Climate Finance Report

2022-June 2023

www.santander.com

Melissa Askew

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1. Introduction

The transition to a green economy and a net zero world was never going to be easy. The last year or so has shown just how difficult it is going to be. Russia's invasion of Ukraine, together with the impact of COVID, has resulted in higher inflation, the end of the period of cheap money, and further pressure on governments', businesses' and households' budgets.

These events should not be allowed to hide the fact that the green transition requires massive finance and presents **enormous opportunities for businesses, large and small**. As we help more clients **decarbonize** their operations and activities, right across the world we are seeing - and Santander is financing - innovation and technology that is creating new jobs; providing new sources of reliable and affordable energy; and helping the economy cut emissions.

That said, we need to remember a basic truth: an orderly, just transition depends on growth. Without growth, we cannot afford the investment required. And this is particularly so for many governments, who are struggling to pay down debts while paying for increasing demands to spend more, not just on the green transition, education, health and to support ageing populations.

This is not an excuse to do nothing. Far from it. All of us who have set **our ambition to be net zero carbon by 2050** must continue to make progress towards decarbonization. The issue is getting the balance right: supporting our economies growth, but ensuring that growth is green, and that it reaches emerging and developing economies whom we cannot leave behind.

This is not simple, but one thing is clear. **The private sector's role is obviously essential in the journey towards net zero**. We are not going to meet the Paris Agreement goals without governments and businesses working together to help companies - and their customers - decarbonize and adapt their business models while ensuring they remain economically viable, and continue to grow.

For this to happen, more governments need to acknowledge that green growth relies on three things. First, we need competitive businesses operating, where necessary, in a regulatory system that is simple, predictable and proportionate. Second, we need energy that is reliable and affordable: of course we want more energy to come from renewable sources, but as we have seen, if energy is not reliable and affordable, growth is undermined - particularly in emerging markets, whose transition is critical. For example, we will continue to rely on gas for some time: thinking that nations can simply unplug from gas imperils their economies' transition.

Third, **we need governments to set out plans** as to how public policy will support the transition. Tax, planning laws, market mechanisms to support green tech, skills and the transition at scale: if we are to build investors' confidence and mobilise the billions required for the transition, governments worldwide need to create clearer plans - and price signals - so that it pays moving green.

Despite these challenges, over the last year Santander has continued to progress towards our ambition for net zero carbon by 2050. As this report shows, we are helping more customers - from individuals to global corporates - cut emissions, while strengthening our own internal processes, governance and risk management. We have helped industries with high emissions in their transition to lower emissions: in this report we set out how we will challenge their action plans to cut emissions. And, having set out last year **our action plan to meet our power generation portfolio net zero target, in this year's report we do so for oil and gas, steel, and aviation.**

Faster progress towards net zero requires an enormous team effort. Last year, we created a new head of green finance reporting directly to the Group CEO to promote green finance objectives, who continues to strengthen our skills and expertise worldwide. As our clear strategy shows, we have the scale, diversification and customer focus to combine the power of global corporates with the actions of our 164 million customers locally to help to drive the green transition.

Yes, there are challenges - such as lack of data, costly regulation, the lack of government transition plans. But I am hopeful that, if we focus on the need for green growth, and harness the power of individuals and companies, the transition will be orderly and inclusive.

Ana Botín, Executive Chairman

2022 - JUNE 2023 HIGHLIGHTS

Aligning our portfolio with the Paris Agreement goals

- This report describes our **progress** in sectors where Santander has set **decarbonization targets** as part of its **net zero ambition**. It details related **action plans**, which involve **customer engagement** on climate goals, **planning**, and **risk appetite** limits.
- Our new **climate customer engagement framework** is designed to help us **achieve our emissions targets** for the power generation, oil and gas, aviation and steel sectors. It is based on **customers' greenhouse gas emissions profiles** and quality assessments of their **transition plans**.
- We expanded our **two-step tiering assessment** to the **energy, steel and aviation** sectors. And we enhanced **quality assessments** of transition plans, based on updated **benchmark methodologies** and **sector research**.
- We took part in several discussions and initiatives. We supported the University of Oxford with funding for a new **Transition Finance Centre of Excellence**, which will play an important role in developing **transition finance, best practice, new tools and insights**.

Supporting our customers in the transition

- We are expanding **ESG products** in **Wealth Management & Insurance**. As of June 2023, we had EUR 58.6 bn in **Socially Responsible Investment** (SRI) AuM: EUR 40.5 bn in Santander Asset Management and EUR 18.1 bn from **third-party funds in Private Banking**.
- In 2022, we **raised** or **facilitated** EUR 28.8 bn (EUR 98.6 bn from 2019 to June 2023) in **green finance**.
- We developed several **business opportunities** to help clients to **transition to a lower carbon** economy:
  - The **greenfield renewable energy** projects we financed or advised on will have enough **installed capacity to power 10.1 million homes** a year and **cut 152 million tonnes of CO_2** throughout their useful life[1].
  - In February 2023, we updated our **Sustainable Finance Classification System** (SFCS) based on lessons learned and market trends. The SFCS accurately **identifies and tracks lending** across the Group for **business activities that help mitigate or adapt to climate change**.

Reducing our environmental impact

- In 2022, **88%** of our **electricity** came from **renewable** sources. We have been **reducing our carbon footprint** since 2011, and **offsetting remaining CO_2e emissions** from our own operations since 2020.

Embedding climate in risk management

- Santander keeps embedding **environmental and climate factors in policies, risk appetite and risk management**. Our **risk management cycle** is reinforced with initiatives such as "**The Climate Race**", a target operating model to embed environmental and climate change (E&CC) factors in all stages of **credit approval**.
- We conducted an **internal business assessment** of dependencies and impacts, available data and methodologies regarding **nature and biodiversity**.

Supporting these pillars,

- Senior executives' **long-term incentives** now have **ESG metrics** based on our targets for **green finance, decarbonization** and other categories.
- Over the past year, we have taken part in several meetings on **climate regulations and taxonomies**, **greenwashing**, climate **pathways to net zero**, and frameworks to assess **client transition plans**, involving some **300 senior bankers**.
- We launched initiatives to develop **natural solutions in the Brazilian Amazon**: **Biomas** aims to protect and restore **4 million hectares of native trees**; and the Innovative Finance for the Amazon, Cerrado and Chaco (**IFACC**) Alliance aims to accelerate **financing** and find **synergies** to design and scale up **sustainable means of production**.

1. Emissions prevented during the projects' estimated useful lifespans, based on emissions factors figures from the International Energy Agency (updated in 2022 with data from 2020).The estimated allocation to the amount financed by Santander is 51.6 million tons of CO_2.

Additional details, definitions and calculation methodologies regarding these highlights are provided later in this report.

2. Strategy

Our ambition

Santander aims to be net zero in carbon emissions by 2050. This applies to the Group's operations and emissions from our lending, advisory and investment services.

We are a founding member of the Net Zero Banking Alliance (NZBA, under the United Nations Environment Programme Finance Initiative), committing the Group to:

Support the transition of operational and attributable greenhouse gas (GHG) emissions from lending and investment portfolios towards pathways to net zero by mid-century;

Set intermediate targets for priority GHG emitting sectors for 2030 (or sooner); and

Prioritize client engagement with products and services that facilitate transition in the real economy

Our strategy

At Santander, we are working to support our customers striving to reach net zero by 2050, offering transition solutions to help them fulfill their climate goals.

We are working to align our portfolios with the Paris Agreement and keeping our operations carbon-neutral. Integrating climate within our risk management is key to delivering our plan.

Building on our net zero ambition, we have a four-pronged climate strategy to support the green transition:

Aligning our portfolio with the Paris Agreement goals

Align our portfolio with the Paris Agreement goals to help limit warming to a 1.5ºC rise above preindustrial levels; and set sector- portfolio alignment targets in line with the NZBA and with Net Zero Asset Management initiative (NZAMi).

Supporting our customers in the transition

Help our customers transition to a sustainable economy, with the target to raise or facilitate EUR 120 bn in green finance between 2019 and 2025 and EUR 220 bn by 2030; offer our customers guidance, advice and specific business solutions; and enable them to invest in a wide-range of products according to their sustainability preferences, with the target of reaching EUR 100 bn AuM in Socially Responsible Investment by 2025.

Reducing our environmental impact

Reduce our impact on the environment, implementing efficiency measures, sourcing all our electricity from renewable energy[1] by 2025 and remaining carbon neutral in our operational footprint[2].

Embedding climate in risk management

Embed climate in risk management; understand and manage the sources of climate change risks in our portfolios.

1. In our core markets (G10)
2. In countries where we can verify electricity from renewable sources at Banco Santander properties.

Our objectives and priorities

Tackling climate change is a key priority at Santander. We support the Paris Agreement goals. Our ambition is to achieve net zero carbon emissions by 2050. We intend to do this and support the green transition in four ways:

Throughout this report, we will provide concrete examples for how our strategic climate ambition is embedded into our business model and is helping us to build our transition plan.

Aligning our portfolio with the Paris Agreement goals

Contribute to limiting temperature increases to 1.5ºC in line with the NZBA and NZAMi

Supporting our customers in the transition

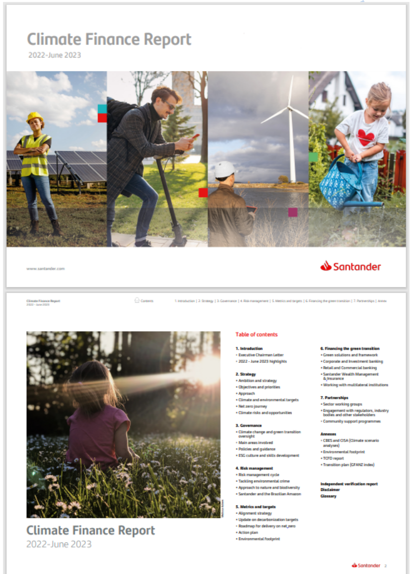
Support our customers transition to a low-carbon economy

Reducing our environmental impact

Remain carbon neutral and consume 100% electricity from renewable sources by 2025

Embedding climate in risk management

Manage climate and environmental risk according to regulatory and supervisory expectations



Climate targets progress and new actions plans

Action plans to meet decarbonization targets. Including how we engage with customers to help them decarbonize

From senior management internal training to stakeholders external awareness

Key partnerships with leading public and private organizations

New strategic positions and teams created to better embed ESG into decision-making processes

2022-2025 Energy efficiency and sustainability plan

Reducing our environmental footprint since 2011

Target Operating Model - "The Climate Race"- including E&CC risks in all stages of credit granting and monitoring processes

New strategic positions and teams created to better embed ESG into decision-making processes

Our approach

Our approach to transition is to allocate the adequate resources and focus the capabilities on the decarbonization of the most material, high-emitting sectors portfolios. The methodologies we have developed inform our plans to decarbonize our credit portfolios, especially the ones directly related to fossil fuels.

Further to our alignment approach, the Group's climate risk management performs a climate transition assessment for the wholesale corporate customers in the oil and gas, power generation, metals and mining, auto manufacturing, aviation and cement sectors. This goes beyond sectors on which we have targets and cover sectors highly prone to transition risk.

We regularly review, at key governance bodies, the progress of our main climate-related projects which consist of: portfolio alignment, sustainable finance classification and climate risk management.

Disclosing our approach is key to helping markets and other stakeholders assess how we embed climate-related initiatives in our processes and policies, and report on our climate-related performance. We use the Taskforce on Climate-related Financial Disclosures (TCFD) as the framework to disclose our approach to integrate climate in our investment strategy.

Santander Asset Management's (SAM) strategy and approach:

In March 2021, SAM joined the global Net Zero Asset Managers initiative as part of its commitment to fight climate change, becoming the first asset manager in Spain and Latin America (excluding Brazil) to do so. SAM aims to achieve net zero greenhouse gas emissions with its assets under management by 2050 and has set a 2030 interim target to halve net emissions for 50% of its AuM in scope*. Our target represents 27% of SAM´s total AuM.

During 2022, we have worked on developing our Net Zero Engagement Strategy. This strategy aims to deliver our Net Zero plan in our core markets by fostering company engagement through dialogue and voting policies. That in turn, encourages and supports companies' decarbonization plans and an adequate reporting to create credible track records.

SAM recently joined the International Investors Group on Climate Change (IIGCC) Net Zero initiative, which complements engagement actions on climate transition from Climate Action 100+ in which it is a signatory as well.

*Assets in scope are 54% of SAM total assets, which currently have a defined Net Zero methodology. This objective might be reviewed upwards depending on data availability at least every five years.

Our climate and environmental targets

	2018	2019	2020	2021	2022	H1 2023	2025/2030 target
Electricity from renewable sources[1]	43%	50%	57%	75%	88%		100% by 2025
Carbon neutral in our own operations[2]			✓	✓	✓		Every year
Green finance raised and facilitated (EUR)		19 bn	33.8 bn	65.7 bn	94.5 bn	98.6 bn	120 bn by 2025 220 bn by 2030
AuMs in **Socially Responsible Investments** (EUR)				27.1 bn	53.2 bn	58.6 bn	100 bn by 2025
Thermal **coal**-related power & mining phase out (EUR)				7 bn	5.9 bn		0 by 2030
Emissions intensity of **power generation** portfolio		0.21	0.17				0.11 tCO_2e / MWh in 2030
Absolute emissions of **energy (oil and gas)** portfolio		23.84	22.58				16.98 $mtCO_2e$ in 2030
Emissions intensity of **aviation** portfolio		92.47	93.05				61.71 $grCO_2e$ / RPK in 2030
Emissions intensity of **steel** portfolio		1.58	1.40				1.07 tCO_2e / tCS in 2030

Update on this report

From...To

Cumulative target

Commitment Achieved

1. In countries where we can verify electricity from renewable sources at Banco Santander properties.
2. In our core markets (G10)

Our net zero journey

In order to be aligned with the Paris Agreement and with the aim of limiting global temperature increase to 1.5°C, we have committed to be net zero in carbon emissions by 2050 also as part of the Net Zero Banking Alliance (NZBA).

2020

- Being carbon neutral in all our operations

2021

- Net zero ambition Founding member of the NZBA, joined NZAMi & 1st decarbonization targets (Thermal Coal, Power Generation and SAM)
- Cut unnecessary single-use plastics

2022

- Decarbonization targets disclosed for oil and gas, steel and aviation
- Sustainable Finance Classification System published and development of an internal transition finance criteria

2024

- Consider additional decarbonization targets as per NZBA

2025

- [1] Use 100% of energy from renewable sources in all Santander buildings
- Raise or facilitate EUR 120 bn in green finance since 2019
- EUR 100 bn in Socially Responsible Investments

2030

- SAM target to halve net emissions for 50% of in-scope AuM[2]
- Decarbonization targets for Power Generation, Energy (oil and gas), Steel and Aviation portfolios
- Raise or facilitate EUR 220 bn in green finance since 2019
- Ending financial services to power generation customers if over 10% of their revenues depend on coal
- Cutting our exposure to thermal coal mining to zero

2050

- Net zero

1. In countries where we can verify electricity from renewable sources at Grupo Santander properties.
2 Assets in scope are 54% of SAM total assets, which currently have a defined Net Zero methodology. This objective might be reviewed upwards depending on data availability at least every five years.

Climate risks and opportunities

Climate risks

Environmental and climate-related risk drivers are considered as factors that could impact the existing risks, such as credit, market, liquidity, operational, reputational and strategic risks, among others, in different time horizons.

These include elements derived from the physical effects of climate change, generated by one-off events as well as by chronic changes in the environment. Physical risks arise from the acute or chronic effects of climate change on business activities, workforce, communities, markets, assets, investors, etc.

On the other hand, there are elements derived from the process of transition to a development model with lower emissions. Transition risks arise from the transition to a low-carbon economy that includes changes in legislation, technology or market trends.

We assess how transition and physical risks impact on the economy, our customers and our business, especially in terms of: impaired profitability and property values, revenues that may be affected by rising costs and lower productivity, declining demand, falling asset performance, rising cost of legal and regulatory compliance, declining household wealth and other aspects.

The risk classification is fundamental for effective risk management and control.

The following drivers are considered when assessing potential climate-related risks:

PHYSICAL RISKS (PR)

Acute
Increased severity of extreme weather events, such as drought, hurricanes or floods

Chronic
Changes in precipitation patterns and extreme variability in weather patterns, rising mean temperatures, chronic heat waves or rising sea levels

TRANSITION RISKS (TR)

Market sentiment
May manifest through shifts in supply and demand for certain commodities, products and services, as climate-related risks and opportunities are taken into account, which may entail reputational issues, among others

Policy action
Such as implementing carbon-pricing mechanisms to reduce GHG emissions, shifting energy use toward lower emission sources, adopting energy-efficiency solutions, encouraging greater water efficiency measures, and promoting more sustainable land-use practices

Technology
Arises from the need to make improvements or innovations to support the transition to a lower-carbon, energy efficient economic system that can have a significant impact on companies to the extent that new technology displaces old systems and disrupts some parts of the existing economic system

We continue improving how we identify climate and environmental risk drivers taking into account potential effects, our response, and next steps for each risk type.
The following chart summarizes pre-mitigation of climate related risks considering different risk types:

Risk type	Main climate drivers[1]	Main time horizon[2]	Potential impacts of climate risk factors	What we are doing to manage climate risk factors	Next steps
Credit Risk		Medium - Long-term	• Extreme weather leading to higher retail and corporate loan default and lower collateral value. It may lower revenues and cause agricultural damage, as well as raise insurance premiums and coverages. Also, wind pattern shifts that decrease energy production may cause higher operating costs and hinder productivity. Increase of write-offs and early retirement of assets owing to property damage and 'high-risk' locations. • If borrowers do not transition their business models to a low-carbon economy it could increase credit risk, and consequently greater risk of revenue decline and business discontinuity, leading to higher default or a loss of business value. • Severe weather causing significant economic losses, hazards for the local population and environmental damage, affecting also collaterals valuation. • Market sentiment affecting the demand, technological systems obsolescence, customer preferences, etc. • Higher operating costs for carbon-intensive customers; reporting obligations (data collection), especially on emissions (e.g. scope 3) and green taxonomy disclosures; and new EU directives on financial reporting derived from government policy action.	• Materiality assessment to spot physical and transition risk in the Group's credit portfolios • Analysis of short-, medium- and long-term risk concentration per sector and region • Heatmaps that follow orderly, disorderly and Hot House World scenarios up to 2050 • Application of mitigating measures such as policies, thresholds and insurance to cover the risks and their impacts • Scenario analysis and sensitivities to forecast changes in ratings, PD and LGD in view of physical and transition risk • Credit risk metrics definition to monitor and manage the E&CC[3] risks in BAU processes • E&CC factor analyses to be embedded in the assessment of transactions and clients and their ratings • Risk appetite limit alerts to manage climate-related sectors	• Launching 'The climate race' Environmental & Climate change credit risk TOM to integrate E&CC risks as decision drivers for credit approval and to identify and mitigate transition and physical risks. • Embedding into the credit strategy (admission and monitoring) the E&CC factors to identify, manage and mitigate transition and physical risks. • Including climate factors in internal physical and transition risk models, and developing tools to monitor physical risk in all the Group's markets.
Market Risk		Short-term Long-term Short-Medium-term	• Higher volatility in market factors under stress scenarios. • Changes in market perception leading to wider credit spreads for business in impacted sectors.	• Regular reviews of climate stress scenarios and units. • Stress testing using physical and transition risk scenarios. • Portfolio analysis of current exposure to climate-sensitive business activities.	• Enhancing analysis of material climate impact on trading portfolios to help with future sector-based stress testing. • Enriching stress testing and reviewing new scenarios to be included. • Adapting stress testing to best market practices.
Liquidity Risk		Long-term Short-Medium-term	• Market impacts on the value of high quality liquid assets in Santander's liquidity buffer. • More frequent extreme weather stifling economic growth in countries susceptible to climate change, causing sovereign debt to rise and limiting access to capital markets. • Cash outflows from companies trying to boost their reputation in the market or solve problems with climate scenarios.	• Qualitative and quantitative climate scenario analyses of impacts on highly liquid assets and financing of exposed companies. • Analysis of higher outflows due to changes in market perception of corporations in climate-sensitive business activities.	• Enhancing stress testing and reviewing new scenarios to be included. • Adapting stress testing to best market practices. • Including new liquidity scenarios to measure their impact.

1. All climate drivers have an effect in risk factors, although in this table only the main ones have been considered.
2. Short-term: up to 1 year; Medium-term: up to 3 years; Long-term: ≥ 5 years
3. E&CC: Environmental and Climate Change

Acute Chronic Market sentiment Policy action Technology

Risk type	Main climate drivers[1]	Main time horizon[2]	Potential impacts of climate risk factors	What we are doing to manage climate risk factors	Next steps
Operational Risk		Medium-Long-term	• Severe weather events can cause damage to our assets, including branch networks, offices and data centres. It can also affect business continuity, including processes and staff. • Climate-related financial risks can also cause operational risk losses from litigation, for example, if a bank is perceived to misrepresent sustainability-related practices.	• The operational risk & control self-assessment includes ESG reference risks in order to evaluate exposure. • Mandatory operational risk scenario analysis covering physical or transition risk events. • The ESG risk flag in the operational risk events database allows to classify climate & environmental related incidents and losses. • The business continuity plan guidelines are updated to include more detail on climate risk threats.	• Provide enhanced reporting of operational risk related to climate risk. • Evaluate external sources of information and best practices.
Reputational Risk		Short - Medium - Long-term	• Customers, investors and other stakeholders who perceive banks aren't doing enough to meet low carbon targets or their own public commitments can pose reputational risk. • Misrepresenting or misleading to customers, investors or other stakeholders, the declarations, actions, communications, policies or sustainability characteristics of products or practices (greenwashing) of an entity.	• Updated climate and environmental risk policies and procedures. • Corporate credit committees address reputational risk when assessing sensitive transactions that involve climate and environmental risk. • Formal meetings scheduled to review reputational issues (including climate matters), involving the legal, responsible banking, investor relations, risk and other teams. • Proactive measures that show Santander supports companies' green transition and decarbonization.	• Continuous involvement of reputational risk function with other areas to address reputational impacts. • Methodology to quantify the reputational impact of climate and environmental risk.
Strategic Risk		Short - Medium - Long-term	• Our strategy could be affected if we fail to achieve our net-zero targets, including those related to the activities that we finance as well as those concerning our own operation.	• Monitoring of the Group's strategic 'Climate change' project, with net-zero KPIs. • Top risk identification with an ESG risk event and analyses of how low-probability stressed scenarios impact on strategic targets to draw up appropriate action plans. • Monitoring of ESG-related proposals for Products (CPGF) and Investment forums. • Reviewing ESG factors and KPIs for business model performance.	• Increasing granularity of ESG stressed event impacts in top risk identification exercise. • Regularly updating ESG KPIs to ensure full alignment with the Group's strategy. • Continuing to review ESG factors in business model performance.

1. All climate drivers have an effect in risk factors, although in this table only the main ones have been considered.
2. Short-term: up to 1 year; Medium-term: up to 3 years; Long-term: ≥ 5 years

Acute · Chronic · Market sentiment · Policy action · Technology

Climate risks and opportunities identified in Santander Asset Management (SAM):

SAM believes that climate-related factors may represent risks and opportunities for businesses, which have an impact on the long-term risk and return profile of investment portfolios. In analysing climate risk, we can have a better understanding of the assets we invest in, recognize issuers that are better positioned to face future challenges, tap into new opportunities, and create value for businesses and society.

The **3 top climate-related risks** considered in our proprietary ESG analysis model are:

- **regulatory risks** involving GHG emissions, such as higher pricing;
- **technology risks** from new efficient low-carbon alternatives that can turn existing technologies obsolete; and
- **market risks** from higher costs and shifting consumer demands, which could result in stranded assets, higher operating costs, lower demand for products and services, and the higher cost of, and limited access to, capital.

The **3 top climate-related opportunities** embedded in our analysis model are:

- **new climate solutions** involving products and services that boost diversification, competitive advantage and revenue;
- **lower-emission energy sources** that benefit from less exposure to GHG emissions, lower costs, policy incentives; and
- **efficient production and distribution of resources** to lower operational costs and raise both production capacity and the value of fixed assets.

Climate opportunities

Working with customers to support their transition and to reduce carbon emissions will be key to achieve our ambition to be net zero by 2050. To achieve this, our teams engage with customers, with support from specialist environmental, social and governance (ESG) teams in Santander Corporate & Investment Banking (SCIB), Wealth Management & Insurance (WM&I) and Retail and Commercial Banking.

CLIMATE OPPORTUNITIES

Sector / asset	Opportunities
Mortgages	Green mortgages
	Lending and advisory offering to help clients identify real estate retrofitting solutions
Energy	Growth in wind and solar renewable energy financing and advisory
	Financing and advisory to facilitate EV[1] charging infrastructure build-out
Automotive	Financing and advisory to enable shift to EVs
	Financing to establish and integrate battery supply chains
	Financing of additional technologies that enable low-carbon mobility solutions
Agriculture	Incentivize and support clients across the value chain to adopt more sustainable practices
	Financing and advisory of on-farm emission reduction technologies
Voluntary Carbon Markets	Provide advisory services and solutions to enable clients to access carbon market opportunities
	Offering of green products to individuals and companies with high integrity offsetting options
Cross sector	Growth in green bonds, green loans and sustainability-linked financing instruments
	Financing for scaling of new technologies such as hydrogen, CCUS[2], biofuels as well as energy storage more broadly
	Financing and advisory for early-stage companies focused on energy transition-enabling solutions

1. EV = Electric Vehicles
2. CCUS = Carbon Capture, Utilisation and Storage

3. Governance

Climate change and green transition oversight

The board of directors and the executive committees review and discuss the Group's climate change and green transition initiatives. In 2022, they discussed disclosure reports, new alignment targets, the Climate Risk Stress Test Update and other climate change and green transition matters. Additionally, core main subsidiaries and global businesses report on their ESG initiatives to the Group Board Committees and Board every year.

The **Board Responsible Banking, Sustainability and Culture Committee (RBSCC)** supports the Board of Directors in supervising the Group's responsible banking agenda and strategy. The RBSCC has five independent board members.

At the time of this report's release, the RBSCC discussed climate change in the five meetings it held in 2022, and in the three meetings it held in 2023. It reviewed the following topics (among others): progress on power generation and thermal coal portfolio alignment targets; latest targets for disclosure of energy (oil and gas), steel and aviation and progress on other sectors and countries; the organizational model, resources, key priorities, and next steps of the Green Finance unit and the progress of its main initiatives and plans; main results, lessons learnt and expected developments in supervisory activity (including the ECB's 2022 Climate Stress Test and Thematic Review); data disclosure on the Green Bond Report; ESG regulatory & supervisory developments; ESG policy updates; ESG ratings and results; and future developments and ideas on better climate reporting.

Other relevant areas of ESG were supervised under the roles and responsibilities of the RBSCC, as the main committee that provides support to the Board of Directors on ESG related matters.

Regarding climate finance, the Risk Supervision, Regulation and Complianbce Committee, also known as Board Risk Committee (BRC) reviews the proposals for the Risk Appetite Statement (RAS) prior to board approval. The BRC also monitors the RAS every quarter, including climate finance metrics and limits. The BRC works with the RBSCC to review ESG-related conduct risk, data protection risk, customer vulnerability, reputational issues, risk policies and how business units adopted these policies.

The RBSCC interacts with the Board Remuneration Committee to draw up responsible banking metrics for variable remuneration schemes. The RBSCC also exchanges information and interacts with the Board Audit Committee to review ESG reports (such as this Climate Finance Report) prior to publication.

The Board Audit Committee oversees the internal control system, processes and methodologies we use to prepare financial and non-financial ESG information.

The Board Nomination Committee works with the RBSCC to review Santander's corporate behaviours, culture and talent in relation to the ESG agenda.

Board level		**Board of directors**	
	Responsible banking, sustainability and culture committee	Risk supervision, regulation and compliance committee also known as Board Risk Committee (BRC)	Executive committee
Executive level		**CEO management meeting**	
Fora		**Responsible Banking Forum**	

For more details on the different board committees see chapter Corporate Governance in [2022 Annual Report]

For more details on Board skills and diversity matrix see section 4.2 Board composition in [2022 Annual Report]

The **Responsible Banking Forum (RBF)**, is the executive governance body that reviews implementation of the Group's responsible banking agenda and presents its findings to the RBSCC. The RBF drives decision-making on responsible banking issues. It enforces mandates from the RBSCC, the BRC, the Board Audit Committee, other committees and the board of directors. Prior to the release of this report, it discussed climate change and green finance at five of its six meetings in 2022 and at the four it had held in 2023. As this body ensures alignment on key issues, it reviewed and escalated to the RBSCC these topics, along with environmental risk policy revision, carbon footprint and offsetting.

The Forum's 11 permanent executive members are the Regional Head of Europe (rotating chair); the Regional Head of South America (rotating chair); Global Head of Strategy and Exec. Chairman's office; Group Chief Accounting Officer; Group Head of Human Resources; Group Chief Risk Officer; Group Chief Compliance Officer; Global Head of Wealth Management & Insurance; Global Head of Santander Corporate and Investment Banking; Group Head of Communications, Corporate Marketing and Research; and the Senior Advisor to the Executive Chairman on responsible banking practices.

The CEO management meeting, chaired by the CEO, received four status reports on the responsible banking agenda regarding climate change and green finance. In addition to the aforementioned bodies, other executive governance bodies also discuss climate-related matters that stem from the work carried out by the Group's divisions and businesses.

Since 2020, Santander has assessed green finance, progress made on climate targets and other ESG targets for the Group's variable remuneration scheme.

In 2023, a board resolution passed at the AGM with ESG metrics that are consistent with our public targets for the long-term incentives for senior executives in 2023-25 passed. These metrics cover raised and facilitated green finance, socially responsible investments, reduced exposure to thermal coal-related power & mining, and other topics.

For more details on ESG in remuneration schemes, see section 6.4 'Directors' remuneration policy' in 2022 Annual Report

Main areas involved in the implementation of the climate change strategy

Pillar of the climate change strategy	Aligning our portfolio with the Paris Agreement Goals	Supporting our customers in the transition	Reducing our environmental impact	Embedding climate in risk management
Main areas	Responsible banking, global businesses and local units set alignment targets	Green finance, SCIB (ESG Solutions), SCF and Wealth management & Insurance	Facilities, General services and Responsible Banking	Global and local teams across all Risk and Compliance areas

In 2022 we continued to embed climate management in business-as-usual across SCIB, Risk and Responsible Banking. We created two new positions: Risks Head of ESG & New Business (who reports directly to the CRO), and Global Head of ESG & SustainableTech and Global Head of Green finance (who reports directly to the CEO). For more details, please see Global Green Finance unit in Retail and Commercial Banking in section 6.

Corporate working groups meet regularly to implement our climate change agenda and inform on regulation updates: a public policy sustainability working group updates on upcoming climate and sustainability; a regulatory radar governance working group which meets quarterly to monitor the status of implementation of sustainability regulations and to assign responsibility for the implementation of regulatory initiatives to the group's areas; an environmental footprint working group measures our footprint and reviews ways to reduce it; and a sustainable bonds working group oversees sustainable bonds issues.

SCIB set up a dedicated team for portfolio alignment and strengthened its corresponding governance (see section 5 for more details). Beyond SCIB, a number of local units are involved in a governance structure coordinated by Group Responsible Banking. The objective is to progress on the decarbonization agenda, to promote knowledge and expertise sharing by local teams; and to seek for synergies for the design of reliable transition plans.

A new ESG Reporting & Internal Control team, set up in the second quarter of 2023, in the Financial Accounting & Management Control division oversees the disclosure, supervision and control of the ESG information the Group uses to meet regulatory requirements and stakeholder expectations. This year, the team has been designing and implementing data control and validation capacities. It has also made strides in automating its reporting to boost the quality and traceability of disclosures.

As part of our green transaction assessments, we created global, regional and local panels to provide additional scrutiny and validation, and to enhance consistency across the Group.

Our annual risk assessment and internal audit planning includes climate risk. In 2022, our Internal Audit area audited climate risk management to check that the Group's initiatives were progressing according to plan. It also suggested ways to strengthen governance and controls, and to roll out initiatives in subsidiaries, which it will continue to monitor in 2023.

Policies and guidance

The Group's Corporate Responsible Banking framework was approved by the Group Board of Directors in December 2021 and then by subsidiaries' boards. The document sets out the Group's highest-level principles, processes, and responsibilities for managing ESG across Grupo Santander. This framework is operationalised through the Responsible Banking Model, which was approved in February 2023, details the roles and responsibilities for its correct implementation. The Model has been co-created with all functions involved in the key activities which comprises ESG.

The Group establishes ESG policies, procedures and guidelines on ESG that adapt to local regulation and apply to all units. We systematically review the scope of policies for adopting ESG standards according to international best practice.

The Responsible Banking and Sustainability policy and the Environmental, Social & Climate Change (ESCC) risk management policy, which were both revised and approved by the Board of Directors in February 2023, embed climate change factors in lending standards.

Our Responsible Banking and Sustainability policy outlines our principles, commitments, objectives and strategy for our stakeholders, including human rights protection.

Our Environmental, Social & Climate Change (ESCC) risk management policy sets the criteria for investing in, and providing financial products and services* to, companies and customers who engage in sensitive activities in oil and gas, power generation and transmission, mining and metals, and soft commodities.

Key documents related to the climate change strategy

Framework & Model	Responsible Banking Framework	Responsible Banking Model	
Core policies	General code of conduct	ESCC risk management policy	Resp. Banking and sustainability policy
Documents that support our strategy	Reputational Risk Corporate Model	Third-party certification Policy	
Detailed technical criteria	Sustainable Finance Classification System	Guidelines financed emissions for portfolio alignment	Materiality assessment guideline

Policies are available on our corporate website www.santander.com.

* Defined as transactions giving rise to credit risk, insurance, asset management, equity and advisory services

ESG culture and skills development

We're working to familiarize all employees with sustainability, the UN Sustainable Development Goals and climate change with training for global businesses and subsidiaries:

- Common multidisciplinary training for all employees. We launched "Sustainability for all", a global, mandatory course to familiarize all employees with sustainability and its relevance to the Group on sustainability, sustainable development goals and climate change.
- Training for all functions involved in our sustainability agenda, with an introduction to sustainability and ESG, and special programmes for each business and function. We also created ESG Talks, a series of online recordings available on our learning digital ecosystem, with internal experts from SCIB, Risk, Human Resources, Financial Regulation, Wealth Management and Insurance, Consumer Finance and Retail Banking and Responsible Banking for the areas involved in our sustainability agenda.
- Expert ESG "knowledge sharing" aimed at employees who are involved in the Responsible Banking agenda. It can include internal and external certification, such as Chartered Financial Analyst (CFA), European Financial Planning Association (EFPA), Global Association of Risk Professionals (GARP), Certified ESG Analyst (CESGA), International Association for Sustainable Economy (IASE) level 1 and 2.

Some subsidiaries and global businesses gave further training on climate change, sustainability, sustainable finance, sustainable investment, diversity and inclusion.

Climate training for board members

In 2022 the board of directors completed climate change training programmes with modules on the Paris Agreement, net zero, portfolio alignment, climate risk management, transition plans, regulation and reporting, supervisor expectations, greenwashing and biodiversity.

In 2023 subsidiary board members and other "key positions" completed training on responsible banking, green finance, and ESG risks.

Climate dialogues

In 2020, we launched "Climate Dialogues" for senior managers to discuss critical climate-related topics. In 2022, we held two sessions with renowned experts Tomas Nauclér and Joseba Eceiza (Founder and Partner of McKinsey), and Steve Waygood (Chief Responsible Investment Officer at AVIVA).

"Training Pills", embedding ESCC

"Training Pills" is an initiative to share best practices and expert knowledge across Santander. Topics cover embedding ESCC factors in lending, a materiality assessment, a climate sectors assessment and scenario analyses. With over 150 participants, the pills will continue into 2023 and 2024.

ESG training for SCIB

We implemented a client engagement training program for SCIB, in collaboration with external expert providers. In multiple sessions, 300 senior bankers were trained on topics including: climate regulations and taxonomies; greenwashing; climate pathways to net zero; and frameworks to enable evaluation of client transition plans.

ESG Talks

In 2022 we launched ESG Talks. They're one-hour seminars delivered by our ESG teams on Santander's commitment and projects. As of the publication of this report, seventeen talks have taken place on such topics as climate strategy alignment, climate risk management and stress tests, ESG investment, our Sustainable finance classification system, ESG regulation, sustainable insurance, Greenwashing, Circular Economy in Suppliers Management and Santander Finance for All among others.

Group-wide newsletters

To raise employees' awareness of ESG issues, Responsible Banking, SCIB, Research & Business Intelligence and other departments send out climate-related newsletters and reports.

ESG training in subsidiaries

As part of the third level-module, some business units provide additional training and initiatives.

As an example, Santander UK provided 2,000 colleagues across 14 teams access to Sustainability Unlocked training platform for building a strong understanding of ESG in financial services. Additionally, Santander UK supported several Sustainability Business Partners in completing The Climate Safe Lending Fellowship, which is an international peer-led development programme that enables banking professionals to lead and influence climate transition within their organisations.

Santander Argentina, along with the agro loans granted by Santander, training sessions about sustainable land management are delivered to the counterparties.

In 2023 and for the second year, the Santander Scholarships | Skills for the Green Transition Programme, with Cambridge Judge Business School, is offering 1,000 scholarships to learn about sustainability and climate change.

ESG training in Wealth Management & Insurance

In 2022 we launched a global training plan for Santander Asset Management, Private Banking, and Insurance to credit more than 1,500 employees for ESG knowledge. We offered two types of certifications: internal, through Santander training platform (c.16 hours) and external, through CESGA and CFA (c.150 hours). In addition, SAM´s Board of Directors completed an ESG investment tailor-made course in June 2022.

4. Risk management

Climate-related and environmental risk management is key if we are to deliver our strategy and meet our commitments, particularly to be net-zero carbon emissions by 2050. By embedding climate aspects in risk management practices, we can implement our sustainability strategy to contribute to the transition to a low-carbon economy.

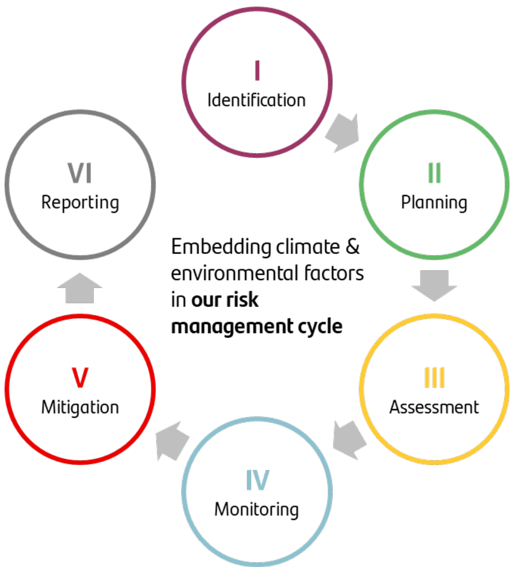
To learn more on our climate and environmental strategy, please see section [2. Strategy]

Existing risks in various time horizons could be made worse by climate change and environmental factors. These include the physical effects of acute events and chronic changes in the environment, as well as the consequences of the transition to a more sustainable economy (e.g. new legislation, new technology and changes in behaviour).

To pinpoint and manage material risks, Santander runs risk identification and assessments. These processes cover credit, market, liquidity, reputation and other types of risk that emerge in the Group's daily operations.

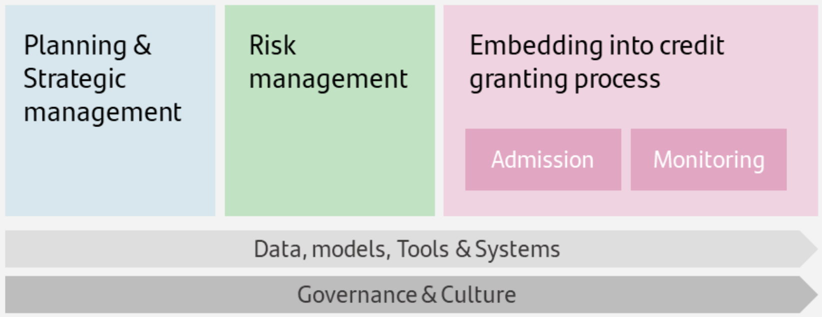
We have made progress to embed both climate and environmental aspects in our risk management cycle, as regulatory and supervisory demands, like the ECB's climate stress test (successfully completed in 2022), the Thematic Review and the Pillar 3 ESG report, continue to mount.

Risk management cycle



We are phasing in new decarbonization targets, primarily for sectors deemed "most material". Also, we are working to help our customers transition to a low-carbon economy with environmentally and socially responsible products and services.

One of the elements that helped us to integrate environmental and climate change factors into our strategy is the embedding of these factors in the credit granting process. It is the core risk in terms of exposure and capital consumption. We also consider this in our policies, procedures, data, tools, metrics, governance and culture.



I. Identification

Risk identification includes the top risk exercise to analyse potential events that would threaten the Group's three-year plan and long-term strategic plan. Our methodology consists of a risk event taxonomy, an impact and likelihood matrix, time horizons, sponsorship, action and mitigation plans, early warning indicators, consolidation and standard top risk templates.

Risk identification helps us understand the internal and external threats posed by the environment and climate change to our business model, profitability, solvency and strategy.

In the top risk exercise, there has been a "climate" subcategory since 2018 and, more recently, a "biodiversity" section.
Risk taxonomy, heatmaps and materiality assessment exercises (detailed along this chapter) form the basis for classifying and identifying material environmental and climate related risks of our portfolios.

Also, the risk function's core strategic exercises identify threats to our targets and support the transition to a low-carbon economy more extensively according to our policies and risk appetite statement.

II. Planning

Our strategic planning includes decarbonization targets in line with our public commitments on sustainability. Our core planning and strategic processes have different time horizons: "short term" (one year) for budgeting; "medium term" (three years) for financial planning; and "long term" (≥ 5 years) for strategy and ad-hoc analyses.

They allow us to identify threats to our objectives and to low-carbon transition more accurately, according to our policies and risk appetite.

In addition, these processes are supported by decarbonization objectives, financed emissions metrics, analysis of risk exposures to a climate and environmental risks related to our clients and their collaterals, and analysis of climate scenarios that allows for a prospective vision of risks and their financial impacts.

III. Assessment

Grupo Santander has materiality assessments, qualitative and quantitative heatmaps, scenario analysis and other tools to analyse the potential impacts of climate change related risks in our portfolios. This determines how we categorize portfolios based on exposure to physical and transition risks.

Materiality assessment

Our quarterly materiality assessments help us determine climate and environmentally material credit risk and proves essential to decision-making and setting out our strategic priorities for selected sectors, sub-sectors, industries, customers and regions. It covers climate and environmental risk in the Group's markets over different time horizons.

This helps us to address these risks in our risk appetite, top risk identification, credit analysis, stress testing and other management processes.

The materiality assessment follows the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD) and the United Nations Environmental Programme Finance Initiative (UNEP-FI).

Budget Short term 12 months	Budgeting, the first part of strategic planning, provides inputs for the three-year plan. It includes tasks to quantify annual objectives in the Group subsidiaries' business plans within the Group's risk appetite and liquidity, capital and efficiency plans.
3-year planning process Medium term 3 years	The three-year plan is a key process for medium-term planning in the Group and subsidiaries. Its bottom-up approach and facilitates a consistent, aggregate view of our processes. **It is also a basis for preparing the annual budget, the Internal Capital Adequacy Assessment Process (ICAAP) and the Internal Liquidity Adequacy Assessment Process (ILAAP) .**
Strategic plan Long term ≥5 years	The strategic plan sets out long-term objectives for the main subsidiaries and businesses in Grupo Santander. It covers the Group's vision and priorities in terms of capital allocation, organic and inorganic opportunities in each region and business unit.

Our taxonomy of industries and sub-industries is based on the EU's NACE codes (statistical classification of economic activities in the European Community). We compile exposure data that serve as a starting point, along with a five-tier heatmap for physical and transition-based risks, to measure highly material climate change risks, as shown in this table:

Qualitative and quantitative heatmaps help us identify the best positioned customers and portfolios. Analysing the heatmaps is crucial to customer and transaction admission and monitoring, as well as for risk management, credit policies and business strategy.

Throughout 2022, we updated our materiality assessment to reflect the latest industry and regulatory developments. We have made progress in updating the risk taxonomy, extending the scope of sub-sectors, including other segments like SMEs, and analysing impacts through more granular detail in heatmaps.

By using scenario analysis techniques, we are able to measure impacts reflected in quantitative heatmaps, based on different scenarios and time horizons (2030, 2040 and 2050). Scenario analysis is further detailed later in this section.

Santander Corporate & Investment Banking (SCIB), Commercial Banking (Corporates, SMEs, Retail Mortgages) and Santander Consumer Finance (SCF) are the most material business lines included in the materiality assessment exercise. Moreover, the assessment also covers Institutional lending and Wealth Management & Insurance.

RAG CLASSIFICATION FOR PHYSICAL AND TRANSITION RISKS

Physical Risk	Overall Score	Transition Risk
Sector has low vulnerability to present and future climate events (chronic or acute).	Low	Sector has low emissions intensity, is not reliant on fossil fuels and is closer than other sectors to achieving net zero.
Sector's current and future vulnerability from climate events (chronic and acute) is more moderate than others.	Moderately low	Sector has lower emissions per unit of production than others and is less carbon-intensive; needs a much lower level of investment to achieve net zero; and is unlikely to suffer significant changes in consumer sentiment or policy.
Sector has medium vulnerability from the physical impacts of a changing climate, with some disruption caused by climate events that could last for weeks.	Medium	Sector needs significant investment to transition to net zero. It will experience some impact from changing customer sentiment and be more exposed to policy and technological change.
Sector is highly exposed to physical risks and costs relating to climate events in the long term.	High	Sector has higher emissions per unit of production than others and will experience adverse demand. Sector requires targeted low-carbon policy, technological innovation and investment to transition to net zero.
Sector severely affected by climate events that become more severe and frequent, causing significant economic losses, hazards for the local population and environmental damage.	Very High	Sector relies heavily on fossil fuels and needs significant investment and targeted policy to transition to net zero. Focus on action from a wide range of stakeholders. Higher risk of premature write-downs on assets. Net zero position is still unclear, suggesting a long transition.

The current macroeconomic context of the war in Ukraine and the energy crisis, has affected the increase in the volume of sectors such as Oil and Gas and Mining & Metal, with no significant effect on the final distribution by sector of the Group's portfolio.

Physical and Transition risks impacts are heterogeneous across sectors, sub-sectors and geographies in the short term and may change depending on the scenarios at medium and long term. For that reason, we perform quantitative assessments across main climate scenarios to identify the credit risk performance of our main portfolios in 2030, 2040 and 2050.

The main results of our credit risk materiality assessment together with our current heatmap distribution for transition and physical risks of our main portfolios can be observed in the following tables:

As a result of this exercise, 11% of the exposure (SCIB + Other segments) has been identified in sectors defined as high or very high transition risk (Mining & Metal, Oil and Gas, Conventional Power and Transport). However, out of the SCIB portfolio, the concentration in our business lines is mainly rated as moderately low and low transition risk.

MATERIALITY ASSESSMENT - CLIMATE RISK ANALYSIS AND HEAT MAPPING OF PORTFOLIOS

December 2022, Credit risk (before mitigants), EUR billion

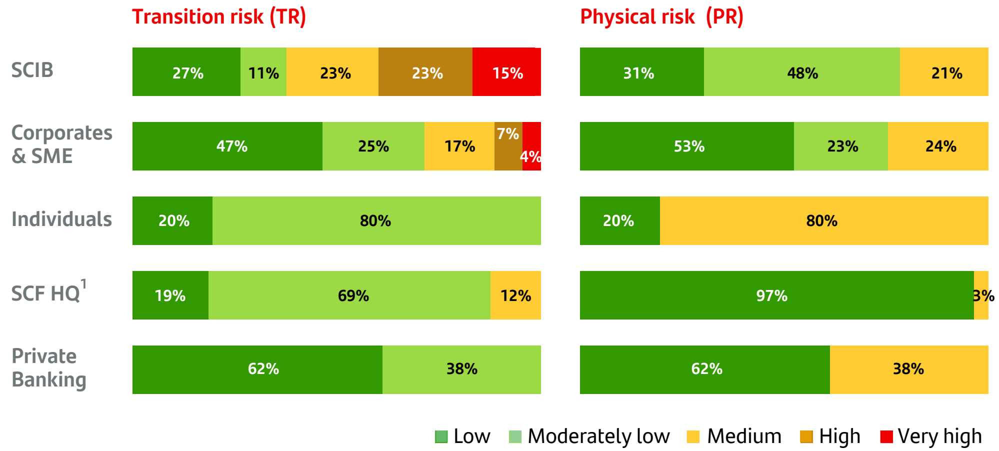
		TR	PR	SCIB	Other segments
Power (Conventional)		High	Medium	27	2
of which clients affected by the Thermal Coal phase-out				3	0
Power (Renewables Project Finance)		Low	Medium	11	0
Oil and Gas		Very high	Moderately low	22	1
Mining & Metals		Very high	Moderately low	15	8
of which clients affected by the Thermal Coal phase-out				2	0
Transport		High	Moderately low	29	12
Auto Consumer		Moderately low	Low	0	96
Real Estate		Moderately low	Medium	7	394
Other Climate-related sectors	Agriculture	Medium	Medium	3	8
	Construction	Moderately low	Low	18	14
	Manufacturing	Medium	Moderately low	49	27
	Water Supply	Medium	Medium	3	1
Total Climate Sectors				**184**	**563**
Other sectors		Low	Low	54	226
Total				**238**	**789**

Low | Moderately low | Medium | High | Very high

TR: Transition Risk.
PR: Physical Risk
SCIB : REC (on and off-balance sheet lending + guarantees + derivatives PFE)
Other segments : Drawn amount; including individuals, SCF, Corporates & Institutions, and SMEs.
Other sectors= SCIB and Corporate NACES outside of risk taxonomy perimeter // Individuals and SCF: Cards and Other Consumer, WM&I others than mortgages. Other sectors considered as Low risks.
0 exposure amounts to exposures below EUR 500 million. Figures are rounded off without decimals.
The Thermal Coal phase-out targets are described in Section 5.

EXPOSURE BY RISK LEVEL, %

December 2022, Credit risk (before mitigants), EUR billion



1. SCF HQ management perimeter.

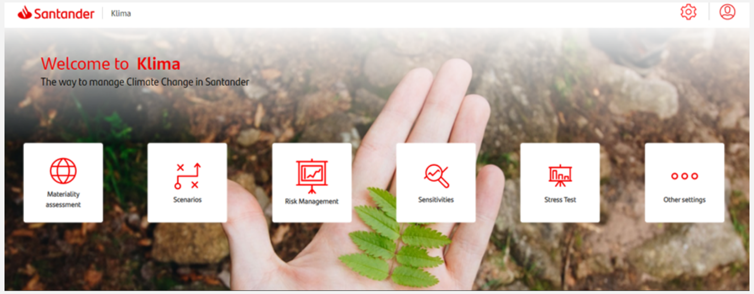
The materiality assessment has been enhanced with scenario analysis models that are also presented in quantitative heatmaps to measure the impact of transition and physical risks on core credit metrics (mainly PDs & LGDs). It complements our qualitative methodology and provides for forward-looking, geography-based analysis of portfolios in the medium-to-long term.

We refer to the Network for Greening the Financial System (NGFS) to measure financial impact according to its Orderly, Disorderly and Hot House World scenarios (detailed in the following sub-section). This is illustrated by the table below under NACE level 1 drill-down, with the qualitative and quantitative heatmaps at present and in the medium-to-long term for climate sectors in different scenarios and time horizons:

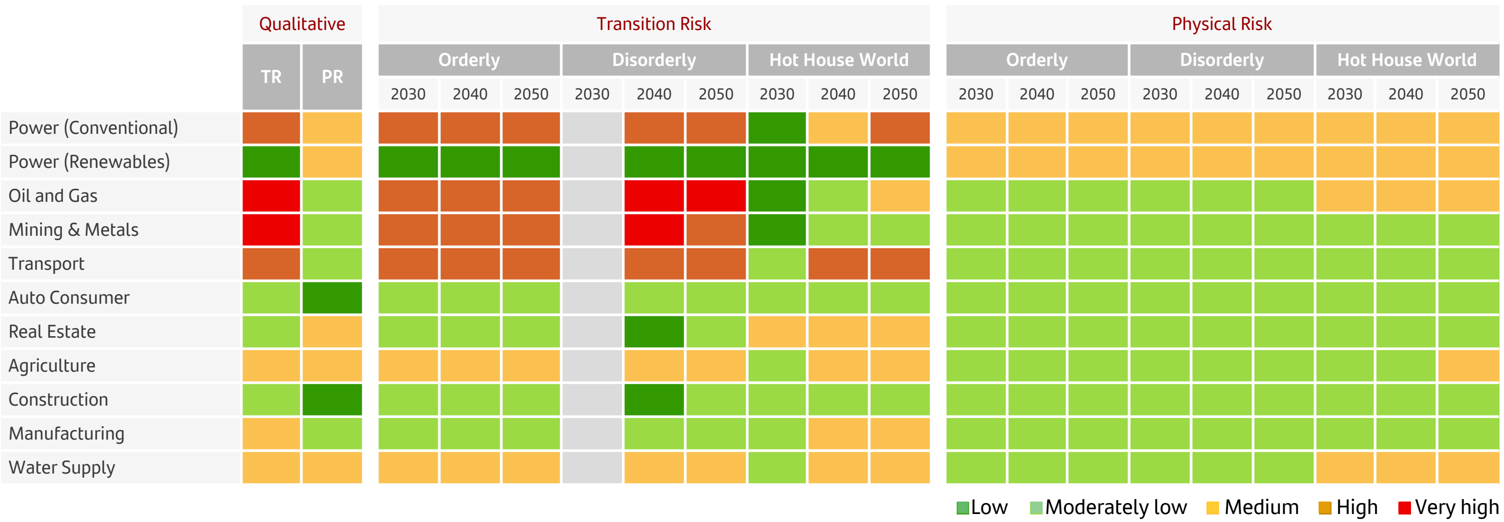
We also have adopted NACE level 4 analysis in our risk management to oversee the composition of our risk taxonomy and our value chain. This accurately shows us sub-sector scores and how they evolve.

We also enhanced our materiality assessment with an updated in-house Klima tool. Klima enables us to spot, assess and manage climate and environmental risk. The common standards it applies help to manage physical and transition risks. Klima also includes our risk taxonomy and heatmaps to measure 2030, 2040 and 2050 exposure, drawing on the same calculation methodology used for all business lines.

Klima Tool



Klima runs on a multi-stage execution model. Its modules are 'Materiality Assessment', 'Scenarios', 'Risk Management' and 'Sensitivities'. It produces qualitative and quantitative management information, including risk exposures and concentration metrics, with a drill down view by sector and geography, so we can monitor concentration, trends and impacts everywhere for our business lines.



Physical Risk Assessment

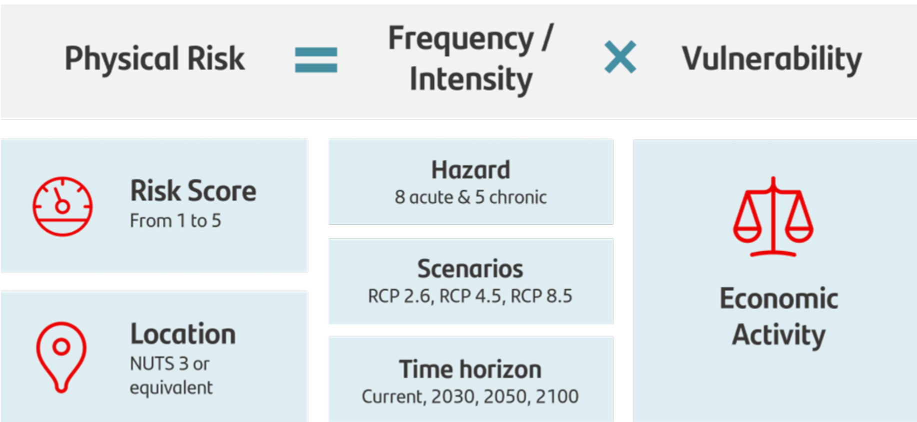
Santander made significant progress in physical risk assessment in 2022. We worked with an expert insurance vendor to assess the risk of 13 physical hazards (8 acute and 5 chronic). We analysed every market in which Santander operates, with a drill down of more than 1,250 regions (NUTS 3* or equivalent) and covering every economic activity under our Risk Taxonomy, as well as the main business lines such as mortgages and consumer auto.

We monitor each region (NUTS 3) to measure the associated physical risks, scoring them from Low to Very High according to our 5-point RAG scale. To assess the intensity and frequency of natural hazards, we used different atmospheric greenhouse gas scenarios (Representative Concentration Pathways - RCPs) and time horizons (present, 2030, 2050 and 2100).

The RCPs capture future trends from most severe scenarios (RCP 8.5) leading to global warming of over 4°C by the end of the 21st century; intermediate scenarios (RCP 4.5); and moderate scenarios (RCP 2.6).

The methodology we applied to calculate physical scores follows the basics guidelines drafted by UNEP-FI Working Groups, where frequency and intensity determine hazards' scores and vulnerability factors moderate the physical events' impact to each economic activity or collateral values.

To help assess physical risks with more granular detail, we are developing a new Klima module to embed physical risk reviews in the credit strategy (admission and monitoring).



Collaterals Risk Assessment

Santander's Real Estate portfolio accounts for a large portion of our balance sheet. Thus, while we must conduct specific assessments of that portfolio's climate-related risks, our qualitative heatmaps indicate moderate to low transition risk and medium physical risk.

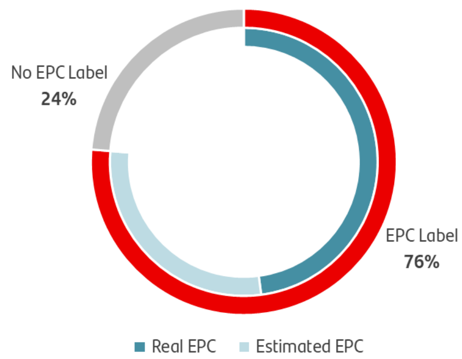
Additionally, to the physical risks developments explained previously, the transition risk improvements have been focused on the Energy Performance Certificate (EPC).

In the past few years, we have been making efforts to obtain EPC information of the stock collateral portfolios in Europe (region where these certificates are compulsory), and defining plans to reinforce onboarding processes to gather the information for new businesses. For those properties where real data was not available, EPCs estimations have been used to cover a large percentage of the portfolio.

This chart shows the EPC coverage of our balance sheet and EPC label distribution:

Santander Retail Mortgage portfolio

EPC distribution



* The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU and the UK. NUTS 3 classification refers to Socio economic analyses of small regions for specific diagnoses.

Scenario Analysis

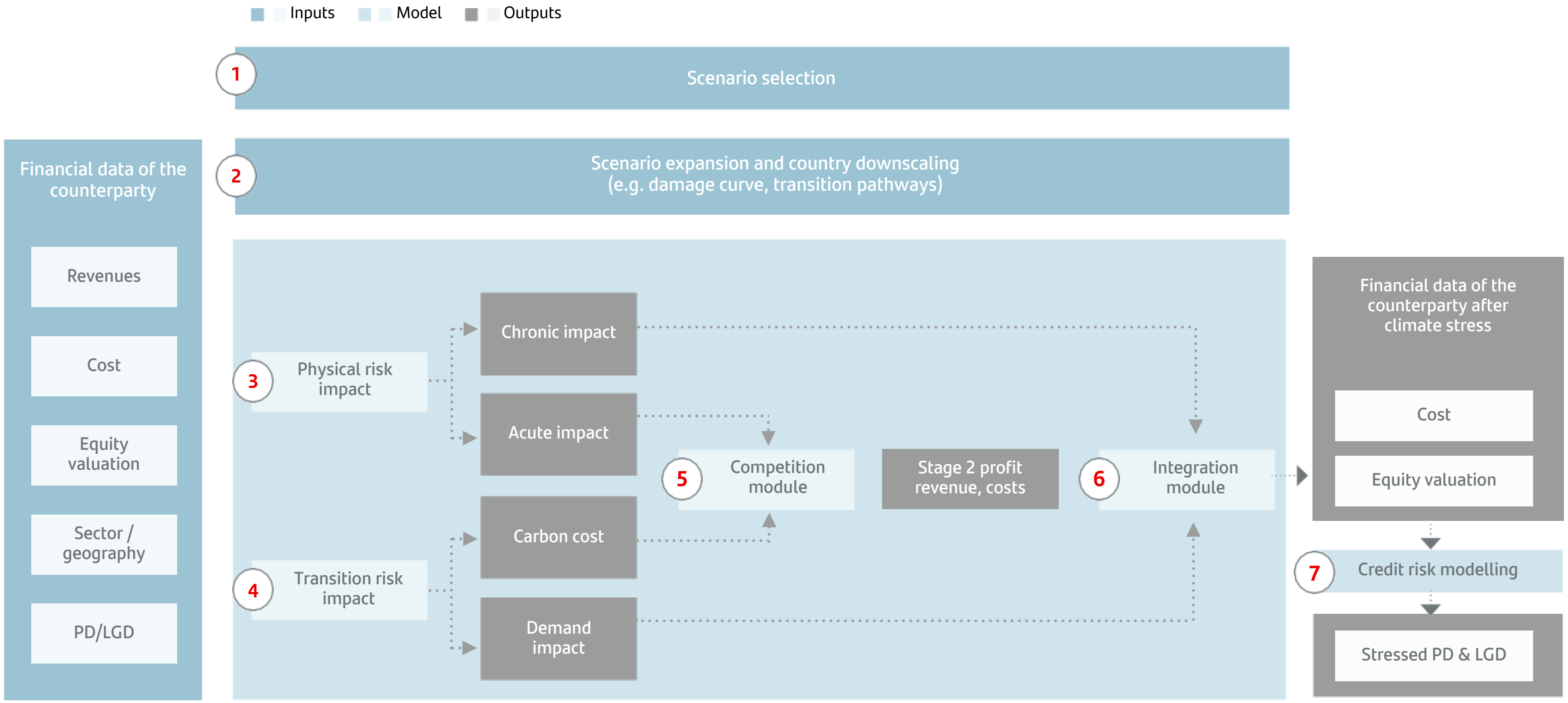
Santander uses scenario analyses with different approaches to measure transition and physical risk to our portfolios, considering our business diversification and the geographical characteristics.

For **commercial banking and corporate portfolios**, Santander applies an integrated vendor model (Planetrics) to quantify the financial impact of transition and physical risks. Planetrics' modelling, based on core credit risk metrics (PD, LGD), estimates the direct and indirect impact of macroeconomic and climate variables, market trends and policy actions.

We capture effects related to carbon cost, physical risk and change patterns in demand, to assess changes in companies´ finances such as costs, revenues, and profits, considering also general aspects referred to sector/sub-sector and geography.

This approach follows a bottom-up analysis of each customer's drivers, financial situation, and technology; in addition, a top- down approach by sector and geography can also be used when customer information is not available.

The climate model comprises these seven modules, which are set out in the following table:



PD: Probability of default. LGD: Loss given default. SSM: Single supervisory mechanism - European Central Bank Banking supervision

1. Scenario selection based on the scenarios published by the Network for Greening the Financial System (NGFS), the IEA-Net Zero scenario for Portfolio Alignment, and other external sources.

In addition, the most recent NGFS scenario updates reflect the latest trends in renewable energy technologies and macro variables that consider the snapshot from the IMF World Economic Outlook 2021, with increasing granularity in transport and industry.

The Intergovernmental Panel on Climate Change (IPCC) developed the Representative Concentration Pathways (RCPs) climate scenarios.

NGFS scenarios	Representative Concentration Pathways (RCPs) climate scenarios
Physical and transition risks	**Physical risk**
Orderly, where climate policies involve early, ambitious action and the impacts are low for both physical and transition risks	**RCP 2.6:** stringent mitigation scenario with the aim to keep global warming below 2ºC. This is associated with orderly scenarios.
Disorderly, in which climate poñlicies are not introduced until 2030 and the outcome has a higher impact on transition risk.	**RCP 4.5:** intermediate scenario where emissions reach their peak in 2040 and then decrease. This is a associated with disorderly scenarios.
Hot house word (current policies), with limited climate policies and severe physical risks and irreversible changes, including higher sea level	**RCP 8.5:** very high GHC emissions. It is a "business as usual" scenario where emissions keep increasing throughout the whole century. This associated with hot house world scenarios.

2. Scenario expansion and country downscaling to model the impact of global scenarios with a range of variables by country and sector.

3. Physical risk impact, which reveals the financial impact of extreme weather and long-term shifts in climate patterns.

- Chronic impact: impact on companies' revenue due to chronic physical effects (e.g., change in productivity).
- Acute impact: increase in cost due to damages to companies' assets from extreme weather events.

4. Transition risk impact, which reveals demand patterns (e.g., increase in low-carbon products) and carbon-related cost (e.g., carbon tax).

- Carbon cost: changes in carbon for emission intensive companies.
- Demand impact: change in companies' demand and profit

5. Competition module, which examines the interplay between risk exposure and company responses.

6. Integration module, which aggregates previously estimated impacts on business units to obtain the financial impact by geography and sector.

7. Credit risk modelling, which translates the changes in a company's market capitalization into effects on PD/LGD.

For the **real estate portfolios**, models are being enhanced to integrate physical and transition risks factors. These models estimate financial impacts through LGD and PD using a combination of macroeconomic and climate variables. The main drivers incorporated for transition risk are macroeconomic variables (mainly House Price Index and Gross value Added), as well as the costs to upgrade Energy Performance Certificate (EPC) labels. The main drivers of physical risk are based on locations and collateral valuations, and use the intensity and probability of hazards by location and severities to translate impacts on collateral valuation.

Following the participation in the Bank of England's Climate Biennial Exploratory Scenario (CBES) in 2021, Santander UK designed a working programme to develop their Climate Internal Scenario Analysis (CISA) capability in 2022. Upon agreeing a strategic pathway to develop long term modelling capabilities that meet regulatory expectations and industry leading practices, CISA will focus in 2023 on assessing the potential impact and probabilities of physical risks as well as exploring detailed long-term horizon stress tests across different climate scenarios.

To learn more on Santander UK CBES and CISA programme, see Annex 1

Sensitivity analysis

Based on scenario analysis techniques, calculates financial impacts in core credit risk metrics (PDs, LGDs and Ratings) to integrate a "what if" tool in the assessment process as well as the monitoring of clients and portfolios by 2030, 2040 and 2050 versus current situation, considering sectors and geography.

This functionality has been included in Klima tool to embed the forward-looking projections into the credit risk management, under a top-down approach allowing to contrast financial evolutions by sectors and geographies from short to long-term, considering the climate scenario selected.

IV. Monitoring

We use the Group's risk appetite, which is the aggregate level and types of risk we deem prudent for our business strategy, to monitor climate and environmental-related factors.

The Group follows a three lines of defence model for constant monitoring and oversight, with specialized control functions that report to the board and its committees every month regarding risk profile and our compliance with risk appetite limits.

In 2019, the board approved a qualitative risk appetite statement that links climate and environmental risk management to our sector-based policies.

We announced our first decarbonization target for the thermal coal sector in February 2021 in line with our ambition to be net zero by 2050. Accordingly, by 2030 we intend to cease to provide financial services to power generation customers with a revenue dependency on coal of over 10% and eliminate our exposure to thermal coal mining worldwide.

In November 2021 we enhanced our qualitative risk appetite statement with a quantitative metric approved by the board. The metric imposes limits on thermal coal counterparties concerning our target and sets a pathway that is consistent with our objectives for 2030. We are in permanent contact with affected customers to understand and support their plan for transition.

In 2022, the Risk, SCIB and Responsible Banking areas launched initiatives to achieve our first decarbonization target for power generation, which has been included in 2023 risk appetite statement.

Santander continues to set alignment targets for key climate-related industries to meet our objectives. In this sense, we are making progress over 2023 to include new quantitative metrics in the risk appetite statement regarding oil and gas, steel and aviation sectors for effective implementation and follow-up in 2024.

In 2022, Grupo Santander underwent the ECB's climate stress test for the banking industry. It was a big step to integrate advanced risk management models that cover portfolio forecasts under different scenarios and time horizons.

Also, it served as a learning exercise for both supervisors and banks to introduce climate risk into risk management as a qualitative part of the Supervisory Review and Evaluation Process (SREP). We conducted this exercise through a governance process that involves both the Board level (Board of Directors) and the executive level committees (Risk Control Committee and Responsible Banking Commission).

The areas that have participated in the development and execution of this supervisory exercise are:

- Economic Research
- Credit Risk Forecasting
- Market Risk
- Operational Risk
- Reputational Risk
- Responsible Banking
- EWRM
- ESCC Credit Risk
- Capital and profitability management
- Group Supervisory Strategy
- Management Control
- Methodology Models & Data
- T&O
- SCIB & Business.

The climate stress test exercise has been completed satisfactorily.

V. Mitigation

Policies are a key element in mitigating risks. We updated our environmental, social and climate change (ESCC) policy, which sets out our public commitments and aims to support our strategy for sensitive, special-attention and prohibited activities in the oil and gas, power generation and transmission, mining and metals sectors, and those arising from businesses engaged in soft commodities.

It is aligned with our policies on sustainability and human rights. Together with the ESCC risk management policy, Grupo Santander has various internal policies, frameworks and procedures in place for integrating climate and environment risks into our core risk management processes.

Our loan approval policies are aligned with EBA guidelines on loan origination and monitoring and continue to take climate and environmental factors into account. They include:

- Credit committees, which embed environmental, social and climate change factors in transaction review.
- Panels, analysis of clients and transactions/ services from a green perspective (alignment with SFCS) in SCIB, and Commercial Banking (i.e. One Europe panel).
- SCIB customer ratings consider environmental, social and climate change qualitative assessments for climate sectors.
- Pricing for green products (including mortgages) already includes special discounts.
- Collateral management, with reviews of transition and physical risks based on location and energy efficiency.

We follow special procedures to analyse environmental, social and climate change risk. These procedures are required in risk management, control and governance. The board and its committees make sure decisions are made according to our policy on environmental, social climate change, and reputational risks.

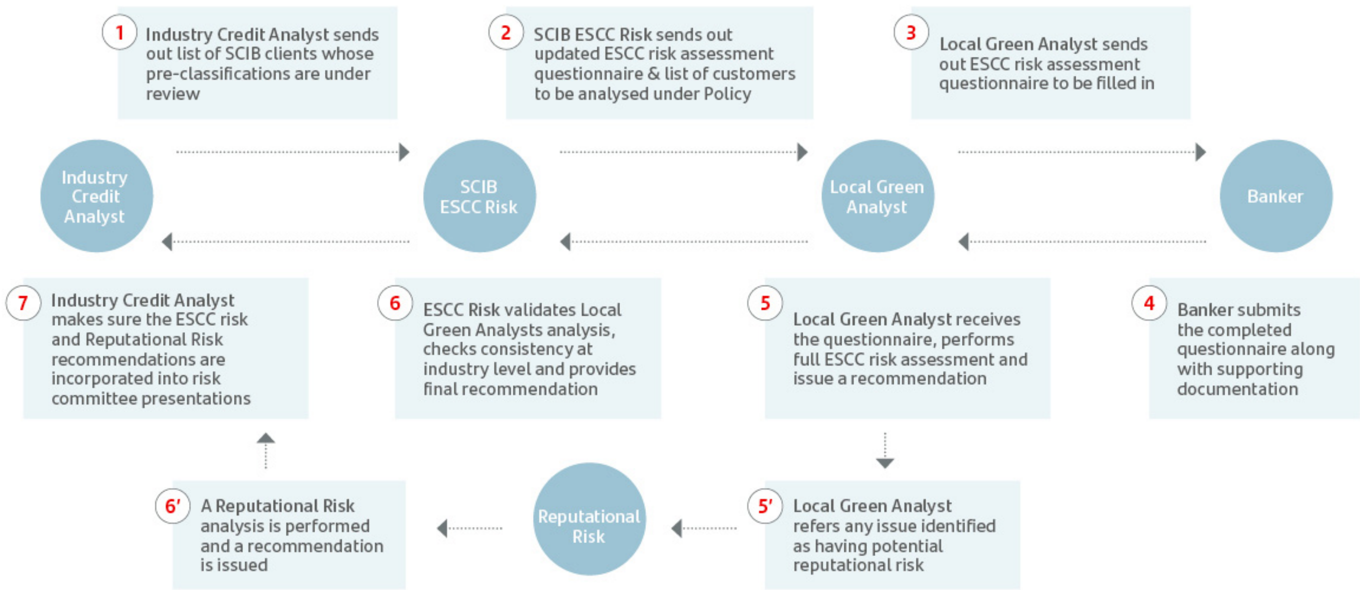
The first line of defence runs due diligence with special questionnaires for credit approval. Reputational risk assessment is also included for the decision making. In due diligence, SCIB's project finance transactions must be evaluated according to the Equator Principles.

Grupo Santander considers insurance another key mitigant in climate risk management. We continue to adapt our use of insurance to changes in the risk environment.

Any significant threat to the group is escalated to senior management in accordance with established governance so that proper mitigating measures can be taken.

The Risk area fosters staff training to increase awareness on climate matters. It requires official certification for teams directly involved in climate risk management (internal Santander ESG Commitment Fundamentals certification and external International Sustainable Finance Specialist – IASE). It provides general training courses and workshops for most employees. It also assisted in several induction programmes carried out in 2022 for board members and top managers. Our Risk pro culture is an essential part of training.

SCIB's ESCC Risk analysis workflow



VI. Reporting

Our disclosure of climate and environmental risk is aligned with regulations and supervisory expectations. In addition, we integrate disclosure into key processes and the board is fully apprised of climate and environmental risk.

Our Annual Report and Climate Finance Report highlight our progress with climate and environmental risk management.

Santander embeds climate risk in its ICAAP; in 2022, it included a full climate stress scenario, whose main trigger was a carbon tax increase, to assess impacts on P&L, credit losses, capital requirements and solvency over a 3-year time horizon in the main geographies where Santander operates.

Furthermore, Santander disclosed its first Pillar 3 ESG in February 2023. The report included physical and transition risks data, as well as information about actions to mitigate climate change.

See our Pilar III disclosures report in our corporate website

ATOMiC: Environmental & Climate Change Credit TOM

The Credit risk area has launched a target operating model (TOM) called 'The Climate Race' which includes environmental and climate change (E&CC) risks in all stages of the credit granting process. The E&CC TOM establishes the common basis to integrate industry advances and regulatory requirements in the credit risk management.

It allows to embed homogeneously E&CC risks as drivers for decision making in the credit granting process, through the identification and assessment of the material portfolios and sectors, the risk management in the admission and monitoring processes of the Group, and the support of the green business initiatives.

The TOM covers our main business lines (SCIB, Commercial Banking and SCF), where mortgages and consumer auto are evaluated as the rest of the economic activities in more than 13 Units, with the aim of strengthen the alignment between the credit risk management and the business strategy along the whole Group. It includes the creation of the Climate community, as a key lever for TOM implementation in a collaborative way, to provide E&CC trainings, share best practices and define guidance to ensure a homogeneous implementation, assuring a correct governance and allocation of responsibilities.

Tackling environmental crime

The Financial Crime Compliance Function at Santander understands the importance of recognizing that "behind every environmental crime there is a financial network", not only because of the large sources of revenue that organized crime draws from these activities, but because crimes like illegal deforestation have a significant impact on climate change. Industries we consider "restricted" due to exposure to environmental crime risk include (but are not limited to) logging, pulp and paper mills, palm plantations, commercial fishing, trapping and transport of live animals and waste management. Given their "restricted" status, Santander entities that provide services to companies in those industries must respond to their elevated financial crime risk by implementing enhanced controls. Furthermore, our customer screening tools include specific terms on environmental crimes to help us flag issues and conduct assessments, and our global and in-person senior management training also includes environmental crime case studies and trends.

Additionally, we engage in various public-private partnerships as part of our commitment to detecting, disrupting and deterring environmental crime. Since late 2021, our Head of Financial Crime Compliance Framework & Policies has chaired the United Nations Office on Drugs and Crime's (UNODC) Private Sector Dialogue on the Disruption of Financial Crimes Related to Forestry Crimes, which brings together financial institutions, competent authorities, investigative law enforcement units and supranational governmental bodies to discuss intelligence sharing, typologies and policy strategies on disrupting the financial crime networks behind illegal deforestation.

The Dialogue is an extension of the report published in 2021 by the Financial Action Task Force (FATF), titled, Money Laundering from Environmental Crime, to which the Santander Financial Crime Compliance Function provided subject-matter expert support and served as the private sector representative in the FATF's online awareness campaign. Santander's contribution in this regard was highlighted in the 2021-2022 FATF Annual Report published in 2023. Recently the Dialogue was expanded to cover all environmental crimes and the Santander Head of Financial Crime Compliance Framework & Policies remains the chair.

Santander has used this platform and role as chair to share typologies with the Dialogue's members on detecting suspicious activity related to environmental crime, including innovative methods using satellite imagery, as well as demonstrate the synergies within the banking sector on ESG and anti-money laundering controls.

Santander is also a member of United for Wildlife's Financial Taskforce against the illegal wildlife trade, and is collaborating with United for Wildlife as they establish their Latin America Chapter in 2023. The Santander Financial Crime Compliance Function also continues to provide subject-matter expert input to related studies on the connection between illegal deforestation and financial crime, including for instance the recently published report funded by the European Union, Wildlife Money Trails: Building Financial Investigations from Wildlife and Timber Trafficking Cases in the European Union (published by WWF Belgium and Traffic as part of the UNITE project, which is an EU-funded initiative aimed at disrupting "criminals and organized crime networks trafficking in wildlife, timber, and waste in the EU").

Our approach to nature and biodiversity

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has spoken of a rapid decline in biodiversity and ecosystems. According to the WWF Living Planet Report (2022), wildlife populations on Earth have plummeted by an average 69% in the past 50 years, causing concern among domestic and international stakeholders. The Kunming-Montreal Global Biodiversity Framework (GBF), which was adopted at COP15, aims to be a catalyst for urgent and transformative action with the involvement of all of society to halt and reverse biodiversity loss, by defining clear and quantitative goals.

According to the World Economic Forum, more than half of the world's economic output is highly or moderately dependent on nature and biodiversity. Biodiversity underpins the provision of natural assets on which the economy relies, entailing financial risks that the Group understands it must manage. At the same time, biodiversity brings many business opportunities that are consistent with the Group's strategy and values, and the conservation of nature.

We have continued making progress in our nature and biodiversity assessment, evaluating both nature-related dependencies and impacts. For such purpose, we have developed a first internal exercise based on the LEAP[1] approach combining Science Based Targets Network's (SBTN) sectoral materiality tool and the Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) Tool[2] methodologies. We continue building our understanding by monitoring and engaging in the working groups who are defining the future regulatory (Corporate sustainability reporting - CSRD - ESRS) and incoming market (Taskforce on Nature-related Financial Disclosures - TNFD) standards in terms of nature and biodiversity disclosure.

Biodiversity and nature aspects embedded in our ESCC Risk management policy

Our global Environmental, Social and Climate Change (ESCC) Risk policy establishes prohibited activities that Santander will not directly invest in and/or provide financial products and/or services regarding biodiversity issues:

- Any projects or activities for oil & gas extraction, power generation or transmission, mining, manufacturing, plantations or other major infrastructure projects which put areas classified as Ramsar Sites[3], World Heritage Sites[4] or by the International Union for Conservation of Nature[5] (IUCN) as categories I, II, III or IV at risk.
- Any projects, or expansion of existing oil and gas facilities, north of the Arctic Circle.
- Extraction of native tropical wood species not certified to Forest Stewardship Council (FSC).
- Palm oil processors that are not members of the Roundtable on Sustainable Palm Oil (RSPO).
- Developments in forested peatlands in High Risk Geographies

We also conduct annual reviews of our clients and pay particular attention to potential deforestation risk with agribusiness clients in the Amazon biome as our global ESCC Risk policy establishes, among other activities we pay particular attention to the environmental, social and climate change risks.

See our Environmental, Social and Climate Change risk management on our corporate website www.santander.com.

Some of our initiatives to protect biodiversity

- Santander Natura. In 2019, Banco Santander launched Santander Natura, a volunteer programme to conserve the environment and raise awareness in the face of climate change. In 2023 different activities took place in different regions of Spain.

- Restoration of the s'Estany des Ponts wetland. Banco Santander donated nearly 500,000 squared metres of wetlands to the town of Alcudia in Mallorca, Spain to restore s'Estany des Ponts, a wetland supported by WWF Spain that has been degraded for many years by waste dumping and unregulated use.

1. Locate, Evaluate, Assess and Prepare
2. Tool developed by the Natural Capital Finance Alliance in partnership with UNEP-WCMC to help global banks, investors and insurance firms assess the risks that environmental degradation, such as the pollution of oceans or destruction of forests, causes for financial institutions.
3. The Convention on Wetlands, called the Ramsar Convention, is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources
4. World Heritage Sites: http://whc.unesco.org/en/list
5. The International Union for Conservation of Nature (IUCN) (https://www.iucn.org) classifies protected areas according to their environmental management objectives: Category I: Nature Reserve and Wilderness Areas, Category II: National Park, Category III: Natural Monument or Feature, Category IV: Habitat/Species Management Area

Santander and the Brazilian Amazon

Santander is working to protect the Amazon rainforest and promoting sustainable development, which is critical to tackling climate change and conserving biodiversity. We need economic growth, but it must be green.

Deforestation in the Brazilian Amazon has been taking place for several decades. While logging, mining and large infrastructure projects in the region have all played a role, agriculture, cattle ranching, property speculation and a lack of clear land titles are key drivers.

In line with Santander's global ESCC Risk policy and our commitment to the Equator Principles, we take extra care when lending to Brazilian clients with operations in the Amazon.

Santander's approach to the Brazilian Amazon

We've been working with our customers to promote sustainable development in the Amazon for years. In 2002, Santander became the first private-sector bank in Brazil to run credit analysis on environmental and social risk. In 2016, we were the first bank to formally incorporate a sustainability score into our corporate clients' credit rating. We also:

- Check all farmers and ranchers applying for loans for embargoes issued against them because of illegal deforestation.
- Make sure their properties do not encroach on government-protected indigenous land.
- Conduct annual ESG reviews of more than 2,000 customers in all Brazil, including beef processors, soy traders and logging companies.
- In addition to the Plano Amazônia coalition, we have cooperated with Brazil's banking federation, Febraban, in setting best practices for the financing of the beef sector so that it does not contribute to deforestation (see below for details)

Farmers and ranchers

We work with a satellite-imaging firm that monitors some 17,000 properties that we finance or take as collateral. We receive daily information on government embargoes against production on illegally deforested land; modern slavery; and incursions into government-protected indigenous land, parks and conservation areas.

Since Q1 2022, we've been running daily checks for recent deforestation on farms and ranches we have lent to (throughout the entire loan term), even before the government has imposed fines.

If we spot any issues, we'll request an explanation from the client. If we uncover a material breach of environmental laws and regulations, our standard contracts dictate that we can demand the early repayment of loans.

Santander also uses Internet-based satellite-imaging tools Global Forest Watch and MapBiomas to see the detailed loss of tree cover on clients' farms and ranches over time.

Working with others to stop deforestation

Santander is working with clients, governments, regulators, and NGOs, to help end illegal deforestation.

Santander Brazil is a member of Febraban's committee on forestry and agribusiness. In March 2023, Febraban approved a protocol that set the standards for managing the risk of illegal deforestation in the bovine meat chain and defined guidelines to be adopted by its signatories. This is a major step forward as it is the first sector-wide protocol for financing beef processing. Since it will apply to every major bank in Brazil, it is considered a highly effective way of effecting sustainable change and addressing deforestation.

By signing the protocol, Santander has aligned its commitment with that of the Brazilian financial industry to require beef processing clients with slaughterhouses in the Brazilian Legal Amazon region to end illegal deforestation by December 2025 from direct suppliers of cattle and Tier 1* indirect suppliers. Under this requirement, suppliers must meet mid-term milestones, which consist in having a traceability and monitoring system, and continuously disclosing KPIs to demonstrate they are meeting their commitments.

In 2021, well before the publication of the Febraban protocol, Santander Brazil began engaging with more than a dozen beef processing clients about ending deforestation in their supply chain by 2025. This engagement led to several of them declaring commitments online in 2022 and developing plans to check on Tier 1 indirect suppliers and, under Plano Amazônia (see next page for further detail), led Santander to work with other banks to come up with the Febraban protocol.

Santander Brazil takes part in two other external initiatives that propose solutions to stop deforestation. We were a founder of the Roundtable on Responsible Soy (RTRS), and chaired it from 2006 to 2009. The bank also founded the Brazilian Roundtable on Sustainable Livestock (GTPS, in Portuguese), a multi-stakeholder initiative to promote better ranching practices in Brazil.

More details on Santander and the Brazilian Amazon.

* Tier 1 indirect supplier: supplier of the direct supplier.

Environmental and social reviews of companies

Santander analyses ESCC risks for corporate clients across the whole of Brazil (not just in the Amazon) to determine if they comply with the law and employ best practices. In the past decade, Santander Brasil has conducted annual reviews on some 2,000 corporate client groups. Today, these reviews cover Brazilian corporate clients with activities in almost all of the sectors listed by TCFD in energy, transportation, materials and buildings, and agriculture, food and forest products. The procedure starts with a standardized public questionnaire sent to the client that is reviewed by a team of ESCC Risk specialists together with information gathered on the internet, in the form of government permits, fines, embargoes, lawsuits and contaminated land registries, and well as news reports. Analysis may include additional questioning to the client. At the end of the analysis, the ESCC Risk specialist generates a report with a score that covers environmental, social and climate factors separately including aspects such as water stress, climate resilience, contaminated land, human rights, environmental fines and checks on suppliers, and ranges from 1 to 5. We have additional procedures for clients in mining, sugar and beef production.

Plano Amazônia

In July 2020, Santander Brasil announced an alliance with the two other largest private-sector banks in Brazil called "Plano Amazônia" to promote sustainable development in the Amazon. The alliance focuses on promoting three strategic objectives, as follows:

- Ending deforestation in the beef chain
- Boosting the bioeconomy
- Enhancing connectivity

To support the plan's implementation, we created an advisory board of seven experts to offer perspectives on opportunity and risk in relation to the bank's initiatives in the Amazon.

North Amazon Branch Region

In 2021, we created the North Amazon Network, a commercial network that covers the Brazilian states of Acre, Amazonas, Roraima and Rondônia. The network enables us to bring our services closer to local communities and raise their potential for sustainable businesses. By the end of 2023, our target is to double our presence in the region and work with our customers to promote a low-carbon, resilient and inclusive economy.

Some of our initiatives in the Brazilian Amazon

IFACC Alliance

In December 2022, Santander became the first bank to join the Innovative Finance for the Amazon, Cerrado and Chaco (IFACC) initiative. IFACC is supported by The Nature Conservancy, the Tropical Forest Alliance, the World Economic Forum, and the United Nations Environment Programme. Launched in Glasgow in November 2021, the IFACC seeks to accelerate financing for sustainable production and bring together complementary capabilities to design and scale up such mechanisms as farm loans, farmland investment funds, corporate debt instruments and capital market offerings. It also shares lessons learned among members, who have committed USD 3 billion in disbursements so far by 2025.

Amazon Journey Platform

The forest bioeconomy has great potential for changing the tide of deforestation, increasing value by planting forests and creating jobs, sources of income and development. However, few businesses can realize that potential at speed and with the necessary scale. Alongside the Amazon Plan coalition, the Certi Foundation and the Vale Fund, Santander launched the Amazon Journey Platform in November 2022 to strengthen the innovation ecosystem associated with the forest bioeconomy. It intends to mobilize 20,000 talented people from the region through innovation and training in bioeconomy entrepreneurship. With 3,000 people expected to complete the training, the 200 most promising nature-based startups will be selected to receive funding, mentoring and technical support. From those 200, we will help 100 startups strengthen their business models and products to reach the market and investors. Furthermore, the platform intends to create a microcorporate venture structure to assist companies interested in investing in and scaling up the startups. Finally, 10 venture builders, accelerators and incubators will receive help to support a growing number of bioeconomy startups from the region. Our partner the Certi Foundation was named “Top Innovator” in the Amazon Bioeconomy Challenge 2022 at the World Economic Forum.

CRA Verde

In January 2023, we joined forces with Grupo Gaia, Conexsus, Belterra, Vale Fund and the Good Energies Foundation to create an unprecedented Green CRA (Agribusiness Receivables Certificate) worth BRL 17 million, which seeks to provide credit aimed at agroforestry and non-timber forest product cooperatives and eco-businesses in five biomes in Brazil, with a strong presence in the Amazon. The certificate will provide working capital for 22 community-led businesses such as cocoa, bananas and cassava and will benefit around 4,500 producers that don't have access to traditional credit lines. It uses a blended finance model which allows credit takers to access cheaper capital to improve their production practices.

Internet for forest communities

We invested seed money in Instituto Povos da Floresta to enable the launch of an ambitious project that will bring fast, quality internet to around 4,000 remote communities in the Amazon by 2025. Our support will allow the project to be piloted using Starlink's new service, a battery kit and solar panels that will be installed in 30 pilot communities. Internet access will make several services that are currently not accessible to those communities possible, including health care through telemedicine, education, productive inclusion and environmental control. Under this initiative, Instituto Povos da Floresta will be able to receive government subsidies to help achieve its goals.

5. Metrics and targets

Aligning our portfolio to the Paris agreement

Alignment strategy

- Assess emissions/baseline
- Set targets and pathways
- Engagement with customers
- Steer portfolio

Decarbonization targets:

Emissions accounting and science-based decarbonization target methodologies are still relatively new areas that are improving quickly to meet climate ambitions. Though Santander is using up-to-date and most widely accepted methodologies to decarbonize our portfolios, more methodologies need to be developed so that all financial institutions have the right tools to effect positive change in the economy.

We have decarbonization targets for five climate material sectors, according to the internal roadmap from our last year's Climate Finance Report. The targets were presented to our key climate governance bodies and approved by our board of directors.

Sector	Scenario	Emissions	Metric	2019 baseline	2020 progress	2030 targets
Power generation	IEA Net Zero 2050	Scope 1	tCO_2e/MWh	0.21*	0.17	0.11 (-46%)
Energy (oil and gas)	IEA Net Zero 2050	Scope 1 + 2 + 3**	$MtCO_2e$	23.84	22.58	16.98 (-29%)
Aviation	IEA Net Zero 2050	Scope 1 + 2	gCO_2e/RPK	92.47	93.05	61.71 (-33%)
Steel	IEA Net Zero 2050	Scope 1 + 2	tCO_2e/tonne steel	1.58	1.40	1.07 (-32%)
Thermal coal	Phase-out targets to eliminate exposure by 2030 to: • Power generation customers with a revenue dependency on coal of over 10% • coal mining					

* In last year's Climate Finance Report, we assessed the 2019 financed emissions of our power generation portfolio, including guarantees and other types of off-balance exposure to our customers that do not entail current funding. Because, according to the PCAF standard, such exposure should not be calculated if its attribution factor is "outstanding", we were over-attributed with our corporate customers' emissions. Therefore, the 2019 baseline emissions intensity has been restated from 0.23 to 0.21. The target and climate ambition remains for this sector.
** Use of sold products.

In setting our sector net zero targets, we aim to follow the NZBA Guidelines for Climate Target Setting. Below we describe how we are delivering against these guidelines:

Santander's activities covered by our targets (asset classes): According to the PCAF 's global GHG accounting and reporting standard, we assess the financed emissions of the sectors our targets cover based on on-balance credit exposure.

Sector boundaries: The scope selection (indicated before) and sector boundary selection aim to target the activities with the highest emission intensity.

- For the power generation sector, we're analysing upstream/generation business in the value chain.
- For energy (oil and gas), we're focusing on upstream companies and integrated companies undertaking their own upstream production in oil and gas.
- The aviation sector's climate change impacts involve emissions of CO_2e, nitrogen oxides and water vapour as well as cirrus cloud cover. We are focussing on commercial passenger airlines
- For the steel sector, our analysis covers companies that attribute over 10% of their revenue to steel production.
- For thermal coal we include companies with any coal mine and companies active in power generation with a revenue dependency on coal of over 10%

Choice of target types: As we believe financial institutions with strong climate commitments can support industries' decarbonization, emissions intensity is our preferred metric. Our climate strategy to help our customers' transition to a low-carbon economy prioritizes engagement over divestment. Decarbonization targets should not push us to divest in certain sectors only to be replaced by other financial institutions with weaker climate ambitions. For the energy (oil and gas) sector, we must take on a different measurement approach. On the one hand, it lacks a clear transition pathway. On the other hand, under a science-based approach to net zero, production would have to be abruptly cut, with a shift towards new technologies. Therefore, we assess the sector with an absolute emissions target. See more details about our position on the energy (oil and gas) sector in next page.

Choice of base year: Our customers' emissions data takes longer to become available than regular financial information. We're using 2019 as the baseline for calculating financed emissions because 2020 proved a clear outlier in many sectors due to the Covid-19 pandemic. This is consistent with industry practice, as 2019 is more representative of normal production levels. We are presenting figures for 2020 emission data further below.

Scenario: To set science-based decarbonization targets for our financed sectors, we choose a credible scenario that draws a pathway to reach net zero emissions by 2050 and will limit temperature rise to 1.5º C. The scenario we have chosen for sectors, for which we have released decarbonization targets, is the "International Energy Agency - Net Zero Emissions by 2050 Scenario" (IEA-NZE). Our aviation target is aligned to the expected adoption of current technologies.

Target coverage: We're including the on-balance exposure for our wholesale business in the target because it represents the significant majority of the credit exposure to all concerning sectors, according to our climate materiality.

The target scope[1] of lending is:

Sector	2020 lending exposure assessed (EUR bn)*
Power generation	10.3
Energy (oil and gas)	6.7
Aviation	2.4
Steel	1.3

* Exposures are based on design choice for target setting for each sector (see explanations above). They might differ from exposures cited in previous chapters, which are based on risk management criteria and include guarantees, undrawn lines of credit and derivatives. These amounts exclude any exposure to Corporates or Project Finance with insufficient data or under construction.

Financed emissions: In line with the methodology and design we chose, based on PCAF[2], the 2019 financed emissions metrics we used to set targets and 2020 financed emissions are:

	Absolute emissions ($MtCO_2e$)		Physical emissions intensity		Financial emissions intensity ($MtCO_2e$/EUR bn lent)		Overall PCAF score *	
Sector	2020	2019	2020	2019	2020	2019	2020	2019
Power generation	4.59	5.41	0.17 tCO_2e/MWh	0.21 tCO_2e/MWh	0.45	0.51	2.5	2.7
Energy (oil and gas)	22.58	23.84	73.60 tCO_2e/TJ	73.80 tCO_2e/TJ	3.38	3.10	3.6	3.4
Aviation	1.08	1.81	93.05 $grCO_2e$/RPK	92.47 $grCO_2e$/RPK	0.44	1.17	3.7	3.3
Steel	2.14	2.62	1.40 tCO_2e/tons steel	1.58 tCO_2e/tons steel	1.63	1.74	3.1	3.0

* Obtaining emissions data from our customers is a challenge. As they disclose more non-financial information worldwide, the quality of our reporting on financed emissions will improve. The PCAF scores illustrate the data quality used to calculate the financed emissions (with 1 being the best).
Financed emissions information relies on a wide range of sources for emissions, physical intensities and production data. Trucost and CDP are the main sources for fossil fuels emission and production. Asset Resolution and annual reports filings have been used as secondary sources in order to cover information gaps. As third option, Transition Pathway Initiative is used for gathering physical emission intensity for certain sectors, including O&G and Steel.

1. From our total lending on the balance sheet, about 2.3% of our exposure are from sectors for which Santander published decarbonization targets (power generation, energy (oil and gas), aviation, and steel) and around 18% of total SCIB lending. (We previously calculated these ratios considering total exposure to affected sectors instead of exposure analysed and included within targets).
2. PCAF: "Partnership for Carbon Accounting Financials" is a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with their loans and investments. Santander joined PCAF in 2021.

Update on decarbonization targets

In this report we provide an update on the progress we have made towards achieving our decarbonization targets.

Power: the carbon intensity of the power portfolio reduced from 0.21 in 2019 baseline to 0.17 tCO_2e/MWh in 2020. Roughly three quarters of this reduction is explained by the increase in exposure to renewable project finance and other less carbon intensive clients while roughly one quarter is driven by the operational emissions reductions on a client level. Overall, this demonstrates the positive impact from our strong competitive positioning in financing renewable energy, which helps clients achieve their transition objectives.

Energy (oil and gas): the absolute financed emissions reduced by 1.2 Mt CO_2e in 2020 compared to the 2019 base line (23.8 $MtCO_2e$). This is mainly driven by the reduction of the GHG emissions of our clients (1.0 Mt CO_2e) due to reduced economic activity during the COVID crisis. A favourable change in portfolio mix also had a positive impact (0.2 Mt CO_2e). Given the post-pandemic recovery and the need to finance the transition to a low carbon economy, the future evolution of our absolute financed emissions for the sector may not be a linear reduction but entail temporary increases in financed emissions.

Aviation: the carbon intensity of the aviation portfolio increased slightly by 0.58 gCO_2e/RPK in 2020 compared to the 92.47 gCO_2e/RPK 2019 baseline. Driven by the COVID crisis and associated decrease in airline passenger load factors, the intensity on a client level increased on average by 9.1 gCO_2e/RPK. A shift in exposure towards less carbon intensive clients almost completely compensated this effect.

Steel: the carbon intensity of our steel portfolio fell by 0.18 tCO_2e/t steel in 2020 compared to the 1.58 tCO_2e/t steel 2019 baseline. This was purely driven by the portfolio composition, while average intensity on a client level showed minimal change.

Note on energy sector

The world needs to ramp up renewable energy capacity and act now to decarbonize the economy. But for the global energy sector to decarbonize, all energy-intensive sectors and activities must be transformed. Our role is to support our customers' transition and, as one of the world's top lenders in renewable energy, we're increasing the volume of green finance to support this transformation.

Energy security is key to an orderly transition. While we increase renewable capacity, energy prices must be affordable and reliable. As the IEA states, oil and gas will continue to play a role in powering the world's economy during the transition.

Across the Group's footprint, economies are at different stages on the path to net zero. We aim to ensure the transition is fair for all communities.

Updated roadmap for delivery on net zero

- We prioritize and monitor the materiality of our GHG emission intensive sectors to formulate sector specific decarbonization strategies.
- We are working to assess initial targets for high-emitting sectors no later than March 2024.
- We continue to progress our portfolio alignment assessment in lower emission intensity sectors including retail segment.
- We will also update previously set targets as needed as new methodologies and more precise and timely information becomes available.

The decarbonization of any portfolio, and in particular retail segment, will require well developed scenarios, 1.5ºC aligned NDC's and supportive policies for an orderly transition (more information in 4. Risk Management section).

Generally speaking, we consider the following approaches to be supportive of enabling the real economy net zero transition: financing or enabling the development and scaling of climate solutions to replace high emitting technologies or services, including the responsibly managed phase-out of high emitting physical assets; financing or supporting companies that are already aligned to a 1.5ºC pathway; as well as financing or supporting the transition of real economy firms according to transparent and robust net-zero transition plans in line with 1.5ºC aligned sectoral pathways.

Action plan

As introduced in last year's climate finance report, we have put in place levers to implement our sectoral financed emissions targets. These levers include customer engagement; dedicated portfolio steering governance; data collection as part of the risk analysis process; exclusion policy reviews, as well as linking targets to remuneration for senior managers. During the last year we have implemented this approach for additional sectors beyond Power, where targets have been set (Energy - oil and gas, Steel, and Aviation) and adapted where necessary to account for sector differences.

Our approach aims to facilitate the achievement of our emissions targets and to develop a strong understanding of our customers' transition strategies towards low- carbon business models. This approach is supported by governance processes, involving various internal stakeholders, such as front office teams, the risk reporting functions, as well as senior management to guide the potential portfolio steering actions (see Portfolio Steering section below for further details). It is structured around four main steps: Collect, Assess, Engage and Review. We have used various internationally recognized references, including the Cambridge Institute for Sustainability Leadership (CISL) "Let's Discuss Climate" guide as inputs and adapted these to our requirements and objectives.

Collect

We collect relevant information as part of regular client dialogue and engagement. In addition, we source specific climate related information through tailored information requests that contain transition-focused elements designed to help us better understand companies' decarbonization strategies. Furthermore, we also seek to source reliable and consistent information from credible third parties to complement our understanding.

This information will be collected and updated both at the client onboarding stage, but also as part of the regular business and risk assessment review with each customer, which is performed at least on an annual basis.

Assess

Assessment consists of a two-step approach designed to categorize our customers according to their emissions pathway and perceived quality of their transition strategy.

The first step involves assessing how our customers' emissions trajectory aligns with our current sectoral portfolio baseline and future sectoral portfolio targets. The second step assesses the quality of each customer's transition plan. Our transition plan assessment methodology focuses on four pillars: Targets, Action Plan, Disclosure and Governance. We draw on established transition plan assessment methodologies, such as TPI (Transition Pathway Initiative), CDP, ACT (Assessing Low Carbon Transition), Climate Action 100+, as well as other climate risk disclosure frameworks, such as the TCFD.

Tiering system based on two steps

1 GHG emissions profile alignment	• Current GHG emissions profile • Future targeted GHG emissions trajectory • Assessment of alignment with Santander pathway
2 Transition plan quality assessment	• Internal methodology to assess perceived quality of transition plans • Assessment based on established transition plan assessment methodologies

Transition plan quality assessment

Transition Pillar	Overview
1. Targets	Quality and ambition of quantitative targets to reduce GHG emissions
2. Action plan	Depth of decarbonization strategy to achieve GHG emissions reduction targets
3. Disclosure	Transparency on GHG emissions reporting across relevant scopes
4. Governance	Management oversight and governance of transition strategy

The "Targets" assessment pillar focuses on the quality and ambition of the customer's quantitative GHG emissions targets. Where possible, we assess short- and long-term, as well as absolute and intensity reduction targets.

The "Action Plan" assessment pillar considers the credibility of the customer's decarbonization strategy. We assess the existence of climate related policies; business strategy integration of climate change risks and opportunities; as well as time-bound action plans to achieve decarbonization targets.

The "Disclosure" assessment pillar focuses on the transparency of reporting on historical emissions performance across all relevant scopes, the level of assurance, as well as the degree of reporting alignment with the TCFD. Where possible, it also includes assessing whether or not previous GHG emission targets were achieved.

Lastly, the "Governance" assessment pillar considers the level of management oversight and governance of the customer's transition strategy. We assess the level of seniority of executives accountable for climate strategy, board committee oversight of climate change issues, and whether executive remuneration is linked with climate change performance.

Over the last year, the two-step tiering assessment process has been expanded to include Energy, Steel and Aviation. Initial assessments were completed for both steps. Subsequently, transition plan quality assessments were reviewed and enhanced, drawing on updated reference methodologies and sector-specific research. This led to the inclusion of additional sector-specific questions for assessing transition plan quality.

Tier Categories		Description
Tier 1	Leader	• Emissions profile fully aligned with Santander pathway • Strong transition plan
Tier 2	Strong	• Emissions profile fully aligned with Santander pathway but improvement needed in transition plan; or • Strong transition plan but emissions profile partially aligned with Santander pathway
Tier 3	Moderate	• Emissions profile partially aligned with Santander pathway, but improvement needed in transition plan; or • Emissions profile not aligned with Santander pathway, but strong transition plan
Tier 4	Weak	• Emissions profile not aligned with Santander pathway • Weak transition plan

Ultimately, our transition plan assessment approach leads to a four-category tiering system that helps inform how we prioritize engagement topics. Our expectation is that initially lower-tiered customers will migrate to higher tiers over time.

Engage

Our objective is to engage our customers through offering sustainable financing solutions and advisory that enable the energy transition.

Our sustainable finance offering includes, among others, leading expertise in renewable energies, as demonstrated by our long-standing leadership in this field. For further information, please see Section 6. Supporting our customers in the transition.

Our sustainable tech advisory offering, led by our global team of experts in green and transition technologies, allows us to provide bespoke strategic and corporate finance advice on opportunities to accelerate adoption of low-carbon technologies. The sustainable tech team focusses on the following core areas: hydrogen; battery technology; energy storage and EV charging; carbon capture and climate technology; clean fuels waste and circular economy; and agriculture & food technology.

In addition, on a wider scope of climate-related topics, we are engaging with various public and private organizations (please refer to section 7. Partnerships for more details).

Training

We implemented a client engagement training program for SCIB, in collaboration with external expert providers, specifically designed to educate on transition topics. Over the last year, multiple sessions took place involving 300 senior bankers on topics including: climate regulations and taxonomies; greenwashing; climate pathways to net zero; and frameworks to enable evaluation of client transition plans.

In addition, internally organized sessions were delivered to sector-specific relationship managers and Environmental Social Climate Change Risk (ESCC) analysts. These focused on the gathering of information in order to complete the transition plan quality assessment (the second step in our client tiering system). These sessions were delivered by senior experts representing ESCC, Portfolio Alignment and ESG Solutions teams.

Contributing to integrity in transition finance:

Developing in-depth knowledge about transition finance is a key enabler to reach net zero. Santander, as part of its long-standing support to education, employability and entrepreneurship through Santander Universities, is collaborating with the University of Oxford in providing funding to develop a new Transition Finance Centre of Excellence. This new Centre aims to have a prominent role in defining aspects of transition finance such as best practice sectoral transition plans and developing new tools and insight for practitioners.

Initial research has focused on four emissions intensive sectors (oil and gas, power generation, steel and aviation), with the purpose of developing a deeper understanding of assessing integrity in companies' transition plans. The research process involved workshops with experts from companies, sector organizations, think tanks, investor coalitions, other research institutions and NGOs among others. Outcomes from this research were recently published by University of Oxford.

Portfolio Steering

SCIB's portfolio steering governance is designed to identify client or portfolio related actions to achieve our sectoral targets for financed emissions. A quarterly Portfolio Steering meeting operates at the core of the governance process. Its scope includes monitoring progress towards the achievement of our portfolio targets. The relevant SCIB functions are represented in this meeting. In addition, a monthly Portfolio Alignment meeting supports on a technical level, reviewing methodologies and the monthly evolution of critical KPIs.

Furthermore, our risk appetite and lending policies are important tools for monitoring and steering the portfolio towards our financed emissions targets. Our client transition tiering assessment informs our risk appetite for each sector where targets have been set.

In addition, Santander's Environmental, Social and Climate Change Risk (ESCC) Management Policy sets out criteria for providing financial products to customers involved in several of the sectors within the scope of our financed emissions targets (i.e., Power, Energy, Metals & Mining and Soft Commodities). For all sectors with decarbonization targets, client transition tiering and engagement considerations are being incorporated into annual credit risk reviews. For one-off transactions (e.g., project finance transactions), we evaluate a transaction's impact on the relevant sector's portfolio financed emissions targets.

Net Zero for Santander Asset Management

SAM has identified and is assessing the highest emitters based on their carbon performance, robustness of their net zero transition plans based on science, and the quality of their climate strategy. SAM portfolio analysis also helps to assess where each security sits on the alignment maturity scale defined by IIGCC Net Zero Investment Framework, to assess companies' progress towards aligning their strategies and operations with the goal of achieving net zero emissions by 2050 (or earlier), and to identify areas for improvement.

SAM is working under the "Paris Aligned Investment Initiative Net Zero Investment Framework" to structure its estimates of portfolio's emissions intensity, and using EVIC (tCO_2e/USD million invested) to calculate its portfolio's carbon footprint. According to initial calculations, the portfolio's emissions baseline in 2019 is 95.7tCO_2e/USD mn invested.

To support the transition of the real economy, SAM has engaged with data providers to develop specific research lines on net zero performance. As new methodologies become available and data granularity is enhanced, financial coverage will improve.

Fossil fuels financed in 2022:

The **Banking on Climate Chaos**: Fossil Fuel Finance Report 2023, endorsed by over 600 organizations from 75 countries, analyses the world´s largest banks' financing of fossil fuels. Santander was one of the banks analysed in the report. The figures below show our relative position to our peers and other banks, measured in terms of our total fossil fuel financing, and its weighting on total lending.

Ranking way below most of our peers and other banks, Santander's low financing of fossil fuels, in both absolute and relative terms, is further evidence of our commitment to tackle climate change.

Our ratio of financed fossil fuels to total financing (including lending, underwriting of corporate bonds, government bonds, and equity issuances) is one of the lowest among all reviewed banks. Our financing of fossil fuels is 6 times smaller than the leading bank's.

RANK	BANK	Fossil fuels financed in 2022 (USD billion)	Fossil fuels financed over total financing 2022
1	Bank 1	40,626	13%
2	Bank 2	39,240	5%
3	Bank 3	37,399	7%
4	Bank 4	35,467	4%
5	Peer 1	33,943	5%
6	Bank 5	29,515	18%
7	Peer 2	29,469	15%
12	Peer 3	20,083	5%
19	Peer 4	11,659	5%
22	Peer 5	11,074	2%
34	Santander	6,640	4%

Ranking by Fossil fuels financed.

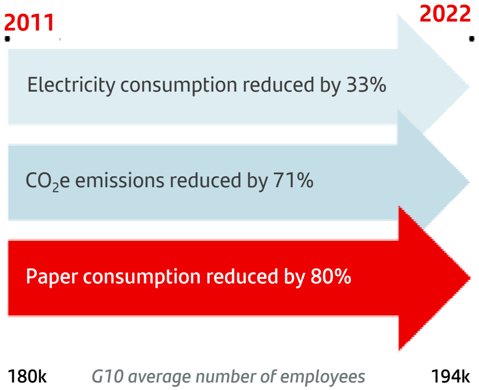
Peers are banks whose size and market capitalization are comparable to Santander, including BBVA, BNP Paribas, Citi, HSBC, ING, Itaú, Scotiabank and UniCredit.

Our environmental footprint

Grupo Santander' strategy to lessen the environmental impact of our operations involves reducing and offsetting CO_2e emissions; reducing and handling waste responsibly; and raising employees' and other stakeholders' environmental awareness

We've been measuring energy consumption, paper and water consumption, waste generation and emissions since 2001. Since 2011, our energy efficiency and sustainability initiatives have helped to reduce significantly our environmental footprint:

2011-2022 Plan Results



Our updated 2022-2025 Energy efficiency and sustainability plan includes more than 100 measures that will enable us to reduce our electricity consumption by 18% and our absolute CO_2e emissions by 68% compared with 2019 (last comparable year prior the pandemic exceptional situation). Some of the measures of the plan are:

- installing solar panels in our buildings to generate our own renewable electricity for self-consumption. 5 MW are already installed in Spain and other projects are ongoing and in review;
- purchasing renewable electricity in every country where its origin can be certified;
- implementing new technologies and more practices to reduce paper consumption and waste;
- obtaining ISO14001, ISO 50001, LEED, BREEAM and WEALTH certifications;
- installing more than 1,250 free EV charging stations in our buildings in various countries and shifting to hybrid and electric vehicles and making them more available to employees to reduce our emissions from business travel and commuting;
- and raising awareness among employees.

Our measures are consistent with Santander's public target to remain carbon neutral: sourcing all our electricity from renewable energy sources[1] by 2025. Reducing emissions remains being our main priority, with offsetting of whatever emissions we're unable to reduce

We follow a strict selection process to acquire carbon credits. It includes due diligence on compliance and consistency with our environmental policies. The projects we have chosen meet the industry's best-known standards, like Gold Standard for the Global Goals or Verified Carbon Standard - Verra.

We also consider country standards, such as MITECO registry and compensation in Spain.

We're monitoring the voluntary carbon credit market closely to adapt our offset strategy to best practices in the short term, with third-party project reviews and prioritizing nature-based offsets.

Using energy from renewable sources
88% of the energy our buildings consume comes from renewable sources; in Germany, Mexico, Portugal, Spain and the UK, that figure is 100%. We continue to work on reaching 100% group-wide by 2025[1.]

2022 Environmental Footprint

YoY Change 2021-2022 (%)

Metric		YoY Change 2021-2022 (%)
1,887,857 m^3 water consumed		4.4%
843.24 million kWh total electricity	**88%** renewable	-5.2%
5,849 t total paper consumption	**83%** recycled or certified	-20.4%
4,124 t paper and cardboard waste		-34.8%
3,431,272 GJ total internal energy consumption		-6.5%

Comparative with pre-Covid: 2019-2022 (%)[2]

	Emissions	Comparative with pre-Covid: 2019-2022 (%)
	134,419 t CO_2e total emissions (market-based)	-58.1%
Scope 1	21,967 t CO_2e direct emissions	
Scope 2	30,917 t CO_2e indirect emissions from electricity (market-based)	
Scope 3	81,535 t CO_2e indirect emissions from employee commuting and business travel	

1. In countries where we can verify electricity from renewable sources at Banco Santander properties
2. Group's total emissions increased in 2022 by 18%, due to the employee travel emissions. In the last two years the Covid-19 pandemic caused these emissions to plummet.
Comparing these emissions with 2019 annual report data, prior to this exceptional situation, employee travel emissions have been reduced by 33%, and total emissions have been reduced by 58.1%. A 2020-2022 comparative is available in the annex.

Implementation and certification of environmental management systems
The Group aims to have or retain ISO 14001[1] certification for all the primary buildings it occupies. Currently, over 30% of our employees work in ISO 14001 or ISO 50001-certified buildings. Under our 2022-2025 Energy efficiency and sustainability plan, we aim to increase this percentage to 36%.

Some buildings in Brazil, Germany, Poland and Spain are LEED Gold or Platinum-certified, while the Santander Group City and Santander España's central services buildings have 'Zero waste' certification which is obtained by achieving more than 90% of waste recovery. In 2023, we renewed the certification with a recovery rate higher than 99%.

This year Santa Bárbara in Madrid and two new Workcafé in Chile obtained, for the first time, the ISO 14001 certificate.

Single-use plastics free
Since 2021, our offices and buildings in our core markets have been free of single-use plastics in fulfilment of our public target.

We also substituted single-use plastics in our Work Café by other biodegradable, glass or aluminium materials.

Climate awareness
Santander runs local and global employee awareness campaigns on the importance of reducing consumption and waste. Each subsidiary posts news and feature articles on the environment and the Group's ESG initiatives on its internal portal. In 2022, for the thirteenth consecutive year, we have observed Earth Hour, switching off the lights at the Group's most emblematic buildings.

Transforming plastic cards
In Europe, Santander credit/debit plastic cards are being replaced by ECO or sustainable materials. In 2022, we made 46,000 credit cards (+340% with respect to 2021).

Furthermore, in UK and Spain, an in-branch card recycling scheme has been developed for expired or unused plastic cards. In Spain, 680,000 cards have already been recycled, converted into street furniture and donated to public institutions. Santander UK launched their pilot card re-cycling scheme in 28 branches.

Other Santander initiatives to mitigate climate change

Apart from those offsets we use to compensate our own carbon footprint, we're also running several other offsetting initiatives:

- At the COP 27 in Egypt, Santander announced the creation of Biomas, a new forest company with shareholders Vale, Marfrig, Suzano, Itaú and Rabobank. With the planting of 2 billion native trees, Biomas aims to protect and restore 4 million hectares in Brazil over the next 20 years and to reduce around 900 million tonnes of CO_2e from the atmosphere. It will generate high-quality carbon credits and employment in the regions most in need. The first stage of the project will be to prospect areas, scale up native tree nurseries, engage local communities, discuss the use of public concessions as project development sites, and implement pilot projects. Each shareholder is initially providing BRL 20 million in equity to set up operations.
- Santander España through Motor Verde initiative will finance three new Santander forests stretching over 300 hectares, offsetting 82,000 tons of CO_2e. In May 2023, we received the certification of the Spanish Climate Change Office (OECC) - the certifying body of Spain's Ministry for the Ecological Transition and Demographic Challenge - for the first "Bosque Santander" in Caminomorisco (Extremadura).
- In 2021, Santander UK became a founding member for National Parks UK 'Net Zero With Nature' Initiative. Santander UK funded a pilot project involving the restoration of 220 hectares of damaged peatland in the Cairngorms National Park in Scotland. This restoration site has the potential to avoid more than 16,000 tonnes of CO_2e emissions over its first five years and will help to establish nature-based solutions in the UK at scale.

1. We have ISO 14001 certification on our buildings in Argentina, Brazil, Chile, Mexico, Spain and the UK.

Other Santander initiatives to keep on reducing our environmental impact

Santander Mexico

In 2022, Santander México refurbished 100 branches, with **HVAC systems updated from SEER 10 to SEER 13**. (SEER is a rating of cooling and energy efficiency.)

Also, 10 energy-intensive branches replaced standard thermostats with programmable ones to make sure air conditioning units wouldn't run at night or at weekends.

Organic waste from the dining facilities in our Santa Fe corporate offices are **reused to make biomass**, reducing our environmental footprint in terms of waste production.

We encourage staff to get round between Santander México's main buildings — CCS, Distrito Querétaro, Corporativo Santa Fe, Diamante, and Artz Pedregal — on p**rivate shuttles instead of their personal vehicles**, which also helps reduce our environmental footprint. Santander México also includes environment-related terms in contracts with vendors.

Santander Chile

Santander Chile plans to expand its **remote energy monitoring system** to 103 branches, from the 95 it already has; this will save 500,000 kWh/year.

In 2022, the bank also renewed its **ISO 14001 certification**.

Santander Argentina

Santander Argentina is developing a major project to replace backup generators with **lithium battery banks**. So far, 27 battery banks have been completed and 19 are under development.

Santander Argentina also invests heavily in energy efficiency, with **VRF air-conditioning systems, LED lighting, and building management systems (BMS)** to automate offices and buildings. It also plans to change its corporate vehicle policy to promote **hybrids over gas and diesel vehicles** and install **bike stations** at its corporate buildings and branches.

Santander Argentina leads the Group in South America in **ISO 14001 certification**: every year, 10 branches get certified, like its main corporate buildings. It also plans to get ISO 50001 certification in the coming years.

Grupo Santander

The Corporation has installed 5 megawatts' worth of **solar panels** on its main buildings in the cities of Madrid and Santander, and should add 3 megawatts' worth by September 2023. Because of their enormous capacity for self-sufficient energy consumption, the Santander Group City (SGC) and the COD are some of the most sustainable and energy-efficient office complexes and data centres in Spain.

Other **energy-efficiency and sustainability initiatives** at our facilities include:

LED lighting: The SGC is replacing 12,000 light fixtures to minimize energy consumption in offices. LED lighting is most efficient, helps us save energy, and lowers energy costs. Because its useful life is 4 times longer than that of regular lighting, it produces the least waste. Advanced energy management systems:We can monitor and visualize buildings' HVAC and lighting systems to save energy and comply with the series of urgent government orders due to take effect on 1 November.

Parking for electric vehicles: The SGC and corporate buildings have more than 700 parking spots with electric charging stations for employees and visitors, and another 500+ in Santander España.

It has also run a major awareness campaign about **proper waste sorting and treatment** in its regional offices and networks.

Santander UK

Certification: Santander UK's new headquarters Unity Place in Milton Keynes will open in September 2023 and aims to be one of the most energy efficient commercial buildings through obtaining a BREEAM certification.
Santander UK holds ISO 14001 and 50001 certifications for the administration of its corporate offices and branches in England.

Santander España

Certification: Openbank's headquarters, located in Plaza Santa Bárbara in Madrid, recently got the ISO 14001, becoming the latest Grupo Santander building in Madrid or Santander to get certified. Santander España is building a vast electric car park and installing solar panels at all of its main buildings in Madrid: Luca de Tena, Abelias, Coslada-Loeches and José Valcárcel.
It is working to make its key regional offices in Valencia and Seville more energy-efficient.

Santander Consumer Bank (Germany)

Energy efficiency at branches: Santander Consumer Bank (Germany) is upgrading HVAC and lighting fixtures, reviewing fleet vehicles and adding to it as many electric cars as new electric charging stations being built.

Certification: Santander Platz was re-certified in LEED for operations and management. It is looking into getting ISO 14001 and 50001 in energy efficiency for the Group's buildings and branches in Germany.

Santander Polska

Energy-efficient branches: Santander Polska has upgraded its HVAC and lighting fixtures and plans to source 100% certified renewable or green energy and transition its commercial vehicle fleet from 100% hybrid to 20% electric.

Paper: Santander Polska is undertaking an ambitious digital transformation project for customers and branches to cut back on paper.

6. Financing the green transition

As explained in section 5 of this report, Santander has the ambition to be net zero by mid-century. In the following pages we provide some examples of how we are delivering against this ambition by helping our customers in their transition towards a green economy.

Tackling climate change is a global challenge at Santander and we want to play our part to address it. Our ambition is to become a world leader in green finance as a high-quality provider of world-class solutions to help our customers tackle the green transition. We have committed to supporting our 164 million customers and the global economy to become net zero by 2050 with advice and business solutions. In SCIB, we are also mobilizing EUR 120 bn in green finance by 2025 and EUR 220 bn by 2030.

Our customers' transition represents a unique opportunity for Santander, as we see green finance grow exponentially in our core markets.

A Global Green Finance Team was set up in 2022 to embed green finance in all business areas, ensure consistency and make the most of the Group's scale, unifying our retail, commercial and investment banking green finance business proposition under the same umbrella*.

"Our ambition is to become a world leader in green finance. We have strengthened our current commitment creating a dedicated green finance team."

Green Finance main priorities are:

1. Building the infrastructure that will support green finance across the Group. This means implementing the Sustainable Finance Classification System (SFCS); strengthening the controls to assess and manage greenwashing risk; and executing the data strategy to measure and monitor green finance results.

2. Growing the green finance business, which entails defining a green finance strategy for different businesses within the Group; delivering a best-in- class value proposition for our customers; and deploying well-trained commercial teams to capture the opportunity.

"Our green commitment is overseen at a highest level in the Group, and our strategy will cascade down to all businesses.

We're committed to helping our customers — big and small — transition to a low-carbon economy, with solutions, capital and advice"

The SCIB's Global Head of ESG and Sustainable Tech also took up in April 2022 the role of Global Head of Green Finance and regularly updates the CEO's management meeting.
This role directly reports to the Group CEO.

* The Green Finance Team will lead the SCIB and have oversight over the Commercial and Retail Banking; in addition, Wealth Management and the Digital Consumer Bank continue to develop their ESG/green strategy.

Providing our clients with global and local green solutions in SCIB, retail and commercial banking and raising awareness in our local communities

Work to become sustainable finance leaders in our markets is not possible without our units' joint efforts to raise awareness, collaborate and offer our customers timely sustainable solutions.

For more details on our green finance products, services and partnerships performed in 2022, see the 'Supporting the green transition' section in the 2022 Annual Report.

Santander UK

Buying into the Green Homes Revolution: In October 2022, we launched the 'Buying into the Green Homes Revolution' report. The report highlights the main challenges to accelerating energy efficiency retrofitting in UK homes. These include a lack of skills infrastructure and the knowledge gap of consumers on how to make their property more energy efficient. The report's findings are based on interviews with over 2,300 UK homebuyers and owners, state agents and mortgage brokers. This research will help us develop suitable products and services and raise customer awareness. It will also support our public policy engagement in the best way to accelerate retrofitting in the UK.

Supporting the switch to electric vehicles: 2022 saw CCB develop its first financing facility to support the switch to electric vehicles. With financing totalling GBP 25.5 million, CCB strengthened its relationship with Zenobē, the UK's market leader in providing end-to-end solutions for fleet operators moving to zero-carbon fleets. The new financing marks CCB's entry into a high-growth sector that actively supports the UK Government's ambition to decarbonise the transport sector. CCB has previously provided finance to Zenobē's Battery Energy Storage Systems division which provides grid scale battery storage solutions. Consumer Finance provided financing for 16,400 electric and hybrid vehicles in 2021. In 2022, the portfolio grew to more than 24,000 green vehicles, supporting more customers to switch to electric transport.

Financing battery storage: High-quality battery storage is recognised as a key enabler of the UK's transition to net zero. CCB continues to build its strong position in this sector and has provided over GBP 360 million of financing since 2019 to support the sector. Our success comes from the strong relationships we have established with market-leading project developers, including TagEnergy. We have delivered financing to support the build and operation of four TagEnergy battery projects in the last 18 months. One is operational, a 20MW/40MWh standalone storage system, with the other three due to come online later in 2023 and 2024.

Santander España

Solar panels: Santander España agreed with Holaluz to provide benefits to its customers for the installation of solar panels in their homes, thus promoting energy transition.

Wind power: Santander and Windar Renovables signed a line of sustainable bank guarantees to develop an offshore wind farm in the North Sea.

Agro: In June 2023, Santander opened a six-year line of credit, with a 1-year grace period, to aid agricultural firms affected by drought. So far, we have pre-approved over 100,000 customers for this credit line, guaranteed by SAECA (Spain's state-owned agricultural development bank). We have over 425,000 customers engaging in farming and livestock.

Real Estate: In June 2023. Santander España signed an agreement with CBRE to offer real estate decarbonization solutions to its corporate and institutional clients in Spain.

EIB-facilitated credit line mortgages: EUR 180 million in mortgages facilitated by the European Investment Bank (EIB), with a 15-bp deduction for mortgages on properties with A-rated energy efficiency, transferred to the bank by 31 December 2023.

Santander Consumer Finance Europe (SCF)

Electric vehicles: In 2022, we financed over 150,000 electric vehicles in Europe, representing EUR 4,8 bn of green finance (+53% with respect to 2021).

Durables: Green finance in the consumer business represents 12% of the new business generated by durables products (EUR 0.3 bn green finance, +29% with respect to 2021) – from which solar panels represent 40% and bicycles 39% .
In 2022, 140,000 green finance tickets have been issued (+7% with respect to 2021).

Emissions: SCF is working to capture emissions of the new business financed, with a dashboard to check emissions metrics every month.

Santander Bank Polska

As part of green financing Santander Bank Polska offers loans for sustainable investments; loans linked to the Sustainable Development Goals; green, sustainability and sustainability-linked bonds; as well as advice services on sustainable funding.

Leasing green offer: Santander Leasing Poland extends green offer including photovoltaic installations, heat pumps, and energy storage in order to accelerate the energy transition of the polish economy.

The project **'Together for Eco-Change'** - first nationwide grant programme for local authorities in the leasing industry - entails the provision and maintenance of a network of electric vehicle charging stations. The Santander Bank Polska Foundation and Santander Leasing are implementing the programme, in collaboration with GreenWay Polska and the Polish Alternative Fuels Association

Santander Portugal

Advisory: EUR 2.296 millions Finerge structuring and placement of renewable portfolio and expansion plan, using an innovative structure of "variable amortization".

Financing building rehabilitation: Santander Portugal is leader in the IFRRU program (co funded with public aids), started in 2018, in which financed 245 projects with a total investment of EUR 688 millions (257 millions of Santander Portugal).

Santander México

Automotive: In February 2023, we signed a strategic alliance to finance BYD automobiles in the Mexican market. Santander and BYD are working to provide more favorable and accessible financial services for Mexican consumers.

Sustainable construction: Santander México has recently signed an agreement with the International Finance Corporation (IFC) to promote sustainable construction practices in Mexico. Through this alliance we will offer our real estate clients free advisory services from IFC experts and help them throughout the EDGE (Excellence in Design for Greater Efficiency) certification process. This certification allows buildings to achieve savings in energy, water and maintenance of over 20%.

Electric buses: Santander México has financed the purchase of 50 electric buses for the public transport service in Mexico City.

Santander Uruguay

In 2023 we start offering specific **mortgages** for buildings with **international green certifications.**

Agreement with the UN, UN Women and UNIDO (REIF trust) to co-finance eligible projects in terms of renewable energy and mobility.

Santander Brasil

CRA Belterra: Santander Brasil acted as Lead Manager on an issuance of Agribusiness Receivables Certificates (CRA) that provided BRL17 million in working capital to 22 community cooperatives linked to Conexsus, and to Belterra, a startup that develops sustainable agroforestry systems in the North and Northeast regions of Brazil.

Partnership with responsible agribusiness: We provide customers with credit lines, including our own and on-lending products. They finance low- carbon practices, more efficient equipment and traceability certifications and other solutions. Until April 2023, we disbursed BRL 513.2 million.

Santander Chile

SLL for a shipping company: Santander Chile and Ultranav signed a credit agreement with KPIs linked to carbon emissions intensity and employee safety standards.

Green Mortgages: housing loans for new residential buildings with a certification of energy efficiency. The most frequent certification is CEV (Calificación Energética de Vivienda). As benefits for the client, we offer a lower interest rates and a contribution/donation to local conservation projects

Santander Argentina

Agro, Energy Transition and Municipalities (circular economy) are the three key pillars of Santander Argentina´s green finance strategy in 2023.

Sustainable Agro: focus on no-till farming and development of a sustainable solutions portfolio for agri clients (sustainable land management trainings, special seeds).

Energy transition financing: through several alliances with relevant suppliers (ie Enel X, YPF Solar, etc) Santander Argentina is extending term loans to corporate clients to help them transition into renewables energy sources.

SUSTAINABLE FINANCE CLASSIFICATION SYSTEM

Sustainable finance is key to meeting our ambition to be net zero by 2050. We developed our Sustainable finance classification system (SFCS), which was published in February 2022 and has been recently updated. The SFCS is an internal guide that outlines harmonized criteria to consider an asset green, social or sustainable in all the Group's units and businesses.

Reviewed by Sustainalytics, and available at www.santander.com, it draws on international industry guidelines, standards and principles such as the EU Taxonomy, ICMA, LMA Principles, UNEP FI framework and Climate Bond Standards.

It also enables us to track our sustainable activity, support product development, mitigate the risk of greenwashing and reinforce our transparency and commitment to promote and increase our green, social and sustainability-linked activity.

In February 2023, we updated the SFCS based on lessons learned and market trends. It now features:

- An entity-based approach, which complements the activity-based approach.
- Additional details on manufacturing, real estate, sustainable agriculture and other activities.
- New activities, like solutions to reduce GHG emissions or that relate to energy generation.

The SFCS will continue to evolve as required by new developments on sustainable markets and Grupo Santander´s practices. Beyond green activity, we are also working to identify transition activities to support our customers and contribute to our net zero objective. We are also considering how to evolve these tool considering new European and local taxonomy development and reporting requirements.

International industry guidelines, standards and principles that the SFCS draws upon:

EU taxonomy	ICMA Green/ Social Bond Principles	LMA Green Loan Principles	LMA Sustainability Linked Loan Principles	ICMA Sustainability Linked Bond Principles	Febraban taxonomy (Brazil)	UNEP FI framework	Climate Bond Standards

Eligible products:

Dedicated purpose

- Transaction proceeds go **towards eligible green or social projects**
- Eligibility criteria: **Specific activities and thresholds,** based on industry principles and guidelines (ICMA, LMA, Climate Bond Standards) and the EU Taxonomy

Sustainability linked financing

- **Sustainability-linked transactions** designed to incentivize customers to set and work towards ambitious ESG targets
- Transaction structured according to pre-determined **sustainability performance targets** (KPIs and/or ESG ratings)
- Alignment with recognized **industry principles and guidelines** (ICMA and LMA)

UPDATED GREEN, SOCIAL AND SUSTAINABILITY FUNDING GLOBAL FRAMEWORK PUBLISHED IN 2023

In June 2023 we updated our Green, Social and Sustainability Funding Global framework (first published in June 2022), in line with the recent revision of our Sustainable Finance Classification System (SFCS) – now the eligible categories and activities included in both documents mirror each other.

The framework serves as reference for all green, social and sustainability labelled funding instruments issued by any Grupo Santander entity globally.

Consistent with best market practices and the expectations of investors, it covers use of proceeds, process for project evaluation and selection, management of proceeds and reporting, in line with the International Capital Market Association's (ICMA) and Loan Market Association's (LMA) guidelines.

Supporting our customers in the transition - SCIB

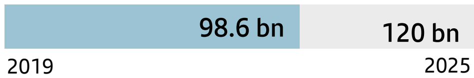
As a large financial institution, we have a responsibility and an opportunity to help our clients in their transition to low carbon business models. Enhancing our sustainable finance and advisory proposition in all our divisions and regions is critical to meeting our climate transition objectives.

Over the last year, SCIB has continued building its ESG platform and embedding ESG in the organization. We integrated ESG experts within business, risk, portfolio management and compliance areas. Furthermore, we implemented the sustainable finance classification system (SFCS), as well as governance to ensure that our sustainable finance activity is consistent with our core integrity principles.

SCIB plays a key role in fulfilling Santander's green finance commitments, having raised and mobilized EUR 98.6 bn in green finance between 2019 and June 2023.

GREEN FINANCE VOLUMES FROM 2019 TO JUNE 2023

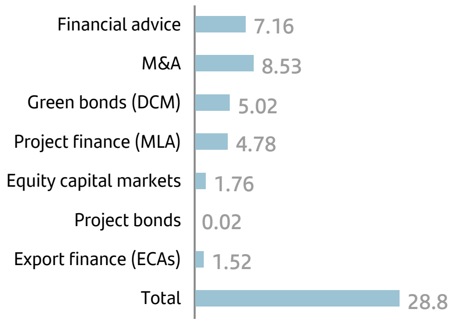
Raised or facilitated. EUR *



Between January and June 2023, SCIB contributed EUR 4.14 billion to the green finance target.

2022 GREEN FINANCE VOLUMES SPLIT BY PRODUCT

EUR billion *



* Information obtained from public sources, such as Dealogic, Inframation news, TXF or Mergermarket league tables. All roles undertaken by Banco Santander in the same project are accounted for. Other sustainable finance components, such as financial inclusion and entrepreneurship, are excluded.

Financing renewable energies

Grupo Santander has been a leader in renewable energy finance for more than the past 10 years. In 2022, we were among the top 2 banks in number of deals and deal value globally, with 78 transactions closed and a 4.4% market share according to Infralogic (see table below).

The greenfield renewable energy projects that we financed or advised on in 2022 have a total installed capacity of 15.6 GW and prevent the emission of 152 million tons of CO_2[1]. We also helped expand, enhance and sustain renewable energy brownfield projects that have a total installed capacity of 14.8 GW (more details in the graphs on next page).

Santander Corporate & Investment Banking (SCIB) aims to be a leading bank in sustainable finance and advisory.

GLOBAL RENEWABLE ENERGY PROJECT FINANCE VOLUME BY MLA - FY 2022[A]

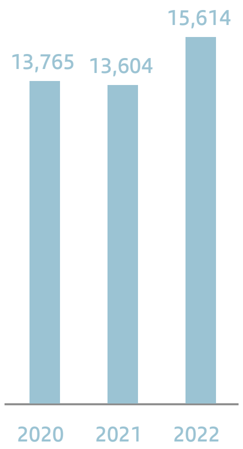
Rank	Mandated Arranger	Vol. (EUR million)	Nº.	%share
1	Bank 1	5,868	81	4.87%
2	Banco Santander	5,161	78	4.38%
3	Bank 2	4,797	58	3.97%
4	Bank 3	3,171	56	2.63%
5	Peer 1[B]	3,078	37	2.57%
6	Bank 4	2,947	41	2.49%
7	Bank 5	2,719	28	2.26%
8	Bank 6	2,712	45	2.24%
9	Peer 2	2,634	33	2.18%
10	Bank 7	2,457	34	2.06%

A. In the lead arranger category of Infralogic league tables for project finance
B. Peers are BBVA, BNP Paribas, Citi, HSBC, ING, Itaú, Scotia Bank and UniCredit, which are similar in size to Santander.

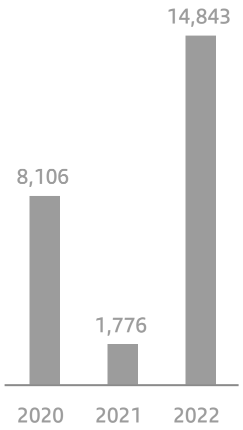
The renewable energy projects we financed or advised on in 2022 can power 10.1 million households per year.[2]

1. Emissions prevented over the projects' useful lifespans, based on emissions factors from the International Energy Agency (updated in 2022 with data from 2020). The estimated allocation to the amount financed by Santander is 51.6 million tons CO_2
2. Based on final electricity consumption data published by the International Energy Agency (updated in 2022 with data from 2020).

GREENFIELD FINANCE[1]
(MW financed or advised)[3]



BROWNFIELD FINANCE[2]
(MW financed or advised)[3]



BREAKDOWN OF MW FINANCED OR ADVISED BY TYPE OF RENEWABLE ENERGY IN 2022

	Greenfield	Brownfield
Wind energy	21%	45%
Solar energy	77%	33%
Other[4]	2%	22%

BREAKDOWN OF GREENFIELD AND BROWNFIELD FINANCE (MW financed or advised) BY COUNTRY IN 2022[5]

Country	Greenfield	Brownfield
Spain	7,421 MW	194 MW
Brazil	4,048 MW	5,257 MW
USA	3,225 MW	3,780 MW
Poland	442 MW	149 MW
United Kingdom	263 MW	2,400 MW
Italy	161 MW	299 MW
Germany		1,250 MW
Mexico		528 MW

Greenfield Brownfield

Examples of renewable energy projects financed and advised in 2022 and 2023

Intersect portfolio (Oberon/ Lumina solar projects)

SCIB was co-lead arranger in the USD 1.6 Bn construction financing for Intersect portfolio comprised of four solar energy projects totalling 1.5GWdc PV and 1.0GWh Battery Energy Storage System (BESS), located in Texas and California.

Project Sonic

SCIB acted as MLA in a construction-phase bridge financing for a portfolio of 11 BESS plants owned by Pulse Clean Energy in the UK.

Project Verde

SCIB acted as Underwriter, Bookrunner, Mandated Lead Arranger (MLA), Hedge Coordinator and Account Bank in the EUR 1.04 Bn Senior Financing to Renantis (previously known as Falck Renewables) European portfolio, comprising 40 operational onshore wind projects located in UK, Nordics, France, Italy and Spain.

Project Bruc Energy

SCIB supported the Spanish photovoltaic generation company Bruc Energy with a EUR 200 million Equity Bridge Loan.

Project Feijão

SCIB acted as Coordinating Lead Arranger, Bookrunner, DSRF and PPA LC provider in the financing for the construction of a 456 MW wind power cluster located in the states of Piauí and Pernambuco, northeast region of Brazil. The project will supply long-term US dollar PPA renewable energy under a self-production structure to Alunorte and Paragominas, Hydro's alumina refinery and bauxite mine subsidiaries.

1. New projects to be built.
2. Projects already existing and producing electricity at the financing date.
3. Of the megawatts attributable to Banco Santander in 2022, 70% were from Greenfield finance and 30% were from Brownfield finance
4. Includes, among others, hydropower, battery energy storage, mix solar-biomass and energy from waste
5. Other greenfield finance or advised in 2022: Portugal (30 MW), France (24 MW). Other brownfield financed or advised in 2022: Argentina (384 MW), Chile (252 MW), Portugal (221 MW), and Netherlands (129 MW)

SCIB highlights

Debt Capital Markets (DCM)

SCIB has continued to be active in helping clients develop their sustainable financing capacity, executing ESG- labelled bond issuances and assisting issuers in structuring their ESG funding frameworks.

Amongst these are a number of landmark transactions, in particular our bookrunner and ESG structuring roles for the USD 1.5 Bn 12-year sustainability-linked bond from the Oriental Republic of Uruguay, which issued the first sovereign of this type with a coupon step-up and step-down structure.

SCIB acted as a bookrunner and ESG structurer for USD 1.75 Bn dual-tranche sustainability bonds from Comisión Federal de Electricidad (CFE), the largest ESG transaction at the time by a non-sovereign Latin American issuer, followed by their local currency four-tranche green and social bonds.

SCIB has been recognised by Global Capital's 2023 Bond Awards, receiving the 'Most impressive bank for ESG Capital Markets in Latam'.

Furthermore, SCIB supported the inaugural ESG transaction under the new 'Grupo Santander Green, Social & Sustainability Funding Global Framework' through a USD 500 million 4NC3 sustainability bond from Santander Holdings USA (SHUSA).

Global Transactional Banking (GTB)

SCIB continued to embed sustainability in its Global Transaction Banking products. In Export Finance, we financed the largest planned wind farm in the southern hemisphere in Queensland, Australia, with a capacity of 923.4 MW, together with Spanish company Acciona Energia. Grupo Santander also acted as export finance advisor for the development of two gigafactories for battery manufacturing in Europe and the US.

We structured a sustainability-linked Supply Chain Finance solution with Cellnex, a Spanish Telecom company, to improve the adoption of sustainability practices for their supply chain through CDP's Supply Chain assessment program. The program relies on SCIB to onboard and actively manage more than 3,000 of its suppliers and includes financial incentives for completing the CDP assessment and improving annual assessment results.

SCIB also completed a syndicated sustainability-linked loan for a company specializing in the rental, leasing, repair and maintenance of trailers. We also provided Structured Secured Inventory Finance to one of our clients whose objective was to invest in renewable photovoltaic projects in Spain.

Mergers & Acquisitions (M&A)

The Sustainable Tech team advised BioTech Foods in the sale of a majority stake to Brazilian group JBS. BioTech Foods is southern Europe's only dedicated cultured meat producer. Its technology to generate meat protein from animal cells produces an ecological and sustainable product without intensive livestock farming. JBS's investment will enable BioTech Foods to build an industrial plant that will bring its products to the final consumer.

SCIB also acted as sole financial advisor to Cocoon Bioscience S.L. in the fund-raising process for the construction of a new facility. These transactions position SCIB as a key advisor in the alternative protein sector.

Combining our hydrogen expertise and our French execution capabilities, SCIB acted as sole financial advisor to Forvia and Michelin in the sale of a stake in Symbio to Stellantis, one of the largest ever hydrogen transactions globally at the time.

SCIB acted as sole Financial Advisor to Haizea, wind power developer, in the structuring and execution of an equity private placement.

We also acted as sell side advisor to Hornsea One, the largest offshore M&A transaction at the time; and to Wikinger, the largest offshore M&A transaction in the Baltic Sea. We also advised Global Infrastructure Partners on the acquisition of New Suez, a water and waste management company in France.

Retail and commercial banking

As a leading retail and commercial banks, we have responsibility to help our Corporates, SMEs and individual clients go green.

Building on our current offering of green products, we continue to strengthen our sustainable finance proposition with dedicated purpose and sustainability-linked financing. Our green financing products and services are designed around five key verticals, adapted to the specific needs of our customers in all geographies.

Green solutions for our individual, SME and corporate customers, in line with our Sustainable Finance Classification System (SFCS)

	What do we finance?	What do our customers need?	Key geographies
Green buildings	Purchase, construction and refurbishment of energy-efficient buildings. Renewable power system installation and refurbishment that use 30% less energy.	Developer loans, private solar panel installation, smart meters, energy- efficient lighting, mortgages with an "A" or "B" Energy Performance Certificate.	SCF
Clean mobility	Clean transport and infrastructure.	Leasing and financing of electric and hybrid vehicles (<50 g CO_2e per passenger/km), charging stations, bicycle lanes and others.	SCF
Renewables	Renewable energy production and transport. Energy storage.	Financing of solar panels, wind farms and storage battery production.	
Sustainable agro	Sustainable and protected agriculture. Land and forest conservation. Sustainable farming.	Financing of sustainable agriculture practices such as more efficient irrigation systems, machinery, and reduced fertilizer use.	
Circular economy, water and waste	Activities to adapt to, or mitigate climate change; preserve biodiversity; boost the circular economy and waste & water management.	Financing for water, waste and soil treatment; greater energy efficiency; lower emissions; and conservation.	

Santander Wealth Management & Insurance

In the past few years, environmental, social and corporate governance (ESG) investing has grown from niche to mainstream, particularly in Europe. It has been mostly driven by investors' demand and regulatory developments. Despite the current state of geopolitics, a new investment paradigm has emerged. ESG risk factors (particularly on climate) are gaining importance for risk-adjusted return analysis. Demand is growing considerably for investment opportunities that address climate adaptation and mitigation, biodiversity loss and other challenges. Additionally, active stewardship and decarbonization initiatives, such as "net zero", have been key to improving stakeholders' commitment to sustainability along the investment value chain.

At WM&I, we have a clear goal to embed sustainability in our growth strategy and decision-making (with special focus on climate). We continue to expand and strengthen our sustainable product offering, and integrate ESG into our processes, in line with the Group's standards.

We have strengthened our ESG teams to create a centre of expertise and excellence. This has allowed us to increase our socially responsible products and services offering. Furthermore, we have been able to build internal frameworks and processes, incorporate best practices, create ESG content to increase awareness, earn top-level accreditation for our teams and network, and develop strategic partnerships with other divisions and third parties. In 2022 we announced our first public commitment to increase our SRI (Socially Responsible Investments) AuM from c. EUR 27.1 billion as of 31 December 2021 to EUR 100 bn by 2025. As of June 30, 2023, our SRI AuM* amount to EUR 58.6 bn between SAM and third-party funds in Private Banking.

Santander Asset Management

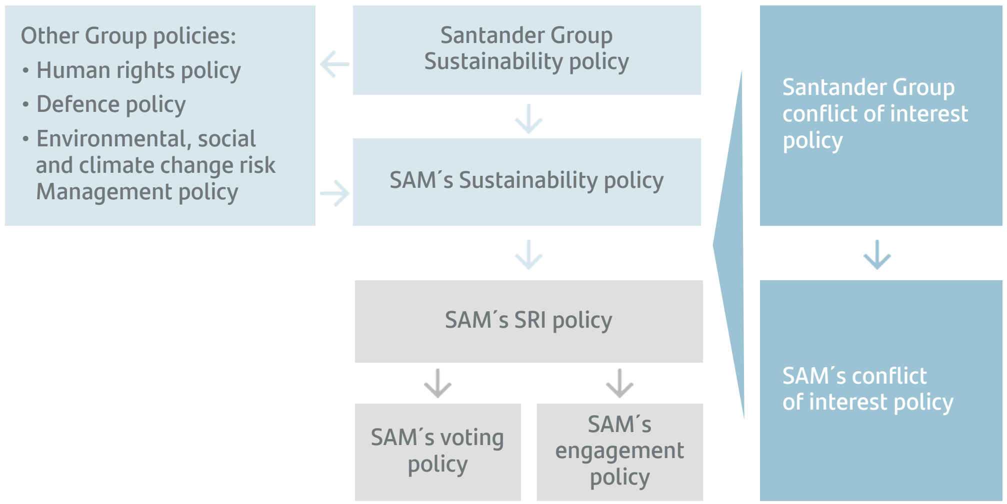
ESG governance in Santander Asset Management

Santander Asset Management's (SAM) policy framework and governance support its execution of SRI strategy. It follows environmental (including climate change), social and corporate governance (ESG) criteria and is structured around the following bodies: an SRI strategy and supervision forum, a voting and engagement forum, an investment and sustainability forum, and our global expert SRI team. At the highest level is the WM&I ESG forum chaired by the global head of Wealth Management & Insurance, which approves and oversees SAM's global SRI strategy.

Santander Asset Management's SRI policies outline our approach to applying ESG factors to investment. Our engagement policy sets out principles for individual and collaborative ESG initiatives with our investees. It also establishes the framework for prioritization of engagement activities. SAM combines two approaches for these activities: individual engagement with each company and collaborative engagement through initiatives that bring together a group of investors.

In 2023, we updated our voting policy with criteria for voting at the annual general meetings of the companies SAM invests in. The policy is consistent with our ESG principles and net zero ambition. It is also reviewed annually to ensure alignment with our commitments, international and local standards, and best practices.

SAM ESG policies and link to Group's sustainability documents



* AUM classified as Article 8 and 9 funds (SFDR) from SAM, plus third-party funds from Private Banking. We apply equivalent ESG criteria to SAM's funds in Latin America. Illiquid funds are in terms of committed capital for Private Banking.

Our ESG methodology applied to climate change

SAM carries out an ESG assessment that entails a valuation analysis to evaluate corporates' sustainability performance based on several ESG factors. We use a double materiality approach, including climate change related topics such as climate risk exposure, CO_2 emissions, emissions target and alignment with TCFD recommendations. For this assessment, SAM uses the information provided by external data providers, incorporating it into its own valuation methodology.

Our environmental pillar analysis assesses corporate performance regarding climate change according to its materiality in each sector.

We use our ESG score to select investments and manage our SRI strategies. We regularly update our ESG framework with the latest findings and trends, thus strengthening our model and analysis.

ESG criteria examples included in our rating

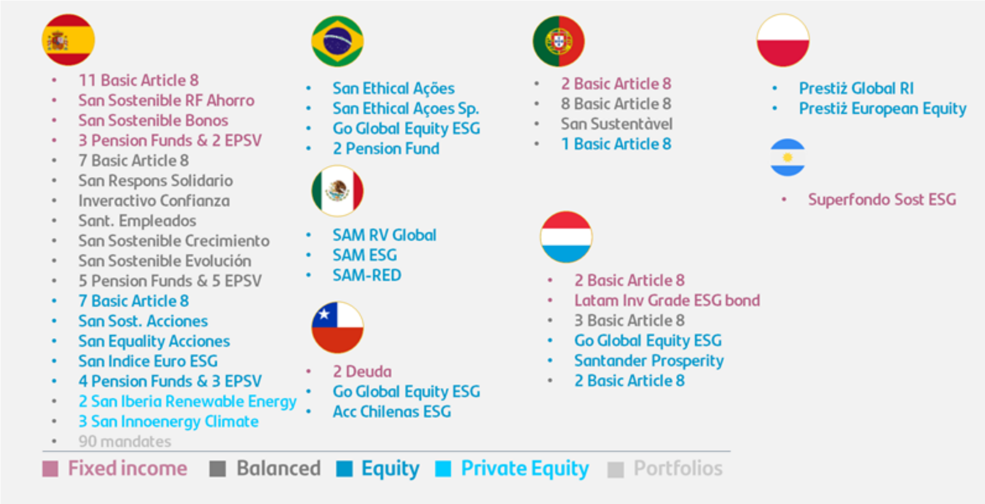
	Analysis for companies	Analysis for governments
Environmental	• Strategy and environmental management • Climate change • Natural resources • Pollution prevention and control	• Energy • Climate change • Natural capital • Emissions and pollution
Social	• Human capital • Client and product • Community • Products and services with social focus	• Health and nutrition • Education and wellbeing • Employment and equality
Governance	• Corporate governance • Business ethics	• Civil rights • Corruption • Government effectiveness

SRI products

Our proposition includes a full SRI product line. As of June 30th 2023, we had EUR 40.5 bn in 113 SRI funds (81 SAM funds, 28 SAM pension funds, 1 fund mandated to third parties through Santander Go, and 3 local feeders investing in the master fund), plus 90 mandates. SAM pioneered these products launching its first SRI fund in 1995. Our flagship strategies include the Santander Sustainable range (two balanced funds), a sustainable European equity fund and a sustainable fixed-income fund. In 2022, we focused on transforming our fund offering to maximize the number of Article 8 and 9 funds under the EU Sustainable Finance Disclosure Regulation (SFDR). We also embedded ESG criteria in our pension plans in Spain.

Over the past eight years, our solidarity funds have donated EUR 24.2 million to more than 25 NGOs and projects for social welfare, job training, health and financial literacy. In 2023, Cáritas and CONFER, the two main fund recipients, will work to develop green and technology projects in line with the European Green Pact and the European Next Generation Plan.

SAM SRI offering



Products to help fight climate change
Santander Asset Management is the first asset manager in Spain to launch a sustainable bond mutual fund. Santander Sostenible Bonos invests in green bond issuances (corporate debt designed to finance projects for clean energy, reduction of emissions and other green initiatives) and in social, climate change, environmental and other sustainable bonds, intent on making a positive contribution to society and the environment.

In 2022, SAM launched two investment solutions to help tackle climate change. Santander Iberia Renewable energy fund is a private equity fund for private banking clients to invest in companies that operate in the renewable energy sector, including photovoltaic and wind. Santander Innoenergy Climate fund invests in climate tech companies and startups in renewable energy, smart grids, energy efficiency, storage systems, batteries for green energy, mobility, and the circular economy.

Other funds in SAM's SRI product line apply financial and extra-financial criteria with the aim of integrating sustainability into investments. Financial, environmental, social, and good governance analysis is used to obtain a more complete and comprehensive view of the assets to be invested.

Our standards and stewardship
We are dedicating more resources to engagement and voting. In 2022, we published our first stewardship report and ranked among the top 5 asset managers that improved the most in the Share Action review, mainly due to more robust stewardship practices. We are promoting both collaborative and bilateral actions with companies. In addition to NZAMi, we are also signatories of the following initiatives:

- UN PRI. In July 2020, we adopted the UN-backed Principles for Responsible Investment (PRI), joining a global community committed to building a more sustainable financial system. The Santander employee pension fund in Spain is also a signatory.

PRI Principles for Responsible Investment

- International Investors Group on Climate Change (IIGCC). In 2020, Santander Asset Management became a signatory to the IIGCC, the European membership body for investor collaboration on climate change and the voice of investors taking action for a prosperous, low-carbon future.
- Net Zero Engagement Initiative by IIGCC. In February 2023, SAM joined this investors group to align our portfolio with our net zero ambition. This initiative promotes corporate engagement by engaging with a larger number of companies not on the Climate Action 100+ focus list.

IIGCC The Institutional Investors Group on Climate Change

- Climate Action 100+. In January 2021, Santander Asset Management joined Climate Action 100+ to promote action on climate change. This initiative entails engagement with a company included on its list to ensure necessary action is being taken against climate change. As a Climate Action 100+ member, SAM is helping accelerate the transition to net-zero emissions by 2050.

Climate Action 100+

- Training. We work with universities and educational centres to organize and participate in SRI events and training days (UNED, MOOC, Bank of Spain, etc). We also run workshops and courses for our employees on the UN Sustainable Development Goals and climate change. See page 18 for further information on our training initiatives for employees and Board.

Private Banking

We focus on incorporating ESG in our private banking advisory services. In 2023, Santander Private Banking was named "Best Private Bank for ESG Investing" in Chile by *Euromoney* and "Best Private Bank for Sustainable Investing" in Latin America by *Global Finance*.

Socially Responsible Investment (SRI)
Our SRI products include a wide range of traditional mutual funds, alternative investment vehicles and ETFs. We continue to add new products in all asset classes, including impact investment. We are also transforming our list of third-party funds under advisory, over 80% of which meet our definition of Socially Responsible Investments (SRI)*. We carry out due diligence on investment strategies for Article 8 or 9 products under SFDR to ensure a consistent, comprehensive SRI product offering.

As of June 30, 2023, we had EUR 18.1 bn in SRI AuM from third-party funds. We also offer SRI mandates in five countries and intend to expand to more geographies in the coming years.

Engaging with our clients on ESG
Understanding our clients' sustainability preferences is key. We have built the capabilities to provide them with bespoke portfolio reporting, which covers CO_2 emissions, water footprint, waste generation and energy savings. We are also working to offer our clients their portfolio performance according to our ESG methodology and SDG alignment.

Best Private Bank Award 2023 Global Finance

Euromoney Private Banking 2023 Chile Best for ESG Investing

* AUM classified as Article 8 and 9 funds (SFDR) from SAM, plus third-party funds from Private Banking. We apply equivalent ESG criteria to SAM's funds in Latin America. Illiquid funds are in terms of committed capital for Private Banking.

Insurance

ESG expertise

In 2022, we launched a global training plan for our bankers and advisers to credit them with internal and external certifications (see "Governance" section). We are also working to enhance our ESG communications and learning materials. Our international network of ESG specialists and governance model ensures the quality and transparency of our ESG products and advisory services.

Our sustainable insurance proposition is available in 8 markets. We aim to expand it to all our markets by 2024. Moreover, we developed an internal classification system in line with the Group's sustainable finance classification system (SFCS)[1], which allows us to identify insurance products that protect risks associated with assets, activities or vulnerable populations across our geographic footprint. It includes the following categories:

- Insuring risks from assets and activities that the Group classifies as sustainable (electric vehicles, green homes, renewable energy infrastructure, etc).
- Insuring risks from people or activities to increase society's well-being. The goal of these products is to increase the eligibility and affordability of insurance products. These include, for instance, micro insurance, health for the elderly, life insurance for low income, or insurance for new or existing activities that can generate social challenges.
- Promoting socially responsible insurance-based investment products according to existing regulation[2].

We invest our life-savings insurance policies with ESG criteria. Furthermore, our target is to continue to adopt the UN's Principles for Sustainable Insurance (PSI) in our joint ventures.

Insurance products aligned with SFCS

Core insurance products in our geographies[3]

Personal accident insurance for Seniors **ECO Auto Insurance** **Dependency Insurance** **Senior Home Insurance**	**Life Insurance** for low income **Health Insurance** for self-employed or low income
Life Insurance for low income **Personal accident insurance** for low income	**Life Insurance** for low income women **Life Insurance** for micro-entrepreneurs
Micro mobility Insurance	**Life Insurance** for low income

1. Sustainable finance classification system.
2. AUM classified as Article 8 and 9 funds (SFDR). We apply equivalent ESG criteria to assets in Latin America.
3. We have added sustainable insurance offering in 2 additional geographies: UK and Portugal.

Working with multilateral institutions

Santander continues to actively collaborate with multilateral development institutions to finance the investment and liquidity needs of the Group's clients in Latin America and Europe, many of which are micro, small and medium-sized enterprises.

Since 2019 Grupo Santander has signed 84 financing agreements worth a total of EUR 12,672 million. During this period Santander has partnered with the with the European Investment Bank Group, the EBRD (European Bank for Reconstruction and Development), the IFC (International Finance Corporation), MIGA (Multilateral Investment Guarantee Agency), CEB (Council of Europe Development Bank), CAF (the Development Bank of Latin America) and the Inter-American Development Bank Group to support renewable energy, innovation, digitalization and specialized financing in supply chains, health, education, transport and agribusiness, thereby contributing to economic recovery and growth in countries where the Group operates.

The volume of financing dedicated to green objectives exceeded EUR 2,900 million, including the construction or retrofitting of high energy performance buildings, clean mobility, and renewable energy generation.

Some notable agreements signed in the last twelve months include:

- A framework loan with the EIB to support USD 300 million in solar PV investments made by individuals and SMEs in Brazil.
- A new unfunded participation agreement with the IFC to provide up to USD 150 million equivalent worth of finance to Chilean SMEs at favorable conditions, including available finance earmarked for women-led enterprises.
- A EUR 200 million framework loan with CEB to finance in wind and solar power plants in Spain.
- A synthetic securitization agreement with the EIB Group in Poland that enables Santander Consumer Bank to provide around PLN 1 bn in new finance for Polish SMEs, small midcaps, private individuals and climate finance related projects.
- A portfolio guarantee agreement with the EIF to enhance SME projects that contribute to a more sustainable, circular and carbon-neutral economy in Portugal.
- Santander also signed the extension of a USD 300 million guarantee agreement with MIGA in Argentina, allowing the Group to provide climate finance lending in the country and increase access to credit to WSMEs.

PLN 1.9 bn issuance in Santander Polska in the form of sustainable bond

On March 30rd 2023, Santander Bank Polska S.A. successfully issued the first PLN 2NC1 Senior Non-Preferred bond in Poland with the total amount of PLN 1.9bn. Bonds have been placed as Sustainable issuance under Grupo Santander Green, Social & Sustainability Funding Global Framework and were the first issuance of this type in the country.

The funds obtained from the issuance will be used to finance or refinance Eligible Green Assets and/or Eligible Social Assets in accordance with our Green, Social and Sustainability Funding Global framework. Santander plans to allocate obtained funds mostly to Renewable Energy, Green Buildings and Affordable Housing assets.

Out of the issuance, PLN 300m were acquired by EBRD, whose objective was to continue supporting Green Economy Transition in Poland.

7. Partnerships

Sector working groups

Partnerships with others in business and government is critical if we are to tackle climate change and protect biodiversity. Grupo Santander participates in different organizations, alliances and working groups: we engage with international and local stakeholders (sector associations, think tanks, universities, peers and others) to progress in global and company goals, in line with the SDG 17 (Sustainable Development Goal) on Partnerships for Goals.

These are the main initiatives Grupo Santander participates in with leading organizations to improve how banks manage climate change and biodiversity include:

United Nations Environmental Programme Finance Initiative (UNEP FI), NZBA, PRB

Santander was a founder member of the UN Principles for Responsible Banking (PRB). We are also a founding member of the Net Zero Banking Alliance (NZBA) and we are engaged in the different working groups driving the development of further sector alignment and implementation guidelines to support the initiative in its goal.

Santander is part of the Core Group for the 2030 Principles for Responsible Banking review process.

UNEP FI also launched the PRB Biodiversity Community, which we have also joined. As part of this community we recently joined the PRB Biodiversity Target Setting Working Group, which aims to align the existing industry guidance with the Kunming-Montreal Global Biodiversity Framework.

Glasgow Financial Alliance for Net Zero (GFANZ)

GFANZ is a global coalition of leading financial institutions committed to accelerating the decarbonization of the economy. We are an active member, in particular in the Advocacy Group with our Executive Chairman as one of the two Principals leading this working group.

GFANZ is an umbrella organisation including financial sector net zero initiatives, including two in which we directly participate: NZBA and Net Zero Asset Management initiative (NZAMi), the latter led internally by Santander Asset Management. Within GFANZ, we co-led the Net Zero Public Policy and their call to action launched in October 2022.

World Business Council for Sustainable Development (WBCSD)

We continue to participate in the Banking for Impact on Climate in Agriculture (B4ICA) initiative, coordinated by WBCSD and in partnership with the United Nations Environment Programme Finance Initiative (UNEP FI), the Partnership for Carbon Accounting Financials (PCAF) and Environmental Defense Fund (EDF) along with member banks. The Partnership is working to develop guidelines for setting net zero targets in the agricultural sector, one of the most challenging in the net zero journey.

Banking Environment Initiative (BEI)

Supported by the Cambridge Institute for Sustainability Leadership and its members, the work at BEI has been making progress in in several themes but with a strong focus on nature. Further to this we also engaged in a series of innovation sprints with the BEI, Cambridge Institute for Sustainability Leadership (CISL) and Business for Social Responsibility (BSR). The sessions focused on the decarbonization barriers faced by small and medium enterprises (SMEs) and explored innovative incentives to enable their transition to net zero by 2050. We also continue to participate in the various programmes with particular focus on integrating climate and nature.

World Economic Forum - International Business Council

Santander is participating in the "Accelerating the energy transition" initiative which aims to build an understanding that can help trigger companies to reduce energy demand and carbon intensity, while maintaining growth. The IBC, currently chaired by Ana Botin brings together 130 CEOs and Chairs of companies across industries, from developed and emerging markets, on all continents.

World Economic Forum - Alliance of CEO Climate Leaders

Santander continues its engagement within the World Economic Forum Alliance of CEO Climate Leaders as an important network to influence stakeholders, including policymakers, and drive change towards meeting net zero targets. Additionally we are also following the work at the “Financing the Transition to a Net-Zero Future” initiative.

United Nations Global Investors for Sustainable Development Alliance (GISD)

This working group created as part of the UN’s strategy for financing the 2030 Agenda for Sustainable Development. SCIB collaborates with one of the task forces that aims to develop investment platforms and vehicles to catalyse finance and investment flows to developing countries in support of the SDGs.

We also joined the workstream on Sovereign SDG bonds established in 2023 by the United Nations Department of Economic and Social Affairs (UNDESA) and the United Nations Development Programme (UNDP), joining top tier investors, agencies and banks, whose purpose is to produce an integrated guidance aimed at investors and developing countries interested in sovereign SDG bonds. The guidance will seek to enhance the integrity and quality of sovereign SDG bonds through an assessment that identifies lessons and best practices from both country and investor experiences.

International Capital Market Association (ICMA) Principles

ICMA Principles champion global green, social and sustainability bond (and related) markets to finance progress towards environmental and social sustainability. The initiative outlines best practices through global guidelines and recommendations, that ensure integrity, and promote transparency and disclosure, when issuing bonds serving social or environmental purposes. The Principles were established in 2014 and Santander has been a member since then.

During this 2022-23 period, Santander has actively participated in multiple working groups and taskforces organised under the Principles, covering Climate Transition Finance, Impact Reporting, Social Bonds, Sustainability-Linked Bonds, Sustainable Repos and Sustainable Commercial Paper.

Financing the Just Transition Alliance

Led by the Grantham Research Institute within the London School of Economics, the goal of the Alliance is to stimulate and support system-level innovation that enables investors and the financial sector more broadly to deliver a just transition in the UK. Our focus is on the implications for the mortgage sector in the UK.

Partnership for Carbon Accounting Financials (PCAF)

Since 2021 we are members of PCAF and thus committed to disclose our financed emissions according to the PCAF standard. We also engage in their different regional and sectoral working groups.

United Nations Office on Drugs and Crime (UNODC)

Santander is collaborating with the UNODC and its network since 2021. In 2023, our Head of Financial Crime Compliance Framework and Policies continued to chair the quarterly Private Sector Dialogue on the Disruption of Financial Crimes related to Environmental Crime (see "Tackling Environmental Crime" section for more information). The Dialogue was highlighted at COP27 in Sharm al Sheikh by the Executive Director of the UNODC for bringing together top financial institutions with financial intelligence units and law enforcement around the world to combat illegal deforestation.

At the most recent Dialogue (June 2023), Santander Brazil announced the Febraban agreement on due diligence for the meatpackers, making headway in private-public collaboration towards transparency on deforestation related risks and crimes while sharing leading practices with government authorities from other countries facing similar challenges.

TNFD Forum

We follow the publication of the different versions of the framework for the management and disclosure of nature-related risks and opportunities and the guidelines published for market participants on pilot testing for reporting under the TNFD framework which will be published in September 2023.

International Institute of Finance (IIF)

The International Institute of Finance, based in Washington, identifies and promotes capital markets solutions that support the development and growth of sustainable finance, with transition finance and blended finance as key components. Grupo Santander Executive Chairman is currently Chair of the IIF and the bank participates in several sustainability-related working groups – including the Sustainable Finance Policy Expert Group and the Sustainable Finance Data, Disclosure & Classification Expert Group – that contribute to shaping official sector initiatives that address the environmental, social and governance priorities relevant to the finance industry. In addition, the IIF advocates for sustainable finance policies that prioritize prudential risk management, financial stability, and economic growth.

European Banking Federation (EBF)

The European Banking Federation endorses and is a promoter of the Principles for Responsible Banking, as an enabler to accelerate the banking industry contribution to Paris objectives and SDGs.

Sustainable finance is an EBF strategic priority and Santander participates in several working groups – such as the ESG Risk Taskforce, which we chair; the Sustainable Finance SteerCo; or the Chief Sustainability Officers roundtable – that aim to encourage the development of a coherent and enabling sustainable finance framework that fosters the banking sector's ability to support the transition of all actors of the real economy, as well as the resilience of the sector to ESG risk.

Engagement with regulators, industry bodies and other stakeholders

Santander´s purpose is to help people and businesses prosper. By delivering on this purpose, we can help all our stakeholders address their challenges and build their business for the future.

Engaging with our stakeholders is important to understand their concerns, help us to set our priorities and to identify opportunities and areas for improvement. Part of this engagement focuses on collaborating with other organizations whose activities are aligned with Santander´s overall positioning and our strategy, business values and commitments. These include peers, industry associations and think tanks, among others.

This engagement is carried out both globally, by the Group, and locally, in the countries where we have a significant presence. This is important to ensure we are participating in the debates and developments that are most relevant to the bank, its employees, customers and the communities in which we operate.

We contribute to the policy debate on relevant issues that impact our sector, the society and the environment. The climate change challenge and the support to businesses and individuals in the transition towards a sustainable economy is one of the issues we are most closely involved in, participating in formal consultations on key regulations locally, in Europe and globally. We also take part in sector fora and workshops on the transition to a low-carbon economy.

As part of this, we actively engage with the Basel Committee, the Financial Stability Board, the European Banking Authority, the European Central Bank, the European Institutions, as well as the Bank of Spain and the Bank of England among other key players defining the sustainable finance framework to better support the UN Sustainable Development Goals and the Paris Agreement target on climate.

We work very closely with industry bodies – including the Institute of International Finance, European Financial Services Round Table, the Association for Financial Markets in Europe and the European Banking Federation – to reach common positions on issues such as the implementation and continued development of the EU framework for identifying sustainable economic activities (the so-called Taxonomy), the framework for ESG disclosures and reporting, the definition of standards and labels for sustainable products, the due diligence requirements, as well as the ongoing work on the identification and management of climate-related risks.

Santander also maintains an open dialogue and engages with NGOs on studies and initiatives.

Our position on some key issues

We want to help achieve sustainable development and pledge to play an active role in supporting the green transition. It is vital that the transition is just and inclusive, taking into account regional and sector specificities to avoid isolating communities and stranding assets. It must provide clarity and certainty for each sector. Governments should set clear pathways on how key sectors will meet the targets of a low-carbon economy, backed by policies and incentives that enable banks to support companies in their transition.

We aim to contribute constructively to the transition debate by supporting policymakers and regulators to achieve a global, common approach to regulation.

Regarding the taxonomies, those are useful tools to help to support the flow of green finance into the economy towards the 1.5ºC scenario. We have learnt, and keep learning, a lot from the implementation of the EU Taxonomy to date, focusing on the climate objectives. As practitioners, and aiming to constructively contribute to this debate and ensure that the Taxonomy achieves its purpose of supporting green financing, we would encourage a simplification of the framework to ensure that banks and non-financial companies alike can implement the requirements in a more straightforward way, and hence contribute to the channelling of funds to green activities.

Transparency to the market is necessary to understand how companies are embedding sustainability into their strategy and business models. As the development of the reporting and disclosure framework progresses, especially in Europe, we encourage policymakers to ensure that the requirements are balanced, including in depth and speed of implementation, and do not impair the competitiveness of businesses.

We support efforts to ensure a global approach to companies' ESG-related disclosures. As much as possible the standards developed internationally by the ISSB and the ones developed in Europe by the EFRAG must be aligned to ensure interoperability and comparability across companies´ information.

In addition, we believe that capital requirements linked to ESG risks should not be imposed as the prudential framework (Pilar 1) already enables taking into account their potential impact. Higher capital requirements could jeopardise the transition of the economy.

Finally, as tackling climate change is a global challenge, authorities should coordinate as much as possible when defining the regulatory framework. This will allow to maximise the impact of the response and support the transition of the global economy, while avoiding fragmentation across markets.

Community support programmes to tackle climate change and protect the environment

The Group undertakes or financially supports a number of local initiatives to tackle climate change and protect biodiversity.

Santander US

Santander US won the SAS Global Hackathon for the banking industry for building an online carbon-footprint tracker that connects merchant codes to S&P ESG scores to show real-time carbon impact.

Santander Brazil

Getnet Brazil, a payment technology and solutions company, subsidiary of PagoNxt (owned by Santander), has just launched Brazil's first card machine made from recycled parts from waste electrical equipment. This initiative is a partnership with Newland, Mobyan, Brasil Reverso and other players in Getnet's supply chain.
Since August 2022, all Getnet Wi-fi-enabled POS 3G machines (known as "Get Clássica"), one of the most popular models, hare manufactured using recycled components. To date, around 260,000 recycled POS are in Brazilian retail market. Over the same period, Getnet managed to recycle approximately 42% of its devices that would usually go to waste. For the next years, Getnet plans to expand to other POS devices and suppliers, prioritizing the Long Tail customers.

Santander Portugal

- Fundação Santander Portugal was the partner event of Planetiers World Gathering 2022, the world's largest sustainable innovation event that brings together the most innovative startups, communities and cities with a social and environmental impact.
- Santander Portugal launched a new feature in banking App, innovative in banking sector to help customers knowing and measuring their carbon footprint, based on purchases with a banking card or direct debit. The carbon footprint maybe consulted in a monthly basis, presented in kg of CO_2 or equivalent in number of trees.

Fundación Banco Santander

At Fundación Banco Santander, since 2004, we annually support projects aimed at restoring or recovering natural spaces, plant and animal species in Spain.

In 2022, we extended for the second year the scope of the Recovery of natural spaces initiative by launching Santander for the Seas, aiming to contribute in the conservation of unique sea and ocean habitats and species. Every year, three innovative, two-year-long initiatives will receive a maximum contribution of EUR 150,000 each. More information can be found on the Fundación website (link) about projects supported last year.

Coraligenous habitats of the Western Mediterranean Sea (Balearic Islands, Spain)

Bahía Santander 2030 (Santander, Spain)

Friendship-Orcas (Galicia, Spain)

Ulises (Balearic Islands, Spain)

Projects map:

Santander Consumer Finance (SCF)

- SCF Spain cooperated with the Spanish Federation of Domestic Appliance Merchants (FECE) to plant a tree for every Class A appliance financed in FECE member establishments.
- SCF Spain and Global Nature Foundation cooperated with the first phase of LIFE Teixeres, an initiative to restore and conserve relict yew tree in forests near the region of Valencia.
- Grupo Santander placed 6,720 awareness raising leaflets with seeds on the 8 buses (all electric) that cover one of the public transport bus lines in the city of Madrid. This initiative seeks to support the bank's commitment to public awareness of its carbon footprint.
- In May 2023 was held the "I Día del Hidrógeno Santander" conference, organized by SCIB in Spain. It gathered more than 300 participants and more than 150 companies from the Iberian Peninsula with low-carbon hydrogen activities.

Santander Uruguay

- "SOY Santander", the online store for Santander Uruguay clients: a new "I am sustainable" section has been created and the "Green Friday" brand has been patented with the objective to promote climate friendly products and the products to finance their purchase.
- Santander Uruguay is the main sponsor of BIOFERIA in Montevideo, an exhibition of sustainable products and environmental education.

Santander Polska

- "Here I live, Here I make eco-changes" grant programme: programme organized by the Santander Foundation to finance original, pro-environmental initiatives benefiting children and young people. Initiatives under the programme can be submitted by organisations throughout Poland.
- Re:Generation programme: project implemented by UNEP/GRID-Warsaw, Poland. It was launched on June 5, 2021 as part of the World Environment Day celebrations, responding to the UN's declaration of 2021-2030 being the Decade of Ecosystem Restoration. Santander Bank Polska has partnered this program since 2021 and in 2022 became an exclusive caretaker of a 400 m^2 flower meadow in the Lodz Heights Landscape Park. In 2022 and 2023, 8 ecological workshops for primary school pupils (over 200 participants) were organised there.

Annex 1

Bank of England's Climate Biennial Exploratory Scenario

Santander UK participated in the BoE's Biennial Exploratory Scenario for Climate Change (CBES). It reviews risks across three climate scenarios over a 30-year horizon. The exercise helps companies understand challenges to their business models. The CBES does not test capital adequacy or establish capital requirements.

Partnering with third-party climate modelling experts, we used internal and market datasets to feed into the CBES models used to complete this exercise. We also reached out to our largest corporate clients. The responses we received helped us model the impact of climate risks across each of the three scenarios (see details in the following summary table). This analysis covered most of our balance sheet assets across Retail Banking and CCB.

After analysing the results, Santander UK defined strategic management actions to mitigate the impact of climate change on our portfolios.

In 2022, the BoE requested participants to perform a qualitative follow-up exercise. The questions requested a qualitative, high-level sizing of potential loan book changes that might arise by 2050 from management actions and opportunities.

Climate Internal Scenario Analysis (CISA)

In Santander UK, we generated three qualitative scenarios (see chart below) for climate-related risks and also quantified potential losses. The CISA comprises three stages:

- Stage 1 defined climate change scenarios and explored their potential impact. At the end of phase 1, we selected the scenario to quantify in phase 2.
- Stage 2 assessed the chosen scenario for its economic impact on the balance sheet and modelled potential losses.
- Stage 3 reviewed the results, including applying expert judgement. It added a sensitivity analysis and extended the time frame from 5 to 30 years.

The impacts assessed through the CISA include:

- Impact on house prices from climate change and interest rates on mortgages.
- Possible consequences of policies that promote rapid transition and require retrofits and upgrades to improve energy efficiency.
- Impact on household finances from higher energy costs and taking account of customers whose homes have lower EPC scores.
- Sectoral analysis of the financial impact of transition risks. This includes EPC improvements, moving to renewable energy sources, reducing scope 1 to 3 emissions, and progressing sustainability plans.

CISA scenario	Scenario characteristics
Accelerated transition	• Immediate and disorderly transition where geopolitical tension creates uncertainty over global energy market supply chains • This creates an emphasis on domestic energy security where the government funds an accelerated transition to renewable energy supplies. For example, grants to assist with a mass rollout of electric heat pumps, electric vehicles and renewable energy sources, such as offshore wind, which reduces the reliance on Russian energy.
Cost-sensitive transition	• A steady state scenario where real income growth continues its weak trend and energy transition continues in a cost sensitive way • Stable energy markets, and cheaper wholesale prices, keep gas in the energy mix • Private investment is expected to provide the bulk of the funding, with the government reluctant to directly pass-on infrastructure investment costs to the public.
De-prioritised transition	• Energy transition becomes more expensive due to geopolitical fragmentation and superpower competition • Climate action is de-prioritised until 2030, permanently slowing transition in Europe.

Annex 2

ENVIRONMENTAL FOOTPRINT 2020-2022[A]

	2022	2021	2020	Var. 2022-2021 (%)
Consumption				
Water (m^3)[B]	1,887,857	1,808,668	2,064,113	4.4%
Water (m^3/employee)	9.75	9.76	11.07	-0.1%
Normal electricity (millions of kwh)[C]	97.42	213.87	395.00	-54.4%
Green electricity (millions of kwh)	745.82	675.78	526.00	10.4%
Total electricity (millions of kwh)[C]	843.24	889.66	920.00	-5.2%
Total internal energy consumption (GJ)[C]	3,431,272	3,667,872	3,758,225	-6.5%
Total internal energy consumption (GJ/employee)[C]	17.73	18.95	20.16	-6.5%
Total paper (t)[D]	5,849	7,345	8,966	-20.4%
Recycled or certified paper (t)[D]	4,860	6,020	7,336	-19.3%
Total paper (t/employee)[D]	0.03	0.04	0.05	-23.7%
Waste				
Paper and cardboard waste (ton)[D]	4,124	6,324	5,926	-34.8%
Paper and cardboard waste (kg/employee)[D]	21.30	34.11	31.79	-37.6%
Greenhouse gas emissions				
Direct emissions (t CO_2e)[E]	21,967	25,672	24,818	-14.4%
Indirect electricity emissions (t CO_2e)-MARKET BASED[C,F,G]	30,917	52,904	128,633	-41.6%
Indirect electricity emissions (t CO_2e)-LOCATION BASED[C,F]	217,906	265,095	282,216	-17.8%
Indirect emissions from business travel (t CO_2e)[H,I]	49,410	19,692	21,785	150.9%
Indirect emissions from employee commuting (t CO_2e)[H,I]	32,125	15,728	18,923	104.3%
Total emissions (t CO_2e)- MARKET BASED[C,I]	134,419	113,996	194,159	17.9%
Total emissions (t CO_2e / employee)[C]	0.69	0.61	1.04	12.9%
Average number of employees	193,573	185,379	186,429	4.4%

A. Refers to Argentina, Brazil, Chile, Germany, Mexico, Poland, Portugal, Spain, the UK and the US (minus Miami).

B. Refers to water withdrawal from public sources.

C. Energy consumption and GHG emissions data for Argentina for the year 2021 were recalculated as a result of new changes in the calculation methodology.

D. The reduction in paper consumption and waste is due to the Group's implementation of new technologies and practices in its buildings.

E. Scope 1, as defined by GHG Protocol, includes the direct emissions from sources owned or controlled by Santander (natural gas, diesel and, in Mexico, petrol and diesel for cars, and in Poland in 2020 petrol and diesel for cars). To calculate them, emission factors DEFRA 2022 for 2022, DEFRA 2021 for 2021 and DEFRA 2020 for 2020 were applied.

F. Scope 2, as defined by GHG Protocol, includes the indirect emissions from the generation of purchased energy. In 2021 and 2020 we used the International Energy Agency (IEA) emission factors from 2017. For 2022, we used the 2021 IEA emission factors.
- Indirect electricity emissions (market-based): no emissions were considered for green electricity consumed in Germany, Spain, Mexico, Portugal and UK; also, in Argentina, Brazil, Chile, Poland and the US, some consumed electricity was certified green energy. The IEA emission factor for each country was applied to the non-certified electricity from renewable sources..
- Indirect emissions of electricity (location-based): the IEA emission factor for each country applied to renewable and non-renewable electricity consumption.

G. Indirect electricity emissions fell, mainly because we purchased more green energy in 2022, and reduce electricity consumption by 5.2%.

H. Emissions from employees travelling from central services to the workplace by personal car, mass transport and rail; and from employees' business travel by air and car. The distribution of employees by type of travel is based on surveys or other estimates. Conversion factors DEFRA 2022 for 2022, DEFRA 2021 for 2021 and DEFRA 2020 for 2020 were used to calculate emissions from employee travel. The number of employees travelling to work in personal vehicles was estimated only with the number of parking spaces at central service buildings and with diesel/petrol consumption by the vehicle fleet. Personal vehicle use by employees in Argentina, Poland and the UK is not reported, as such information is unavailable. Mass transport use by employees was calculated with the average distance travelled by vehicles Grupo Santander rents to transport its employees in Germany, Brazil, the US, Spain, Mexico, Poland and Portugal and at SCF, and at the Santander Group City in Spain. Business trips by car from Santander Consumer USA are not reported, as the information is unavailable. Emissions from courier services, the transport of funds, any purchase of products or services or indirectly from financial services are not reported.

I. Group's total emissions increased in 2022 by 17.9%, due to the employee travel emissions. In the last two years the Covid-19 pandemic caused these emissions to plummet, and in 2022 the employee travel was almost recuperated to pre-Covid levels. Comparing these emissions with 2019 data, prior to this exceptional situation, employee travel emissions have been reduced by 33%, and total emissions have been reduced by 58.1%.

Annex 3

TCFD Recommendation index

	TCFD Recommendations	Chapter Reference	Section Reference	Pages
Governance	a. Describe the board's oversight of climate-related risks and opportunities.	3. Governance		15-18
		5. Metrics and targets	Action plan	38-39
	b. Describe management's role in assessing and managing climate-related risks and opportunities.	3. Governance		15-18
		6. Financing the green transition	ESG governance in Santander Asset Management	52
Strategy	a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	2. Strategy	Climate risks and opportunities	10-14
	b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.			
	c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	4. Risk management	Scenario analysis	25
Risk Management	a. Describe the organization's processes for identifying and assessing climate-related risks.	4. Risk management	I. Identification	19
	b. Describe the organization's processes for managing climate-related risks.	4. Risk management	II. Planning; III. Assessment; IV. Monitoring; V. Mitigation; VI. Reporting	20-29
	c. Describe how processes for identifying, assessing, and managing climate- related risks are integrated into the organization's overall risk management.			
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.	5. Metrics and targets	Aligning our portfolio to the Paris agreement	35-40
	b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	5. Metrics and targets	Decarbonization targets - Financed emissions	35-36
		5. Metrics and targets	Our environmental footprint	41-43
		Annex	Environmental footprint 2020-2022	62
	c. Describe the targets used by the organization to manage climate- related risks and opportunities and performance against targets.	5. Metrics and targets	Decarbonization targets	35-37

Annex 4

GFANZ Financial Institution Net-zero Transition Plans - Recommendation index

	GFANZ Recommendations	Chapter Reference	Section Reference	Pages
Foundations	Objectives and priorities	2. Strategy	Our ambition	5
			Our strategy	5
			Our objectives and priorities	6
			Our approach	7
Implementation Strategy	Products and services	6. Financing the green transition		44
	Activities and decision-making	3. Governance	Climate change and green transition oversight	15
			Main areas involved in the implementation of the climate change strategy	16
	Policies and conditions	3. Governance	Policies and guidance	17
		4. Risk management	Monitoring	27
Engagement Strategy	Engagement with clients and portfolio companies	4. Risk management	Santander and the Brazilian Amazon	32
		5. Metrics and targets	Action plan	38
	Engagement with industry	7. Partnerships	Sector working groups	57
	Engagement with government and public sector	7. Partnerships	Engagement with regulators, industry bodies and other stakeholders	59
Metrics and Targets	Metrics and targets	5. Metrics and targets		35
Governance	Roles, responsibilities, and remuneration	3. Governance	Climate change and green transition oversight	15
		6. Financing the green transition	ESG governance in Santander Asset Management	52
	Skills and culture	3. Governance	ESG culture and skills development	18

Independent verification report

Independent limited assurance report

To the management of Banco Santander, S.A.

We have carried out our work to provide limited assurance on the selected ESG indicators, for the specified reporting period for each indicator, contained in the "Annex I: Climate Finance Report 2022 - June 2023" included in the Climate Finance Report 2022 - June 2023 of Banco Santander, S.A. (Parent company) and its subsidiaries (hereinafter, "Grupo Santander"), prepared in accordance with the criteria of Grupo Santander set out in the "Annex II: Climate Finance Report 2022 - June 2023 Reporting Criteria".

Responsibility of management

The management of Banco Santander, S.A., is responsible for the preparation, content and presentation of the Climate Finance Report 2022 - June 2023 in accordance with the internal procedure defined in the "Annex II: Climate Finance Report 2022 - June 2023 Reporting Criteria". Management's responsibility includes establishing, implementing and maintaining the internal control required to ensure that the selected ESG indicators are free from any material misstatement due to fraud or error.

The management of Banco Santander, S.A., is also responsible for defining, implementing, adapting and maintaining the management systems from which the information required to prepare the selected ESG indicators, is obtained.

Our responsibility

Our responsibility is to issue a limited assurance report based on the procedures that we have carried out and the evidence obtained. Our limited assurance engagement was done in accordance with the International Standard on Assurance Engagements 3000 (Reviewed) "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC).

The scope of a limited assurance engagement is substantially less extensive than the scope of a reasonable assurance engagement and thus, less security is provided.

The procedures that we have carried out are based on our professional judgement and have included consultations, observation of processes, document inspection, analytical procedures and random sampling tests. The general procedures employed are described below:

- Meetings with Banco Santander, S.A.'s personnel from various departments who have been involved in the preparation of the Climate Finance Report 2022 - June 2023.
- Analysis of the procedures used for obtaining and validating the data presented in the selected ESG indicators.
- Analysis of the Grupo Santander's selected ESG indicators adaptation to the requirements established by the reporting criteria included in the "Annex II: Climate Finance Report 2022 - June 2023 Reporting Criteria".

- Verification, through random sampling tests revisions and substantive tests on the information used to determine the Grupo Santander's selected ESG indicators. We have also verified whether they have been appropriately compiled from the data provided by Banco Santander, S.A. sources of information.
- Obtainment of a management representation letter from the Parent company.

Our Independence and quality management

We have complied with the independence and other ethical requirements of the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Limited assurance conclusion

As a result of the procedures carried out and the evidence obtained, nothing has come to our attention that causes us to believe that Banco Santander, S.A. and its subsidiaries selected ESG indicators, for the specified reporting period for each indicator, contain significant errors or have not been prepared, in all of their significant matters, in accordance with the criteria of Grupo Santander set out in the "Annex II: Climate Finance Report 2022 - June 2023 Reporting Criteria".

Use and distribution

Our report is only issued to the management of Banco Santander, S.A., in accordance with the terms and conditions of our engagement letter. We do not assume any liability to third parties other than Banco Santander, S.A. management.

PricewaterhouseCoopers Auditores, S.L.

Pablo Bascones Ilundain

28 July 2023

Independent verification report

Santander

Annex I: *Climate Finance Report 2022 – June 2023*

Performance indicators included in the *Climate Finance Report 2022 – June 2023* for Banco Santander S.A. and subsidiaries

Climate Finance Report		
Financed emissions*		
Power generation	4.59	[Mt CO_2 e]
Energy – Oil & Gas	22.58	[Mt CO_2 e]
Aviation	1.08	[Mt CO_2 e]
Steel	2.14	[Mt CO_2 e]
Physical emissions intensity*		
Power generation	0.17	[t CO_2 e/MWh]
Energy – Oil & Gas	73.60	[t CO_2 e/TJ]
Aviation	93.05	[gr CO_2 e/RPK]
Steel	1.40	[t CO_2 e/tons steel]
Financial emissions intensity*		
Power generation	0.45	[Mt CO_2 e/EUR Bn lent]
Energy – Oil & Gas	3.38	[Mt CO_2 e/EUR Bn lent]
Aviation	0.44	[Mt CO_2 e/EUR Bn lent]
Steel	1.63	[Mt CO_2 e/EUR Bn lent]
Green Finance**		
Green finance volumes raised or facilitated	98.6	[EUR Bn]
Socially Responsible Investment Assets under Management**	**58.6**	**[EUR Bn]**
Santander Asset Management (SAM)	40.5	[EUR Bn]
Global Private Banking	18.1	[EUR Bn]
Net Zero Commitment		
Thermal coal-related power & mining phase out	5.9	[EUR Bn]
Carbon neutral in own operations	✓	[-]
Financing renewable energies		
Greenfield finance	15,614	[MW] ***
Brownfield finance	14,483	[MW] ***
Environmental footprint		
Total internal energy consumption	3,431,272	[GJ]
Total electricity consumption	843.24	[million kWh]
Electricity consumption from renewable sources	745.82	[million kWh]
Water consumption	1,887,857	[m^3]
Total paper consumption	5,849	[ton]
Paper and cardboard waste	4,124	[ton]
Total Greenhouse Gas (GHG) Emissions******	**134,419**	**[t CO_2 e]**
Scope 1 – Direct GHG emissions	**21,967**	**[t CO_2 e]**
Emissions from stationary fuel consumption	20,565	[t CO_2 e]
Emissions from mobile fuel consumption	1,402	[t CO_2 e]
Scope 2 – Indirect GHG emissions******	**30,917**	**[t CO_2 e]**
Indirect emissions from electricity consumption (*market-based*)	30,917	[t CO_2 e]
Indirect emissions from electricity consumption (*location-based*)	217,906	[t CO_2 e]
Scope 3 – Other indirect GHG emissions	**81,535**	**[t CO_2 e]**
Other indirect emissions from business travel	49,410	[t CO_2 e]
Other indirect emissions from employee commuting	32,125	[t CO_2 e]

Notes:
Unless otherwise stated, the performance indicators included in the *Climate Finance Report 2022 – June 2023* are reported for the year ending December 31st, 2022.
* Financed emissions, as well as physical and financial emissions intensities, related to each sector are reported for the year ending December 31s, 2020.
** Reported value represents closing balances as of June 30th, 2023.
*** MW financed or advised.
**** Following a *market-based* approach for consolidating scope 2 emissions.

Santander

Annex II: *Climate Finance Report 2022 – June 2023* Reporting Criteria

The *Climate Finance Report 2022* for Banco Santander S.A. and subsidiaries, hereafter referred to as Santander, Grupo Santander or the Company, has been prepared in accordance with internal procedures and policies. The present report includes information about Santander's global operations, as well as specific information for the 10 main markets as reported in specific key performance indicators (KPIs). Considering that the procedures and policies on which the indicators are based may, or may not, be publicly available, the *Reporting Criteria* for the indicators subject to assurance are presented in the following table, as per the internal procedures defined by the Company.

Reporting criteria

Financed emissions

In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the financed emissions associated with the power generation, energy (oil & gas), aviation and steel SCIB portfolios, for the year between January 1st and December 31st, 2020, in accordance with the methodology established by management, as presented below:

Total amount of greenhouse gas (GHG) emissions, expressed in tons of CO_2 equivalent, generated by the companies and/or projects financed by Banco Santander S.A. and subsidiaries that are attributable to Santander following the attribution methodology defined below, based on the Partnership for Carbon Accounting Financials (PCAF) standard for financed emissions. To obtain the data on financed emissions, the following formulas are applied, depending on each portfolio:

Power generation:
Emissions associated with the financing of power generation activities are considered through Corporate and Project Finance mechanisms. In the case of Corporate Finance, financed emissions of the portfolio are calculated using the following equation:

$$Financed\ emissions = \sum_i Attribution\ Factor_i \times Emissions_i$$

Where *i* represents each company included in the portfolio.

The following equations are used to determine the attribution factor at company level:

$$Attribution\ Factor = \frac{Outstanding\ amount}{Total\ Enterprise\ Value}$$

$$Total\ Enterprise\ Value = Total\ Debt + Total\ Equity$$

The numerator includes the outstanding amount of the loan, that is, the value of the debt that the borrower owes to Santander (that is, the debt disbursed minus any repayments). The denominator considers the total value of the company, which is given by the total debt and total equity.

Total debt does not consider all the liabilities on the Balance Sheet, but only the part corresponding to the liabilities formalized by virtue of agreed contracts susceptible to being traded on the market, for example, bank debt, bonds, leasing, etc. In cases where the total debt is not perfectly identifiable, the whole liabilities on the Balance Sheet are considered.

For total equity calculation, the book value of the whole equity of the company (own and belonging to other people) is considered. It is important to highlight that, if equity is negative due to losses, it is assigned a zero value, so as not to underestimate the debt.

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Financed emissions (continued)

In the case of Project Finance, the financed emissions for *Project "b"* are calculated using the following equation:

$$Financed\ Emissions_b = Attribution\ Factor_b \times \sum_{b,j} Production_b^j \times Emission\ Factor_j$$

Where $Production_b^j$ represents Project *b's* production using technology *j*, expressed in MWh. $Emission\ Factor_j$ represents the emission factor associated to technology *j*.

Data are obtained according to the information included in **Table 1**.

Sector	Emissions	Production	Company Emission intensity	Financial Data
Power	S&P-Trucost Annual Reports for filling gaps. Sustainability report	S&P-Trucost Annual Reports for filling gaps. Asset Resolution	Calculated by the model dividing emissions by production	Capital IQ Annual Reports
O&G	S&P-Trucost Annual Reports for filling gaps Except Scope 3 – calculated by the model	S&P-Trucost Annual Reports for filling gaps. Sustainability report Asset Resolution	Transition Pathway Initiative (Scope 1,2,3)	Capital IQ Annual Reports
Steel	S&P-Trucost Annual Reports for filling gaps	Calculated by the model when emission and intensity are available. Annual Reports Sustainability reports	Transition Pathway Initiative[7]	Capital IQ Annual Reports
Aviation	S&P-Trucost Annual Reports for filling gaps	Annual Reports. Sustainability reports	Calculated by the model	Capital IQ Annual Reports

Table 1. Data sources. Source: internal consolidation by Santander.

To determine the attribution factor at the project level, the following is considered:

$$Attribution\ Factor_b = \frac{Outstanding\ amount}{Total\ Project\ Value}$$

$$Total\ Project\ Value = Equity + Global\ Debt\ Commitment$$

Since equity share is not available for all project finance, total project value may be estimated by applying a proxy based on a "gearing factor":

$$Total\ Project\ Value_v = \frac{Global\ Debt\ Commitment\ local\ Currency}{(1 - Gearing)} \times FX\ Rate$$

The gearing factor is differentiated by country and underlying technology and is based on observed transactions in the market.

Energy - Oil & gas:
The clients and activities within the scope of this portfolio include *Corporate* and *Project Finance* associated with upstream and integrated companies with material income from extraction and production activities; export credit agency (ECA) deals; as well as *Project Finance* activities in which the owner of the asset is an upstream or integrated company. A second filter is applied to those *Project Finance* activities in which the relationship with respect to upstream is not so clear, taking ownership/control as a criterion.

In this sector, Santander's implementation is based on the methodology developed by the *Transition Pathway Initiative* (TPI, 2021). This methodology provides an emission intensity that includes scopes 1, 2 and 3 using a homogeneous approach to calculate the emissions from the use of sold products. The emissions content of fossil fuels varies depending on the type of product. The *Transition Pathway*

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Financed emissions (continued)

Initiative analysis uses product CO_2 emissions and energy factors from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

The emissions of a company can be approximated by means of its emission intensity and its production (expressed in TJ).

The total emissions for the portfolio are calculated by means of the following summation:

$$Total\ Financed\ Emissions = \sum_b Financed\ Emissions_b$$

For a specific client *"b"*, financed emissions can be computed as:

$$Financed\ Emissions_b = Attribution\ Factor_b \times Production_b \times Emissions\ Intensity_b$$

To calculate production, the source for most of the companies is *Trucost* (displayed in m^3). When *Trucost* does not provide that data, it must be searched manually in the companies' Annual Reports. The emission intensity obtained from TPI is expressed in terajoules, which requires certain transformation:

$$Production(TJ) = \sum_{\substack{product \\ b}} Production(m^3)_{\substack{product \\ b}} \times Conversion\ Factor$$

The conversion factors are applied to each fossil fuel type, as described by *Transition Pathway Initiative*.[1]

To determine the attribution factor at the company level, the following equations are considered, applying the same criteria as for **Power generation**:

$$Attribution\ Factor = \frac{Outstanding\ amount}{Total\ Enterprise\ Value}$$

$$Total\ Enterprise\ Value = Total\ Debt + Total\ Equity$$

Aviation:
Clients and activities included within the scope of this portfolio include passenger airlines, ECA (Export Credit Agency) deals for airlines and leased aircrafts (*Project Finance* in which the ultimate owner of the asset is an airline).

In this sector, Santander's implementation is based on the methodology developed by the *Transition Pathway Initiative* (TPI, 2021), which involves scope 1 and scope 2. The data used comes from the companies' Annual Reports.

The total emissions for the portfolio are calculated by means of the following summation:

$$Total\ Financed\ Emissions = \sum_b Financed\ Emissions_b$$

For a specific client *"b"*, financed emissions can be computed as:

$$Financed\ Emissions_b = Attribution\ Factor_b \times Production_b \times Emissions\ Intensity_b$$

To calculate the activity data[1] associated with production, the "*revenue passenger kilometers*" (or RPK) data is used, which is the total number of paying passengers multiplied by the distance flown. As well as for emissions intensity, the data comes from the Annual Reports of the companies, as shown in **Table 1**.

To determine the attribution factor at the company level, the following equations are considered, applying the same criteria as for the previous portfolios:

[1] In order to obtain the final production in TJ, conversion factors from cubic meters to barrel of oil equivalent (boe), and from boe to TJ, are obtained from the document "*Approximate conversion factors - Statistical Review of World Energy*" developed by BP, and public sources, respectively.

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Financed emissions (continued)

$$Attribution\ Factor = \frac{Outstanding\ amount}{Total\ Enterprise\ Value}$$

$$Total\ Enterprise\ Value = Total\ Debt + Total\ Equity$$

Steel:
For this portfolio, Corporates at *Last Parent Level* are included within scope.

In this sector, Santander's implementation is based on the methodology developed by the *Transition Pathway Initiative* (TPI, 2021), which involves scope 1 and scope 2. The data used comes from the sources described in **Table 1**.

The total emissions for the portfolio are calculated by means of the following sum, for each company "*b*":

$$Total\ Financed\ Emissions = \sum_{b} Attribution\ Factor_b \times Emissions_b$$

To determine the attribution factor at the company level, the following equations are considered, applying the same criteria as for the previous portfolios:

$$Attribution\ Factor = \frac{Outstanding\ amount}{Total\ Enterprise\ Value}$$

$$Total\ Enterprise\ Value = Total\ Debt + Total\ Equity$$

Physical emissions intensity

In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the physical emissions intensity associated with the power generation, energy (oil & gas), aviation and steel portfolios, for the year between January 1st and December 31st, 2020, in accordance with the methodology established by management, as presented below:

Considers the physical emissions intensity of the portfolio as the ratio obtained from total portfolio emissions (calculated as the sum of individual company emissions) and the selected total *activity data* indicator for the sector. *Activity data* indicators are as follows:

Power generation
Considers total production on electrical energy, expressed in MWh, for the companies included in the portfolio. Typically, production data sourced from external vendors provides the breakdown of the production for each type of technology. So, the total production for company "*b*" is obtained as the sum of the production of its different technologies:

$$Production_{\,b} = \sum_{Technology\ i} Production_{\,Technology\ i}$$

Energy – Oil & Gas
Considers total energy that can be obtained from the production of oil & gas related products, expressed in Terajoules (TJ), for the companies included in the portfolio. Production in TJ is obtained as described for ***Financed emissions*** using conversion factors.

Aviation
Considers total "*revenue passenger kilometers*" (RPK), which is the total number of paying passengers multiplied by the distance flown, for the companies included in the portfolio.

Steel
Considers total production of steel products, expressed in tons of steel, for the companies included in the portfolio. Considering that production in the sector is difficult to collect manually due to the different types of steel products, a proxy for total production is used, derived from emission intensity and emissions for each company.

$$Production_C = \frac{Emissions_C}{EI_C}$$

GHG emission scopes, calculation methodologies and data sources for each portfolio follow the criteria and methodology described for ***Financed emissions***.

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Financial emissions intensity

In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the financial emissions intensity associated with the power generation, energy (oil & gas), aviation and steel portfolios, for the year between January 1st and December 31st, 2020, in accordance with the methodology established by management, as presented below:

Considers the financial emissions intensity of the portfolio as the weighted average of the individual emission intensities of the companies and projects included in it.

The weight depends on the exposure, production and total enterprise value of the company or project.

$$EI = \sum_i Emission\ Intensity_i \times \omega_i$$

where:

$Emission\ Intensity_i$: emission intensity for corporate/project finance "i" expressed in ton CO_2 equivalent/physical units. Physical units depend on the portfolio, namely MWh, TJ, RPK and tons of steel for the Power, Energy, Aviation and Steel sectors, respectively. See **Table 1** for data sources.

ω_i: weight factor for the intensity of the corporate/project finance "i" calculated as:

$$\omega_i = \frac{Attribution\ Factor_i \times P_i}{\sum_j Attribution\ Factor_j \times P_j}$$

with:

P_i: production in physical units for corporate/project finance "*i*".
Subindex "*j*" refers to the totality of projects.

Green Finance volumes raised or facilitated

In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the volumes raised or facilitated in *Green Finance*, for the closing balances as of June 30th, 2023, in accordance with the methodology established by management, as presented below:

Total *green finance* volumes raised or facilitated by Santander Corporate & Investment Banking (*SCIB*), expressed in EUR billions, as defined in *SCIB*'s *Green Finance Public Commitment Methodology Description*. The reported value for *Green finance* considers the consolidated sum of products and services that target renewable energy projects, assets or services dating from 2019. Since 2023, only volumes reviewed and approved by the SCFS Panel are taken into consideration. The indicator considers the following range of products and services:

Project Finance (MLA)
Financing mechanism for raising long-term, limited-recourse-to-the-Sponsor funding for the purpose of developing a capital-intensive project, either infrastructure or energy. Projects considered for the public commitment would be renewable energy related. The borrower is always a specific purpose vehicle (SPV), whose only asset is the project itself, and repayment of financing (principal plus interest) will depend on the cash flows generated internally by the project. For this indicator, only *Project Finance* in which Santander's role is *Mandated Lead Arranger* (MLA).

Project Finance (FA)
Includes *Project Finance*, as described above, in which Santander's role is *Financial Advisor* (FA).

Green Bonds
Includes green bonds issued by entities (e.g., corporates, SSAs, FIG) that need financing, where Santander acts as bookrunner (% attributed to Santander).

Project Bonds
Includes bonds issued to finance a renewable energy project and which will be paid back exclusively by the flows generated by the project, without recourse to other flows generated by the initiator of this project.

Export Finance (ECAs)
Includes assisting exporters or importers via government institutions – Export Credit Agencies, ECA's – that provide finance, credit insurance and guarantees to renewable energy-related transactions or projects.

Mergers & Acquisitions (M&A)
Includes advisory on companies' strategic decisions to achieve growth, recycle capital, diversify business or create synergies by acquiring / divesting / partnering with other companies. The target company activity will be renewable energy related.

Equity Capital Markets (ECM)

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	Includes advisory on companies that need financing by raising capital through shares (% ownership) via either private or public placements. The company activity will be renewable energy related. The volume of *SCIB*'s *green* transactions is obtained from public sources, namely league tables from well-known market data providers within the Corporate & Investment Banking space, such as *Infralogic*, *TXF* or *Mergermarket* league tables. These providers either source the information from third parties (e.g., public sources) or from internal reporting (e.g., *SCIB* teams). For project finance, project bonds and export finance, the information is reported by *SCIB* product teams and for green bonds, M&A and ECM the information is obtained from public sources. All roles undertaken by Banco Santander in the same project are accounted for. In situations where Santander holds multiple roles on the same transaction (e.g., financing and advisory) the split of the relevant roles will be considered according to the methodology in place, namely 100% of the amount of the project to which advisory services have been provided and the relevant % financed. Other sustainable finance like social or ESG-linked and other green finance products are not included.
Socially Responsible Investment Assets under Management	In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the total amount of Socially Responsible Investment Assets under Management (hereinafter SRI AuM, or AuM), for the closing balances as of June 30th, 2023, in accordance with the methodology established by management, as presented below: Total amount of Socially Responsible Investment Assets under Management, expressed in EUR billions, obtained from the consolidated data of Santander Wealth Management & Insurance, through the base reports sent by Santander Global Private Banking (PB) and Santander Asset Management (SAM). It represents the value corresponding to the total Assets under Management classified as *Article 8* - promoting ESG characteristics - and *Article 9* - with explicit sustainability objectives - of the *SFDR regulation* (EU Reg. 2019/2088). Includes assets managed by Santander Asset Management (SAM) in the EU and with equivalent criteria in geographies where *SFDR* does not apply (mainly Latin America) and *Third Party Funds* from the Private Banking segment. **Santander Asset Management** It includes liquid and illiquid funds reported by local CFOs and verified by the Global teams (ESG, finance and product). **Global Private Banking** Includes third-party funds data from *Allfunds* (30 to 45 days in arrears) filtered through the *Morningstar Art. 8 & 9 Database*, as of June 30th 2023 and committed capital to illiquid funds (article 8 & 9) at June 30th 2023.
Thermal coal-related power & mining phase out	In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the total exposure to thermal coal-related power & mining phase-out, for the year between January 1st and December 31st, 2022, in accordance with the methodology established by management, as presented below: Global Net REC of clients in sector of thermal coal mining or thermal coal-fired power generation. In this last case, if this activity represents more than 10% of their consolidated revenues. Sum of the Net REC of the customers under the perimeter of the watchlist.
Carbon neutrality in own operations	In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries state the carbon neutrality of their own operations, for the year between January 1st and December 31st, 2022, in accordance with the methodology established by management, as presented below: Santander is committed to being carbon neutral in their own operations. The greenhouse gas (GHG) emissions subject to compensation will be estimated based on the operational emissions (see reporting criteria for Scope 1 and 2 below) associated with its ten main markets (G10): Spain, Portugal, Germany, Poland, UK, USA, Mexico, Brazil, Argentina and Chile. Once GHG emissions have been calculated, Santander must carry out the compensation of the emissions that it has not been able to reduce, purchasing carbon credits from offset projects offered by providers of this service The process of calculating the estimated emissions for each year will be carried out as close in time as possible to the bidding process, so that the amount of carbon credits purchased cover the actual emissions that occur in the exercise. In order to maintain the condition of being carbon neutral, Santander will carry out the compensation of emissions on a recurring basis every year, once it has been calculated how much these have amounted to and how many carbon credits must be acquired.

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Financing renewable energies	In the reporting scope of this indicator, Banco Santander S.A. and subsidiaries include the total installed capacity of renewable energy projects that were financed or advised on, for the year between January 1st and December 31st, 2022, in accordance with the methodology established by management, as presented below: **Greenfield finance** Total installed capacity of greenfield renewable energy projects that we financed or advised on in the reporting period, expressed in MW. Greenfield projects are defined as those new projects yet to be built as of the financing date. **Brownfield finance** Total installed capacity of brownfield renewable energy projects that we financed or advised on in the reporting period, expressed in MW. Brownfield projects are defined as those projects already existing and producing electricity at the financing date.
Environmental footprint	In the reporting scope of this series of indicators, Banco Santander S.A. and subsidiaries include the information related to its ten main markets (G10): Spain, Portugal, Germany, Poland, UK, USA, Mexico, Brazil, Argentina and Chile, for the year between January 1st and December 31st, 2022, in accordance with the different methodologies established by management, as presented below:
Total internal energy consumption	Total energy consumption in the Company's buildings and office networks, expressed in GJ. Total energy consumption is calculated based on the quarterly data for natural gas, gasoil, electricity, diesel and all fuels consumed by the company. Conversion factors are obtained from the *UK Government GHG Conversion Factors for Company Reporting* published by DEFRA for 2022.
Total electricity consumption	Total electricity consumed in the Company's buildings and office networks, expressed in million kWh. Total electricity consumption is calculated based on the quarterly data for electricity consumption.
Electricity consumption from renewable resources	Total renewable electricity consumed in the Company's buildings and office networks expressed in million kWh. Total electricity consumption is calculated based on the quarterly data for electricity consumption certified as renewable energy.
Water consumption	Total consumption of public water supply of a certain building or of a network of offices, expressed in cubic meters (m^3). The calculation of the total water consumed in the reporting period is obtained from the quarterly consumption data reported by each individual building or office, based on invoices or receipts from the water supply company. Considering that for some branches and offices it is common for this information not to be available, since many of them pay for water consumption indirectly, an estimate can be made using the average daily consumption of 0.06 m^3/day/employee, calculated from a consumption sample of bank branches in Spain. The water consumption for said office can be obtained multiplying this ratio by the number of employees in the office and by the number of working days in the year.
Total paper consumption	Total paper consumption from all the different areas in the Company, such as reprography, printing, advertising, posters and postal mail, expressed in metric tons. The final value of total paper consumption is obtained from the quarterly consumption data reported by each individual building or office based on information sent by internal purchasing managers or directly from suppliers. It may be the case in which the data on paper consumption is consolidated at the country level and there is no breakdown by building or network of offices. In this case, all consumption will be reported by a single site (preferably the country's main office). The report of total paper consumption is reported separately following a classification based on the type of paper. The types of paper may be: • Purchased Certified Paper Consumption: Paper that has been managed in a sustainable way, evidenced via certifications such as FSC and PEFC. • Purchased Not Certified Paper Consumption: Paper that does not have any certification related to sustainable sourcing/management. • Purchased Recycled Paper Consumption: Paper that has been manufactured from previously used paper. This type of paper may, or may not, be certified.

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Paper and cardboard waste

Total paper and cardboard waste from all buildings and networks of offices, expressed in metric tons. The final value of total paper and cardboard waste is obtained from the quarterly consumption data reported by each individual building or office based on reports of the waste management service suppliers. It may be the case in which the data on paper and cardboard waste is consolidated at the country level and there is no breakdown by building or network of offices. In this case, all consumption will be reported by a single site (preferably the country's main office).

Scope 1 – Direct GHG emissions

Total quantity of greenhouse gas (GHG) emissions, expressed in tons of CO_2 equivalent, generated by combustion processes as a consequence of the consumption of natural gas, diesel and gasoline produced in the buildings, office networks and Company-owned vehicles. The calculation of emissions is obtained, following an operational control approach, from the quarterly fuel consumption data for the sources described above and the use of emission factors from the *UK Government GHG Conversion Factors for Company Reporting* published by DEFRA for 2022. To obtain the data for direct scope 1 emissions, the following equation is applied:

$$kg\ CO_{2eq} = Activity\ Data\ [m^3 or\ liters] \times Emission\ Factor\ [kg\ CO_{2eq}/m^3\ or\ kg\ CO_{2eq}/liter]$$

Scope 2 – Indirect GHG emissions

Total quantity of greenhouse gas (GHG) emissions, expressed in tons of CO_2 equivalent, generated as a consequence of the production of electricity consumed in the Company's buildings and office networks. Emissions are calculated following an operational control approach, based on the quarterly data for electricity consumption and the use of emission factors obtained from the *CO_2 emissions from fuel Combustion Highlights* report published by the International Energy Agency in 2021. To obtain the data on indirect scope 2 emissions, associated with the consumption of electricity, the following formula is applied:

$$kg\ CO_{2eq} = Activity\ Data\ [kWh] \times Emission\ Factor\ [kg\ CO_{2eq}/kWh]$$

Market-based emissions
For this approach, the 2021 IEA emission factor for each country was applied to the electricity not certified as being produced from renewable sources. For certified *green energy* electricity, no emissions are considered, i.e., emission factor equals zero.

Location-based emissions
For this approach, the 2021 IEA emission factor for each country was applied to all consumed electricity.

Scope 3 – Other indirect GHG emissions

Total quantity of greenhouse gas (GHG) emissions, expressed in tons of CO_2 equivalent, generated by *Business Travel* and *Employee Commuting*. Emissions are calculated from the quarterly *distance-traveled* data from the two categories previously described and the use of emission factors from the *UK Government GHG Conversion Factors for Company Reporting* published by DEFRA for 2022.

Business travel:
For the *Business Travel* emission source, air, rail and car travel are considered. Air travel is broken down into short, medium, and long-haul trips, resulting in different emission factors for each category. To calculate the data on other scope 3 indirect emissions, associated with Business Travel, the following formula is applied:

$$kg\ CO_{2eq} = Activity\ Data[pkm] \times Emission\ Factor\ [kg\ CO_{2eq}/pkm]$$

The activity data information comes from travel agency reports in the case of air and train travel, as well as from internal information systems in the case of car, as well as train travel in some cases.

Note: Information on business travel by car for Santander Consumer USA is not reported due to the unavailability of the information.

Commuting:
For *Commuting*, train, bus and car (depending on the type of car used, i.e., gasoline, diesel, natural gas, LPG, plug-in hybrid and non-plug-in hybrid) travels are considered. The travel distance data is obtained directly from the report of the shuttle and route service provider, who provides the average distance traveled by the vehicles rented by Grupo Santander to mobilize its employees in Germany, Brazil, the United States, Spain, Mexico, Poland, and Portugal. The same average distances are used as an estimate of the distance traveled for the other means of transport considered.

For each headquarters or reporting unit, the travel distance data is used in conjunction to the number of working days in the quarter and the number of parking spaces available at the headquarters (in

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order to estimate the number of employees travelling to work in personal vehicles), applying the following formula:

$$Activity\ Data\ [km] = Daily\ traveled\ distance\ [km] \times N \times P$$
$$kg\ CO_{2eq} = Activity\ Data\ [km] \times EmissionFactor\ [kg\ CO_{2eq}/km]$$

Where:

$$N = Number\ of\ working\ days\ in\ the\ quarter$$
$$P = Number\ of\ available\ parking\ spaces\ at\ central\ service\ buildings$$

Note: The use of a personal car by employees in Argentina, Poland or the UK is not reported due to the unavailability of the information.

Notes:

1. *Activity data* is understood to be the parameter that defines the degree or level of the activity that generates GHG emissions. For example, the gasoline consumption [liters] of a vehicle, or the amount of electricity [kWh] used in a building. The *emission factor*, in turn, describes the amount of GHG emitted for each unit of the "activity data" parameter.
Source: *Guía para el cálculo de la huella de carbono y para la elaboración de un plan de mejora de una organización.* MITECO (June, 2023).

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DISCLAIMER

Non-IFRS and alternative performance measures

This document contains financial information prepared according to International Financial Reporting Standards (IFRS) and taken from our consolidated financial statements, as well as alternative performance measures (APMs) as defined in the Guidelines on Alternative Performance Measures issued by the European Securities and Markets Authority (ESMA) on 5 October 2015, and other non-IFRS measures. The APMs and non-IFRS measures were calculated with information from Grupo Santander; however, they are neither defined or detailed in the applicable financial reporting framework nor audited or reviewed by our auditors. We use these APMs and non-IFRS measures when planning, monitoring and evaluating our performance. We consider them to be useful metrics for our management and investors to compare operating performance between periods. Nonetheless, the APMs and non-IFRS measures are supplemental information; their purpose is not to substitute IFRS measures. Furthermore, companies in our industry and others may calculate or use APMs and non-IFRS measures differently, thus making them less useful for comparison purposes. APMs using ESG labels have not been calculated in accordance with the Taxonomy Regulation or with the indicators for principal adverse impact in SFDR. For further details on APMs and Non-IFRS Measures, including their definition or a reconciliation please see "Alternative performance measures" section of Banco Santander, S.A. (Santander) Q2 2023 Financial Report, published on 26 July 2023. This document is available on Santander's website (https://www.santander.com/en/shareholders-and-investors/financial-and-economic-information#quarterly-results).

Non-financial information

This document contains, non-financial information (NFI), including environmental, social and governance-related metrics, statements, goals, commitments and opinions. NFI is not audited nor reviewed by an external auditor (with the exception of Greenhouse Gas Statement of Santander and subsidiaries for the financial year ended December 31, 2022, which has been third party verified to a limited assurance by "PricewaterhouseCoopers Auditores, S.L." in accordance with the International Standard on Assurance Engagements 3410 (ISAE 3410), "Assurance Engagements on Greenhouse Gas Statements" issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC)). NFI is prepared following various external and internal frameworks, reporting guidelines and measurement, collection and verification methods and practices, which are materially different from those applicable to financial information and are in many cases emerging and evolving. NFI is based on various materiality thresholds, estimates, assumptions, judgments and underlying data derived internally and from third parties. NFI is thus subject to significant measurement uncertainties, may not be comparable to NFI of other companies or over time or across periods and its inclusion is not meant to imply that the information is fit for any particular purpose or that it is material to us under mandatory reporting standards. NFI is for informational purposes only and without any liability being accepted in connection with it except where such liability cannot be limited under overriding provisions of applicable law.

Forward-looking statements

Santander hereby warns that this document contains "forward-looking statements" as per the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Such statements can be understood through words and expressions like "expect", "project", "anticipate", "should", "intend", "probability", "risk", "VaR", "RoRAC", "RoRWA", "TNAV", "target", "goal", "objective", "estimate", "future", "commitment", "commit", "focus", "pledge" and similar expressions. They include (but are not limited to) statements on future business development, shareholder remuneration policy and NFI.

However, risks, uncertainties and other important factors may lead to developments and results to differ materially from those anticipated, expected, projected or assumed in forward-looking statements.The following important factors (and others described elsewhere in this document and other risk factors, uncertainties or contingencies detailed in our most recent Form 20-F and subsequent 6-Ks filed with, or furnished to, the SEC), as well as other unknown or unpredictable factors, could affect our future development and results and could lead to outcomes materially different from what our forward-looking statements anticipate, expect, project or assume: (1) general economic or industry conditions (e.g., an economic downturn; higher volatility in the capital markets; inflation; deflation; changes in demographics, consumer spending, investment or saving habits; and the effects of the war in Ukraine or the COVID-19 pandemic in the global economy) in areas where we have significant operations or investments; (2) climate-related conditions, regulations, policies, targets and weather events; (3) exposure to various market risks (e.g., risks from interest rates, foreign exchange rates, equity prices and new benchmark indices); (4) potential losses from early loan repayment, collateral depreciation or counterparty risk; (5) political instability in Spain, the UK, other European countries, Latin America and the US; (6) legislative, regulatory or tax changes (including regulatory capital and liquidity requirements), especially in view of the UK´s exit from the European Union and increased regulation prompted by financial crises; (7) acquisition integration challenges arising from deviating management's resources and attention from other strategic opportunities and operational matters; (8) our own decisions and actions including those affecting or changing our practices, operations, priorities, strategies, policies or procedures; (9) uncertainty over the scope of actions that may be required by us, governments and others to achieve goals relating to climate, environmental and social matters, as well as the evolving nature of underlying science and industry and governmental standards and regulations; and (10) changes affecting our access to liquidity and funding on acceptable terms, especially due to credit spread shifts or credit rating downgrades for the entire group or core subsidiaries.

DISCLAIMER

Forward looking statements are based on current expectations and future estimates about Santander's and third-parties' operations and businesses and address matters that are uncertain to varying degrees, including, but not limited to developing standards that may change in the future; plans, projections, expectations, targets, objectives, strategies and goals relating to environmental, social, safety and governance performance, including expectations regarding future execution of Santander's and third-parties' energy and climate strategies, and the underlying assumptions and estimated impacts on Santander's and third-parties' businesses related thereto; Santander's and third-parties' approach, plans and expectations in relation to carbon use and targeted reductions of emissions; changes in operations or investments under existing or future environmental laws and regulations; and changes in government regulations, regulatory requirements and internal policies, including those related to climate-related initiatives.

Forward-looking statements are aspirational, should be regarded as indicative, preliminary and for illustrative purposes only, speak only as of the date of this report, are informed by the knowledge, information and views available on such date and are subject to change without notice. Santander is not required to update or revise any forward-looking statements, regardless of new information, future events or otherwise, except as required by applicable law.

Not a securities offer

This document and the information it contains does not constitute an offer to sell nor the solicitation of an offer to buy any securities.

Past performance does not indicate future outcomes

Statements about historical performance or growth rates must not be construed as suggesting that future performance, share price or results (including earnings per share) will necessarily be the same or higher than in a previous period. Nothing in this document should be taken as a profit and loss forecast.

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External verification

PricewaterhouseCoopers Auditores, S.L., an independent firm charged with auditing the financial statements of Banco Santander S.A., issued a verification report, with limited assurance, on the selected indicators mentioned in PwC verification report (Annex "Independent verification report"), according to the International Standard on Assurance Engagements (ISAE) 3000 (Revised). The report's conclusion can be found in the Annex "Independent verification report" at the end of this Climate Finance Report.

Glossary

ACT	Assessing Low Carbon Transition
AGM	Annual General Meeting
APMs	Alternative Performance Measures
AuM	Assets Under Management
BEI	Banking Environment Initiative
BRC	Board Risk Committee
BMS	Building Management Systems
CAF	Development Bank of Latin America
CBES	Climate Biennal Explanatory Scenario
CCB	Configuration Control Board
CCUS	Carbon Capture, Utilisation and Storage
CEB	Council of Europe development Bank
CEO	Chief Executive Officer
CESGA	EFFAS Certified ESG Analyst
CFA	Chartered Financial Analyst
CFE	Comisión Federal de Electricidad
CISA	Climate Internal Scenario Analysis
CISL	Cambridge Institute for Sustainability Leadership
CRA	Agribusiness Receivables Certificate
CRO	Chief Revenue Officer
DCM	Debt Capital Markets
E&CC	Environmental and Climate Change
EAD	Exposure at default
EBA	European Banking Authority
EBRD	European Bank for Reconstruction and Development
ECB	European Central Bank
EDF	Environmental Defense Fund
EFPA	European Financial Planning Association
EFRAG	European Financial Reporting Advisory Group
EIB	European Investment Bank
EMDEs	Emerging market and developing economies
ENCORE	Exploring Natural Capital Opportunities, Risks and Exposure
EPCs	Energy Perfomance Certificate
ESCC	Environmental, Social and Climate Change
ESG	Environmental, Social and Governance
ESMA	European Securities and Markets Authority
ETFs	Exchange Traded Funds
EV	Electric Vehicles
EWRM	Enterprise Wide Risk Management
FATF	Financial Action Task Force
FECE	Federation of Domestic Appliance Merchants
FSC	Forest Stewardship Council
GARP	Global Association of Risk Professionals
GBF	Global Biodiversity Framework
GFANZ	Glasgow Financial Allianz for Net Zero
GHG	Greenhouse Gas
GVA	Gross Value Added
GISD	Global Investors for Sustainable Development
GTB	Global Transactional Banking
GTPS	Brazilian Roundtable on Sustainable Livestock
HPI	House Price Index
IASE	International Association for Sustainable Economy
ICAAP	Internal Capital Adequacy Assesment Process
ICMA	International Capital Market Association
IEA	International Energy Agency
IFACC	Innovative Finance for the Amazon, Cerrado and Chaco
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
IIGCC	International Investors Group on Climate Change
ILAAP	Internal Liquidity Adequacy Assesment Process
IMF	International Monetary Fund
IPBES	Intergovernmental Policy Platform on Biodiversity and Ecosystem Services
IPCC	International Panel on Climate Change
ISSB	International Sustainability Standards Board
IUCN	International Union for Conservation of Nature
KPIs	Key Performance indicators
LEAP	Listening and Engagement Active Partnerships
LGD	Loss Given Default
LMA	Loan Market Association

M&A	Mergers and Acquisitions
MIGA	Multilateral Investment Guarantee Agency
MITECO	Ministry for the Ecological Transition and the Demographic Challenge
MREL	Minimum Requirement for own funds and Eligible Liabilities
NACE	Statistical Classification of Economic Activities
NDCs	Nationally Determined Contributions
NFI	Non Financial Information
NGFS	Network for Greening the Financial System
NUTS	Nomenclature of Territorial Units for Statistics
NZBA	Net Zero Banking Alliance
NZAMi	Net Zero Asset Management initiative
NZE	Net Zero Emissions
OECC	Spanish Climate Change Office
PCAF	Partnership for Carbon Accounting Financials
PD	Probability of Default
PFE	Potential Future Exposure
POS	Point Of Sale
PRI	Principles for Responsible Investment
PR	Physical Risk
PSI	Principles for Sustainable Inssurance
RAG	Red Amber Green
RAS	Risk Appetite Statement
RPCs	Representative Concentration Pathways
RPVC	Rigid Polyvinyl Chloride
RSPO	Sustainable Palm Oil
RTRS	Roundtable on Responsible Soy
SAF	Sustainable aviation fuel
RBF	Responsible Banking Forum
RBSCC	Responsible Banking, Sustainability and Culture Committe
RCP	Representative Concentration Pathway
REC	Equivalent Credit Risk
REIF	Real Estate Investment Funds
SAM	Santander Asset Management
SBTN	Science Based Targets Network
SCF	Santander Consumer Finance
SCIB	Santander Corporate & Investment Banking
SDG	Sustainable Development Goals
SEC	Securities and Exchange Comission
SFCS	Sustainable Finance Classifcation System
SFDR	Sustainable Finance Disclosure Regulation
SCG	Santander Group City
SHUSA	Santander Holdings USA
SMEs	Small and medium-sized enterprises
SREP	Supervisory Review and Evaluation Process
SRI	Socially Responsible Investment
TCFD	Task Force on Climate-Related Financial Disclosures
TLAC	The Loss-Absorbing Capacity
TNFD	Taskforce on Nature-related Financial Disclosures
TPI	Transition Pathway Initiative
TR	Transition Risk
T&O	Technology & Operations
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP-FI	United Nations Environment Program for Finance Institutions
UNIDO	United Nations Industrial Development Organization
UNODC	United Nations Office on Drugs and Crime
WBCSD	World Business Cpuncil for Sustainable Development
WM&I	Wealth Management and Insurance
WWF	World Wide Fund for Nature