Banca Popolare di Sondrio
FONDATA NEL 1871

Task Force on Climate-related Financial Disclosure Report

ATTACHMENT TO THE 2022 CONSOLIDATED NON-FINANCIAL STATEMENT

Banca Popolare di Sondrio
Founded in 1871

ORDINARY
GENERAL MEETING
OF 29 APRIL 2023

Joint-Stock Company
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Sondrio Companies Register no. 00053810149
– Registered in the Register of Banks under no. 842
Parent Company of the Banca Popolare di Sondrio Banking Group
– Registered in the Register of Banking Groups under no. 5696.0
Member of the Interbank Deposit Protection Fund
Tax Code and VAT number: 00053810149
Share capital: €1,360,157,331 – Reserves: €1,380,852,212 (Figures approved by Shareholders at the General Meeting of 30 April 2022)

COVER PHOTO by: **Michael Forner**, Integrated Risk Officer

Rating

Rating issued to Banca Popolare di Sondrio by Fitch Ratings on 27 July 2022:

- Long-term Issuer Default Rating (IDR): BB+
- Short-term Issuer Default Rating (IDR): B
- Viability Rating: BB+
- Government Support Rating: ns
- Long-term Deposit Rating: BBB-
- Short-term Deposit Rating: F3
- Senior Preferred Debt: BB+
- Subordinated Tier 2 Debt: BB-
- Outlook: Stable

Rating issued to Banca Popolare di Sondrio by DBRS Morningstar on 14 November 2022:

- Long-Term Issuer Rating: BBB (low)
- Short-Term Issuer Rating: R-2 (middle)
- Intrinsic Assessment: BBB (low)
- Support Assessment: SA3
- Trend: Stable
- Long-Term Deposit Rating: BBB
- Short-Term Deposit Rating: R-2 (high)
- Long-term Senior Debt: BBB (low)
- Short-term Debt: R-2 (middle)
- Subordinated Debt: BB

Rating issued to Banca Popolare di Sondrio by Scope Ratings on 14 March 2023:

- Issuer rating: BBB
- Outlook: Stable

Task Force on Climate-related Financial Disclosure Report

2022

ATTACHMENT TO THE 2022
CONSOLIDATED NON-FINANCIAL
STATEMENT

Photo by: **Danilo Fanchi**, Application Development

Highlights

BPS's first Climate-related and Environmental (C&E) targets

Credit portfolio emissions

NOTE: Targets for the reduction of CO_2 emissions compared to the 2021 base year, defined for sectors identified by the NZBA as priorities in terms of carbon intensity, considering the emissions financed by BPS (Scope 1, 2 and 3) of customers with an NFS.

POWER
reduction of intensity of
-63% ($kgCO_2e/kWh$) **by 2030**

OIL&GAS
absolute reduction of
-25% ($kgCO_2e$) **by 2030**

AGRICULTURE
absolute reduction of
-45% ($kgCO_2e$) **by 2030**

TRANSPORT
Automotive manufacturing
reduction of intensity of **-45%**
(tCO_2e/vehicles sold) **by 2030**

Rail transport
reduction of intensity of **-35%**
(gCO_2e/passenger.km) **by 2030**

Emissions from BPS's operations

-46% t CO_2e
related to corporate vehicle emissions **by 2025**

100%
certified **renewable electricity by 2025**

-14% t CO_2e
relating to the purchase of recycled paper **by 2025**

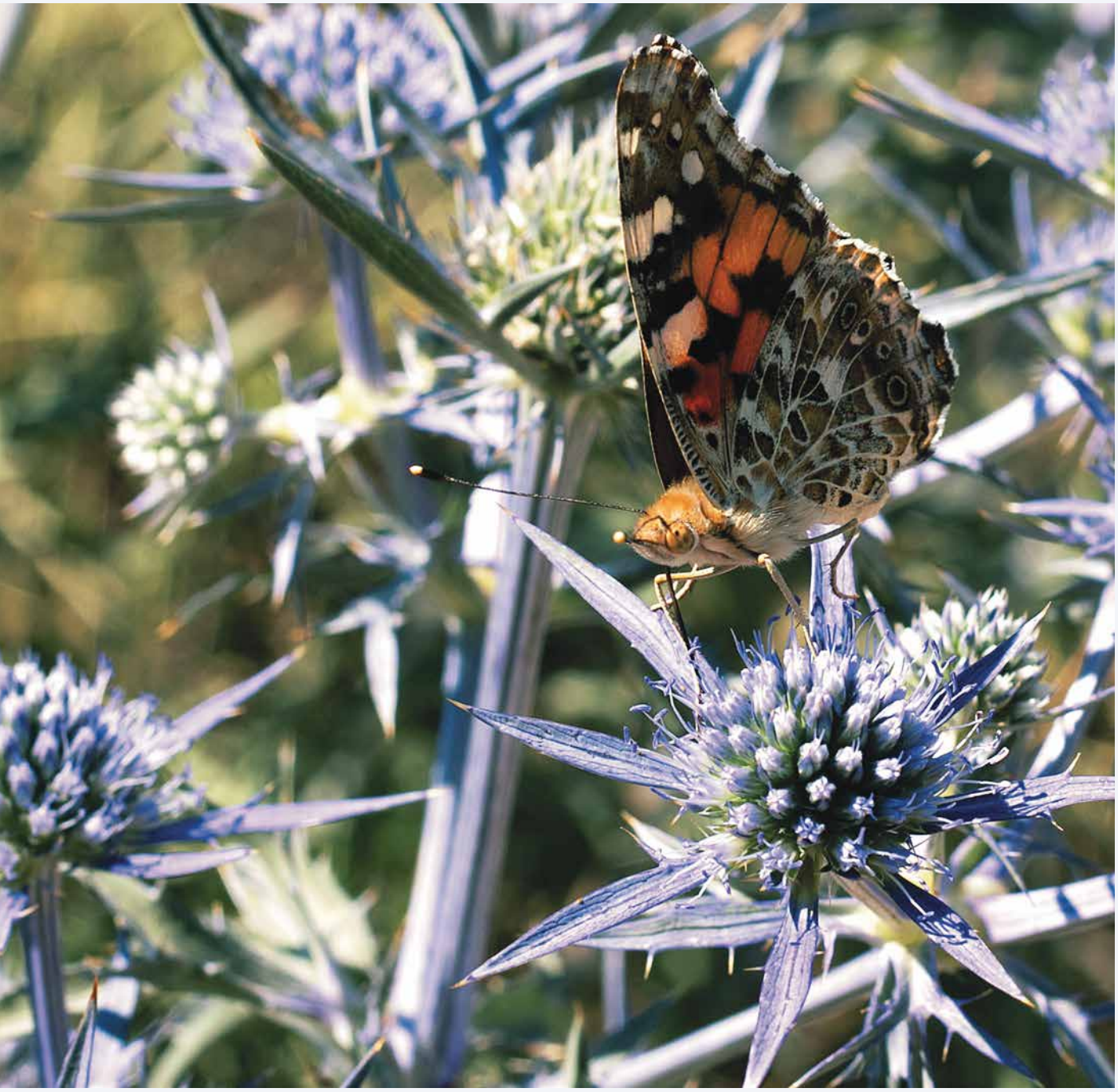

Photo by: **Michael Forner**, Integrated Risk Officer

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INTRODUCTION
01.

The Group

One of first Italian cooperative banks, Banca Popolare di Sondrio (hereinafter also referred to as "BPS" or the "Bank") has been serving the areas in which it operates since 1871. A long history, based on mutual trust and fuelled by a passion for work, a constant focus on customers and their changing needs, by strong roots that have enabled the Bank to broaden its horizons.

Over the years, BPS has extended its business operations nationwide, maintaining strong ties with its geographical area of origin and its traditions, while fostering the Community's sustainable economic development through careful, tailored support for small entrepreneurs, ordinary citizens, as well as medium and large-sized enterprises.

The Bank operates in Europe and the rest of the world, supporting its customers – a human capital for whom it strive to create value.

After 150 years as a point of reference in its geographical area, BPS approved its transformation into a joint-stock company on 29 December 2021 with 2,517 votes in favour, 38 against, 39 abstentions and 16 not counted.

In light of new European regulations on sustainable finance, as well as growing market pressure in relation to environmental topics, the Bank is increasingly aware and committed to updating its strategies and implementing its processes to further integrate sustainability into the business, specifically focusing on climate-related issues.

In 2022, for the first time in the history of the Banca Popolare di Sondrio Group (hereinafter also referred to as the "Group"), the 2022-2025 "Next-Step" Business Plan (hereinafter also referred to as the "Business Plan") was presented to the public. The Business Plan defines BPS's strategy and targets, with a view to generating significant and sustainable value. The update of the Business Plan offered, among other things, a valuable opportunity to strengthen the Group's strategy in relation to ESG and climate-related topics, also particularly relevant in the current context and, by their very nature, transversal to the various areas covered by the Plan.

The Bank formally supports the TCFD Recommendations

Within the Business Plan, ESG factors have been integrated into business and operations through transversal and specific objectives. These include the strengthening of governance, the integration of sustainability in the Bank's main processes, the review of the products and services catalogue, participation in national and international initiatives on sustainability issues and the continuous updating of disclosure on ESG topics, including environmental and climate-related ones.

In line with the objectives defined in the Business Plan, the Bank formally supports the TCFD Recommendations, with a disclosure specifically focusing on climate-related and environmental risks illustrated in this Report.

Alignment with TCFD Recommendations

The Task Force on Climate-related Financial Disclosures (TCFD) was created in 2015 to provide recommendations for effective reporting on climate-related risks. The goal is to improve the consistency and transparency of climate-related financial reporting and to encourage action to reduce the business impact on climate change. The recommendations are structured around four thematic areas: governance, strategy, risk management and metrics and targets.

In order to align its reporting with international best practices, BPS made the strategic decision to publicly declaring support for the TCFD, and to align its climate-related reporting with the Guidelines proposed through this TCFD Report.

The disclosure is currently drafted at the Parent Company level, which at the same time provides the necessary guidelines to ensure the consistency of the practices adopted by the Group's companies in the management of climate-related and environmental risks, and it oversees their application. It is also responsible for preparing the internal regulatory system representative of the Group's policies on sustainability and the management of climate-related and environmental risks, which will be detailed in the "Strategy" section.

Banca Popolare di Sondrio and the Group's subsidiaries have developed an ESG strategic planning framework

In line with the Bank of Italy's expectations regarding the integration of climate-related and environmental risks into corporate strategies, as well as into governance, control and risk management systems, Banca Popolare di Sondrio and the Group's subsidiaries have developed a strategic planning framework.

Factorit S.p.A.'s Climate-related and Environmental Risk Action Plan

Factorit S.p.A., the factoring company of the BPS Group, has started a process aimed at promoting – in the medium term – a gradual integration of Climate-related and Environmental (C&E) risks at the corporate level, through:

- the identification of the actions that the company intends to put in place to integrate climate-related and environmental risk issues into the overall corporate context;
- the definition of priorities and timelines for the completion of the various initiatives, taking into account the intensity of exposure to risks and the size and complexity of operations.

TCFD Recommendations

The Task Force' report includes 11 recommendations, broken down as follows:

Thematic area	Recommendations	Reference
Governance	a) Describe the board's oversight of climate-related risks and opportunities.	Pages 6 - 7
	b) Describe management's role in assessing and managing climate-related risks and opportunities	Pages 7 - 8
Strategy	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	Pages 30 - 31
	b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	Pages 23 - 24
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Pages 23 - 24
Risk management	a) Describe the organisation's processes for identifying and assessing climate-related risks	Page 46 et seq.
	b) Describe the organisation's processes for managing climate-related risks	Page 55 et seq.
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	Page 47 to 54
Metrics and targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Pages 64 and 77
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	Page 65 to 71
	c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Page 78

GOVERNANCE

02.

Governance is the system through which an organisation makes and implements the decisions to pursue its goals, because it is the implemented choices and activities that can make a significant contribution to sustainable development. The corporate structure therefore constitutes the Company's institutional framework and, according to a sustainability-based approach, in order for the Company to effectively adopt strategies that respect and enhance the other two factors (Environmental and Social), governance must also be guided by ethical principles in line with ESG and climate-related parameters.

In the Business Plan, governance and related issues are among the enabling factors to ensure its effective implementation: the maintenance of corporate identity, the development of skills and expertise and therefore the strengthening of governance are the basis for the effective implementation of the Bank's ESG and environmental strategy.

With a view to increasingly integrating sustainability into its business, Banca Popolare di Sondrio has implemented an ESG governance system that provides for the interaction of different bodies devoted to overseeing and managing these issues. The distribution of roles and responsibilities in the field of sustainability as set out in the Sustainability Policy is detailed below.

Banca Popolare di Sondrio has implemented an ESG governance system that provides for the interaction of different bodies devoted to overseeing and managing these issues.

Photo by: **Stefano Gastone Tedeschi**, Bregnano Branch

Supervision of management bodies

The Board of Directors (hereinafter also referred to as the "BoD") and the Board of Statutory Auditors take climate issues into account when defining the risk management strategy and policies.

Board of Directors

The Board of Directors consists of the Chairman, the Vice Chairman, the Managing Director and the other Directors.

As part of its strategic oversight responsibilities, the BoD is responsible for defining the guidelines, targets and strategies at the Group level on environmental and climate-related issues, as well as for monitoring actual progress against the defined objectives.
The Board of Directors plays an active guiding and governance role in integrating climate-related and environmental risks into the Group and corporate culture and strategies, consistently implementing the main corporate policies and ensuring the correct adaptation of organisational and management systems. In order to ensure the successful integration of ESG risks into business strategies, governance, processes, procedures and the control system and to oversee the correct monitoring of these issues, the Board of Directors has the task to approve the Risk Appetite Framework (RAF) and the climate-related and environmental risk management process, verifying its compatibility with the strategic guidelines and with the overall risk governance policies. It is also responsible for conducting effective oversight of exposure to climate-related and environmental risks, taking stock, on a regular basis, of the current risk profile and of the manner in which it is identified, assessed and measured, and taking appropriate corrective action where necessary.

The Board of Directors is involved in training and continuous updating activities on ESG topics and the risks connected to them, with particular attention to climate-related and environmental risks, with the aim of monitoring and gradually increasing its expertise, also through filing questionnaire and self-assessment forms.
A number of changes defined in the most recent update of the Sustainability Policy provide for a periodic information flow to the Board of Directors, at least once every six months, by the Chief Financial Officer and the Head of the Sustainability Office, on all activities carried out in the sustainability field. The reporting of climate-related issues to the Board of Directors also takes place through ad hoc sessions in which Board members receive reports focusing on climate-related and environmental risk factors prepared by the Integrated Risk Office. During 2022, the Board participated in 8 meetings focusing on climate-related and environmental issues.

To ensure the implementation of the climate-related and environmental risk management policies defined by the BoD, the Managing Director is responsible for the methodological and process framework, as well as the functioning of the systems, models and techniques for identifying, analysing and assessing climate-related and environmental risks, overseeing their continuous updating. Moreover, the Managing Director monitors the trend of indicators of exposure to climate-related and environmental risks and their consistency with the risk propensity, objectives and limits defined. If necessary, he oversees the identification of the actions required to bring the exposure back to suitable levels, verifying compliance with the relevant corporate functions, and promotes the actions necessary to ensure organisational and internal control structures in line with the exposure to climate-related and environmental risks.

During 2022, the Board participated in 8 alignment meetings on climate-related and environmental issues.

Control and Risk Committee

The Control and Risk Committee supports the Board of Directors in carrying out its functions concerning the definition of risk objectives and strategies for the prevention and governance of relevant risks, including ESG risks and climate-related risks, both current and potential. In addition, without prejudice to the responsibilities of the Remuneration Committee, the Risk and Control Committee ensures that the incentives underlying the Bank's remuneration and incentive system are consistent with the Risk Appetite Framework (RAF). The Committee examines the TCFD Report and makes any relevant comments and suggestions. It also supports the Board of Directors in the periodic monitoring of risk exposure, verifying the completeness, adequacy and functionality of the internal control system. With particular regard to risk containment, it ensures compliance with the limits set by the Board of Directors and/or required by mandatory regulations.

Board of Statutory Auditors

The Board of Statutory Auditors, consisting of the Chairman of the Board of Statutory Auditors, Statutory Auditors and Alternate Auditors, reviews the documentation approved by the Board of Directors concerning the management of climate-related and environmental risks.

The role of Top Management

Climate-related and environmental risks are managed and controlled at the managerial level by the Sustainability Committee, the Risk Committee and the Mobility Manager.

Sustainability Committee

The Sustainability Committee periodically examines regulatory changes, standards and national and international practices of reference on climate-related ESG topics, and periodically reports to the Board of Directors, providing support and proposals in terms of the introduction and amendment of relevant internal regulations and implementation of the guidelines through concrete initiatives, with regard to which it also defines the operational plans and monitors their actual implementation. It also contributes to the coordination of organisational structures and subsidiaries in order to check compliance with the sustainability guidelines established by the Board of Directors and implemented in strategic planning as applicable from time to time.
The Committee coordinates the activities aimed at identifying sustainability topics that are potentially relevant also in the context of the materiality analysis, and examines the TCFD Report, making any relevant observations and suggestions. In addition, it oversees transactions with debt instruments whose issuance is related to sustainability-related Group activities, coordinating and monitoring interfacing activities with the relevant stakeholders and the disclosure actions. The Committee's task is that of informing the Board of Directors about the work carried out at each meeting (at least quarterly), sharing the relative meeting minutes and working documents, and delegating the Head of the Sustainability Office to periodically report to the Board of Directors, at least every six months, on all the activities carried out and, if necessary, in support of the Chief Financial Officer, as part of the recurring reports on the implementation of the Business Plan.

The Committee is composed of: the Managing Director, the General Manager, the Chief Financial Officer (CFO), the Chief Commercial Officer (CCO), the Chief Lending Officer (CLO), the Chief Risk Officer (CRO), the Chief Information and Operations Officer (CIOO), the Head

of the Logistics and Operational Support Service, the Head of the Staff and Organisational Models Service, the Head of the Planning, Investor Relations and Management Control Service, and the Head of the Sustainability Office.

The Risk Committee

The Risk Committee examines proposals for the definition, integration or significant amendment of climate-related and environmental risk monitoring techniques, methodologies and criteria, expressing its opinions and assessments on the issue. In addition, it assesses proposals concerning the definition, updating or revision of the parameters representing the organisation's climate-related and environmental risk appetite outlined in the Risk Appetite Statement (RAS), evaluates proposals for the introduction, extension, amendment or significant integration of climate-related and environmental risk analysis systems, models, techniques or methodologies. Finally, it approves the system of operational level limits/ thresholds associated with climate-related and environmental risk exposure indicators.

Mobility Manager

In 2021 the Bank appointed its corporate Mobility Manager, responsible for providing continuous support for the decision-making, planning, scheduling, management and promotion of optimal solutions for the Group employees' sustainable mobility.

Operational coordination

At the operational level, the coordination between the Sustainability Office and the Control and Risk Service, in agreement with the ESG Contact Persons for the subsidiaries, the Compliance and DPO Function and the Internal Audit Service, enables the monitoring of ESG, climate-related and environmental issues.

Sustainability Office

The Sustainability Office constantly oversees national and international legislation, standards and practices on climate issues, supports and coordinates the central organisational structures and the subsidiaries in understanding and applying sustainability factors and in interfacing with the relevant stakeholders. Moreover, it supports and coordinates the drafting of the Group's guidelines, targets and strategies on sustainability issues.

It also manages the dialogue with ESG rating agencies, the compilation of questionnaires and the monitoring of ratings at a Group level; in addition, to the extent of its competence, it participates in relations with the Supervisory Authorities, in particular supporting the Risk Control Service in relation to climate-related and environmental risk issues. The Sustainability Office supports the Sustainability Committee in identifying initiatives to be implemented, in promoting and managing the strategy on ESG and sustainability topics, in the operational management in accordance with the Business Plan, and in the periodic monitoring and reporting on initiatives.

It promotes external and internal communication on ESG topics, promoting the dissemination of the culture of sustainability among colleagues, customers and all stakeholders.
In agreement with the Staff Service and the organisational models, it defines the training plans for the Board of Directors, the management and Group personnel, aimed at guaranteeing adequate dissemination and awareness of ESG topics, the risks connected to them, with particular attention to climate-related and environmental risks.

In agreement with the Chief Financial Officer, the Head of the Office periodically reports to the Board of Directors, at least every six months, on all the activities carried out and, if necessary, as part of the recurring reports on the implementation of the Business Plan, involving the directors participating in the Sustainability Committee's activities in advance.

Risk Control Service

The Risk Control Service is responsible for incorporating climate-related and environmental factors into the assessment of exposure to the associated risks and their monitoring, ensuring their independent control and defining the systems, methodologies and processes to be adopted for their management. To these ends, it ensures the integration of climate-related risks into the relevant processes, procedures, support systems, data and reporting. It identifies, analyses, measures and monitors exposure to climate-related and environmental risks and quantifies their impacts, through a dedicated system of metrics and measurement indicators that identifies areas on which action should be taken to prevent and mitigate the main risk phenomena. It supports and coordinates the gradual integration of climate-related and environmental risk factors into risk management and reporting systems, in accordance, in particular, with the ECB "Guide on climate-related and environmental risks".
The Function oversees and, to the extent of its competence, performs the stress tests required by the Supervisory Authorities pertaining to climate-related risks and manages the drafting of the Public Disclosure in application of the Pillar 3 regulations on ESG issues.

The ESG Contact Persons

Operational ESG Contact Persons, appointed for each of the Subsidiaries and for each of the main business areas of the Parent Company, are key figures for the dissemination of a culture of sustainability. They adopt ESG factors with respect to the specific activities under their responsibility, identifying projects and intercepting business opportunities, promote the dissemination of information, the coordination of activities and their sharing, making it possible to increase the effectiveness of interaction between business functions and to guide internal operations.

Compliance and DPO Function

The Compliance and DPO Function, as part of the organisational supervision pertaining to the correct fulfilment of regulatory obligations relevant to the integration of ESG issues and to the effective management of the relevant risks, with particular attention to climate-related and environmental risks, identifies the applicable standards, verifies the compliance of business processes with internal and external regulations with the aim of preventing and containing legal and reputational risks, assesses the degree of exposure to the relevant risks through quantitative and/or qualitative summary indicators, shares the results of the surveys on the processes monitored and prepares information flows on the processes monitored, addressed to the corporate bodies and functions involved in the process.

Internal Audit Service

The Internal Audit Service, as part of its responsibility to verify the correct functioning of the internal control system, verifies compliance with sustainability policies and the adherence of corporate and Group operations with them, and assesses the adequacy and functionality of the ESG risk management system adopted by the Bank, with particular reference to climate-related and environmental risks.
It reports to the corporate bodies any inefficiencies, weaknesses or irregularities that emerge during its verification activities, formulating recommendations and bringing possible improvements to their attention.

Continuous training on climate-related and environmental topics

In order to facilitate the fulfilment of management bodies' steering and control tasks, a training programme was developed for the Board of Directors and members of the Sustainability Committee.

Specifically, the Sustainability Office delivered training modules covering non-financial reporting standards, the main stages of sustainability integration, with a review of national and international initiatives, and an in-depth analysis of the connections between materiality and the UN Sustainable Development Goals (SDGs).

In 2022, training implemented in cooperation with the Risk Control Service focused on the issue of ESG risk management and, in particular, on the reference regulatory framework, on the process of aligning the Bank with the expectations of the Regulator, on the collection, management and use of ESG information and on the positioning of the European banking market. Alongside the training dedicated to the Governing Bodies, a training plan dedicated to management and all Group employees was developed, with the aim of promoting greater awareness and dissemination of ESG topics among all stakeholders.

In particular, the first part of the training implemented in 2022 provided an introduction to the basic notions of sustainability, explaining how it can be measured, showing how the Bank reports through the NFS, while the second part clarified the concept of sustainable finance, analysing ESG products and services and examining how BPS is integrating ESG factors into its business.

In 2022, all BPS staff with permanent contracts were offered a course, lasting approximately 3 hours, aimed at creating a uniform level of knowledge. A number of ESG training targets have been defined in the Business Plan, which will grow from year to year. During 2022, Banca Popolare di Sondrio participated in "Climate ambition accelerator", an accelerator programme organised by the Global Compact Network Italy (GCNI) on climate-related and environmental issues for Global Compact member companies, implemented through the Local Networks and focused on the topic of Science-based Targets.

Furthermore, in 2022 the Bank actively participated in the specific Working Groups (so-called WGs) promoted by the Italian Banking Association (ABI) and in particular:

- the "Bank, environment and climate change" working group, in which European consultations and emerging regulations are analysed and best practices regarding the issue of climate change are shared;
- the "Sustainability" working group, where all the other issues related to ESG topics are addressed such as, for example, Taxonomy.

In general, the association promotes knowledge sharing activities within the banking sector, enabling synergies among its actors, including through training courses and other events or activities. As far as environmental aspects are concerned, the Italian Banking Association also supports banks in the dissemination of data, providing indications and clarifications on the matter. In addition, ABI is focused on promoting a harmonised regulatory framework through direct dialogue with the institutions.

The remuneration policy

Remuneration is a fundamental tool for attracting and retaining staff with the professionalism needed to ensure the growth of Group companies and their ability to compete in target markets. It is therefore essential to enhance staff development by assigning them to roles with an increasing level of responsibility and complexity.

In this regard, the remuneration policies of the Parent Company have evolved alongside and in support of the general expansion of business activities. This expansion has also highlighted the need for increasingly qualified professional resources to work in both the central and branch offices, partly because of the new business areas and partly because of the higher level of competition within the banking system. In keeping with the general trends of the market, and with the aim of attracting, retaining and motivating the best human resources, the Bank has held firm to a number of basic principles: attention to the medium- and long-term sustainability of remuneration policies, general balance, meritocracy, a gradual approach and the desire to establish lasting relationships over time.

The gradual progression of professional career paths is accompanied by a balanced remuneration policy designed to motivate and retain the best resources who, consistent with our values, support the growth of the business.

The Remuneration Policies that will be submitted for Shareholders' approval at the General Meeting of 29 April 2023 were the result of a thorough revision of the previous regulations on the matter. The main changes introduced for 2023, explored in detail in Section 22 of the NFS – "Human Rights, Diversity and Inclusion" – are:

- strengthening the link between the Group's sustainable success, measurement of Top managers' individual performance and relevant remuneration, in particular through:
  - the expansion of the scope of quantitative and objective metrics taken into account in determining the variable remuneration (with the exception of the Heads of the Control Functions);
  - the selection of both short- and long-term performance metrics, consistent with the objectives set out in the 2022-2025 Business Plan (expected results and timeframes);
- the strengthening of metrics aimed at supporting the Group's commitment on ESG issues. Specifically, in determining the short- and long-term variable remuneration, the Group takes into consideration measurable sustainability objectives relating to the improvement of certain ESG ratings, the development of ESG credit and finance processes, the reduction of CO_2 emissions, as well as access to ESG training and participation in international environmental and social initiatives;

Details on the changes and operation of the new Policies are available in the "Annual Report on the remuneration policy and compensation paid", approved by the Board of Directors on 17 March 2023. This document will be subject to Shareholders' approval at the General Meeting of 29 April 2023.
More in-depth information on the remuneration policies of the highest governance body and senior executives (managers), the remuneration determination process and the total annual remuneration ratio can be found on the Group's corporate website at the following links: https://istituzionale.popso.it/en/governance/corporate-documents and https://istituzionale.popso.it/en/investor-relations/shareholders-meeting.

STRATEGY
03.

Since the beginning, the Group has geared its operations towards satisfying the multiple interests of its various stakeholders, combining the traditional aim of pursuing profits with the distinctive aim of achieving a common benefit.

Photo by: **Fabio Maspero**, Varedo Branch

The reference framework

The Group adheres to various regulations and standards whose values form the basis of its climate-related and environmental strategy.

- The **Global Agenda for Sustainable Development (2030 Agenda)**, approved by the United Nations in September 2015, identified 17 Goals (Sustainable Development Goals or SDGs) and 169 Targets as a roadmap to sustainability for countries and organisations around the world. These goals, set to be achieved by 2030, illustrate how the current development model is unsustainable not only socially and environmentally, but also from an economic standpoint. The implementation of the 2030 Agenda is not just a state-level matter, but involves every component of society from businesses to third-sector organisations, universities and operators in the world of communications and culture.

- The **United Nations Global Compact** is the world's largest strategic corporate citizenship initiative, stemming from a desire to promote a sustainable global economy that respects human and labour rights, protects the environment and combats corruption. Banca Popolare di Sondrio has been participating in this initiative since 2004, thereby accepting the UN's invitation to synergistically involve the world of business and non-governmental organisations in the great challenges faced by humanity. In 2018, the Bank also joined the Italian network (Global Compact Network Italy – UNGCN Italy) as a founding member.

- **Task Force on Climate-related Financial Disclosure (TCFD)**: Banca Popolare di Sondrio is officially registered on the list of TCFD members, which promotes the voluntary disclosure of financial data in relation to climate change.

- **CDP** is an international not-for-profit organisation that directs companies and governments to reduce their greenhouse gas emissions, conserve water resources and protect forests. Banca Popolare di Sondrio has been participating in the initiative since 2020, through the completion of the CDP's Climate Change Questionnaire, demonstrating transparency and awareness, indispensable characteristics towards a prosperous and sustainable future. In 2021, the Bank achieved a score of C.

- **ESG Rating**: the sustainability rating assigned by the independent agency Standard Ethics is a summary assessment of the level of compliance with international sustainability guidelines set by some of the major international institutions (European Union, United Nations, OECD). On 9 March 2021, Banca Popolare di Sondrio was, for the first time, assigned a solicited rating of EE, certifying its strong level of compliance. On 14 March 2022, Standard Ethics, at the end of its annual rating review process, raised the Bank's long-term sustainability rating to EE+ (from EE stable) while confirming the corporate rating at EE.

Group's policies

The Banca Popolare di Sondrio Group is committed to acting in line with the Sustainable Development Goals (SDGs) and, in particular with regard to environmental topics, draws inspiration from the most relevant ones in defining its corporate policies.

The main internal policies that outline the values and guidelines of the BPS Group are:

- **Code of Ethics**: the activities carried out by the Bank and other Group companies (subsidiaries and associates) are inspired by respect for the values and principles contained in the Code of Ethics, fully aware that fairness, transparency, integrity and professionalism are essential conditions for the sustainable economic development of the Community. The Code of Ethics, among other things, outlines the policies and regulations governing the Bank's activities and applies to each person operating within or representing it directly or indirectly, thus contributing to the implementation of corporate social responsibility. The creation and dissemination of these values cannot be separated from real respect for fundamental principles such as professional fairness, personal integrity, effective protection of health and safety in the workplace, and transparent competition on the market by all parties.

- **The Sustainability Policy**: is the cornerstone of the sustainability model adopted by the Group, identifying the commitment and the approach followed to maximise the creation of long-term shared value through economically, environmentally and socially sustainable development. The Policy defines the principles, guidelines and relevant sustainability topics that are identified, implemented and monitored to consider the interests of all stakeholders, both internal and external, in a perspective of continuous evolution.

Photo by: **Laura Luzzi**, Tax Office

- **The Environmental Policy**: identifies the Group's approach to managing environmental issues, aimed at gradually reducing the direct and indirect impacts generated on the environment and on climate**.** The document describes, in general terms, the measures and actions that the Group intends to take with regard to environmental issues. In the context of the Sustainability Policy, the Group considers environmental impacts as a relevant area and, consequently, it proposes to reduce the effects on the environment generated by the consumption of resources, production of waste and other activities that have a direct impact, while managing the effects of activities with an indirect impact associated with customer products and services.

- **The ESG Credit Policy**: identifies the Group's approach and general principles in integrating ESG factors into the credit granting and monitoring process**.** The Parent Company has defined an ESG risk management framework aimed at including, in its credit granting practices, assessments of the exposure of credit counterparties to ESG risk factors, through the adoption of proprietary scoring methodologies.

- **The General Climate-related and Environmental Risk Regulation**: meets the Group's need to describe and formalise the general principles and key application guidelines relating to the process of managing risks deriving from exposure to climate-related and environmental risk factors, with a view to their seamless integration into management and control processes affected by these elements, in compliance with the guidelines defined by the Supervisory Authority**.**

Photo by: **Paolo Sertorelli**, Planning and Investor Relations Office

BPS's 2022-2025 "Next Step" Business Plan and initiatives

In order to confirm the central role played by sustainability issues in the Group's activities, the initiatives of the 2022-2025 "Next Step" Business Plan include the integration of ESG factors into business and operations, through the definition of quantitative targets and their monitoring using performance indicators selected from international best practices.

In particular, with the Business Plan, the Bank has defined an ambitious path with respect to the reduction of its environmental and climate impacts, defining the challenging goal of adhering to the UN Principles for Responsible Banking (PRB) joining the Net Zero Banking Alliance (NZBA) in 2023. The latter initiative, promoted by the United Nations, aims to accelerate the sustainable transition of the banking sector, through the commitment of member banks to align their loan and investment portfolios to achieve the goal of net zero emissions by 2050.

Demonstrating its focus in this regard, among other things, BPS is committed to reducing the environmental impacts of its securities portfolio through investments in low-emission financial instruments.

For additional details on the contents of the Business Plan, please refer to the corporate website and the "ESG Business Plan" section of the 2022 NFS.

The Group's initiatives related to reducing environmental impacts include the following activities:

- integration of environmental and climate risk factors into credit processes;
- integration of environmental and climate risk factors into the governance system, strategy, risk management system and reporting, in line with the expectations of the Supervisory Authority;
- gradual development and placement of investment instruments dedicated to the promotion of environmental characteristics;
- development of bond issue programme aimed at financing and refinancing eco-friendly activities;
- progressive promotion of financing products aimed at supporting economic activities that contribute to climate change mitigation and adaptation, such as:
  - low-emission production processes;
  - purchase of housing with a reduced environmental impact;
  - energy upgrading of buildings;
  - energy production from renewable sources;
- selection of funding opportunities, with reference to companies in "sensitive" sectors, through an assessment of regulatory compliance and environmental standards.

The first Business Plan integrated with the ESG Plan

ESG ESG

Impacts impacts

Social topics

Enhancement of human resources

Protection of human rights

Fight against corruption

	ESG GOVERNANCE	INTERNATIONAL INITIATIVES AND ESG RATINGS	BUSINESS POLICIES AND STRATEGIES	PRODUCTS AND SERVICES	REPORTING AND COMMUNICATION
BY 2022	• Further strengthening of **ESG Governance** • Level II and III checks • **ESG training** for all Group personnel • **ESG compliance programme** • Internal behavioural guidelines for the **reduction of environmental impacts**		• **ESG credit policy** and integration of the ESG Score in loan practices • **Integrated Risk Management:** RAF, ICAAP and stress testing • Definition of the carbon neutrality path and portfolio alignment	• Development of **ESG financing products** for customers • Expansion of **ESG asset management lines** • Development of a **process digitisation** programme for customers	• Improvement of analyses concerning **indirect emissions** (Scope 3) • Strengthening of the **ESG communication strategy**
BY 2023	• Introduction of **ESG objectives** in remuneration policies • **Sustainable mobility operational plan** • Operational plan on **Diversity and Inclusion** • Launch of the **female leadership** programme	• Participation in initiatives dedicated to ESG topics: – **UN PRB** – **Net-Zero Banking Alliance** – **TCFD** – **Valore D**	• Definition of **responsible investment guidelines** • Increase of the **target on the ESG segment** of the proprietary portfolio • Definition of the **giving strategy:** – sponsorships – donations • **ESG ratings for suppliers**	• Integration of the **Green Bond Framework** for the structuring of new ESG Bonds • Integration of **counterparties' ESG Score** with Taxonomy-alignment • Development of Taxonomy-aligned products	• Improvement of the analyses of the environmental performance of **real estate assets** • **ESG brand identity**
BY 2024			• **ISO 14001** Environmental Management System		
Continuous path		• Improvement of **ESG rating & scoring** to best-in-class levels • Intensification of the dialogue with the **most deserving providers**			• Evolution of the contents of the NFS as regards the **Corporate Sustainability Reporting Directive and the new reporting standards** • Integration of the NFS with the **TCFD Recommendations**

Next: BPS's green financing

The Bank has defined specific lines of action with regard to the Group's sustainability strategy, including the launch of ESG products. BPS aims to support customers that, in turn, are engaged in the ecological transition, enabling sustainability to become a key value for households and businesses.

The expanded range of ESG-focused credit products was created to respond to the needs of consumers who, today, are increasingly more attentive to the environmental and social impact of the products and services they purchase, as well as to help companies invest in innovative business models, increasing their level of competitiveness on the market in compliance with European environmental protection regulations.

Specifically, the Bank has developed "Next – ESG credit products", a loan package designed to assist individuals, professionals and businesses looking to invest to reduce their "carbon footprint" through, for example, the installation of systems for the production of energy from renewable sources, the purchase of ecological means of transport or by enhancing the efficiency of their homes or workplaces.

With reference to private individuals, depending on the size of the loan, these are personal loans, unsecured loans or mortgages. As far as businesses are concerned, the offer includes medium- and long-term mortgage and/or unsecured loans that can also be disbursed according to the progress of the specific works. The complete range of ESG products is available on the Bank's commercial website at www.popso.it/next (Italian version only).

Photo by: **Martina Faldrini**, Tax Office

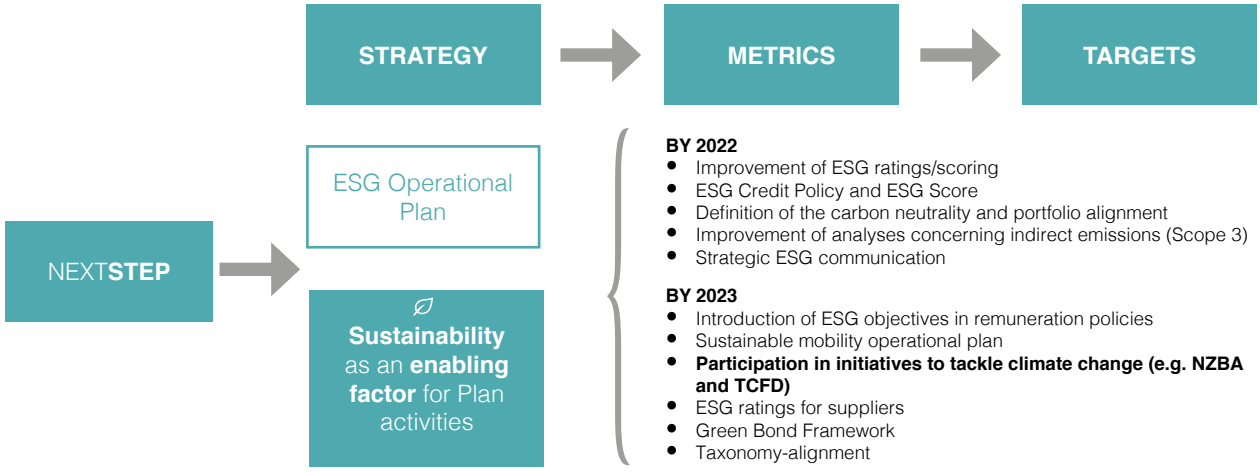
Consistent with the above strategies, in July 2021 BPS issued its first Senior Green Bond, the proceeds of which are exclusively used to finance or refinance activities that meet the following criteria:

- **Green Buildings**: loans or assets related to the purchase, construction and renovation of residential and/or commercial energy-efficient buildings;
- **Renewable Energy**: loans for the acquisition, development and management of infrastructure for the production of energy from renewable sources;
- **Clean Transportation**: loans related to low-carbon transport activities and the purchase, construction and management of infrastructure dedicated to low-carbon transport;
- **Energy Efficiency**: loans for assets that contribute to a reduction in energy consumption (e.g. energy-saving lighting);
- **Environmentally sustainable management of living natural resources and land use**: loans for activities that contribute to the sustainable management of natural resources and land use (e.g. investments in protected areas such as regional nature parks);
- **Pollution prevention and control**: loans for activities that contribute to the prevention, collection, disposal and recycling of waste;
- **Sustainable Water and Wastewater Management**: loans for activities that improve the quality, efficiency, distribution and conservation of water.

For complete and up-to-date information on the allocation of the resources raised and the positive environmental impacts of the activities financed, please consult the BPS Green Bond Report available on the corporate website at istituzionale.popso.it/en/sostenilita/green-bond.

Photo by: **Paolo Sertorelli**, Planning and Investor Relations Office

BPS's climate strategy



The Bank has defined an ambitious path with respect to the reduction of its environmental and climate impacts, identifying the challenging goal of joining the Net Zero Banking Alliance in 2023. This initiative, promoted by the United Nations, aims to accelerate the sustainable transition of the banking sector, through the commitment of member banks to align their loan and investment portfolios to achieve the goal of net zero emissions by 2050.

In particular, the NZBA requires Alliance members to:

- focus on sectors that have a more significant impact on the climate, in other words those with higher GHG emissions;
- set interim targets no later than 2030 or earlier for "key" sectors;
- publish data on emissions and their intensity on an annual basis;
- take into account scenarios based on the best available scientific knowledge;
- set the first target within 18 months of signing the commitment and provide updates on an annual basis;
- disclose progress with respect to a transition strategy reviewed by the Board of Directors.

Also taking into account the interest of the markets, as well as the requests expressed by the European Authorities to intensify efforts to tackle climate change and the need to create specific KPIs to monitor climate performance, starting from the proprietary portfolios, BPS has decided to initiate a target setting process aimed at defining specific targets. For this reason, the Bank has entered into a partnership with an external provider, in order to:

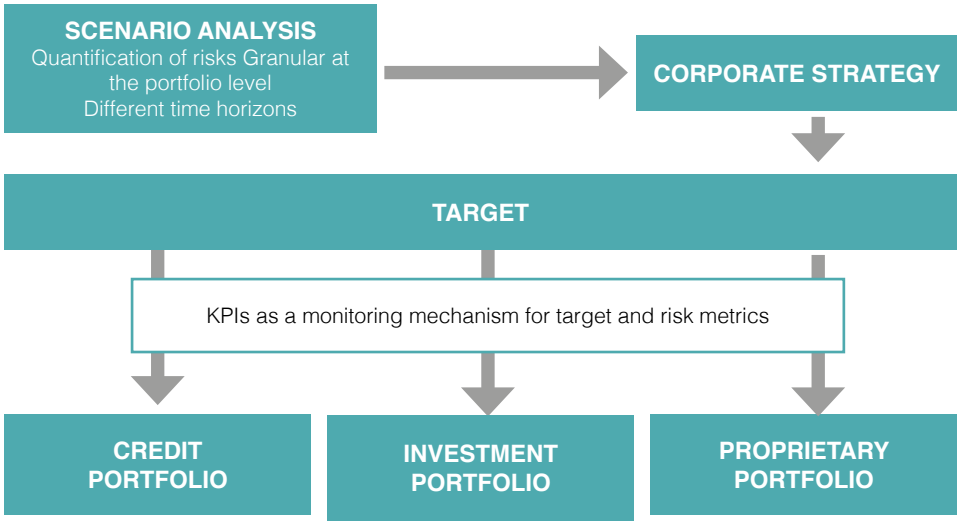
- enhance the collection of GHG emissions data, facilitating the preparation of a robust GHG inventory based on increasingly reliable sources;
- develop near-term Scope 1 and Scope 2 targets through the science-based methodology specific to the financial sector;
- develop near-term Scope 3 - Category 15 targets to be submitted to the Science Based Targets initiative (SBTi) as a requirement of the financial sector methodology;
- preliminarily analyse long-term target assumptions in view of adhering to the NZBA, pending the publication of specific guidelines for the financial sector.

For additional details on target setting activities, please refer to the section on “Metrics and Targets”.
In 2023, BPS’s strategic planning is being integrated in order to incorporate an effective and clear vision of the implications of climate change from a management perspective, in the short, medium and long term.

The aim of the integration process is to understand climate drivers and integrate them into relevant strategic asset allocation choices by assessing their impacts on the Bank’s business profile and on sustainability.

The definition of a corporate climate strategy cannot, in fact, be separated from the careful study of scenario analysis, in other words the projection of portfolios under different climate scenarios. By adopting a scientific methodology, emission reduction targets are defined for the different portfolios. The achievement and monitoring of these targets is entrusted to specific performance indicators (key performance indicators or KPIs).

Target in line with the scientific transition



ESG Credit Policy

With the Business Plan, the Group introduced targets to integrate ESG factors into all major credit processes and procedures.
The document was approved by the Board of Directors on 22 December 2022.

The Policy:

- identifies the objectives pursued by the Group and the scope of application;
- defines the main technical terms and lists the reference legislation and principles;
- establishes the general guidelines for the integration of ESG factors in the credit process, providing details on the sector and counterparty ESG assessment methods;
- identifies sensitive sectors and activities;
- provides information on the development of ESG credit products;
- defines roles and responsibilities;
- indicates the supervision, monitoring, sharing and dissemination methods.

The Bank has also identified ESG-sensitive areas for which special attention is paid during the lending phase, with the aim of adopting a responsible approach. The areas identified are as follows:

- Coal mining
- Manufacturing and trade of arms
- Gambling
- Oil & Gas
- Electricity production from non-renewable sources
- Mining (other than coal)
- Tobacco

In addition to the above-mentioned sectors, account is taken of transaction involving counterparties located in countries with preferential taxation and counterparties located in countries subject to embargo/assets restriction.

Scenario analyses

For a number of years now, for its analysis, the Bank has been using the climate scenarios of the Network for Greening the Financial System (NGFS), a network of 114 central banks and financial supervisory authorities that aims to accelerate the expansion of green finance and define the role of central banks in managing climate change. These scenarios, referred to as the Climate Change Risk scenarios, make it possible to develop greater awareness of the possible impacts of climate-related risk events on operations/ profitability, relying on macroeconomic forecasts "conditioned" by the transmission drivers of climate-related risks (e.g. carbon pricing, CO_2 emissions, increase in global average temperature) needed for defining medium to long term targets. For this purpose, in addition to the classic macroeconomic variables, certain climate-related variables and certain transition events are also taken into consideration.

In particular, there are three key scenarios to consider:

- **Current policy**, where some climate-related policies are implemented in certain jurisdictions, but global efforts are not sufficient to stop global warming; critical temperature thresholds are exceeded, leading to severe physical hazards and irreversible impacts such as a rise in the sea level;
- **Orderly transition**, where climate policies are introduced early and gradually become more stringent; both physical and transition-related risks are relatively small;
- **Disorderly transition**, where the transition risk is higher due to delayed or divergent policies between countries and sectors; the carbon price is typically higher for a given temperature outcome.

At the start of this year, an exercise was carried out to measure the sensitivity of the most recent medium-term economic and financial projections (2025 horizon) to climate scenarios, through the analysis of the projections subjected to the effects of the three aforementioned macro-economic contexts, which incorporate different transition hypotheses.

In addition, the following projects are also planned during 2023:

- evolution of the current medium-term projection framework, applying, to the most recent economic and financial projections, quantitative drivers that are climate-adjusted through the integration of the results generated by the analytical engines for forecasting climate-related risks (transition and physical risk);
- design of the long-term planning model (e.g. axes of analysis, metrics, KPIs), of the reference database, of methodologies for integrating climate\ESG drivers and developing the new long-term planning engine;
- processing of the first long-term simulations to support the impact analysis of NZBA targets.

Sensitivity exercise

Climate Change Risk scenarios, as described above, combine macroeconomic financial/banking forecasts with specific climate-related risk drivers. Their integration within the financial statements simulation tool normally used as part of the planning process, makes it possible to carry out a sensitivity exercise on short to medium term financial projections, useful in order to develop greater awareness of the possible impacts of climate-related risk events on the Bank's operations/profitability.

Analysis has shown that the application of Climate Change Risk scenarios to the most recent forward-looking financial calculations:

- does not entail significant impacts in the short term, in the case where current climate policies are maintained (current policy scenario), as well as in the case of expectations of a disorderly transition scenario; the latter has implementation timeframes spread over time, which show only marginal positive effects associated with an initial and limited increase in investments and therefore in loan volumes;
- confirms the full sustainability of the short to medium term projections, even under the assumption of an immediate and gradually more stringent introduction of transition policies (orderly transition scenario), albeit in the presence of lower profitability due to higher impairment rates and operating costs, the effect of which is only partially offset by the growth in volumes and lending rates.

Planning framework

BPS is committed to extending its strategic planning framework in order to incorporate an effective and clear vision of the implications of climate-change drivers from a management perspective, in the short, medium and long term.

The aim of the integration process is to understand climate drivers and integrate them into relevant strategic asset allocation choices by assessing their impacts on the Bank's business profile and on sustainability.

In order to pursue this objective, the Bank will introduce a new planning model aimed at most effectively dealing with the specific nature of medium to long term climate-related risks and opportunities (for example, participation in initiatives to decarbonise loans and reduce financed emissions), ensuring consistency and alignment with the short- and medium-term strategic planning (budgeting and Business Plan) which, in turn, will evolve to tackle the main effects of transition and physical risks on the Bank's financial and economic outlook.

The evolution of the framework will focus primarily on climate-related ESG aspects and will include the impacts that transition and physical events can generate on bank operations, according to various climate transition scenarios. Consequently, the classic strategic planning axes will be complemented by new climate-related drivers and portfolio views on which the Bank will formulate assumptions, carry out specific measurements (for example exposure, risk profile, margins) in order to support the process of selecting the viable strategic options.

These activities will form the basis for the implementation of specific climate KPIs and the development of a reporting and control system that will make it possible to:

- support the definition and monitoring of targets articulated according to the new climate logic, with a clear understanding of the risks, implementation constraints and implications related to the Bank's commitment;
- seize the opportunities deriving from the evolution of the economic and climate/ environmental scenario, which will inevitably lead to the emergence of new financial needs, and thus of new products and customer segments that will need to be adequately supported by financial intermediaries during the transition process.

In particular, the Bank will introduce and evaluate specific indicators such as: the provision of green financing, KPIs related to the emissions profile (for example financed emissions and physical intensity indicators) that include measures of profitability and risk-related costs.

In this context, BPS is developing a cross-cutting collaboration model which, through appropriate interaction mechanisms between the different business functions, will enable the integration of climate-related drivers into strategic planning processes and the understanding of their impacts and implications.

These activities will be supported by a set of tools and models which make it possible to measure the exposure to climate-related risks of the various assets in the portfolio (loans, securities and properties) and of the assets underlying the products placed with customers. In particular, the bank will use:

- **provisions of economic forecasts** (climate-change risk scenarios), including long-term ones, enriched to incorporate the climate views underlying the different transition paths outlined by the NGFS; sectoral outlooks and alternative scenario generation engines, in order to expand the possibilities of also creating alternative or stress scenarios relating to different economic and climate dynamics;
- **transition risk engine**: for estimating the transition risk of companies; the engine measures the sensitivity of individual companies to climate scenarios, simulating the evolution of the company's financial and economic KPIs under stress conditions generated by a specific transition path;
- **physical risk engine**: for estimating physical risks. For the purposes of the analyses, the Bank currently considers the risks of floods, droughts and heat waves and determines the depreciation in the value of Residential Real Estate (RRE) and Commercial Real Estate (CRE) assets and the impacts on the production sites of companies in its portfolios;
- **Portfolio Alignment engine**: to estimate the impacts of the decarbonisation path of the corporate loan portfolio in line with the NZBA protocol.

Analytical tools

1. Transition risk engine

The transition risk measurement tool is an analytical calculation engine that, at the level of the individual company (with financial statements), estimates the impacts of specific climate-related assumptions and of the relevant macroeconomic/sector variables on the financial and accounting items in the company's financial statements, in order to measure the sensitivity of financed companies to transition policies.

Through the adoption of specific economic and climate-related scenarios at the sectoral level, the calculation engine makes it possible to project the emission path of financed companies, including eventual decarbonisation plans, taking into account the expected financing/investment needs that companies would manifest in the event of adaptation to the transition, the direct and indirect costs that the transition path would generate through the introduction of the carbon tax, the increase in the prices of raw materials and energy and along the economic input-output chains linking the companies.

Where available, the engine is able to take into consideration distinctive corporate features, such as the initial carbon footprint and the investments already made or planned.

This tool also makes it possible to break down the portfolio of financed companies by degree of sensitivity to the transition risk. This breakdown will therefore be integrated into the planning and credit policy-making toolkit, facilitating the development of business strategies for the various segments, including financial support for transition projects, where deemed appropriate and relevant (for example considering the demand for bank financing to support transition paths). This analysis allows not only to determine the risk profile, but also to approach the potential financing needs of companies in relation to transition projects, synergistically supporting the implementation of Regulation 2020/852 (the so-called European Taxonomy).

Finally, the engine returns summary forward-looking indicators of the evolution of the riskiness of individual counterparties that can be integrated into the methodologies for calculating risk parameters – probability of default (PD) or loss given default (LGD) – and, consequently, also of the expected loss and pricing to be applied to new financing.

2. Physical risk engine

The tool aims to determine and measure the impacts of certain physical events:

- on the prospective financial statements of financed companies;
- on the market values of real estate assets (residential and commercial) received as collateral for financing transactions (both corporate and private), enabling the mapping of the aforementioned balance sheet and income statement aggregates according to the physical risk profile, which can be determined prospectively and scenario-dependently, in the short, medium and long term.

The tool exploits analytical geolocation elements of assets and companies (based on the data generated by local production units), combined with methodologies for the climatological forecasting of physical events (on high-precision geographic cells), in order to determine scenario-dependent "damage functions" that make it possible to estimate the impacts of physical events both in terms of expected and unexpected losses.

This tool allows to introduce physical risk drivers and classes into the strategic planning framework, in order to:

- prospectively evaluate the concentration indexes in line with the overall forecasts (strategy sustainability);
- integrate climate-adjusted risk metrics into medium to long term projections;
- define the actions to be taken on certain risk segments deemed relevant or deemed to be sources of opportunity.

The tool also makes it possible to align the estimates of the changes in the value of real estate guarantees, of the risk parameters (for example LGD) and consequently of the expected loss, to take into account the impacts of the physical risks. Through the application of "damage functions", it is possible to determine the potential impairments suffered by the Bank's real estate assets.

The engine can also be used to support the structuring of new products and/or targeting processes (e.g. insurance coverage, real estate renovations, etc.) and to estimate the prospective contribution of such operations.

3. Portfolio alignment engine

The Bank has long been committed to improving its sustainability profile. This path also includes the definition and implementation of decarbonisation strategies for its lending portfolio (see the "Metrics and Objectives" section for more details):

- recognising the value of relationships and accompanying the financed companies towards a climate-related and technological transition path;
- relatively and gradually reducing its profile of financed emissions generated by its own credit portfolio.

To this end, the planning framework will be supplemented with a calculation engine capable of projecting/measuring different decarbonisation strategies:

- with various emission scenarios (NGFS);
- in contexts of changing financing volumes across sectors;
- taking into consideration customers' decarbonisation plans, when available, and their specific characteristics;
- analysing their impacts in terms of the compatibility of these choices with the overall financial indicators, while also verifying the sustainability of the business model.

In this context, the engine will therefore support BPS's climate strategy in the definition of clear emission targets compatible with the other corporate risk-adjusted profitability constraints.

The tool will also support verifying the alignment with targets and the definition of possible corrective strategic interventions, consistently and integrated with the other strategic planning processes and tools used.

In particular, the system will be characterised by adequate consistency between the development of strategies in terms of emissions and their implementation in the processes focused on defining and verifying the strategic plan sustainability, supporting, over time, the budgeting and controlling processes, as well as the possible set of strategic indicators (KPIs) based on the carbon footprint.

RISK MANAGEMENT

04.

Integrating climate-related risks into BPS's Risk Management Framework

In line with the Supervisory Authority, climate-related and environmental risks are defined for banking and financial institutions as risks arising from the current or prospective impact of climate-related and environmental factors on their counterparties or invested assets. More specifically, while environmental risks should be understood as the financial risks generated by a bank's exposure to counterparties that may contribute to or be influenced by forms of environmental degradation (such as air pollution, water pollution, fresh water scarcity, soil contamination, loss of biodiversity and deforestation), climate-related risks are the financial risks generated by a bank's exposures to counterparties that may contribute to or be affected by climate change, as they are exposed to extreme weather events or a possible decline in their asset value if they belong to carbon-intensive sectors.

According to the provisions of the Supervisory Authority, C&E risks do not constitute a separate risk category, but rather arise and manifest themselves across the traditional categories of financial risks, with particular reference to credit, market and operational risks, as well as risks not included in Pillar 1, such as liquidity risk and strategic risk. C&E risks may therefore simultaneously constitute key drivers of different existing risk categories and subcategories and manifest themselves through specific transmission channels.

C&E risks commonly include the two main risk drivers listed below:

- transition risk, which refers to the financial loss that an entity may incur, directly or indirectly, as a result of the adjustment process towards a low-carbon and more environmentally sustainable economy; this could be caused, for example, by the sudden adoption of climate and environmental policies, by technological progress or by changing market confidence and preferences, and may result in lower profitability of companies and devaluation of assets;
- physical risk, which refers to the financial impact of climate change, including more frequent extreme weather events and gradual changes in climate, as well as environmental degradation, in other words air, water and soil pollution, water stress, loss of biodiversity and deforestation. Physical risk can therefore be classified as:
  - "acute" if caused by extreme events such as droughts, floods and storms; or
  - "chronic" if caused by gradual changes such as rising temperatures, rising sea levels, water stress, loss of biodiversity, changes in land-use, habitat destruction and resource scarcity.

The latter risks may lead directly, for example, to material damage or a drop in productivity of bank counterparty or, indirectly, to subsequent events such as production chain interruptions.

In order to promote an adequate governance of C&E risks, the Bank has adopted effective systems for the management and control of such risks, in keeping with the overall internal control framework, so as to have a holistic and well-documented view of their impact on traditional risk profiles. These systems aim to identify, measure, monitor and mitigate exposure to physical and transition risk factors, on an ongoing basis, through the adoption of procedures, processes and methodologies that ensure careful risk management.

In particular, the approach adopted by Banca Popolare di Sondrio for the management of C&E risks provides for:

- the definition of appropriate tools and methodologies to assess the climate-related and environmental risk profile of sectors, counterparties and investment activities;
- the implementation of suitable processes for identifying, mapping and analysing the level of materiality of current and prospective exposure to C&E risk factors, which may arise in the context of traditional risk categories;
- the implementation of suitable processes and systems to measure the potential impacts generated by climate-related and environmental risks, including through the use of forward-looking assessments (sensitivity or scenario analyses, stress tests, portfolio alignment exercises, etc.);
- the development of effective monitoring and reporting systems for C&E risk exposure, based on appropriate metrics and indicators (e.g. counterparty/issuer classifications by economic sector and geographic area of activity, carbon intensity per individual counterparty, etc.);
- the identification of appropriate actions and tools to mitigate the exposure to physical and transition risks, supporting processes aimed at the gradual reduction of these risks within the corporate operational areas (including in relation to portfolios, business lines, types of investments, etc.) and increasing their resilience to climate-related and environmental impacts.

Some details of the process and methodologies governing the individual macro-activities of the defined C&E risk management approach are provided below.

Assessment tools

Below is an overview of the assessment tools used by the Bank for the following risk categories:

- **Credit Risk**
- **Market Risk**
- **Operational Risk**

CREDIT RISKS		
Tool	**Description**	**Use**
ESG Heat Map	**A tool** developed **at the sector level** to identify the potential risk of **ESG factors** related to the Bank portfolio towards the **17 Sustainable Development Goals (SDGs)** laid down by the United Nations.	• Definition of credit policies • Portfolio analysis • Credit granting process
Counterparty C&E Score	Risk **metrics** that the Bank has developed internally in order to identify the **level of exposure of** its **credit customers** to **climate-related** and **environmental** risk **factors**	• Credit granting process • RAF • Materiality analysis
C&E risk quantification metrics	**Metrics** for **measuring** impacts **on** traditional credit risk **parameters** through C&E risk transmission channels	• ICAAP

MARKET RISKS		
Tool	**Description**	**Use**
ESG Heat Map	**A tool** developed **at the sector level** to identify the **potential risk** of **ESG factors** related to the Bank portfolio towards the **17 Sustainable Development Goals (SDGs)** laid down by the United Nations**.**	• Portfolio analysis
External ESG rating	Risk **metrics** that the Bank acquires from **external providers** to identify the **level of exposure** of its **issuers** to **climate-related** and **environmental** risk **factors**	• Materiality analysis • ICAAP

OPERATIONAL RISK		
Tool	**Description**	**Use**
Metrics for assessing extreme weather impacts	The Bank **retrieves and processes** information sources from **external databases** (ISPRA and ThinkHazard!) with the aim of determining the classes of exposure to physical risk threats analysed, for which a significant risk **exposure** can be found in the geographic areas with the **highest territorial concentration** for the Group.	• Materiality analysis • ICAAP

In particular, these tools respond to the Supervisory Authority's request to assess the Bank's exposure to ESG risk factors, specifically climate-related and environmental risk factors, from a dual perspective: an inside-out perspective (sector risk potentially generated by counterparties) and an outside-in perspective (risk suffered by counterparties as a result of climate change).

Inside-out perspective

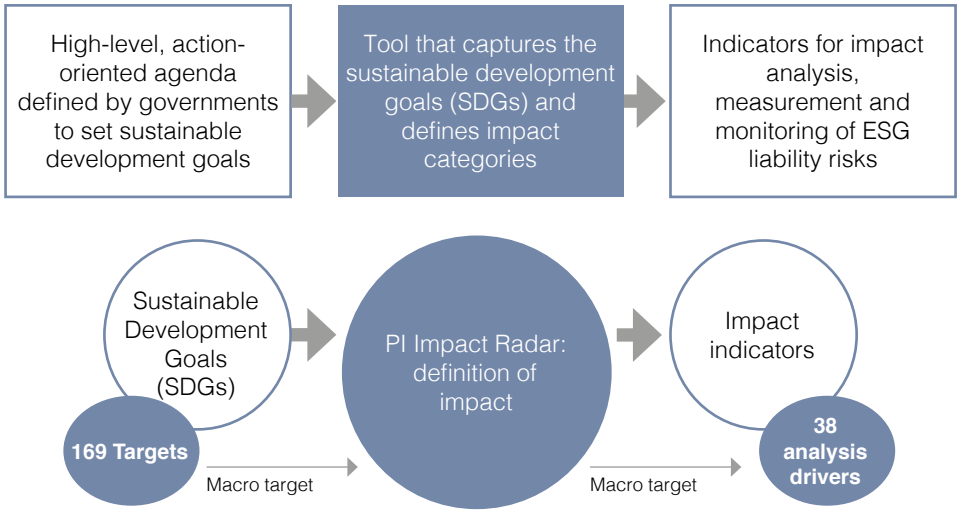
The sectoral ESG Heat Map

The Bank has developed its own ESG Heat Map,a sector-specific tool aimed at identifying the potential risk generated by customers with regard to ESG factors, both for the loan and advances portfolio and for its proprietary securities investment portfolio.

The ESG Heat Map consists of a double-entry matrix used for the sectoral mapping of economic activities from the point of view of their exposure to C&E, social and governance risk factors. The matrix allows a score to be assigned to each economic sector on the basis of assessments of the potential environmental damage caused by the activities or of the possible negative aspects in terms of social equity or good governance principles of the business organisation that characterise each sector.

The sector-level ESG risk mapping process underlying the construction of the ESG Heat Map uses the analysis and classification standard published periodically by UnepFI – an initiative developed based on the collaboration between UNEP (United Nations Environment Programme) and the global financial sector – as its main source for defining the matrix's categorisations. In particular, UnepFI is involved in several initiatives aimed at integrating the principles of environmental, social and governance sustainability within the financial market. By identifying specific areas or categories of negative impact, the tool used (Impact Radar – Portfolio Impact Analysis Tool for Banks), makes it possible to determine the extent to which a given sector of economic activity is at risk of harming the achievement of one or more of the 17 SDGs laid down by the UN.

The 17 SDGs are translated by UnepFI into 38 categories of negative impact from ESG liability risks, with the assessment conducted at a sector level using specific indicators.



UnepFI's model for determining the negative impact drivers on the achievement of the SDGs

The methodological approach is based on the "inside-out" materiality perspective, aimed at assessing the sectoral impact of the risk to which the Bank may be exposed in dealing with counterparties/sectors that could be responsible for actions, behaviours or practices likely to cause negative impacts, in relation not only to the quality of the environment and to climate change, but also to the respect for socially recognised values and rules of good corporate governance.

The following table shows the negative impact factors defined by UnepFI for each economic sector and analysed by the Bank in the preparation of the sectoral Heat Map, grouped by the relevant ESG dimension.

ESG Pillars	UNEPFI factors
Environmental	• Water quality • Air quality • Soil quality • Species and habitat • Natural resources • Climate stability • Waste
Social	• Availability of water • Availability of food • Availability of housing • Healthcare • Child labour • Privacy • Education • Access to energy • Mobility • Conflicts and modern slavery • Natural disasters • Access to the financial offer • Access to information • Access to culture • Justice • Social equality • Age discrimination • Protection of minorities
Governance	• Safety and social protection • Employment • Strong institutions, peace and stability

Sectoral ESG impact factors defined by UnepFI

On the basis of the resulting impact level of ESG factors, a risk scale was created based on five different classes identified by colours indicating the "potential risk" of each economic macro/sub-sector, both as part of an overall ESG assessment or as an individual ESG component.

The risk scale used by the Group is illustrated below:

Risk level	Colour	Description
HIGH		Significant impact of ESG Factors
MEDIUM-HIGH		Medium-high impact of ESG factors
MEDIUM		Medium impact of ESG Factors
MEDIUM-LOW		Medium-low impact of ESG factors
LOW		Low impact of ESG Factors

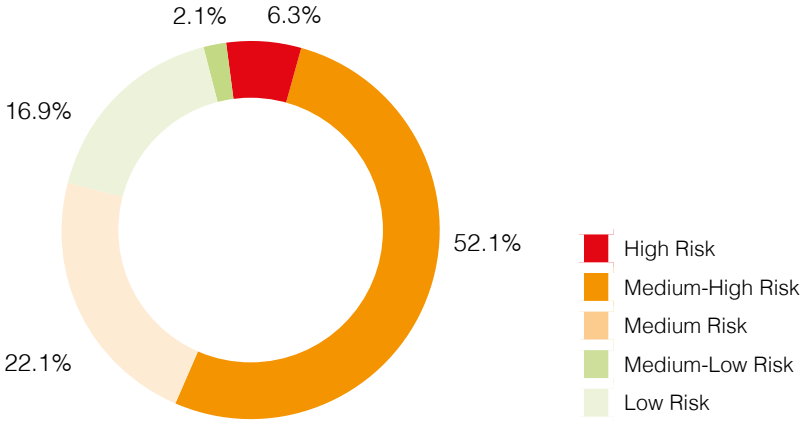
ESG Heat Map Risk Scale

Photo by: **Pier Luigi Balzarini**, Castello di Brianza Treasury Office

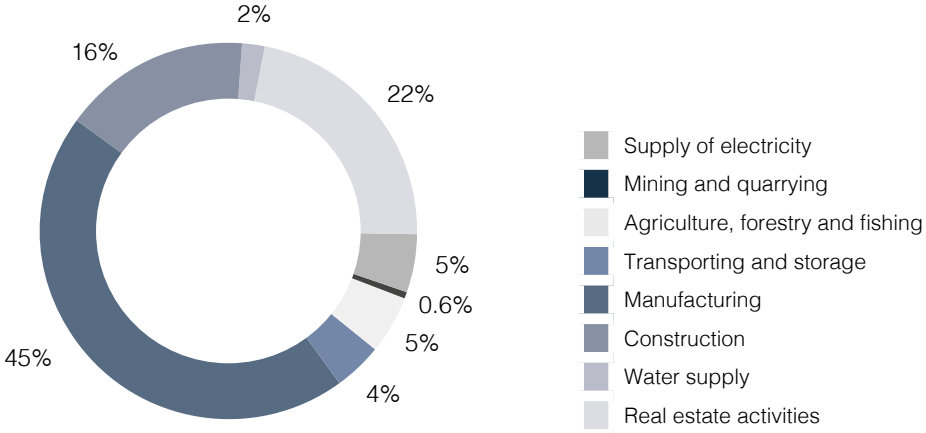
Below is shown an overview, for the "Environmental" component, of the analysis of the Corporate Credit (loans and advances) and Corporate and Government Securities/Funds portfolios, with respect to economic macro-sectors, provided also on the basis of the assigned sectoral risk levels.

Credit risk – Corporate (loans and advances)

Environmental Score Distribution

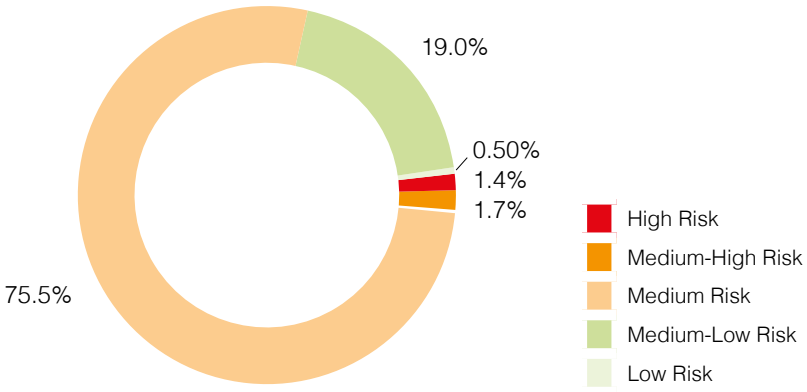


Breakdown by Sector – High and Medium-High Risk

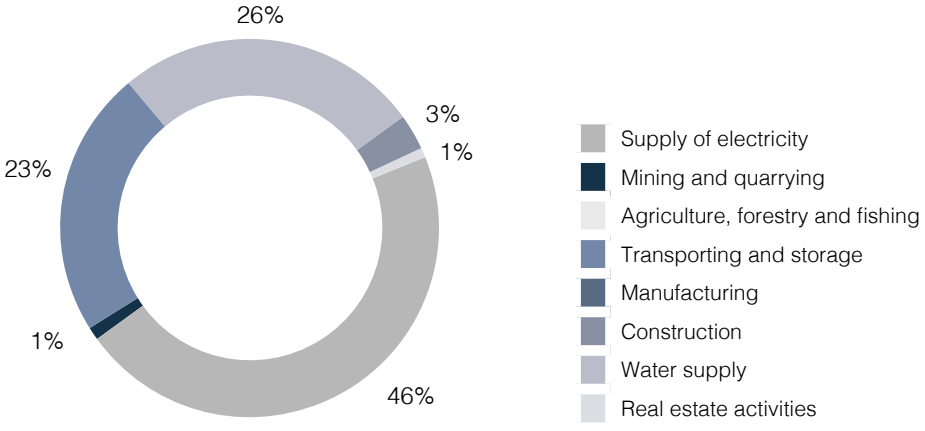


Market Risk: Corporate and Government Securities and Funds

Environmental Score Distribution



Breakdown by Sector – High and Medium-High Risk



The risk-measuring characteristics of the ESG Heat Map make it a particularly suitable tool for guiding the Bank's sectoral credit policies with a view to sustainability. Financing economic activities detrimental to globally recognised "sustainable development" principles and objectives also exposes the lending institution to potentially negative ESG liability assessments. The sectoral scoring calculated through the Heat Map is therefore viewed in the Bank's credit strategies as one of the key elements defining the attractiveness of the economic sectors that make up the loan portfolio.

Outside-in perspective

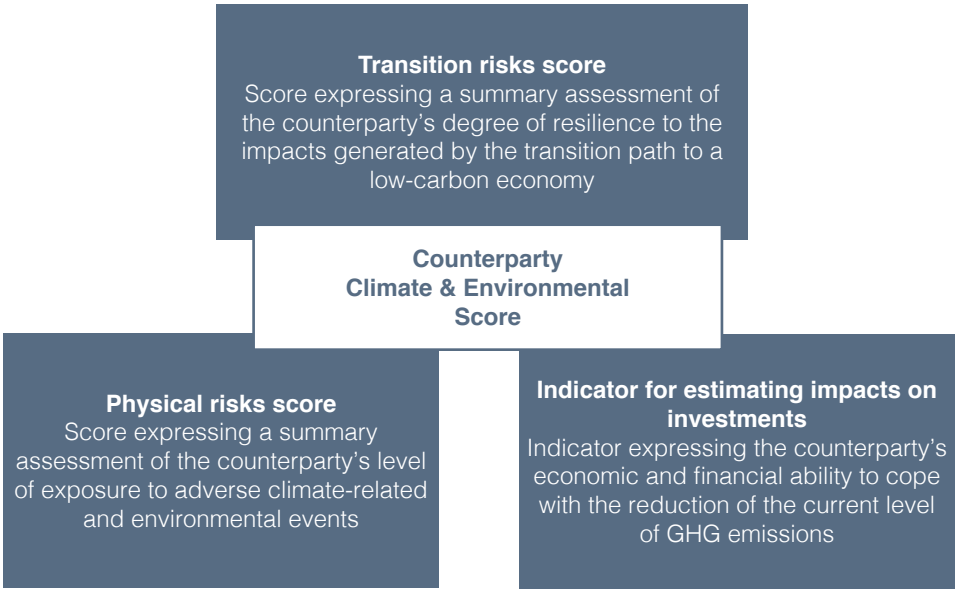
Counterparty C&E Score

The Bank has defined a methodology for assigning a counterparty climate and environmental risk score ("counterparty C&E score") to credit customers (new and existing) belonging to the portfolio of companies that present both reclassified financial statements within Centrale dei Bilanci (Cerved CEBI database of accounting data), as well as information on their current/prospective GHG emissions (actual equivalents or provided through proxies).

The counterparty C&E score takes the form of a summary assessment of the level of vulnerability of companies to climate-related and environmental risk factors and, in particular, to transition and physical risk factors.

The methodology for calculating the counterparty C&E score, based on an "outside-in" materiality perspective, allows for a forward-looking estimation, through the assignment of a numerical score and an associated risk class, of the potential financial impacts linked to the counterparties' exposure to risks arising from climate change and environmental degradation.

The metric is the synthesis of further and more specific evaluation indicators that assume significance and validity even on their own.



Elements comprising the counterparty C&E score

A detailed description of the key points that characterise each of the essential elements of the methodology for calculating the counterparty C&E score, as well as the manner in which they are aggregated in order to return the summary assessment is reported below.

Transition Risk Score

Given the nature of the climate transition and the magnitude of environmental changes, the methodological approach for framing the C&E risk profile of counterparties is analysed from a medium to long term perspective (2022 – 2050):

- the trends of companies' Scope 1 and 2 GHG emissions;
- the estimate of the impacts on companies' income statement generated by the costs potentially connected to the transition.

Following this forward-looking approach, the current Scope 1 and 2 GHG emissions and EBITDA (gross operating margin) figures of companies are projected according to the trends of the predictive curves defined by the following three climate scenarios suggested by the NGFS:

- "Net Zero 2050" scenario
- "Delayed Transition" scenario
- "Current Policies" scenario.

Photo by: **Diego Gallotta**, Castel San Giovanni Branch

Physical risk score

Physical risks, for example, may directly cause material damage or a drop in counterparties' productivity, or indirectly cause consequential events such as production chains disruption, with negative impacts on creditworthiness and/or on the value of the counterparties' real estate collaterals. These can be categorised as follows:

- acute risks, if caused, for example, by extreme events such as droughts, floods, storms;
- chronic risks if caused, for example, by gradual changes such as rising temperatures, rising sea levels, water stress, loss of biodiversity, changes in land-use, habitat destruction and resource scarcity.

In order to obtain a summary physical risk score for each counterparty, which can measure the company's vulnerability to adverse climate-related and environmental events, the Bank uses elementary physical risk indicators provided by external info-providers.

Specifically, physical risk indicators developed by qualified providers estimate the frequency and intensity levels of events expected to happen in the future based on the RCP (Representative Concentration Pathways) climate change scenario 4.5. This scenario is part of those adopted by the Intergovernmental Panel on Climate Change (IPCC, the world's leading authority on climate change), which are based on various assumptions in terms of GHG emission trends and social/economic changes on a global level.

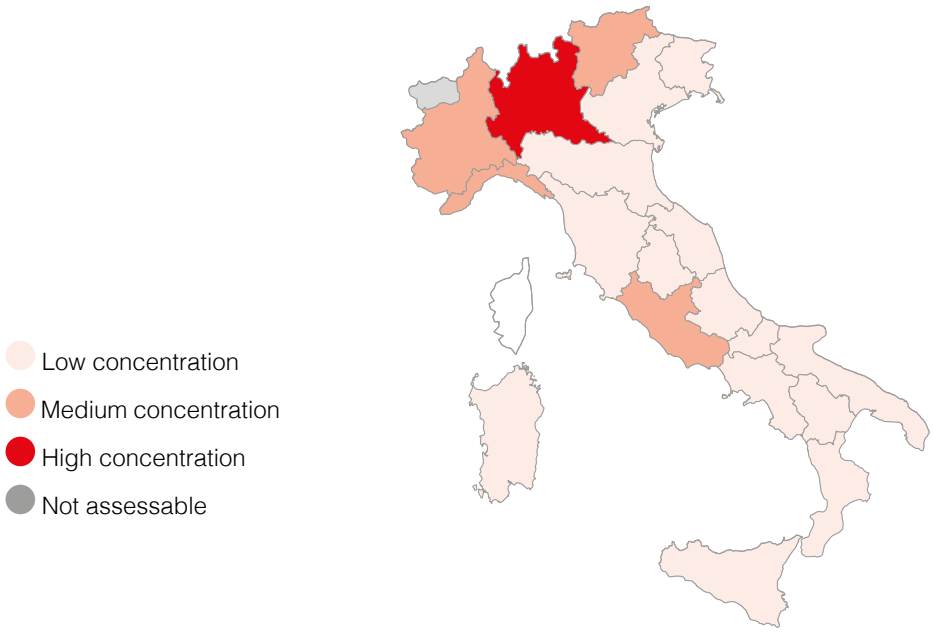
The provider's analysis of the companies in the Bank's loan portfolio was carried out through the complete geolocation of the production sites using high spatial resolution of the ground (30m to 1km) and through aggregation functions, for each individual physical risk, attributing to each counterparty a score from 1 to 10, which translates the frequency and degree of impact of the physical event.

The provider offers two summary indicators – Acute Risk Score and Chronic Risk Score – which represent the overall risk impact appropriately weighted in the event of multiple physical events.

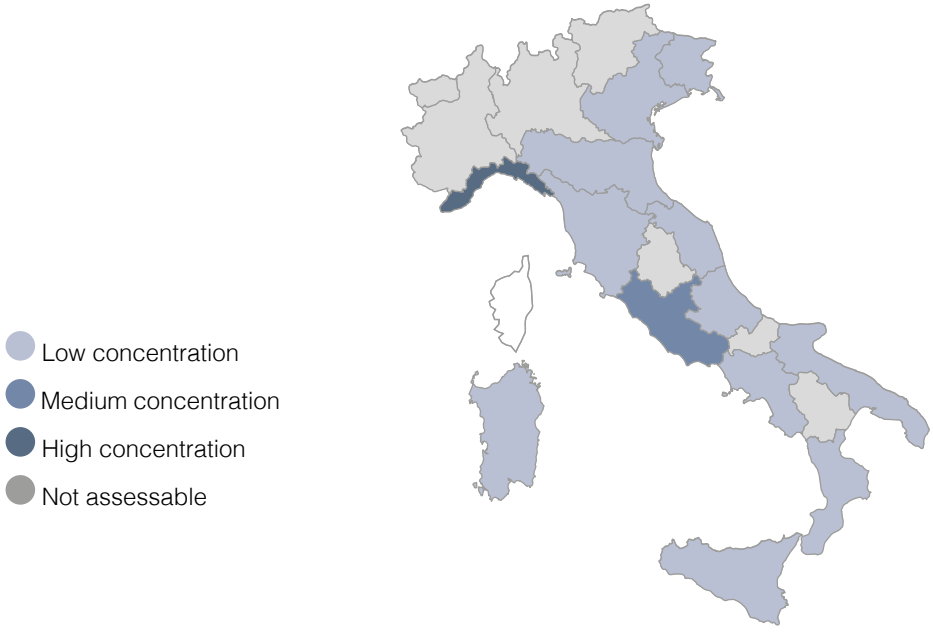
Chronic Physical Risks	Acute Physical Risks
Temperature change	Heat waves
Heat stress	Waves of cold and frost
Changing wind patterns	Fire
Changing patterns and types of precipitation	Windstorm
Thawing of permafrost	Drought
Rise in sea levels	Heavy rainfall
Water stress	Floods
Soil and coastal erosion	Landslides and subsidence
Soil degradation	

The geographical distribution of corporate customers exposed to High and Medium-High Acute and Chronic physical risks is shown below.

Geographical distribution of counterparties exposed to high Acute physical risks



Geographical distribution of counterparties exposed to high Chronic physical risks



Indicator for estimating transition impacts on investments

The last element included in the definition of the counterparty C&E score is the indicator estimating the impacts of the climate and environment transition on the investment needs of the company.

This indicator reflects the counterparty's economic and financial ability to make the necessary investments to support the decarbonisation of its own production processes.

The indicator for estimating the impact on investments makes it possible to identify the counterparties most sensitive to transition risk. They are identified through a statistical analysis based on the distribution of values obtained at a sector level.

Representation of the counterparty C&E score

The final C&E score is given by the arithmetic sum of the three components described above. C&E risk mitigation elements, represented by the possible presence of ISO certifications attesting the correct environmental and energy management (ISO 14001 and 50001) are also taken into account in determining the score, as well as economic benefits provided by the Gestore dei Servizi Energetici (GSE, the Italian grid operator) of which the company may be a beneficiary as an incentive for the production of energy from renewable sources.

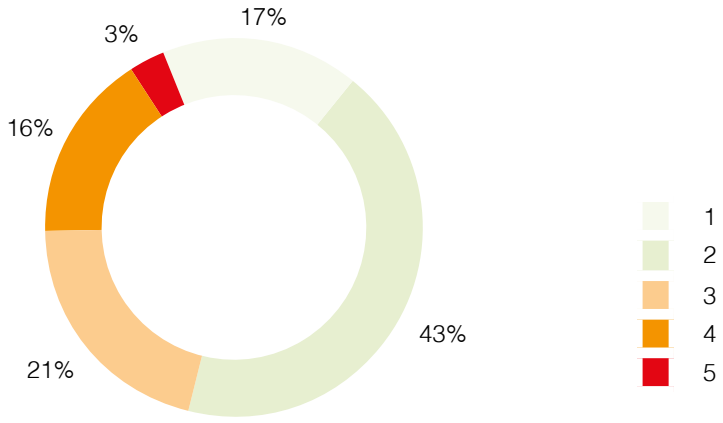
Finally, the numerical score resulting from the sum is translated into a qualitative judgement expressed in classes (or bands). Each band represents a level of increasing climate-related and environmental risk, ranging from 1 to 5: the higher the value assumed by the summary score, the worse a company's exposure to C&E risk factors (both physical and transitional) is expected to be.

Risk level	Score
Low Risk	1
Medium-Low Risk	2
Medium Risk	3
Medium-High Risk	4
High Risk	5

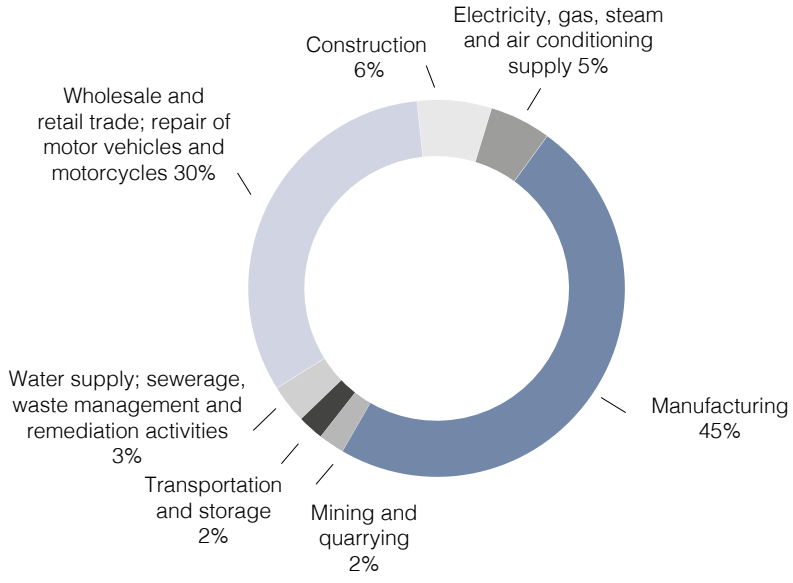
The Bank has provided for the possibility of revising the final C&E score using additional or more up-to-date information than that already available for the automatic calculation of the same, acquired directly by submitting specific ESG questionnaires to customers at the time of granting the loan or on other specific occasions.

Results

Breakdown of the Counterparty C&E Score



Breakdown by sector of counterparties included in the High – Medium-High C&E Score



ESG ratings for Securities and Funds in the proprietary portfolio

Another tool used, from an "Outside-in" perspective, is the rating provided by a leading external provider that makes it possible to assess the level of exposure of the investment portfolio to C&E risk factors. In particular, for each of the types of financial instruments in scope, the so-called Exposure Method is adopted to carry out an analysis. This is a methodology integrated with the risk information that makes up the "Environmental" ratings supplied by the info-provider, differentiated between corporate and sovereign issuers. The factors that make up the rating are outlined below:

Corporate

- Climate change
- Consumption of natural resources
- Pollution and waste management
- Environmental opportunities

Countries

- Management of natural resources
- Environmental externalities
- Vulnerability to external events

The methodology adopted by the provider is based on the analysis of specific Key Issues, each of which relates to a particular Theme. The latter, in turn, makes it possible to investigate the individual E, S and G dimensions of an issuer's profile.

ESG (IVA) RATING

Environment Pillar				Social Pillar				Governance Pillar	
Climate change	**Natural capital**	**Pollution and waste**	**Opportunities for the environment**	**Human capital**	**Liability on the product**	**Stakeholder opposition**	**Social opportunities**	**Corporate governance**	**Corporate conduct**
Carbon emissions	Water stress	Toxic emissions and waste	Clean technology opportunities	Labour management	Product safety and quality	Controversial procurement	Access to communication	Ownership and control	Business ethics
Product carbon footprint	Biodiversity and land use	Packaging and waste	Sustainable building opportunities	Health and safety	Chemical safety	Community relations	Access to funding	Board of Directors	Fiscal transparency
Environmental financial impact	Procurement of raw materials	Waste from electronic equipment	Renewable energy opportunities	Human capital development	Financial security of consumers		Access to health care	Payments	
Climate change vulnerability				Working standards in the supply chain	Privacy and data protection		Opportunities in the field of nutrition and health	Accounting	
					Responsible investment				
					Insured health and demographic risks				

Each Key Issue deemed relevant to an issuer's economic sector is assigned: a) a numerical score obtained by assessing the issuer's exposure to each specific risk factor and the issuer's ability to manage that exposure, and b) a weighting factor defined at each GICS (Global Industry Classification Standard) sub-sector level. After taking into account any eventual overrides, the final score is mapped onto a rating scale between AAA (best) and CCC (worst).

Also in the case of government bonds, the Environmental (E) component inherent in the ESG rating provided by the external reference provider is used, the purpose of which is to reflect the ways in which the exposure to and management of ESG risk factors by States can influence the long-term sustainability and competitiveness of their economies. Both the inherent risk exposure and the sovereign State's ESG risk management ability are taken into account in the analysis.

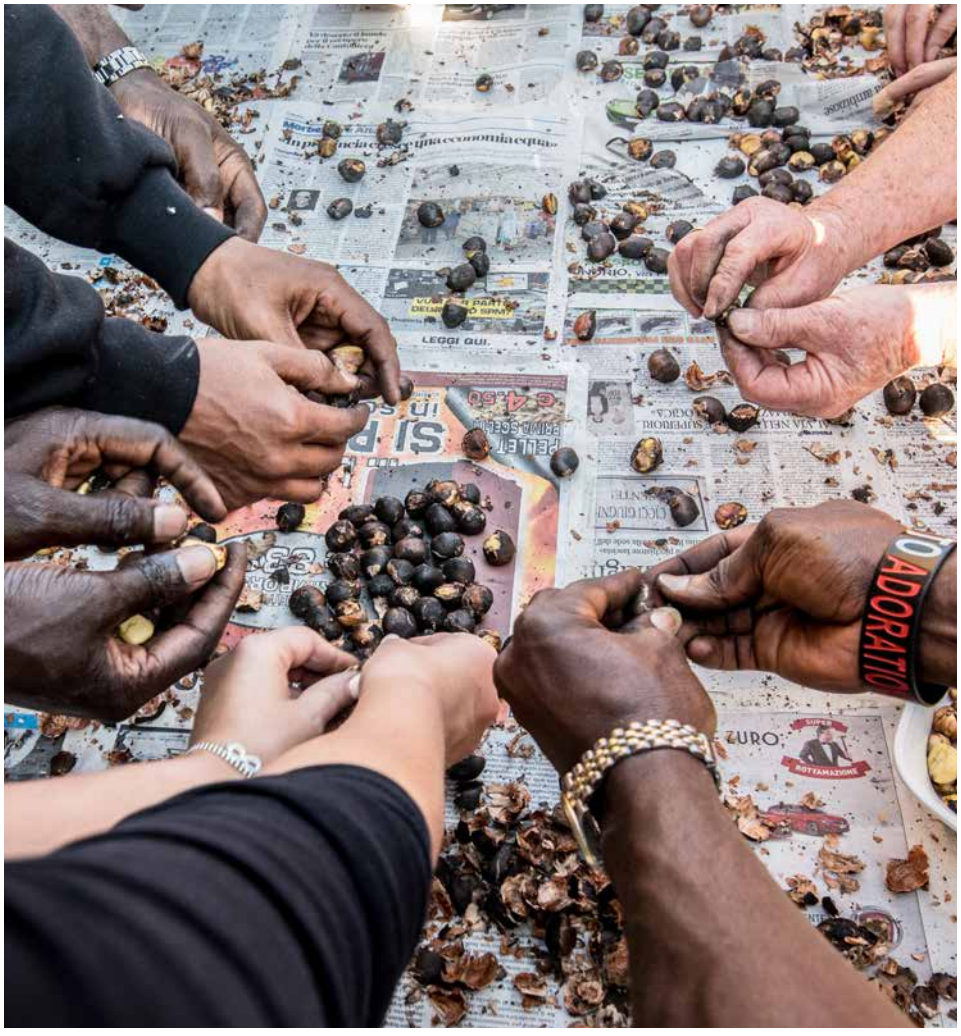
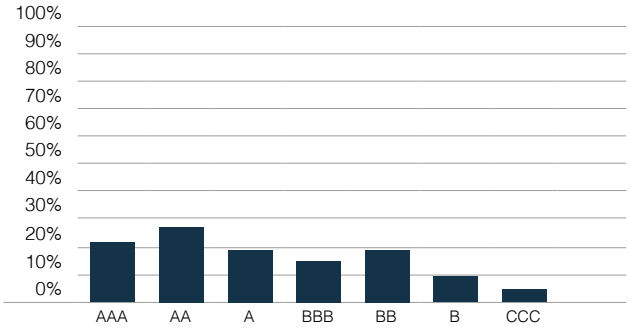


Photo by: **Milena Vaninetti**, Tax Office

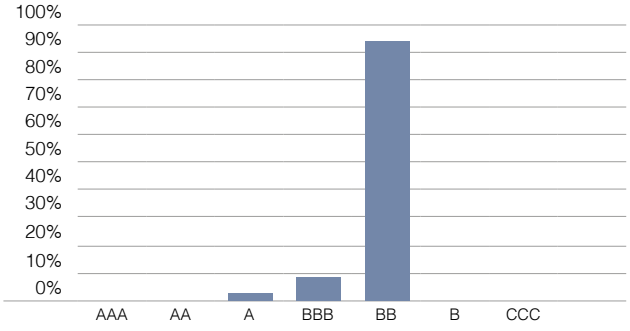
Below is reported an overview of the distribution of the rating for the climate-environmental component (E) for the instruments in the proprietary portfolio of securities and funds.

ESG ratings for Securities and Funds in the proprietary portfolio

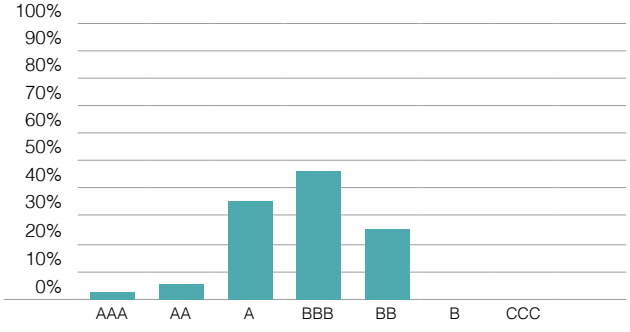
Corporate



Government



Funds



Climate-related and environmental risk identification and materiality analysis

The Bank has established regular processes for identifying and assessing the materiality of exposure to risks related to climate and environmental change, both physical and transitional, which may affect the business environment.

The materiality of these risks, understood as their ability to influence the sustainability of current and future business performance, is typically analysed on an annual basis. To this end, the Bank adopts specific tools and metrics, as well as specific methodologies for conducting analyses aimed at identifying its own degree of exposure to C&E risk factors.

As a general rule, the Bank considers risk factors as causal elements capable of affecting the exposure to existing risks and not as additional elements with respect to the typical scope of banking risks that can potentially be assumed. The level of materiality is therefore determined in relation to the possible influence of physical and transitional factors on traditional risk categories, thanks to a structured analysis of the transmission channels through which such risks could propagate in case they materialise.

In identifying material risk factors, the Bank took as a reference the provisions contained in the C&E Risk Guide – Supervisory Expectations Relating to Risk Management and Disclosure, a document published by the European Central Bank in November 2020 that summarises and defines C&E risk drivers and factors in detail. The Bank therefore takes these drivers and risk factors as a reference, which it confirms and/or integrates through the outcomes of internal expert-based assessment processes (for more details, see the "ESG Risk Inventory" section of the 2022 NFS). The elements identified are periodically reviewed and updated according to developments in scientific knowledge and the regulatory framework.

In particular, as already mentioned in previous sections, two main risk drivers fall under C&E risks:

- transition risk
- physical risk

Below is reported a summary overview of the relevant C&E risk factors, as classified by the Supervisory Authority:

Physical risk factors		Transition risk factors	
Climate-related	Environmental	Climate-related	Environmental
• Extreme weather events • Chronic weather conditions	• Water stress • Resource scarcity • Loss of biodiversity • Pollution	• Policies and regulation • Technology • Market confidence	• Policies and regulation • Technology • Market confidence

Material climate-related and environmental risk factors

For each material risk factor, the transmission channels through which C&E risk factors manifest themselves within the traditional risk categories are also outlined.

ESG Risk driver	Transmission channels (non-exhaustive)	Banking risk
Environmental	Lower profitability	Credit risk
Physical risks: • Acute • Chronic	Reduction in property value	Market risk
	Decrease in private wealth	Operational and reputational risk
Transition risks: • Regulatory • Technological obsolescence • Market preferences	Lower asset performance	
	Increased compliance costs	Liquidity risk
	Increased legal costs	Strategic risk

With regard to the materiality analysis, specific methods are defined for identifying materiality levels of exposure to C&E risk factors according to the traditional risk categories analysed. In general, materiality assessments and the subsequent measurement and monitoring of their impact on existing risk exposure levels and, consequently, on potentially associated capital and liquidity requirements, take into account:

- geographical, economic and regulatory context factors (for example vulnerability to environmental and climate-related risks of different economic sectors);
- specific factors linked to strategic objectives, operations and the business model pursued (e.g. services offered and reference markets), to the composition of corporate assets (e.g. credit portfolio, financial investments, collaterals, etc.), to the composition of funding sources and to logistical aspects (e.g. physical location of Group entities, location of counterparties' production sites).

For all the traditional risk categories analysed, the process aimed at identifying the materiality of climate-related and environmental risk sources is broken down into the following common sub-stages:

- identification of traditional risks potentially impacted by exposure to physical and transition risk factors;
- definition of the portfolios and areas to be analysed for each type of traditional risk identified;
- definition and precise description of the transmission channels through which physical and transition risk factors may propagate their impacts on the risk level of portfolios and scope of activities defined for each type of risk analysed;
- identification of suitable tools and metrics to identify and assess the individual transmission channels through which C&E risk factors manifest themselves;
- development and application of accurate methodologies to detect the materiality degree of exposure to identified C&E drivers and risk factors.

The identification of the most significant physical events and transition factors makes it possible to understand and measure their negative impacts on the corporate environment in the short, medium and long term, also with the aim of guiding strategic decisions and thus ensuring the resilience of the corporate business model pursued. The measurement of the materiality degree of physical and transitional factors, based on the so-called "Exposure Method"[1], was carried out with a focus on the following "traditional" capital risk categories:

- Credit risk;
- Market risk;
- Operational risk.

Despite the absence of best practice methodological references, preliminary internal analysis to determine the materiality degree of climate-related and environmental factors with respect to exposure to liquidity risks (funding and market liquidity risk) were also carried out, subject to future refinement and method updating, in line with the Bank's plans to further develop its C&E risk management framework.

[1] The Exposure Method is a methodology aimed at assessing the ESG risk level of individual counterparties and exposures. The approach is based on the direct assessment of the performance of an exposure – in this case a credit exposure – with respect to the ESG risk profile (and, in particular, the climate-related and environmental risk profile) and can be used to supplement the standard assessment of financial risk categories. The indicators, metrics and/or tools used for this assessment are typically fine-tuned at the company level, taking into account sector-wide granular characteristics to determine specific sensitivity to climate-related and environmental risk factors. See the "EBA Report on management and supervision of ESG risks for credit institutions and investment firms", June 2021, European Banking Authority.

For each of the aforementioned risk categories, different tools and metrics were used to identify the risk level of the corresponding C&E risk factors through specific transmission channels.

In line with the materiality assessment of "traditional" risks, the methodology developed to estimate the materiality of C&E risk factors involved the identification of the following six levels of materiality:

Materiality rating
Minimum Materiality
Low Materiality
Medium Materiality
Medium-High Materiality
High Materiality
Very High Materiality

Materiality rating scale

C&E risk factors characterised by a rating of Medium, Medium-High, High or Very High materiality are considered as "material".

Below is described the methodological principles and the related results that underlie the materiality analyses of C&E risk factors carried out in relation to Pillar 1 risks identified using the tools adopted by the Bank.

Credit risk

Three distinct portfolio clusters are defined to carry out materiality analyses of C&E risk factors affecting credit risk exposure:

- Non-Financial Corporate - secured (NFC secured);
- Non-Financial Corporate - unsecured (NFC unsecured);
- Households - secured (Households secured).

Depending on the risk factor and on the specific clusters analysed, internally defined tools were identified, through proprietary modelling solutions or acquired from external data suppliers. These tools are calibrated at the level of the individual counterparty and assessed prospectively through the use of forward-looking scenarios or assumptions, representative of the possible evolution of the counterparty's physical and transition risks over the short, medium and long term, differentiating the assessments at a geographic and/or sector level.

				Portfolio clusters analysed		
	Risk Drivers	**Risk factors**	**Transmission channels**	**NFC secured**	**NFC not secured**	**Households secured**
Climate-related and environmental risks	Transition risk (climate-related and environmental)	Policies and regulation	Impact on costs	BPS Counterparty C&E Score Impact on external provider's turnover		Real estate energy class External provider
		Technology	Impact on investments			
		Market sentiment	Impact on turnover			
	Physical risks: (climate-related - acute)	Heat waves	Loss due to damage: • For NFC portfolios, potential loss related to damage suffered with regard to the company's productivity • For the Household secured portfolio, potential loss related to damage to the real estate pledged as collateral for the loan	External provider's Physical Risks: Likelihood of impact on corporate production capacity		External provider's Physical Risks: likelihood of impact on residential property
		Frost waves				
		Forest fires				
		Strong wind				
		Rainfall				
		Landslide				
		Flood				
		Drought				
	Physical risks: (climate-related - chronic environmental)	Temperature changes				
		Rainfall changes				
		Rise in sea levels				
		Soil and coastal erosion				
		Loss of biodiversity				
		Water stress				
		Thermal stress				
		Thawing of permafrost				

Generally speaking, the methodological approach identified for conducting the analyses involves, first and foremost, adopting an outside-in materiality perspective. According to this perspective, the financial performance of a credit counterparty can be influenced by C&E risk factors.

Identifying the materiality level of climate-related and environmental factors starts from the risk analysis applied to each transmission channel and thus to the individual risk factor. This assessment is subsequently extended to the risk driver level to arrive at an overall assessment of the degree of riskiness of individual portfolio clusters.

In order to attribute a materiality assessment at the risk transmission channel level, the incidence of exposures deemed "risky" with respect to the total exposures of the analysed portfolio cluster is calculated. The incidence, for each portfolio cluster, is assessed based on exposure bands, attributing a final materiality rating with respect to the defined scale.

The following is a summary outline of the materiality assessment on risk drivers and the general climate-related and environmental risk for the overall credit portfolio and the individual clusters under analysis.

	Non-Financial Corporate (NFC) secured	Non-Financial Corporate (NFC) unsecured	Households (HH) secured		Overall portfolio
Climate-related and environmental risk	Very high	Very high	High	The aggregation at the portfolio level is determined according to the degree of consistency of the exposure of individual clusters	High
Transition risks:	High	High	Medium-high		High
Physical risks:	Medium-high	Medium-high	Medium		Medium
Acute physical risk	Medium-high	Medium	Medium		Medium
Chronic physical risk - environmental	Low	Low	Minimum		Low

Market risk

To perform the materiality analysis of C&E risk factors affecting exposure to market, Italian sovereign and other securities risks at a consolidated level, the scope of the analysis is the following:

- Government securities;
- Corporate securities;
- Funds.

The methodological approach chosen to perform this analysis involves taking into account the extent of the financial exposures in the portfolio, integrated with the risk information that make up the "Environmental" ratings provided by external providers, differentiated between corporate and sovereign issuers.

To attribute a materiality assessment, the Bank started by mapping the topics investigated by the provider for the Pillar E assessment, linking them back to the prevailing risk factors. For each issuer, a score was calculated at the risk driver/risk factor level and, subsequently, a portfolio score was also calculated at the risk driver/risk factor level. These portfolio scores were then reconciled to a specific risk scale, which in turn was reconciled to the defined materiality scale (see the "Materiality rating scale" figure).

The results of the assessment on the Bank's portfolio is shown below, broken down by securities and funds according to their nature (Corporate, Government).

	Corporate Securities	Government Securities	Corporate Funds	Government Funds
Climate-related and environmental risk	Low	Medium-High	Low	Low
Transition risks:	Low	Medium-High	Low	Low
Physical risks:	Minimum	High	Minimum	Medium
Acute physical risk		Medium-high		Low
Chronic physical risk - environmental	Minimum	High	Minimum	Medium

Photo by: **Fabio Maspero**, Varedo Branch

Operational risk

As far as operational risk is concerned, the scope of the analysis and the first application of the methodology for assessing the materiality of climate-related and environmental risk factors involved the portfolio of real estate assets of the Bank and of the banking and financial companies belonging to the Group potentially affected by the materialisation of climate-related and environmental risks pertaining to the physical risk component (e.g. headquarters and branches, agencies, treasury offices, remote services).

For the purposes of identifying the materiality and in line with the defined scope, the relevant C&E risk factors in terms of operational risk concerned the occurrence of extreme weather events resulting from the following acute physical risk threats:

Physical risk factors	
• Extreme weather events	• Flood • Landslide • Rainfall • Fire • Heat wave

Photo by: **Stefano Colzani**, Como Branch

Material climate-related and environmental risk factors in relation to operational risk

The analyses performed to identify the materiality in relation to operational risk are based, on the one hand, on geographical information regarding the location of the Group's real estate assets, according to the province of reference, and, on the other, on the use of external databases that provide information on the level of exposure to the acute physical risk threats considered.

The methodology for analysing the degree of materiality of climate-related and environmental risk factors in relation to operational risk exposure, with specific reference to the acute physical risk factors considered, involved:

- retrieving and processing the information from the external databases consulted, in order to develop the classes of exposure to the risk threats under analysis;
- assigning, for each Italian and foreign municipality/province where the Group has real estate properties, a level of exposure, in terms of qualitative classes, to each physical risk threat considered;
- identifying, according to a materiality criterion based on territorial concentration, the geographical areas in which the Group has the highest number of real estate properties;
- for the Group's main geographical areas in terms of physical presence, determining the materiality of exposure to the physical risk factors considered according to the level of exposure assigned to them.

A summary outline of the materiality of exposure to physical risk threats considered relevant to the analysis is provided below.

	Materiality rating
CLIMATE-RELATED AND ENVIRONMENTAL RISK	High
Transition risks:	
Physical risks:	High
Acute physical risk	High
Chronic physical risk - environmental	

Measuring and quantifying climate-related and environmental risks

The Bank measures its exposures to C&E risks on the basis of current data and forward-looking estimates, identifying quantitative metrics of physical and transitional risk trends.

Correspondingly, metrics are developed to determine the level of exposure considered acceptable, defining an appropriate system of risk indicators and limits. With regard to climate-related risks in particular, the measurement tools adopted take into account the long-term nature of climate change, assessing how different temperature and greenhouse gas emission trends may accentuate these risks.

By identifying these metrics, the Group is able to enhance its ability to respond to a sudden transition to a low-carbon economy or to individual physical events that may impact on the core business, on counterparties or on the Group's asset portfolios, and to take mitigating action in a timely manner.

As described in the previous sections, among the various metrics adopted, the Group relies on indicators calculated through the development of internal methodologies for assessing and classifying climate-related and environmental risks at both sector and individual counterparty/transaction levels, useful for carrying out portfolio analyses such as those used in evaluating specific assets, transactions, investments or counterparties/issuers.

Based on the materiality analyses carried out, the Bank incorporates C&E risk factors into its internal capital adequacy assessment process (ICAAP) and internal liquidity adequacy assessment process (ILAAP) using dedicated impact measurements (for example on the values of portfolios and corporate assets, on operating volumes and profitability, on management and regulatory measures of exposure to existing risks, etc.) based on the application of forward-looking scenarios simulating the climate transition and/or on assumptions regarding the severity of the effects of material physical risks.

Looking at the stress testing and climate-related risk management framework defined by the Bank, in 2022, the first main components of the framework were designed and implemented, by enabling recurring data supplies focused on climate-related drivers and analytical simulation calculation engines for estimating the impacts of physical and transition risks.

In particular, the framework was adopted in order to allow the Group to understand the potential impacts – including managerial and in terms of sustainability – arising from climate-related risk transmission channels on traditional risk measures, starting with the credit risk drivers of the portfolio of loans to businesses and individuals and the related collaterals received.

At the same time, the components used to perform climate-risk adjusted simulations are supporting the introduction of climate key risk indicators (KRIs), completing the process of identifying, measuring and monitoring climate-related risks.
The framework used for the ICAAP exercise as at 31 December 2022 with reference to climate-related risk analysis relied on these elements, with the aim of assessing the Bank's capital adequacy under stress conditions attributable to:

- adverse events generated by acute physical risks;
- amplification of the effects of acute risks in the medium to long term, as a result of worsening climatic conditions;
- climate transition events/policies imposed by the external technological or political environment (e.g. European decarbonisation policies and/or technological innovations).

In setting up this year's ICAAP exercise, the Bank also carried out and quantified an analytical, forward looking and scenario-dependent mapping of its exposure to the aforementioned risks\transmission channels, in terms, for example, of sectors, counterparties, portfolios and geographical areas, as regards the credit risk drivers of the probability of default and loss given default.

The following logical components were used to measure the impact of physical and transition risk on credit drivers:

- input data from internal sources (e.g. exposures, master data) and from high-standing external providers;
- forward-looking climate scenarios aligned with the NGFS standard and consistent with the current macroeconomic situation:
  - in the short, medium and long term;
  - on key economic and financial variables, in line with the forward-looking scenarios also used in other key processes of the Bank;
  - in terms of the companies' economic sector;
- transition risk engine for measuring the impacts of climate transition risks on the prospective financial statements and, therefore, on the creditworthiness of the financed companies;
- physical risk engine for measuring the impacts generated by adverse physical events (e.g. droughts and heat waves) on the business of the financed companies;
- physical risk engine for measuring the market value of real estate collaterals (commercial and residential) exposed to adverse acute (e.g. floods and landslides) and chronic physical risks that could reduce its value.

Analytical tools

Transition Risk Engine (TRE)

As already outlined in the "Planning Framework" section, the transition risk measurement tool is an analytical calculation engine that, at the level of the individual company, estimates the impacts of specific climate-related assumptions and of the relevant macroeconomic/sector variables on the economic and financial items in the company's financial statements, in order to determine the degree of sensitivity of financed companies to transition policies.

The calculation engine was fine-tuned through the analysis of a large number of Italian and international companies' financial statements, and consists of three interconnected elements:

- **Sector model**: its purpose is to calculate the production, import/export, standard costs, demand and output prices of industrial sectors**;**
- **Transition risk model**: calculates the additional direct/indirect costs primarily due to the impact of the application of the carbon tax and the change in energy prices (according to the dynamic sector energy mix)**;**
- **Single-name financial forecasting model**: allows to forecast a single company's financial statement models by taking the variables identified by the sector models and the output of the TRE engine as exogenous inputs**.** It also calculates different risk indicators derived from financial statement forecasts.

In particular, by using sector economic forecasts, the model is able to determine the transition risk profile, estimating with a forward-looking perspective, based on a scenario-dependent approach and taking into account the emission profile of the company under analysis (current and, if available, also forward-looking):

- direct costs related to the application of a carbon tax on GHG emissions, in the case of EU ETS companies;
- indirect costs related to increased energy costs and changes in the company's energy mix, also in response to the climate/technology transition;
- the investment/debt needs for the technological improvement necessary to gradually reduce GHG emissions deriving from business processes and from the use of production factors;
- the resulting consequences of the above aspects on unit margins, corporate profits and on other financial statement items of counterparty companies, also taking into account the sector ability to translate cost increases into the prices of outputs used downstream by other sectors (consideration of supply chains and input-output relations) or intended for end customers.

The calculation engine, appropriately configured, makes it possible to postulate scenarios of "climate stress" caused by the transition and to analytically incorporate the relevant effects in terms of credit dynamics, taking into account the specific elements of the Bank's corporate portfolio and its sectoral composition.

The tool outputs therefore allow to define appropriate key risk indicators (KRIs) related to the portfolio's transition risk profile (e.g. concentration of exposures and income in high-risk sectors/customers).

Physical Risk Engine (PRE)

The tool, as already described in the "Planning Framework" section, aims to determine and measure the impacts of certain physical events:

- on the prospective financial statements of financed companies;
- on the market values of real estate assets (residential and commercial) received as collateral for financing transactions (both corporate and private).

thus enabling the mapping of these portfolios according to the physical risk profile, which can be determined with a forward-looking and scenario-dependent approach, in the short, medium and long term.

The engine leverages the following elements:

- **geolocation**: to locate real estate assets and production units of financed companies on maps and calculate distances of interest (e.g. from rivers or forests);
- **maps and risk indexes**: to determine climate events of interest for specific geographical areas (downscaling) and to calculate the probability and magnitude of physical events;
- **damage functions**: specific, statistically calculated damage functions will be applied to measure impacts, allowing to determine the indicators in the previous point and to calculate:
  - depreciations for real estate assets;
  - damage at economic and financial KPIs level (e.g. turnover, added value, etc.) for production units and, aggregated, for financed companies.

With regard to the physical risk for companies, the impacts of damage functions can then be combined with the financial statement forecast module to enable measuring the impacts of events on the whole financial statements – and thus on the solvency – of companies. The application of strong and highly differentiated damage functions allows to determine the physical risk profile of real estate assets and financed companies based on a methodologically consistent approach. This quantitative measurement allows the integration of physical stress events characterised by different degrees of severity and under different scenario assumptions within the credit risk simulations, impacting the drivers of likelihood of default (companies) and loss given default (commercial and residential real estate collaterals). Having these values at its disposal, the Bank has therefore supplemented its projections, making them climate-adjusted and identifying the operational segments potentially subject to the monitoring of specific risk indicators (KRIs).

Monitoring and control of climate-related and environmental risks

The Bank analyses the evolution of its exposure to C&E risk factors, defined based on the results of the processes and methodologies described previously, in order to identify potential changes in the risk profile and highlight critical issues or abnormal trends, in terms of the number or magnitude of expected impacts. Specifically, the monitoring of C&E risk exposure foresees the analysis and periodic assessment of quantitative, objective and measurable metrics, referring to the various traditional risk categories impacted by these factors. These indicators, to which specific risk limit systems are associated, supplement the Group's Risk Appetite Framework schemes at various hierarchical levels, making it possible to control the effects of physical and transitional risk sources on current and prospective positions exposed to traditional risks. To this end, a special reporting tool was defined aimed at presenting, on a quarterly basis and to top management, the risk dynamics of the Bank's credit and securities portfolios in terms of the impact of ESG factors. The list of summary indicators used to monitor risks related to the environment and climate change, as well as the description of the escalation mechanisms adopted in the event that the set risk limits are exceeded, are documented, depending on the metrics hierarchical level, in the "Risk Appetite Statement" (RAS) and "Risk Appetite Framework Regulations" of the Group and of Group entities, or within the framework of the specific internal regulations on the management of impacted risk categories.

Photo by: **Carlo Graziato**, Somma Lombardo Branch

Climate-related and environmental risk mitigation

Any critical issues identified downstream of the climate-related and environmental risk identification, assessment and measurement processes, as well as during the periodic monitoring of the relevant exposure, determine the activation of specific mitigation actions for the corresponding risks. This may occur, in general, as a result of the measurement of key indicators that reveal excessive exposure to climate-related and environmental risks, both physical and transitional, in relation to established risk limits.

To manage these circumstances, the Bank defines a set of potential management tools and actions to limit its exposure to C&E risks. Mitigation initiatives are specifically defined based on the traditional types of risk within which the climate-related and environmental factors tend to manifest themselves.

With particular regard to C&E risks relating to credit risk exposure, the following mitigation actions, inter alia, may be taken:

- providing centralised decision-making procedures, complemented by an enhanced due diligence process, for the granting of loans to businesses and/or counterparties with a high degree of exposure to C&E risk factors, as measured by the internal measurement systems adopted (e.g. scoring);
- offering specific financing products (e.g. green loans and other forms of green lending) aimed at fostering the process of enhancement of customers' climate-related and environmental profiles, supporting their adaptation to the green transition;
- including specific clauses on climate-related and environmental performance measurement (e.g. green covenants) in contractual agreements with customers when granting new credit lines to counterparties more exposed to C&E risk factors.

With regard, instead, to C&E risks relating to market risk exposure, the following mitigation actions, inter alia, may be taken:

- refocusing investment policies to redefine the composition of the financial asset portfolio, favouring a reduction in the overall exposure to C&E risks.

With regard to C&E risks relating to operational and reputational risks, the following mitigation actions can be taken:

- monitoring the level of maturity and completeness of physical security procedures and energy efficiency standards for the Group's real estate assets, also through the definition of specific business continuity and disaster recovery plans (subject to periodic assessment of their effectiveness), to prevent or proactively manage the occurrence of physical risks;
- underwriting and periodically reviewing the adequacy of insurance policies taken out by the Bank to cover potential operational risks arising from climate-related and environmental factors;

- refocusing Group's policies for the selection and engagement of suppliers and business counterparties based on compliance with certain requirements concerning the environmental sustainability of their business, with reference both to physical risk threats and to compliance with applicable climate-related and environmental regulations;
- refocusing core business policies (e.g. financial services to customers, granting and management of loans) towards approaches that favour the prevention and/or reduction of overall exposure to C&E risks, with direct or indirect benefits for the Group (e.g. effect on complaints and penalties);
- monitoring the Group's reputation in terms of sensitivity to climate-related and environmental issues, possibly activating campaigns to restore the corporate image (e.g. emergency plans and crisis management, communication flows for the public acknowledgement of corporate choices) in the event that the Bank is perceived as not adhering or only apparently adhering to environmental sustainability aspects (so-called "greenwashing").

Finally, with regard to C&E risks able to affect the Group's exposure to liquidity risk, no further specific managerial actions aimed at mitigating risk are considered in addition to those already described above, as they already mitigate potential negative effects on liquidity.

Photo by: **Maurizio Casapollo**, Corporate Anomalous Credit Management Service

METRICS AND TARGETS

05.

The BPS path to target definition

Decarbonising the economy is a long-term historical priority for countries and companies. Today, the many initiatives promoted at an international level include, as a common goal, the ambitious reductions in greenhouse gas (GHG) emissions, first and foremost CO_2.

Following the Paris Agreement, which sets the goal of limiting global warming to well below 2°C and continuing efforts to limit it to 1.5°C, with the Green Deal, launched in 2019, the European Union confirmed its commitment towards Net Zero Emissions by 2050 and to meet interim targets set for 2030 and 2040. In particular, GHG emissions are expected to be reduced by 55% from 1990 levels by 2030.

To achieve climate neutrality, the European Commission has set itself the goal of raising up to one trillion Euro over the next decade.

With the 2022-2025 Business Plan, the Bank has defined an ambitious path with respect to the reduction of its environmental and climate impacts, defining the challenging goal of joining the Net Zero Banking Alliance in 2023 (reference should be made to the “Strategy” section for details on BPS’s climate strategy).

Photo by: **Simone Vaninetti**, Sondrio Headquarters

Also taking into account the interest of the markets, as well as the requests expressed by the European Authorities to intensify efforts to tackle climate change and the need to create specific KPIs to monitor climate performance, starting from the proprietary portfolios, BPS has decided to initiate a target setting process aimed at defining specific targets. For this reason, the Bank has entered into a partnership with an external provider, in order to:

- enhance the collection of GHG emissions data, facilitating the preparation of a robust inventory based on increasingly reliable sources;
- develop near-term Scope 1 and Scope 2 targets according to the science-based methodology provided by the NZBA for the financial sector;
- develop near-term Scope 3, Category 15, targets according to the science-based methodology provided by the NZBA for the financial sector;
- preliminarily analyse long-term target assumptions in view of adhering to the NZBA, pending the publication of specific guidelines for the financial sector.

In this context, the Bank has therefore updated its targets in line with its participation in the NZBA. In particular, the focus was on assessing the methodological and scope differences between SBTi and NZBA, on integrating the target setting process with the requirements defined by the ECB, and on developing Scope 3, Category 15, targets in line with the NZBA's requirements.

European Taxonomy as a universal metrics tool

Regulation (EU) 2020/852 (so-called Taxonomy) defines the criteria for determining whether an economic activity can be considered environmentally sustainable, starting with the identification of six environmental objectives:

- climate change mitigation
- climate change adaptation
- sustainable use and protection of water and marine resources
- transition to a circular economy
- pollution prevention and control
- protection and restoration of biodiversity and ecosystems.

The Taxonomy requires all economic operators to measure and report on the percentage of their economic activities that contribute to these sustainability goals. For the disclosure of BPS's Taxonomy eligibility, please see the "Environment and Climate Change" section of the 2022 NFS.

GHG inventory

An effective corporate strategy to combat climate change requires a detailed understanding of the Company's own climate-changing emissions, through an accurate GHG inventory.

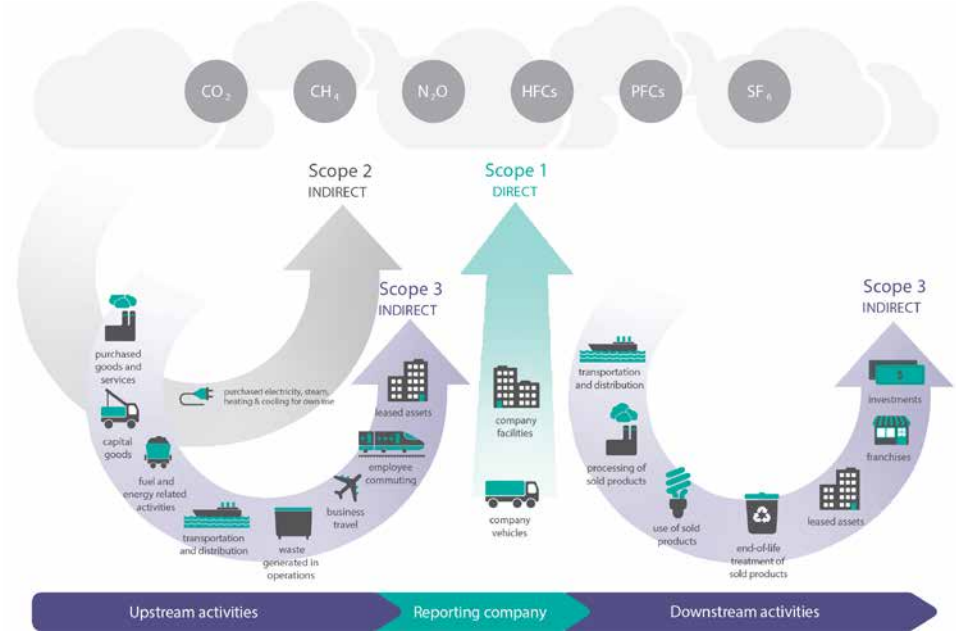


Image source: GHG Protocol – Technical Guidance for Calculating Scope 3 Emissions – Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard, World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD);

As defined in its Environmental Policy, the Group aims to take a precautionary approach to major environmental issues with the dual purpose of mitigating risks related to commercial operations and seizing new business opportunities in all strategic areas.

In line with the objectives set out in the Business Plan, the Bank carries out an accurate analysis of its carbon footprint, in other words the calculation of GHG emissions attributable to its operations and different business lines. The most commonly reported emissions are those of carbon dioxide (or CO_2), which, however, only constitute one type of climate-changing gas emission. Emissions are classified by Scope, which, in particular, defines whether the emissions were generated by the organisation itself or by related entities, such as the energy provider.

Scope 1 emissions

Scope 1 shows the CO_2 equivalent emissions directly generated by the Group, resulting from the consumption of fuel used for heating, for the vehicle fleet and refrigerant gas leakage. In particular, direct greenhouse gas emissions from combustion heat generators are periodically inspected and combustion-tested in accordance with Italian Presidential Decree 74/2013. Each inspection report is filed as part of our Ordinary Routine Maintenance procedure.

	UoM	2022	2021	2020
Total direct emissions	**t CO_2e**	**3,383**	**4,368**	**6,933**
Heating oil	t CO_2e	1,214	1,293	1,240
Diesel for motor vehicles	t CO_2e	220	196	142
Petrol	t CO_2e	51	30	49
LPG (liquefied petroleum gas)	t CO_2e	6	0	6
Natural gas	t CO_2e	1885	2,736	2,799
Fluorinated greenhouse gases (F-gas)	t CO_2e	0	113	2,698
Electricity from renewable sources, produced and consumed	t CO_2e	8	0	0
Other (specify)	t CO_2e	0	0	0

Source of emission factors: ISPRA (Italian Institute for Environmental Protection and Research) with transformation into CO_2e according to the procedure set out in the "Guidelines on the application of the GRI (Global Reporting Initiative) Standards on environmental issues in banks" published by ABI Lab. The gases included in the calculation are CO_2, CH_4, N_2O.

Photo by: **Lucia Mariani**, Oggiono Branch

Scope 2 emissions

Scope 2 indicates indirect emissions of CO_2 deriving from the consumption of purchased electricity and heat: BPS carries out specific analyses to determine the consumption benchmarks of the various buildings every six months/yearly; generally, this data is compared with the average sector data collected by the ABI Energia Group, as well as with best practices, with the aim of targeting specific actions or undertaking different energy management measures.

The GRI standard provides for two different approaches to calculating Scope 2 emissions: "Location-based" and "Market-based".

- The "Location-based" approach involves the use of average emission factors relating to the specific national energy mixes for the production of electricity; the emission coefficient used for Italy is equal to 278.02 gCO_2/kWh for 2021 and 296.5 g CO_2/kWh for 2020 (source of emission factors: ISPRA (Italian Institute for Environmental Protection and Research) with transformation into CO_2e according to the procedure set out in the "Guidelines on the application of the GRI (Global Reporting Initiative) Standards on environmental issues in banks" published by ABI Lab.
- The "Market-based" approach, instead, involves the use of emission factors defined on a contractual basis with the electricity supplier. In the absence of specific contractual agreements between Group companies and the electricity supplier (e.g. purchase of guarantees of origin), for this approach the emission factor relating to the national "residual mix" was used, which for Italy is equal to 459 g CO_2/kWh for 2021 and 466 g CO_2/kWh for 2020 (source of emission factors: AIB, European Residual Mixes 2020 and 2019 for 2021 and 2020 data respectively, with transformation into CO_2 equivalent according to the procedure set out in the aforementioned document).

Indirect emissions (Scope 2)	UoM	2022	2021	2020
Total indirect emissions – "Location-based" method	t CO_2e	5,231	5,502	5,809
Total electricity purchased (renewable and non-renewable) (national grid average emission factor)	t CO_2e	4,854	5,126	5,502
Total district heating purchased (renewable and non-renewable)	t CO_2e	377	376	308
Other (specify)	t CO_2e	0	0	0
Total indirect emissions - "Market-based" method	t CO_2e	384	406	372
Non-renewable electricity purchased	t CO_2e	199	216	186
Electricity purchased from renewable sources	t CO_2e	0	0	0
Non-renewable district heating purchased	t CO_2e	185	191	186
Renewable district heating purchased (zero emission factor)	t CO_2e	0	0	0
Other (specify)	t CO_2e	0	0	0

The Bank collects information on emissions associated with 98% of its corporate loan portfolio

Scope 3 emissions

Scope 3 emissions refer to GHG emissions generated by an organisation in carrying out its activities, but which arise from sources not owned or controlled by the organisation itself. These emissions include those related to the production of purchased material and fuel used by vehicles not owned by the organisation, as well as the end use of products or services and investments made.

Until recently, companies have focused on calculating emissions within Scope 1 and 2: "The time to Green Finance" report, published by CDP, notes that only a small number of credit institutions report their Scope 3 emissions and states that the ratio of indirect GHG emissions of financial institutions (associated with investment, lending and underwriting activities) to direct GHG emissions is 700 to 1. Scope 1 and 2 emissions of financial undertakings should be considered residual compared to what is generated by the companies they finance or invest in. The Bank is aware of the need to account for emissions along its value chain in order to comprehensively manage risks related to its carbon footprint: not only to meet the demands of the regulator and the expectations of the market, but above all to embark on a process of self-analysis aimed at defining increasingly ambitious climate targets.

For this reason, starting in 2021, the Bank has undertaken a study of its Scope 3 emissions, beginning with an initial exercise to analyse absolute emissions issued by customers in the credit portfolio. During 2022, the Bank evolved its metrics and scope of analysis, collecting data on its customers' emissions in an increasingly more detailed and precise manner. For its loan portfolio, the scope of the analyses focused on the corporate segment, taking as reference the counterparties reporting GHG emissions data, either through qualified external providers or directly collected from published non-financial statements, covering approximately 98% of the total corporate portfolio. In particular, the absolute emissions, the financial exposure to balance sheet assets, the financed emissions and the Weighted Average Carbon Intensity (WACI) of the counterparties in question were evaluated, aggregating the data on a sectoral and overall basis.

The methodology for calculating financed emissions follows two main standards:

- GHG Protocol – Technical Guidance for Calculating Scope 3 Emissions – Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard, World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD);
- PCAF – Partnership for Carbon Accounting Financials, the Global GHG Accounting and Reporting Standard for the Financial Industry, Second edition and the Financed Emission Standard.

The information used to calculate GHG emissions derives from:

- "info provider" databases, containing information and statistical data relating to emissions per individual counterparty and NACE sector;
- "reported data" databases, containing the GHG emissions reported on the Non-Financial Statements published by groups and companies.

According to the PCAF, financial institutions must report the absolute Scope 1 and 2 emissions of their counterparties; for the reporting of Scope 3 emissions of counterparties, however, the PCAF follows a gradual introduction:

PCAF: list of sectors with required Scope 3 emissions inclusion as defined the EU TEG

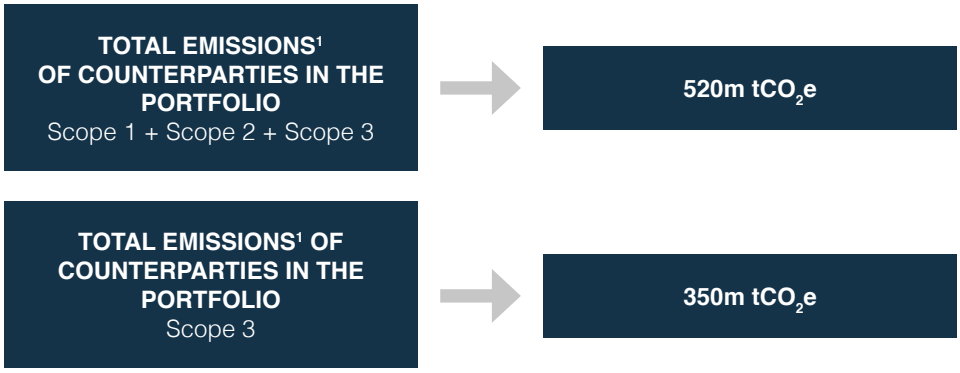
Phase in period	NACE L2 sectors considered
For reports published in 2021 onwards	At least energy (oil & gas) and mining (i.e., NACE L2: 05-09, 19, 20)
For reports published in 2023 onwards	At least transportation, construction, buildings, materials and industrial activities (i.e., NACE L2: 10-18, 21-23, 41-43, 49-53, 81)
For reports published in 2025 onwards	Every sector

Source: PCAF (2022). The Global GHG Accounting and Reporting Standard Part A: Financed Emissions. Second Edition.

- **Corporate credit portfolio**

Absolute portfolio emissions

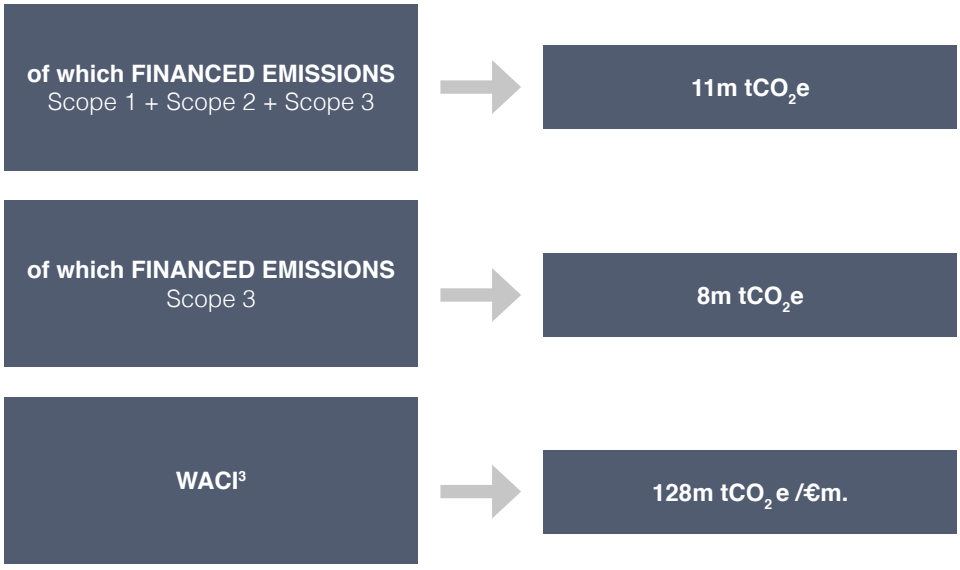
These emissions represent a sum of the emissions produced by all customers in the corporate portfolio, without any specific assessment of the share attributable to BPS's financing. This is a poor representation of the share of emissions that can be acted upon by BPS through its climate strategy and includes highly emissive counterparties.



[1] Total absolute emissions are derived from both actual and estimated data. Specifically, for companies required to prepare non-financial disclosures, total actual absolute emissions account for more than 60% of total portfolio emissions.

Financed emissions = $\frac{\text{Total GHG (Scope 1, 2 and 3)* Exposure}}{\text{Total assets}^1}$

Financed emissions accurately represent the "share" of corporate customers' emissions that directly depend on BPS: these are in fact associated with both the customers' balance sheet assets and with the financed amount. BPS can significantly impact these emissions with its climate strategy for reducing emissions.



WACI emissions intensity[2] = $\frac{\text{Total GHG (Scope 1 and 2)}}{\text{Turnover}}$

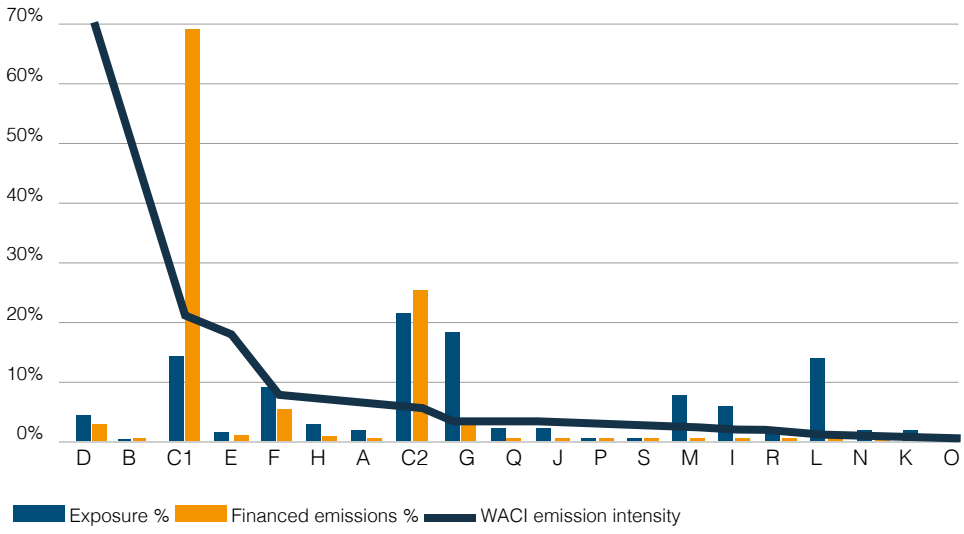
The so-called WACI makes it possible to assess the emission intensity of BPS's portfolio per monetary unit, taking into account the degree of pollution that different customers produce, for the same turnover

[1] Total assets are calculated as the sum of financial debt and equity if available, otherwise the figure is replaced by total assets.
[2] This ratio is calculated in tonnes of CO_2 equivalent per million Euro of turnover.
[3] Weighted average carbon intensity.

A representation of exposures, financed emissions and emission intensity by macro-sector is provided below. Specifically, the sectors have been sorted in descending order on the basis of the portfolio WACI.

Macro-sector	% Exposure	% Financed Emissions	WACI emission intensity
D - Electricity, gas and steam supply	3.8%	2.9%	896
B - Mining and quarrying	0.4%	0.4%	573
C1 - Manufacturing (high energy intensity)	13.0%	63.2%	268
E - Water supply	1.4%	0.4%	227
F - Construction	8.1%	5.0%	101
H - Transporting and storage	2.6%	0.6%	91
A - Agriculture, forestry and fishing	1.5%	0.1%	85
C2 - Manufacturing (other)	19.4%	23.1%	82
G - Wholesale and retail trade	16.4%	3.1%	41
Q - Human health and social work activities	1.5%	0.1%	39
J - Information and communication	2.5%	0.1%	33
P - Education	0.1%	0.0%	31
S - Other service activities	0.3%	0.0%	30
M - Professional, scientific and technical activities	7.1%	0.6%	29
I - Accommodation and food service activities	5.3%	0.1%	24
R - Arts, entertainment and recreation	1.3%	0.0%	23
L - Real estate activities	12.2%	0.0%	9
N - Administrative and support service activities	1.5%	0.1%	8
K - Financial and insurance activities	1.5%	0.0%	5
O - Public administration and defence	0.0%	0.0%	-

Carbon footprint of the credit portfolio



- **For the portfolio of corporate and government issuers' securities and funds, the carbon footprint and emission intensity (WACI) are analysed.**

	CARBON FOOTPRINT		WACI	
	TFCE tons CO_2e	**FCE** tons CO_2e/€m (EVIC)	**C WACI** tons CO_2e/€m (turnover)	**G WACI** tons CO_2e/€m (GDP)
CORPORATE	77,262 (79%)	65 (79%)	94 (100%)	-
GOVERNMENT	-	-	-	225 (99%)
FUNDS	27,061 (44%)	109 (44%)	174 (48%)	209 (42%)

Focus: The real estate energy classes of the mortgage portfolio

According to the International Energy Agency (World Energy Outlook, October 2022), the real estate sector is a strategic area where energy efficiency measures can greatly influence the achievement of the CO_2 reduction target. The building and construction sectors together are responsible for more than one third of global energy consumption and almost 40% of total direct and indirect CO_2 emissions. Energy demand from buildings and construction activities continues to increase, driven by improved access to energy in developing countries, the use of energy-consuming devices (such as household appliances) and the rapid growth in the overall floor area of buildings.

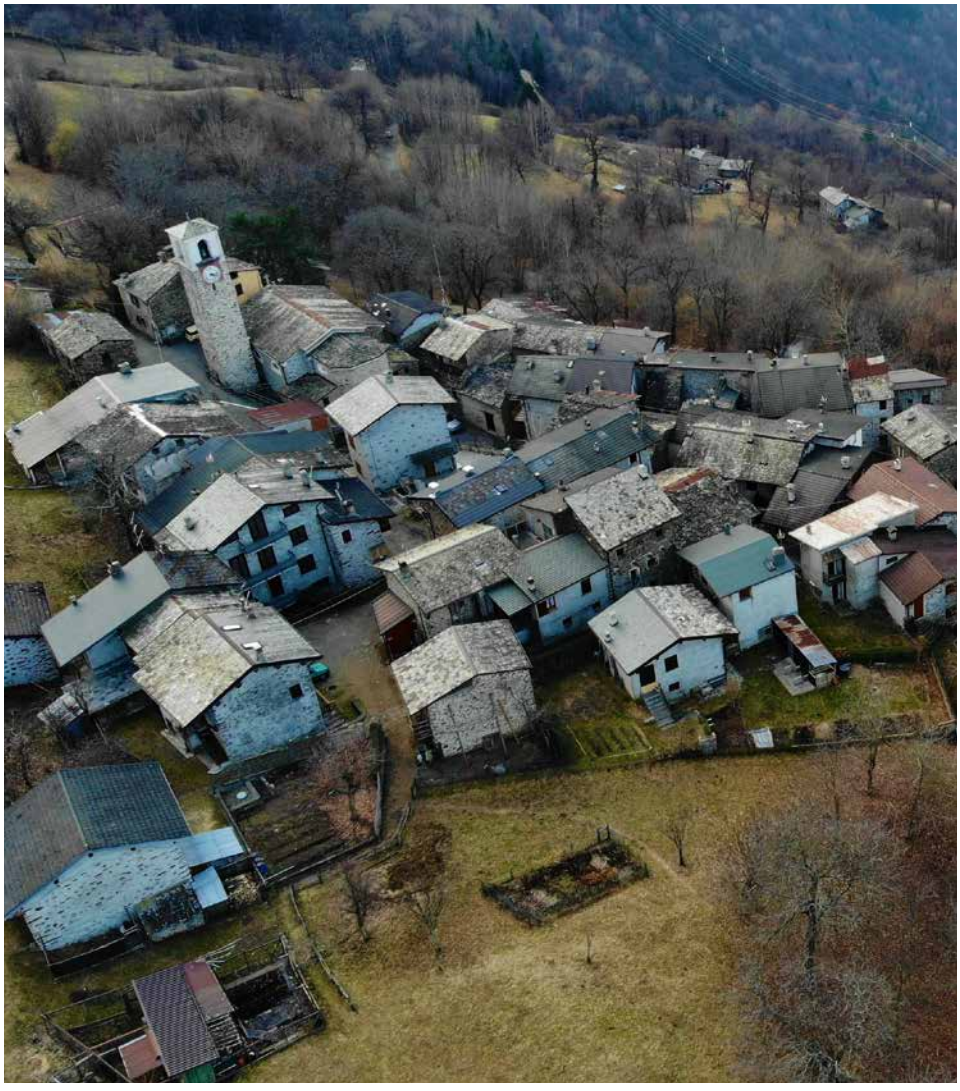
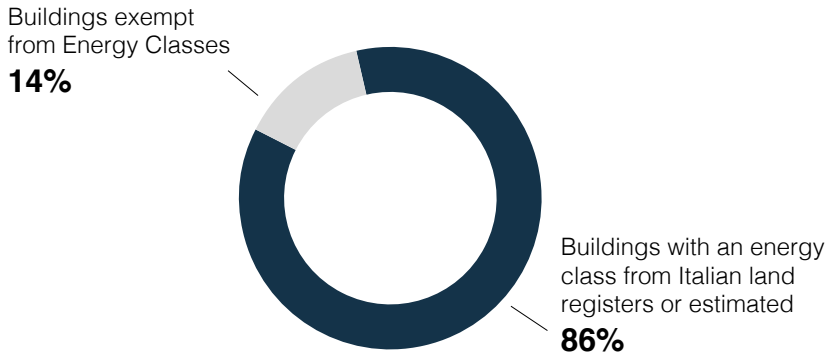


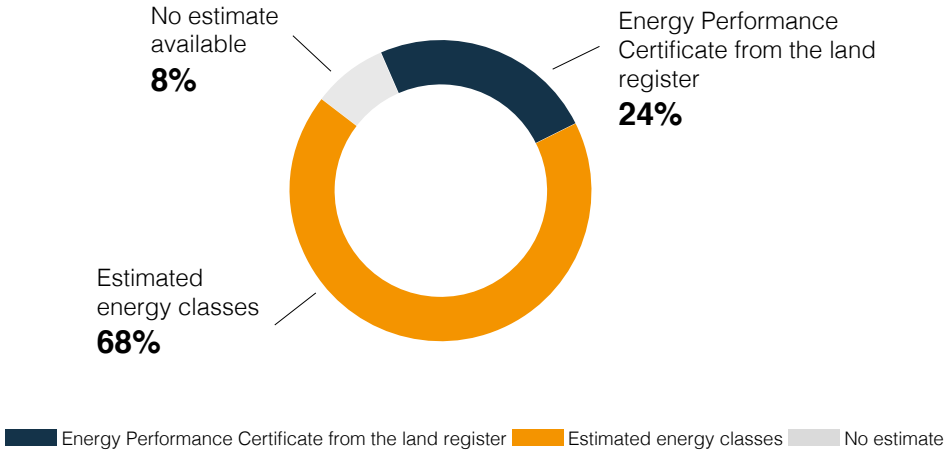
Photo by: **Paolo Sertorelli**, Planning and Investor Relations Office

BPS analysed the energy performance of its mortgage portfolio for the first year:

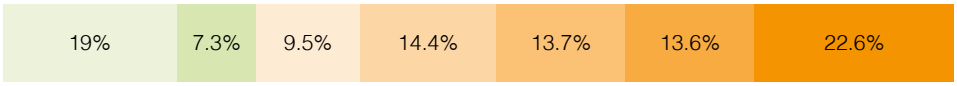
Analysis of exposures secured by real estate assets



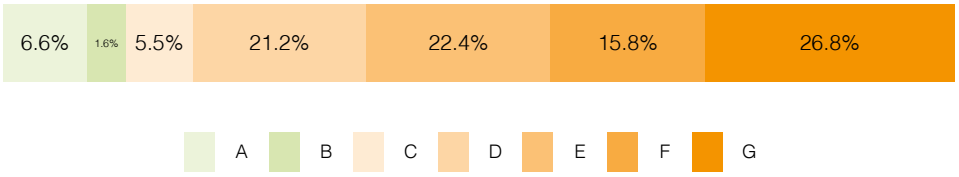
Breakdown of exposures secured by real estate assets by type of energy class



Detail of energy classes from Italian land registers



Detail of estimated energy classes



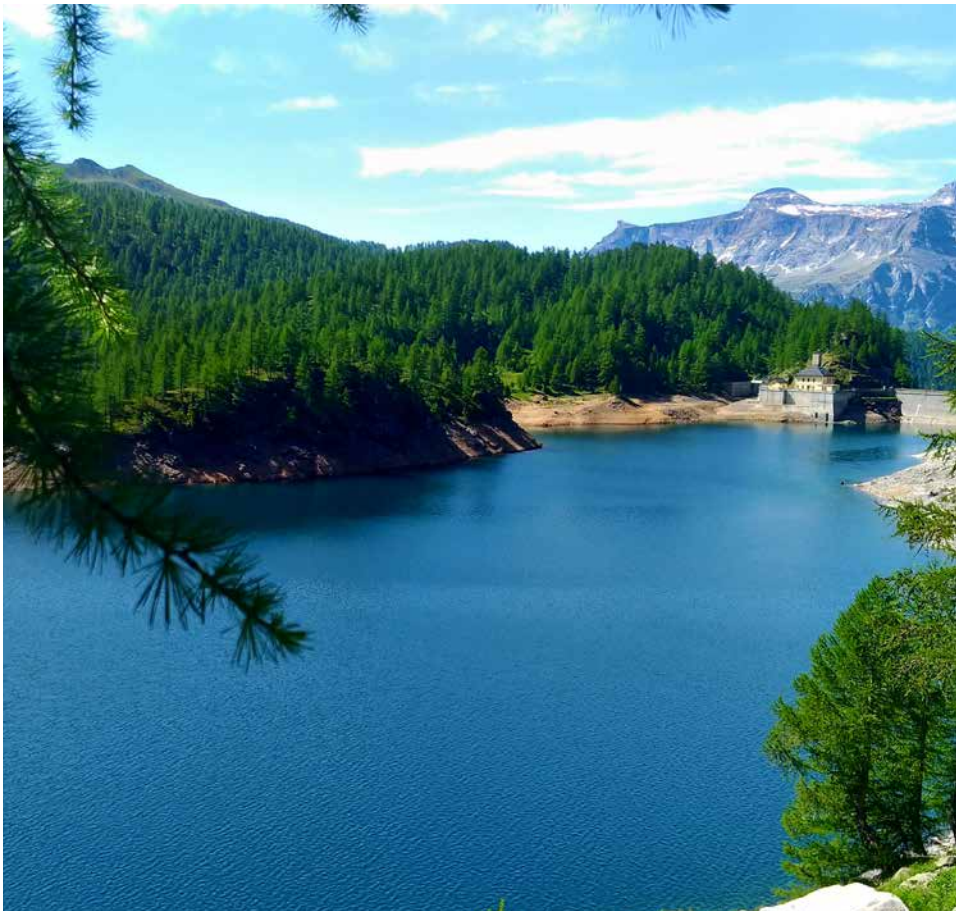
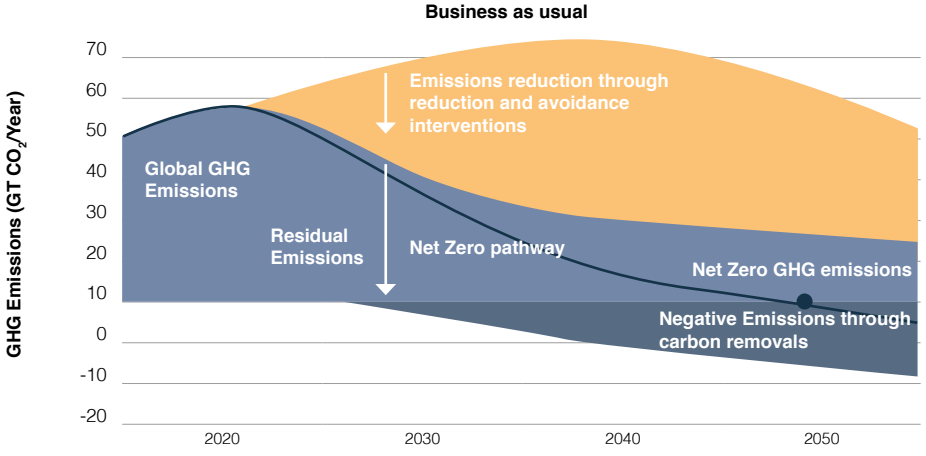


Photo by: **Stefano Gastone Tedeschi**, Bregnano Branch

BPS's carbon footprint reduction targets

"Net Zero" refers to the zeroing of net GHG emissions by offsetting emissions produced with emissions removed from the atmosphere.

For a financial institution, it is often defined as the reduction of GHG emissions throughout its operations and in its various portfolios (loans, investments, banking book, etc.), in line with the provisions of the Paris Agreement, i.e. a scenario where the increase in temperature does not exceed 1.5°C.



Graph: "Net Zero pathway" by Carbonsink-South Pole.

The methodologies for setting Net Zero targets for the financial sector are continuously evolving. BPS has chosen to base its analyses on two main methodologies considered the most scientifically sound to date:

- the Science Based Target Initiative published a framework to allow financial institutions to set science-based emission reduction targets. At present, the SBTi guidelines only envisage near-term targets (5-10 years), while the framework for Net Zero targets (to 2050) is being developed.
- The NZBA has developed guidelines for setting targets in line with the Paris Agreement and allows banks to set long-term and intermediate targets in line with science-based decarbonisation scenarios.

	NZBA - The NZBA Guidelines state that:
Target types	**Scope 1&2: targets that are not mandatory, but essential for a credible strategy** (The methodology reads: "*it is taken as given that banks shall target carbon neutrality in their own operations well before 2050*") **Scope 3** (Category 15 - Investments - according to the PCAF): ■ **absolute and/or** ■ **sector intensity**
Ambition	"Alignment with the temperature goals of the Paris Agreement" "*Banks shall use widely accepted* ***science-based decarbonisation scenarios (IEA)*** *to set both long-term and intermediate targets*".
Timeframes	**Definition of short-term targets: by 2030** **Achieving Net Zero: 2050** **Intermediate targets every 5 years**
Scope 3	"Lending and investment activities reported in the financial statements" to **cover a significant majority of Scope 3 emissions** (Cat. 15) Priority to **carbon-intensive** sectors: **Agriculture, Cement, Coal, Real Estate, Iron & Steel, Oil & Gas, Power Generation and Transport** Other sectors in the second round of target setting (after 18 months)
Metrics	**Sector intensity: CO_2e / physical metric** (e.g, kWh, m^2, etc.) But it is possible to use **financial metrics** (CO_2e / € financed or invested) if the reason why a physical metric could not be used is provided.
Review	**At least every 5 years** or in the event of significant changes (e.g. changes in the company perimeter)
Next steps	**Develop a high-level Transition Plan** within 12 months of setting the target

According to this methodology, BPS has set out on a path to define science-based targets for the short and long term, which would enable it to consistently and consciously deal with the participation in the NZBA.

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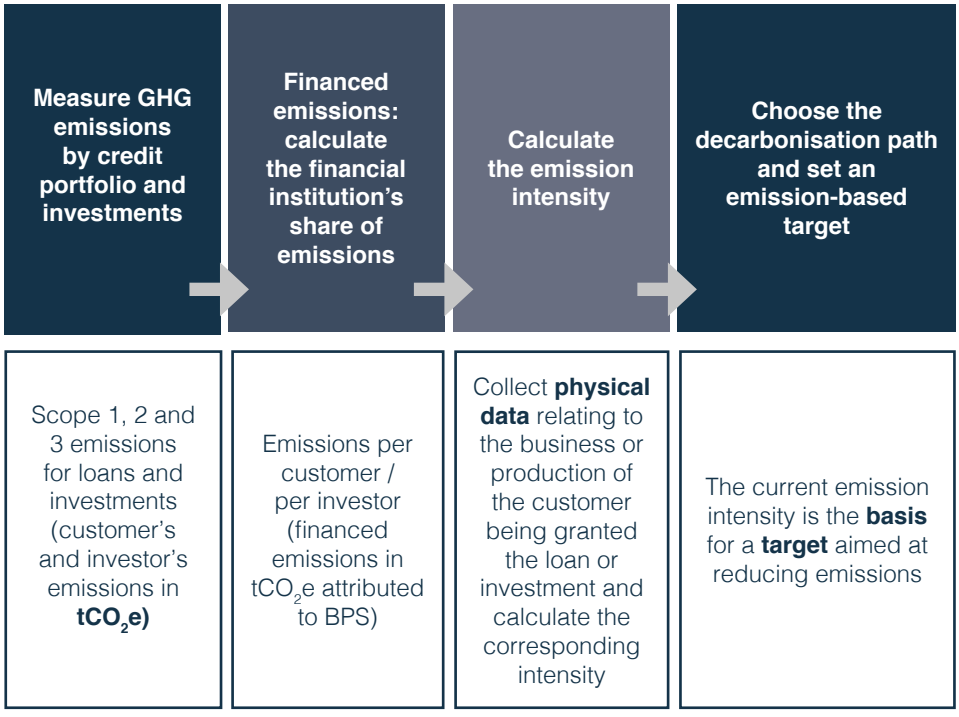
In particular, for the identification of targets relative to the credit – corporate portfolio, the metrics needed to define the target must be calculated, based on the economic sectors to which the customers belong, as follows:

$kgCO_2e$	The quantity (expressed in kg or ton) of GHG produced by the customer
physical intensity metric	A metric representing the economic activities carried out by the customer (e.g. tons of cement produced)



More specifically, the following steps must be observed:

- BPS identifies targets relating to its corporate portfolio with a perimeter focused on customers that, as at 31 December 2021, are required under Directive (EU) 2013/34 and therefore allowed for timely data collection within their NFSs.
- This perimeter accounts for approximately 10% of the corporate portfolio.
- The targets are set for the sectors relevant to the NZBA, on a base year calculated as at 31 December 2021, starting with financed emissions and taking into account the Scope 1, 2 and 3 corporate emissions (when present, according to customers' NFSs):
  - **Power** reduction of intensity of **-63%** ($kgCO_2e/kWh$) by 2030
  - **Oil&Gas** expects an overall reduction of **-25%** (tCO_2e) by 2030.
  - **Agriculture** expects an overall reduction of **-45%** (tCO_2e) by 2030.
  - **Transport** has two sub-targets:
    - **automotive manufacturing**: reduction of intensity of **-45%** (tCO_2e/vehicles sold) by 2030
    - **rail transport**: reduction of intensity of **-35%** (gCO_2e/passenger.km) by 2030.

- The proposed targets are 2030 targets in line with the NZBA requirements, but they only represent the first step in adhering to the initiative. Indeed, in the long run, it will be necessary to:

  - Formulate long-term targets to 2050, extending those already proposed;
  - Include a growing number of companies in the portfolio, even beyond the sectors relevant to the NZBA, to reach at least 50% of the corporate portfolio;
  - Activate a dialogue with customers to define common transition paths;
  - Co-ordinate analyses with climate risk management processes as part of an overall long-term climate strategy.

Photo by: **Martina Faldrini**, Tax Office

BPS's RAS includes a new complementary quantitative parameter for measuring climate-related and environmental risks

The climate risk appetite metric

The Bank has supplemented the Group's Risk Appetite Statement (RAS) with the integration of qualitative ESG objectives and with the introduction, within the "Credit and Counterparty Risks" category, of a new complementary quantitative parameter for measuring climate-related and environmental risks in the context of the exposure of the "corporate" portfolio to credit risk.

With regard to qualitative objectives, among the strategic elements, the Bank has clearly identified in its Business Plan its commitment to include ESG factors, with a particular focus on those of a climate-related and environmental nature. This will be achieved by measuring their impacts, for instance in the definition, formulation and implementation of the credit strategy, offering of financing products and definition of pricing logics.

As far as the new complementary indicator is concerned, it was defined to measure the concentration of counterparties in the credit portfolio ("corporate") which present a negative assessment of vulnerability to climate-related and environmental risk factors (transition risks, acute and chronic physical risks, acute and chronic environmental risks) summarised using the quantitative scoring system (so-called "counterparty climate-related and environmental score" or C&E score, illustrated in the "Risk Management" section). Specifically, the indicator is calculated using the ratio between the Exposure at default (EAD) value of counterparties with a negative C&E score (Score equal to 5) and the EAD value of the Corporate portfolio.

Photo by: **Laura Luzzi**, Tax Office

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