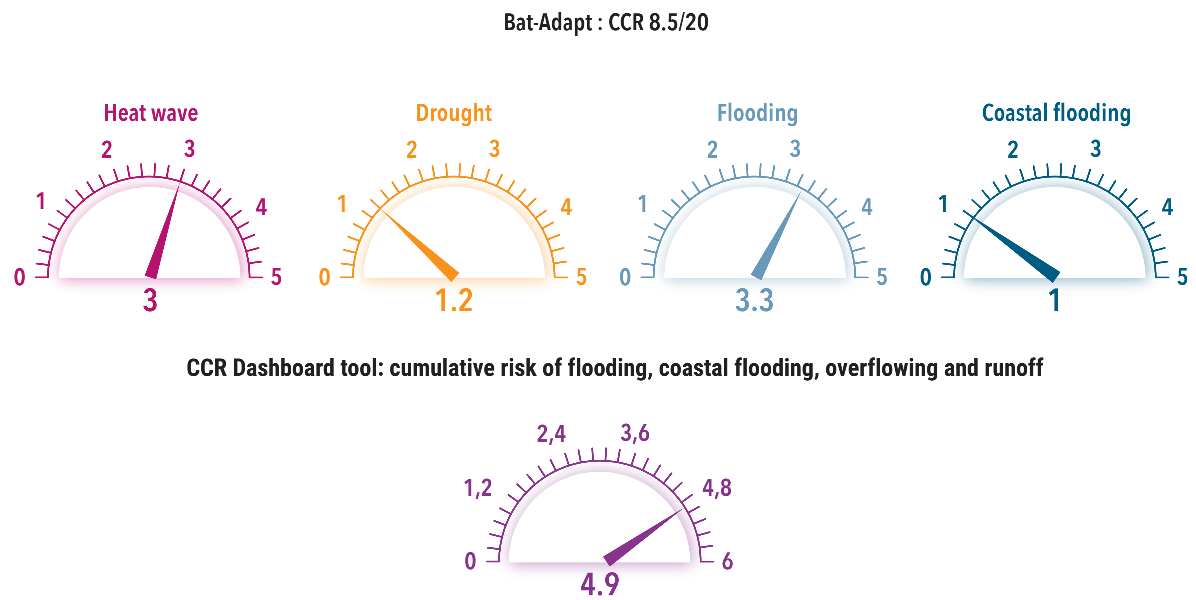
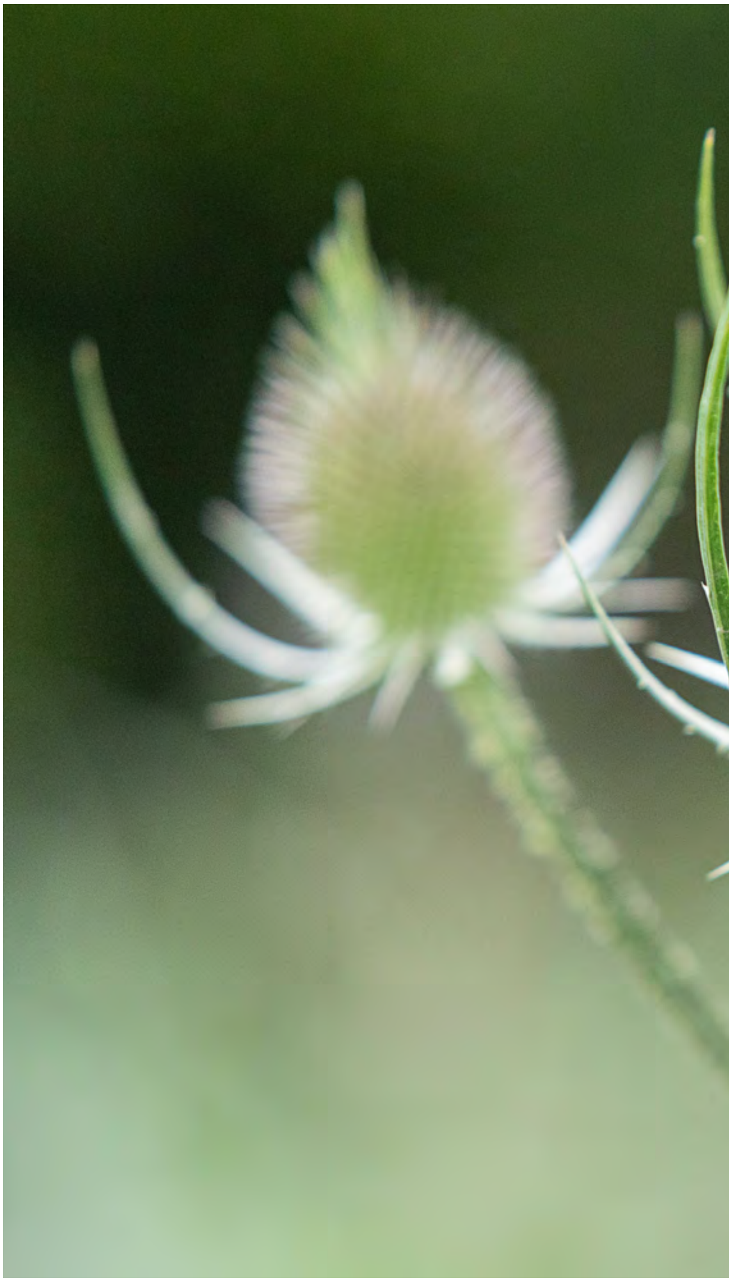


Figure 40: Vulnerability score – CCR



The CCR and CCR Re real estate portfolios have a moderate vulnerability score (the lower the score, the better the outcome). This physical risk mapping and assessment exercise identifies areas for improvement which preserves the value of the assets and the well-being of the occupants.

04. CCR GROUP, A BIODIVERSITY-FOCUSED INVESTOR



In 2022, the CCR Group invited its employees to the Goodplanet Foundation, an eco-responsible site where everything is done to limit the impact on the environment.

For some, it was an opportunity to discover beekeeping through one of the workshops on offer at the event.

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For several years now, scientific reports, namely those of the IPBES[1], 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.

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-20202[2] with the establishment of 23 targets to be achieved by 2030 if we are to live in harmony with nature by 2050.

The 1992 Rio Earth Summit[1], 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[2].

1 https://www.cbd.int/doc/legal/cbd-fr.pdf
2 https://www.cbd.int/doc/c/d40d/9884b8a54563a8e0bf02c1b4380c/wg2020-03-03-fr.pdf

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'.

THE PROTECTION OF BIODIVERSITY **WITHIN THE INVESTMENT STRATEGY**

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

An initial assessment of the impact of investments on biodiversity was carried out in 2021. This initial assessment had made it possible to grasp new methodological concepts, with a view to service train the teams, and fuel the thought process going into the SRI policy on this topic. 2022 will have been marked by the development of a biodiversity strategy.

To define and structure its commitments, the CCR Group based itself on two goals of the 1992 Convention on Biological Diversity: the conservation of biodiversity and the sustainable use of its components. To clarify the goals, it has also based itself on COP15. This approach is part of a continuous learning and improvement process and is also based on industry recommendations[3].

1 IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem, the equivalent institution to IPCC for biodiversity
2 The 20 Aichi targets adopted in 2010 were due to expire in 2020.
3 Guides from France Invest 'The integration of biodiversity in private equity' and France Assureurs 'Insurance and biodiversity: challenges and outlook'.

Since 2022, the Group 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, the CCR Group 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

The CCR Group 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, the CCR Group 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

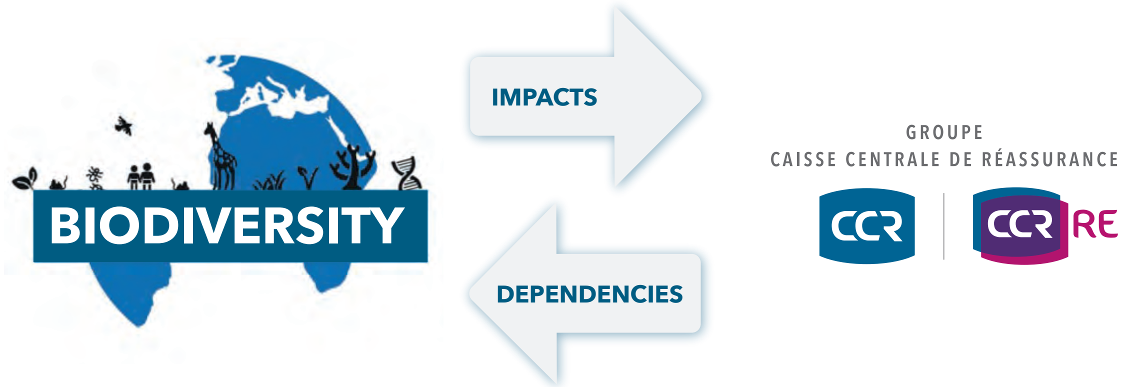
This policy is expressed through investment in sustainable bonds. Although the market centred on this concept is still underdeveloped, the CCR Group believes that green bonds, through the "climate-biodiversity nexus[4] " have a positive impact on the preservation of biodiversity.

Credible funds on the theme of biodiversity preservation and/or funds offering an environmentally sustainable investment objective linked to biodiversity within the meaning of Article 9 of the SFDR Regulation are also subject to investment analysis.

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.

4 Term used by the Banque de France to explain the ties between biodiversity and climate. Biodiversity, macroeconomics and finance: what we know, what we don't yet know and what we need to do | Banque de France (banque-france.fr)

RISKS **ASSOCIATED WITH THE EROSION OF BIODIVERSITY**



The Group 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."*

The CCR Group did not want to use only 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 confronting them **the CCR Group opted for a complementary approach.** So, in addition to the quantitative approach to the biodiversity footprint (carried out last year), two qualitative approaches were adopted for this 2nd exercise.

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

A. QUALITATIVE MEASURES

ENCORE Methodology

Methodology

The CCR Group 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 takes a dual approach to biodiversity: exposure to biodiversity-related risks using the dependency indicator, and negative impacts on biodiversity using the impact indicator.

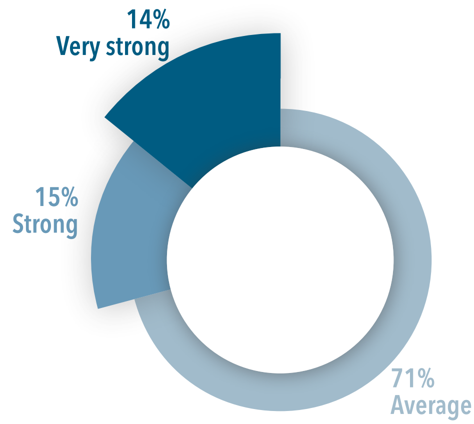
Covering many business sectors (86 production processes), ENCORE makes it possible to identify for each production process its impact level on (11) natural capital assets and its level of dependency on (21) ecosystem services. The materiality of the impact of dependency is assessed on a scale of 0 to 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 20% of the portfolio).

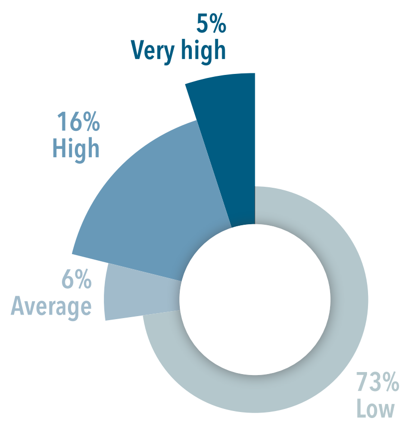
The results of this analysis show the need to adopt a specific approach to water in the biodiversity strategy.

Figure 41: Biodiversity Impact of the CCR Group's Direct Investment Portfolio



Only 29% of AUM have a strong (15%) or very strong (14%) impact on biodiversity. 26% of the strong or very strong pressures on biodiversity come from water use.

Figure 42: Biodiversity Dependency of the CCR Group's Direct Investment Portfolio



Only 21% of AUM are highly or very highly dependent on biodiversity. 28% of high or very high dependency is explained by dependency to surface water and 9% by dependency to groundwater.

Limits

The main limitation of the ENCORE methodology is that it remains very generalistic and 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.

The CCR Group has therefore decided to supplement its analysis with a 2nd approach. Sustainalytics data can be used to identify which issuers have adopted best practice in each sector.

Sustainalytics Methodology

The study was carried out on the same portfolio as the ENCORE analysis, i.e., directly owned private issuers covered by Sustainalytics (i.e., 54% of the portfolio).

Three approaches were used to assess the issuers in the portfolio concerned with:

Methodology	Results
An environmental controversy within its own operations and in its supply chain concerning the issues at stake. Controversy centres on two issues: • "Land use and biodiversity": incidents of non-compliance with sustainable land use practices, resulting in negative impacts on land or ecosystems • "Water use": incidents of excessive water use associated with a company's operations in areas where water is scarce	**No issuer is facing a significant environmental controversy**[5]
An activity that is significantly harmful to biodiversity. These include palm oil, fur and leather, pesticides, and genetically modified organisms	**No issuer derives significant revenues from significantly detrimental activities**[6].
A material exposure to the 'land use and biodiversity' issue, focusing 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.	Only 20 issuers, representing 3% of the portfolio allocation, are materially exposed to the 'land use and biodiversity' issue. While their original exposure is classified as low to medium risk, their 'strong' management reduces it to a **negligible** level of **residual risk**. In fact, the risk can be limited by existing good practice in the sub-sectors (specific programmes, certification, transparency, communication with local communities, etc.).

This analysis helps identify the companies with the best management practices and those with the worst.

5 Level 4 and 5 controversies are considered significant.
6 High income is defined as income in excess of 25% of revenues.

B. QUANTITATIVE MEASUREMENT

To assess the quantitative impact of investments on biodiversity, the CCR Group 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., 32% of total assets by market value)[7]. Coverage was respectively 78% and 73% for each portfolio.

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

Figure 43: IPBES pressure biodiversity and distribution of the overall score

	Corporate Direct Management		Dedicated Funds	
	2021	2022	2022	2022
Intensity MSA.m²/€K				
Aquatic - dynamic	0.07	0.10	0.08	0.10
Aquatic - static	7.00	5.40	7.00	5.20
Land - dynamic	4.00	3.50	5.00	4.00
Land - static	99.00	70.40	95.00	71.20
IPBES breakdown				
Changes in land and sea use	37%	18%	32%	11%
Climate change	45%	67%	49%	75%
Pollution	14%		14%	
Direct Operation	4%		4%	

Source: Carbon4Finance via SequantisTM, CCR Group

As a result, the portfolios of the CCR group have a lesser overall impact on terrestrial and aquatic biodiversity than in 2021.

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

C. IMPROVEMENT PLAN

The CCR Group 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 December 2022)

Enhancing the quantitative approach by applying the SFDR and Taxonomy regulations:

The SFDR considers biodiversity issues, in particular through the Principal Adverse Impacts (PAIs).
These pressure indicators can feed into the biodiversity analysis grid of the funds (for example with the mandatory PAI 'Activities negatively affecting biodiversity in sensitive areas').

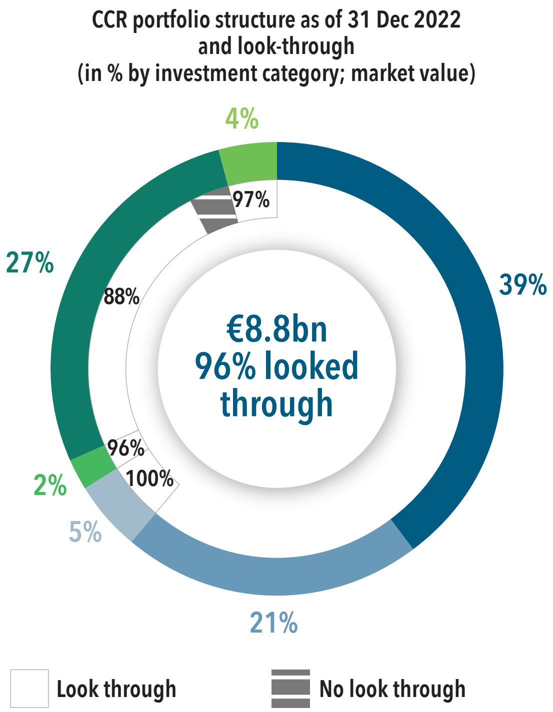
The 6th objective of the Taxonomy Regulation involves "Protection and restoration of biodiversity and ecosystems".
It will provide a common framework for the identification of activities that contribute to the conservation or enhancement of ecosystems ("contribution" approach) and those that significantly reduce the pressures on ecosystems ("mitigation" approach)

Setting quantitative targets. Once a consensus has been reached on a key indicator to be monitored, the CCR Group follows the scientific and industry recommendations and makes any necessary commitments.

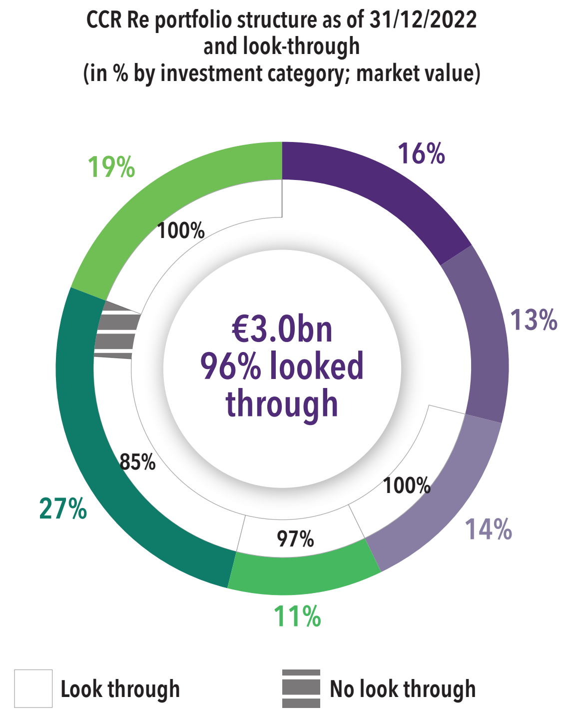
05. APPENDICES

RESULTS TABLES **FOR CCR AND CCR RE**

Figure 44: CCR and CCR Re portfolio structure as of 31/12/2022 and look-through (in % by investment category; market value)[1]



Equities and corporate bonds (direct)	39%
Sovereign bonds (direct)	21%
Real Estate (direct + SAS)	5%
Dedicated Funds	2%
Collective funds	27%
Money Market	4%



Equities and corporate bonds (direct)	16%
Sovereign bonds (direct)	13%
Real Estate (direct + SAS)	14%
Dedicated Funds	11%
Collective funds	27%
Money Market	19%

1 The CCR Group portfolio is not the sum of the CCR and CCR Re portfolios: the intra-group investment/loan must be restated

The following results are from the Sequantis Transition Monitor platform on the Carbon4Finance database and Sustainalytics.

	CCR	CCR Re
ESG asset exposure (% total assets)	27%	29%
Green bonds (directly owned)	4%	2%
Social bonds (directly owned)	4%	1%
Sustainable bonds (directly owned)	1%	1%
Article 8 and 9 SFDR funds	16%	23%
Buildings with a label/certification	1%	3%
% portfolio looked through	96%	96%
% of portfolio eligible for analysis (not eligible: direct real estate, not looked-through funds, non-listed funds)	90%	87%
ESG Analysis		
Covered by Sustainalytics	*90%*	*81%*
ESG risk	17.6	19.5
	Low risk	**Low risk**
E	2.2	2.3
S	4.2	3.6
G	11.3	13.6
Allocation by risk level		
Negligible risk	6%	5%
Low risk	62%	61%
Moderate risk	28%	30%
High risk	3%	3%
Severe risk	0%	0%
Allocation in the face of severe controversy		
Controversy 5	0.2%	0.3%
Controversy 4	3.5%	4.0%
Climate Analysis		
Covered	*80%*	*76%*
Carbon footprint ($tCO^2/€M$)	155	191
Emissions saved ($tCO^2/€M$)	26	26
Carbon Impact Ratio	0.17	0.14
Temperature by 2100 (°C)	2.4	2.4
Fossil fuel exposure (% total assets)		
Exposure to coal	0.30%	0.38%
Exposure to oil and gas	1.13%	1.41%

CCR GROUP'S **EXCLUSION POLICY**

Group 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	Adoption year
• 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
• 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
• Companies that flout the principles of the International Labour Organisation.	2020
Sector-based exclusions	**Adoption year**
• Tobacco: tobacco producers (2020)	2020
• Fossil energy: 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
• 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	**Adoption year**
• Red-Zone issuer: Any issuer with severe ESG risk (above 40 on the Sustainalytics scale) and facing acute controversy (Sustainalytics level 5)d	2022

CCR GROUP'S **FOSSIL ENERGY 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 ENERGY: COAL, OIL AND GAS

From 2022, the CCR Group will no longer finance 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.

Exception possible :

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).

Possible exception:

Direct management (2023) and dedicated funds for delegated management (2024)

SPECIFIC THERMAL COAL POLICY: COAL EXIT BY 2030 FOR ALL PORTFOLIOS

Application conditions:

- Exclusion of companies with a coal-related share that exceeds the threshold of 10% of their sales, unless it is a green bond, or 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 NON-CONVENTIONAL HYDROCARBONS: EXIT BY 2030

Application conditions:

Exclusion of issuers producing non-conventional hydrocarbons (upstream phase) unless It is a green bond and/or if 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.

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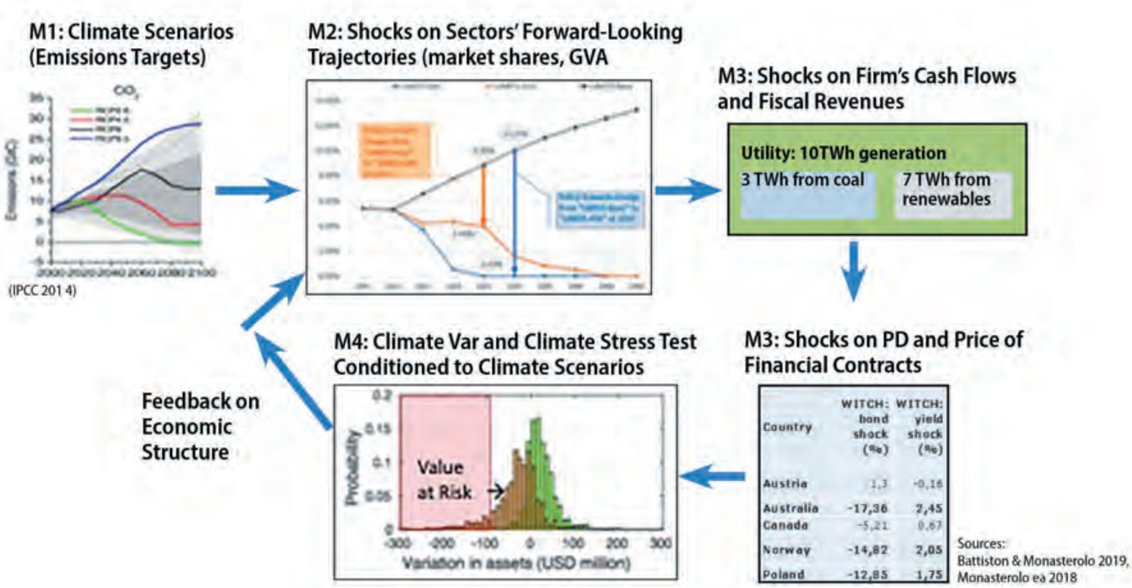
STRESS TEST **CLIMAFIN**

TRANSITION RISK

The CLIMAFIN methodology is based on four modules:



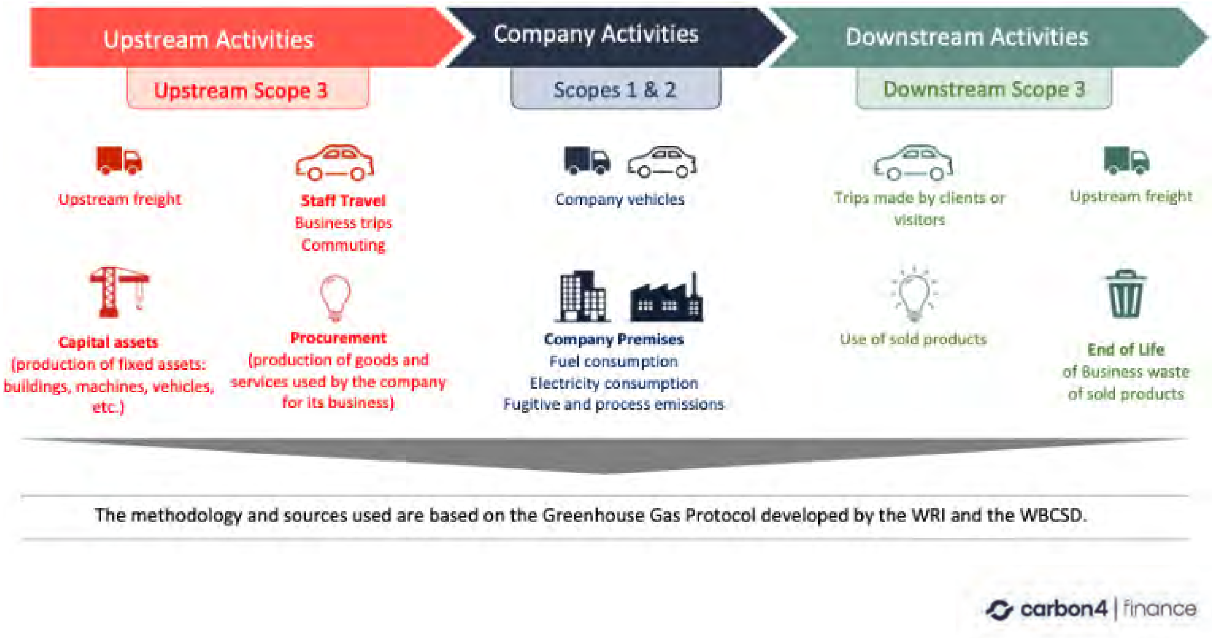
1. Set of scientific information, economic and market trajectories (IPCC, IAMs.)
2. Information on (positive and negative) economic shocks associated with the transition scenario, broken down by economic activity and by region
3. Integrated forward-looking approach
4. Translation into financial risk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

PHYSICAL RISKS

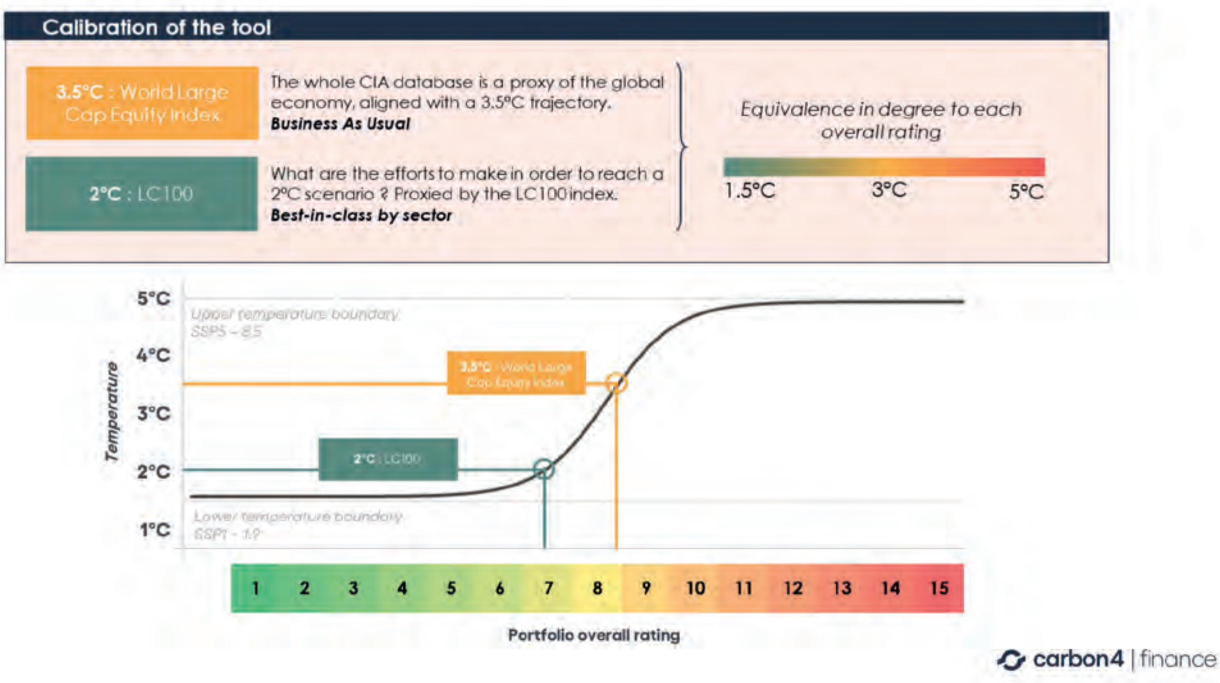
Description of the methodology of shock transmission channels by financial instruments: CLIMAFIN Handbook: Pricing Forward-Looking Climate Risks Under Uncertainty by Stefano Battiston, Antoine Mandel, Irene Monasterolo: SSRN

APPENDIX - CIA METHOD, FOCUS ON **THE CALCULATION OF THE CARBON FOOTPRINT**

Scopes 1, 2 and 3



Scenarios used



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.

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.

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.

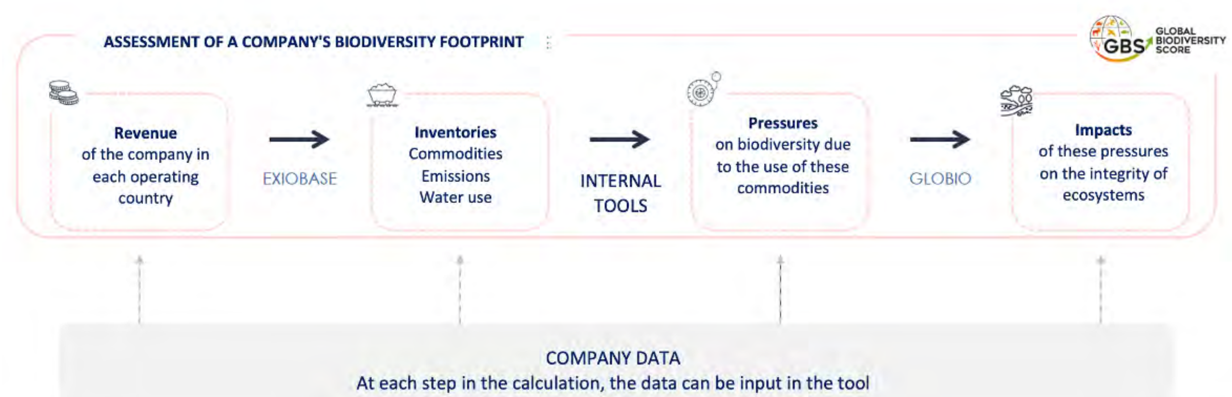
BIA GBS : METHODOLOGY

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

The GBS model covers most of it:

IPBES PRESSURES	GBS / GLOBIO PRESSURES: Terrestrial	GBS / GLOBIO PRESSURES: Freshwater	GBS / GLOBIO PRESSURES: 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.



LIST OF FIGURES

CROSS-REFERENCE TABLE WITH THE INFORMATION REQUIRED BY FRENCH DECREE NO.2021-663 OF 27 MAY 2021 ON EXTRA-FINANCIAL REPORTING TO INVESTORS

1°	Information on the entity's general approach	I-2 The Responsible Investment Strategy
2°	Information on the internal resources deployed by the entity	I- 2 C/ESG-Climate-Biodiversity Analysis Tools I- 2 D/Governance
3°	Information on the approach to the consideration of environmental, social and governance criteria at the level of the entity's governance	I- 2 D/Governance
4°	Information on the engagement strategy with issuers or management companies and on its implementation	II- 2 C/Engagement strategy
5°	Information on European taxonomy and fossil fuels	III- 2 C/European taxonomy and fossil fuels
6°	Information on the strategy to align with the international targets to limit global warming under the Paris Agreement	III- An investor at the heart of the energy transition
7°	Information on the strategy for the alignment with long-term biodiversity objectives	IV- A biodiversity-focused investor
8°	Information on the approaches to consider environmental, social and governance criteria into risk management	II-3 The ESG framework III-3 Results of the alignment strategy and exposure to climate risks IV-3 Risks associated with the erosion of biodiversity

157 boulevard Haussmann 75008 Paris
Phone: + 33 1 44 35 31 00