



2018 Climate Finance report

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Our approach

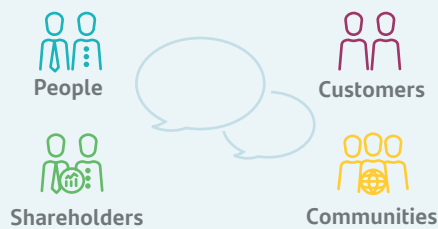
“ By delivering on our purpose, and helping people and businesses prosper, we grow as a business and we can help society address its challenges too. Economic progress and social progress go together. The value created by our business is shared – to the benefit of all.

Communities are best served by corporations that have aligned their goals to serve the long term goals of society. ”

Ana Botín



By being responsible, we build loyalty



... Santander treats **me** responsibly

In our day-to-day businesses, we ensure that we do not simply meet our legal and regulatory requirements, but we exceed people’s expectations by being Simple, Personal and Fair in all we do.

I’m loyal to Santander because...

... Santander acts responsibly in **society**

We focus on areas where, as a Group, our activity can have a major impact on helping people and businesses prosper.

2018 Climate Finance report

Index

1. Climate change and the shift towards a low-carbon economy

04

- a. Context
- b. Action on Climate and SDGs.
- c. Responding to climate change involves a twofold approach.
- d. The role of the banking sector: risks and opportunities

2. Banco Santander progress to today

08

- a. Financing the transition to a low carbon economy.
- b. Banco Santander progress to today.
- c. What contribution does climate finance make.

3. Financing the future: Renewable energy & Energy efficiency

11

- a. Renewable energy and energy efficiency projects.
- b. Helping to manage and conserve natural resources.
- c. Promoting low-emission transport.

4. Managing our environmental footprint

22

- a. Environmental footprint: energy efficiency and reduction of consumption.
- b. Other projects with an environmental impact in communities.

5. Annex 1: Soft Commodities Compact report 2018

28

6. Annex 2: Santander Case Study. UNEP FI pilot pilot project

30

Overview

We are supporting the development of renewables and the more efficient use of energy while helping our clients make the transition to a low carbon economy. At the same time, the need to take measures to adapt and mitigate climate change presents significant investment opportunities, which we are ready to seize by taking positive action against climate change.

Main highlights 2018

Active participation in **UNEP FI pilot** project on implementing the TCFD recommendations for banks

6,689 MW² of renewable energy financed.
Leader in renewable energy finance among peers¹.

43% of internal energy consumed comes from renewable energies.

1. The peers list includes: Bank of America, Barclays, BBVA, BNP Paribas, Citi, Deutsche Bank, HSBC, Intesa San Pablo, ING, ITAÚ, JP Morgan Chase, Lloyds Bank, Societe Generale, Standar Chartered, UBS, UniCredit, Wells Fargo.

2., Total generation capacity of the projects financed by the bank.

1. Climate change and the shift towards a low-carbon economy

The transition to a low-carbon economy is a necessity in the light of climate change, but also a way of overcoming the current global macroeconomic and macro-financial difficulties.

According to the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change, the Earth's temperature has gradually risen over the last few decades, and now stands approximately 1.2°C higher than it was in the pre-industrial age, and human activities are estimated to have caused approximately 1.0°C of this increase, which has taken place at the same time as the concentration of CO₂ in the atmosphere has risen.

While it is considered that 2°C is the upper ceiling above which damages caused to the environment become disruptive and irreversible, according to an IPCC special report, the risks to natural and human systems are significantly lower for a heating of 1.5°C than for an increase of 2°C. However, if the current trend continues, the concentration of greenhouse gases in the atmosphere will cause an increase in temperatures of between 4-6°C by 2100.

Climate change does not only affect temperatures; it will also have an impact on other phenomena, such as more frequent, extreme weather events; changes in rainfall patterns and in soil properties; a rise in ocean levels; extinction of animal and vegetable species; higher rates of respiratory, cardiovascular or infectious diseases; and food shortages. This will all have economic consequences which are difficult to predict.

It is therefore imperative to take measures immediately both to adapt to and also to mitigate climate change. All countries, economic sectors and populations need to be brought on board in an attempt to invert this growing trend, so that global warming can be maintained within acceptable

“ The heating of the climate system is an unmistakable fact. Many of the changes which have been observed since the 1950s had not been seen in the previous millennia. The atmosphere and oceans have heated up, snow and ice volumes have fallen, the sea level has risen and greenhouse gases have increased ”

IPCC Fifth Assessment Report

levels. Against this background, natural resources management plays a major role. Forestation and reforestation are crucial ways of bringing down global warming, as forests are the most important CO₂ sink across the globe.

The Paris Agreement, which came into force in November 2016, is a very important step forward in terms of international collaboration against climate change.

In addition to the Paris Agreement, some other initiatives are aligned and support with this climate change commitment.

On 25 September 2015, the United Nations General Assembly formally adopted the universal, integrated and transformative 2030 Agenda for Sustainable Development, along with a set of 17 Sustainable Development Goals (SDGs) and 169 associated targets. This Agenda develops an action plan for people, planet and prosperity. Climate change is one of the key issues of the axis “Planet”, which is focused on protecting the planet from degradation through the implementation of sustainable consumption and production activities, sustainable management of natural resources as well as ensuring that urgent action on climate change is taken.

Ultimately aiming to provide for the needs of the present and future generations.

Moreover, at the European Union level, different initiatives have been put in place in order to implement the commitments undertaken. The action plan on sustainable finance, adopted by the Commission in March 2018, is one of the most important. It sets out a comprehensive strategy to further connect finance with sustainability, focused on 3 main objectives:

- I. reorient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth.
- II. manage financial risks stemming from climate change, environmental degradation and social issues.
- III. foster transparency and long-termism in financial and economic activity.

The latest report of the IPCC, issued in 2018 October, suggested that the current level of annual GHG emissions could result in damage as high as \$54t trillion globally by 2040.

Action on Climate and SDGs

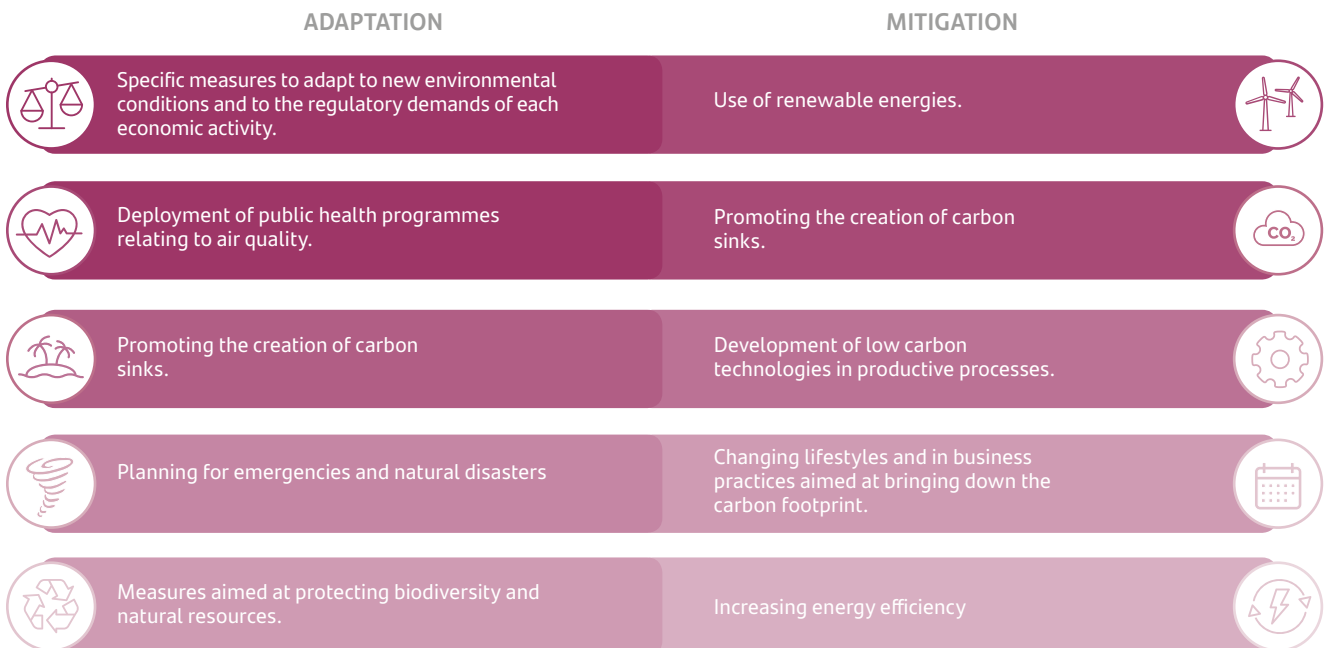
Climate action plays a central role in Achieving the Sustainable Development Goals, as it is a main accelerator of all other factors. Pursuing climate action and sustainable development in an integrated and coherent way offers the strongest approach to achieve objectives efficiently and quickly under the Paris Agreement and the 2030 Agenda for Sustainable Development.

Main SDG on which Climate Finance has an impact:



Responding to climate change involves a twofold approach:

- Mitigation: Reducing emissions of and stabilising the levels of greenhouse gases in the atmosphere.
- Adaptation: Adapting to the climate change already in the pipeline.



The role of the banking sector: risks and opportunities

The financial sector has an important role to play in supporting the achievement of the Paris Agreement and the UN Sustainable Development Goals. Environmental, social and governance issues are affecting the day-to-day businesses of banks, investors and insurers, in the risks that these issues present, and in the opportunities to generate positive impacts.

Financing the transition to a low carbon economy

The goals set by the Paris Agreement accepted by the international community for controlling greenhouse gas emissions necessarily involves a shift towards a low-carbon economy. In other words, a considerable reduction in the carbon intensity of the current production system.

The banking sector has a key role to play in the transition to a low-carbon economy, representing major investment opportunities to adapt the global economic system and activities to the latest climate change challenges.

One of the challenges for the banking sector is measuring progress. While there is progress on metrics, there is no yet a commonly accepted approach to measuring the climate progress of banks, but general considerations can guide the way. The report "Exploring metrics to measure

Financiers can work to align capital allocations with sustainable development goals at scale. Considering risks as well as opportunities, financial institutions need to integrate climate and sustainability issues in their business models and into their strategy. In the face of global challenges, the finance community can demonstrate its ability to contribute to enhancing growth, as well as environmental and social resilience, through financing of the real economy.

the climate progress of banks" by UNEP FI and the World Resources Institute recommends that banks should aim to follow certain criteria towards building robust metrics.

It is recommended that all financed climate-related activities should be reported in a complete manner, which is associated with both the "problem" (i.e. fossil fuel use) and the "solution" (i.e. renewable energy). Metrics should also be compared with external ratios to ensure they are taken into context. Banks participating in the financing of activities related to climate (solution and problem), should report the percentage attributable to their participation. Finally, transparency should enable the reader to know how to use the information provided including its limitations. Sectoral collaboration will be important if we are to overcome the challenges of implementing these principles.

“ The IEA* estimates that the low-carbon transition could require \$3.5trn in energy sector investments every year for decades – twice the rate at present. Under their scenario, in order for carbon to stabilise by 2050, nearly 95% of electricity supply will need to be low-carbon, 70% of new cars electric, and the CO₂ intensity of the building sector will need to fall by 80% **”**

European Commission Conference: A global approach to sustainable finance

*International Energy Agency

Climate Change: Implications for investors and financial institutions

Climate change will affect all sectors of the economy, and is relevant to investors and financial institutions.

1. There are risks and opportunities associated with policy measures directed at reducing greenhouse gas (GHG) emissions. To meet the internationally agreed targets, patterns of investment will need to change considerably. This will include significant decreases in investment in fossil fuel extraction and conventional fossil fuel-based power generation, and significant increases in investment in low-carbon energy and energy efficiency.
2. Physical impacts of climate change will affect assets and investments. Climate change and extreme weather events will affect agriculture and food supply, infrastructure, precipitation and the water supply in ways that are only partially understood.
3. Decisions made by private sector investors and financial institutions will have a major influence on how society responds to climate change.
4. There will be significant demand for capital, with governments looking to the private sector to provide much of it. In the energy supply sector alone, it is estimated to be between USD 190 and 900 billion per year through to 2050, accompanied by a significant shift away from fossil fuels towards low-carbon sources such as renewables and nuclear.

Institutional Investors Group on Climate Change (IIGCC), the United Nations Environment Programme Finance Initiative (UNEP FI) and the University of Cambridge.

An orderly transition to a green economy is needed. Governments and regulators will play an important role in setting the frameworks that will enable all stakeholders in society to move into a low-carbon economy.

The Financial Stability Board (FSB), whose goal is to achieve a financial system resistant to all types of risk, set up a working group in 2015: Task Force on Climate-related Financial Disclosures (TCFD). In December 2016, this group published recommendations for improving companies' reporting of climate information. The FSB sets out recommendations in four key areas: governance, strategy, risk management, and metrics and targets. It also defines what each entity should report in each of these areas.

These recommendations include the importance of defining different scenarios to help organisations improve strategic reflections on the future and setting out and assessing the possible impact of climate change. The scenarios are based on a set of variables and assumptions regarding key change relationships and forces that can provide a convincing possible future world view.

In addition, at the end of 2016, the European Commission appointed a group of top experts on sustainable finance and they published a final report on 31 January 2018, which provides a global vision of how to create a European Union strategy for sustainable finance.

In March 2018, the European Commission published an action plan based on that report. The plan will see the creation of a taxonomy that sets out criteria for defining what is a green or low-carbon asset. It will require insurance companies and entities providing investment services to offer their customers products based on their preferences in relation to ESG factors and to incorporate the recommendations of the FSB's TCFD in company reporting.

Implementation of the proposed plan will help to meet the target of increasing investment by EUR 180,000 million pursuant to EU 2030 goals in accordance with the Paris Agreement, including the 40% reduction in the emission of greenhouse gases.

On 29 June 2017, the Task Force released three key documents that serve as building blocks to describe and support implementation of the Task Force's recommendations.

The Task Force released its first Status Report providing an overview of current disclosure practices and their alignment with the core elements of the TCFD recommendations on 26 September 2018. In time for the report publication, 513 organisations had expressed their support for the TCFD recommendations, signalling growing momentum for climate-related disclosures. Actually, over 780 organisations, have endorsed the TCFD recommendations since 2017, 48% of them in the financial sector.

	RISKS	OPPORTUNITIES
Financial risk derived from the transition to a low-carbon economy	Political and legal. Implementation of fixed carbon pricing, adoption of energy efficiency solutions, lawsuits...	Resource efficiency. Reduction of operating costs by improving process efficiency
	Technology. The development and use of emerging technologies will affect the competitiveness of certain organisations	Energy sources.
	Market. Changes in supply and demand for certain products and services	Products and services. Improving the organisation's competitiveness through the development of new products and services adapted to new customer requirements ISKS
	Reputation. Customer or community perception of the organisation's contribution to climate change	Markets. Opportunities in new markets that allow diversification of the organisation's activity
Physical	Severe. Extreme weather events	Resilience. Improving contingency planning in communities at "risk" and specific sectors
	Chronic. Long-term changes in climate patterns	

Source: Risks and opportunities established by the Task Force on Climate-Related Financial Disclosures (TCFD)

2. Banco Santander progress to today

The Board Responsible banking, sustainability & culture committee (RBSCC) assists the board of directors in fulfilling its oversight responsibilities with respect to the responsible banking strategy, sustainability and culture issues of the Group. This Committee meets quarterly, and consists of eight directors, seven of them are external directors, the majority being independent, and one executive director and also the Executive Chairman. All of them have been appointed by the board of directors taking into account their knowledge, qualifications and experience in the areas for which the committee is responsible.

Additionally the bank has also an Inclusive & Sustainable Banking Steering to meet the challenge of inclusive and sustainable growth, to promote among others, the financing of small businesses to create new jobs, financial empowerment, as well as the transition to a

low carbon economy, and fostering sustainable consumption. This steering meets every six weeks and consist of nine permanent members of senior management and 2 additional rotatory members (country heads).

Progress on the climate-related action items from the Steering and Board Committee is coordinated jointly by the Responsible Banking and Risk functions. The Responsible Banking Network, which also incorporates local units and global areas and business, is also engaged in driving forward this agenda. The governance is underpinned by several policies. A general sustainability policy, a specific climate change and environmental management policy which explains the Bank's action framework, in both its internal operations and its banking activities. Additionally there are sector-specific policies that cover climate-change issues.

General sustainability policy

Defines our general sustainability principles, and our voluntary commitments with our main stakeholders lasting value.

Climate change and environmental management policy

Sets out Santander's policy to protect the environment and mitigate the impact of climate change.

Sector policies

Lays down the criteria governing the Group's financial activity with the energy, mining & metals and soft commodities (products such as palm oil, soy and timber) sectors.

Sectorial policies update



Energy policy: includes prohibitions for financing coal-fired power plant projects worldwide and new clients with coal-fired power plants worldwide.



Mining – Metals policy: includes prohibitions for financing thermal coal mine projects worldwide and new clients with thermal coal mines projects worldwide.



Soft Commodities policy: includes its alignment with the Soft Commodities Compact, the Banking Environmental Initiative which Santander adhered in 2009, since the obligation for clients to be certified by 2020 has been removed.



Find more detailed information about Santander sectorial policies

We play a major role in supporting inclusive and sustainable growth, actively supporting the transition to a low carbon economy.

- Financing renewable energy, supporting smart infrastructure in the developing world, as well as agrotech and green tech
- Analysing environmental and social risks of all our project finance deals.
- Reducing our own environmental footprint.
- Fostering research and development in new technologies.

The top risk identification and assessment process developed by the strategic risk department includes climate-related risks among the potential threats identified for the Bank. These are reviewed on a quarterly basis. The task force responsible for social, environmental and reputational risk, led by the chief compliance officer, identifies potential risks from financial transactions and assesses policy compliance.

As part of the UNEP FI TCFD pilot project, the risk function has been working on the applications of the methodologies and tools developed during the project to stress test specific sectors and build further expertise on the analysis of transition and physical risks. Santander an inintial exesice to test the developed methodologies to measure the impact of climate change related transition risks in the production facilities of the car manufacturing sector, with the output providing a stressed rating in 2030 & 2040.

A developed case study is included in annex 2. Various activities to raise awareness and expertise within the risk function are also being undertaken, including a climate risk training session for the risk team delivered by external experts. Regarding disclosures, Santander has demonstrated its commitment to transparency by participating in CDP since 2003. In addition, in 2018 climate change was included in the annual information risk management report as an individualized risk as as in the scenario analysis section in relation to the UNEP FI pilot.

We believe that we can support our customers by helping them in the transition to the green economy. So we aim to raise 120Bn funding to 2025 and 220Bn to 2030 in green finance to help tackling climate change challenge. Santander continues to work in various work streams to develop suitable metrics to reflect.

to reflect climate performance and assess relevant risks and opportunities within its financing activity. Data incorporated in this document reflects Santander’s participation in the financing of renewable energies, avoided emissions by these and context to compare it against peers. Further work is ongoing regarding the metrics related to carbon intensive sectors and comparison to relevant climate scenarios aligned with the Paris Agreement targets.

In addition, we also believe that, if we are to tackle climate change, we have a responsibility to cut emissions and our environmental footprint. So we aim to purchase 100% of our electricity from renewable sources in all countries where it is possible to do so by 2025 and reching 60% by 2021.

Main initiatives to which Banco Santander is party



Banking Environment Initiative

The chief executives of some of the world's largest banks created the Banking Environment Initiative (BEI) to identify ways of collectively directing capital towards environmentally and socially sustainable economic development.

Pilot project on TCFD recommendations

In 2017 Santander – together with 15 other leading banks – joined the UNEP FI pilot project on implementing certain elements of the TCFD recommendations for banks. This initiative aims to develop models and metrics to enable scenario-based, forward-looking assessment and disclosure of climate-related risks and opportunities. The TCFD recommendations aim to improve transparency to enable better capital allocation in view of climate change risks and opportunities.

Following the work by all participating banks, two documents were published in 2018: the first, guidance focusing on transition risk; and, second, a report that helps banks assess risks and opportunities arising from physical risk.

As part of the pilot, Santander chose to measure the transition risk in the transportation sector / car manufacturing subsector, as this portfolio

Santander participates in two climate-related work initiatives, Bank 2030 a new initiative, which aims to build a roadmap for the banking industry to 2030 seeking to increase the level of low-carbon financing and the Soft Commodities Compact linked to avoiding deforestation and which is further described below.

includes investments (exposures) booked in geographies where Santander is based, and exposures to cars manufacturers are relevant by materiality for the Group, as well as being a good example of the diversified profile of global corporate customers which characterises the Santander Group. The complete case study can be found in annex 2 section of this report.

In 2018, Santander and 27 other large banks from five continents developed the principles to adapt the sector to the UN Sustainable Development Goals (SDGs) and the Paris Agreement on climate change.

Following a public consultation period the Principles will be signed by banks around the world at the United Nations General Assembly in New York in September 2019.

Soft Commodities Compact

Santander Group subscribes to the Soft Commodities Compact ("the Compact"), a BEI initiative that focuses on soy, palm oil, and PP&T (pulp, paper and timber), the three commodities that have the largest impact upon deforestation and biodiversity.

We have aligned our commitments to the Compact into our publicly available policy on soft commodities. This policy defines activities

that the Group will not finance, and those where financing is restricted under a set of strict guidelines relating to the location of the facilities used for, and the sales derived from, activities that have a detrimental impact on forestation.

In accordance with this commitment, we have reviewed our list of active clients in the soft commodity sectors of soy, palm oil, and pulp, paper and timber as of December 2018. The report on our progress can be found in Annex 1 section of this report.

“ Banco Santander welcomes the TCFD recommendations. They are an important step in the right direction to inform and improve transparency, reporting standards and awareness on the financial risks and opportunities related to the climate change. Most significantly, they upgrade this issue on the company's priorities agenda. Climate change and the scarcity of natural resources are two of the greatest challenges currently faced by society. A global commitment needs to be made, where all social groups, including companies, are actively engaged ”

Banco Santander Supporting public quote written for FSB's TCFD

3. Financing the future: Renewable energy & energy efficiency projects

An orderly transition towards a low-carbon economy means taking measures aimed at mitigating climate change across all sectors, particularly those that have the most direct impact on global warming, such as the energy, transport, commodities and food sectors.

Banco Santander understands that the banking sector has to play an important role in this shift, due to its position as a financier of energy production infrastructure. As the investment needed to put energy production infrastructure in place must be on such a large scale, these types of projects are usually funded through project finance, which is a funding mechanism sustained by a project's ability to create cash flow. There are other types of funding models, such as seed capital, issuance of bonds and bridge equity for these types of projects. In total, in 2018 we destined 2,714 million euros to financing green and / or sustainable infrastructure projects.

Even so, the mitigation of climate change goes beyond the use of cleaner energies. Reducing energy consumption and setting energy efficiency measures are also key aspects.

Renewable energies projects

In 2018, we helped finance greenfield renewable energy projects with a total installed capacity of 6,689 MW, thus avoiding the emission of 23 million tons of CO₂. These projects have a generation capacity equivalent to the consumption of 5.7 million households in one year².

In addition, we also contributed to the expansion, improvement or maintenance of existing renewable energy infrastructure projects (brownfield), with a total installed capacity of 1,200 MW.

According to the European Union, by improving the energy efficiency of buildings, the total energy consumption in the member countries could be reduced by 5-6%, which is translated into 5% fewer tonnes of CO₂. The contribution of the energy efficiency measures is, therefore, an essential element of the Paris Agreement.

With an estimated USD 90 trillion of infrastructure investment expected between 2015 and 2030, smart decisions now can make sure that investment is both financially rewarding and environmentally sustainable.

2018 European Commission Conference: A global approach to sustainable finance

2,714 million euros financed in green and/or sustainable infrastructure projects.

1. Emissions which the MW financed in 2018 will prevent over the course of the projects' useful lifespans.

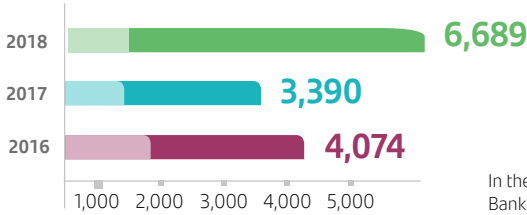
2. Equivalence calculated based on the installed power of renewable energy projects in which the Bank took part in 2018 (6,689 MW). Using the average electricity usage data in households of countries in which renewable energy projects have been funded published by the World Energy Council (2014). Employed capacity factors for the different energy types are: 35 % wind, 45 % wind offshore, 20 % photovoltaic solar, 38 % solar thermal, 80 % biomass"

Glossary

- **Project Finance**
Funding mechanism for largescale projects sustained by the project's capacity to create cash flows based on a structure of fixed contractors with customers, suppliers, market watchdogs, etc., so the loan can be repaid.
- **Seed capital**
Early investment to support a project from the time it is created through shares, until the project is able to create its own cash flows.
- **Bridge equity**
Credit granted as temporary funding with the purpose of providing immediate financing.
- **Greenfield**
Project carried out from scratch or which completely modifies an existing one.

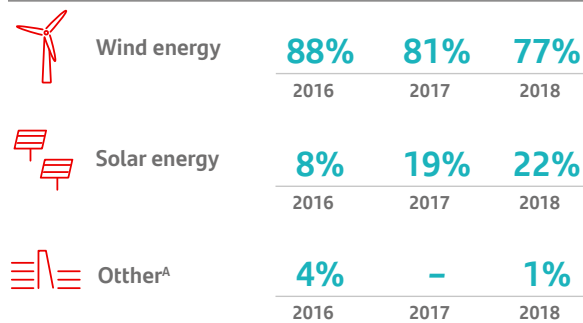
Participation in the financing of new renewable energy projects

(Financed MW)



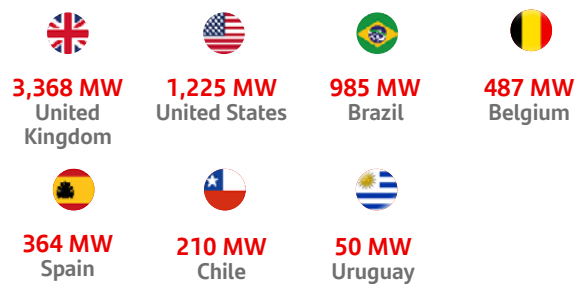
In the chart, the light colors represent the attributable MW to the Bank according to its participation percentage in each project

Breakdown of MW financed by type of renewable energy



A. Include hydroelectric for 2016 and biomass for 2018.

Breakdown of renewable MW finance by country in 2018

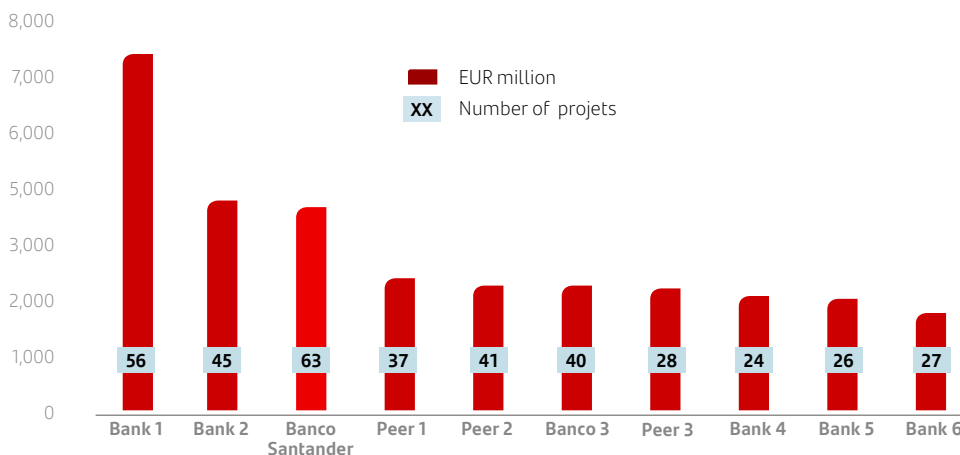


Santander has a long history of leadership in financing renewable energy projects. In the last ten years, Santander has been eight times within the top three banks in renewable project financing, and always within the top five. In this period of time, Santander has participated in 726 renewable energy project finance deals and has invested a total of EUR 29 billion. Compared to

its peers, Santander has been in the top position in nine of the last ten years.

In 2018, Santander was in the top 3 bank in both total investment and number of projects within the Lead Arranger category. And was the leader both total investment and number of projects among its peers.

Financing of renewable energies ranking^{1,2}



During the last 10 years, Santander has participated in the finance of 26 renewable energy projects with a total investment of 29 billion euros

1. As indicated by Dealogic and Bloomberg New Energy Finance league tables for project financing within the Lead Arranger category.

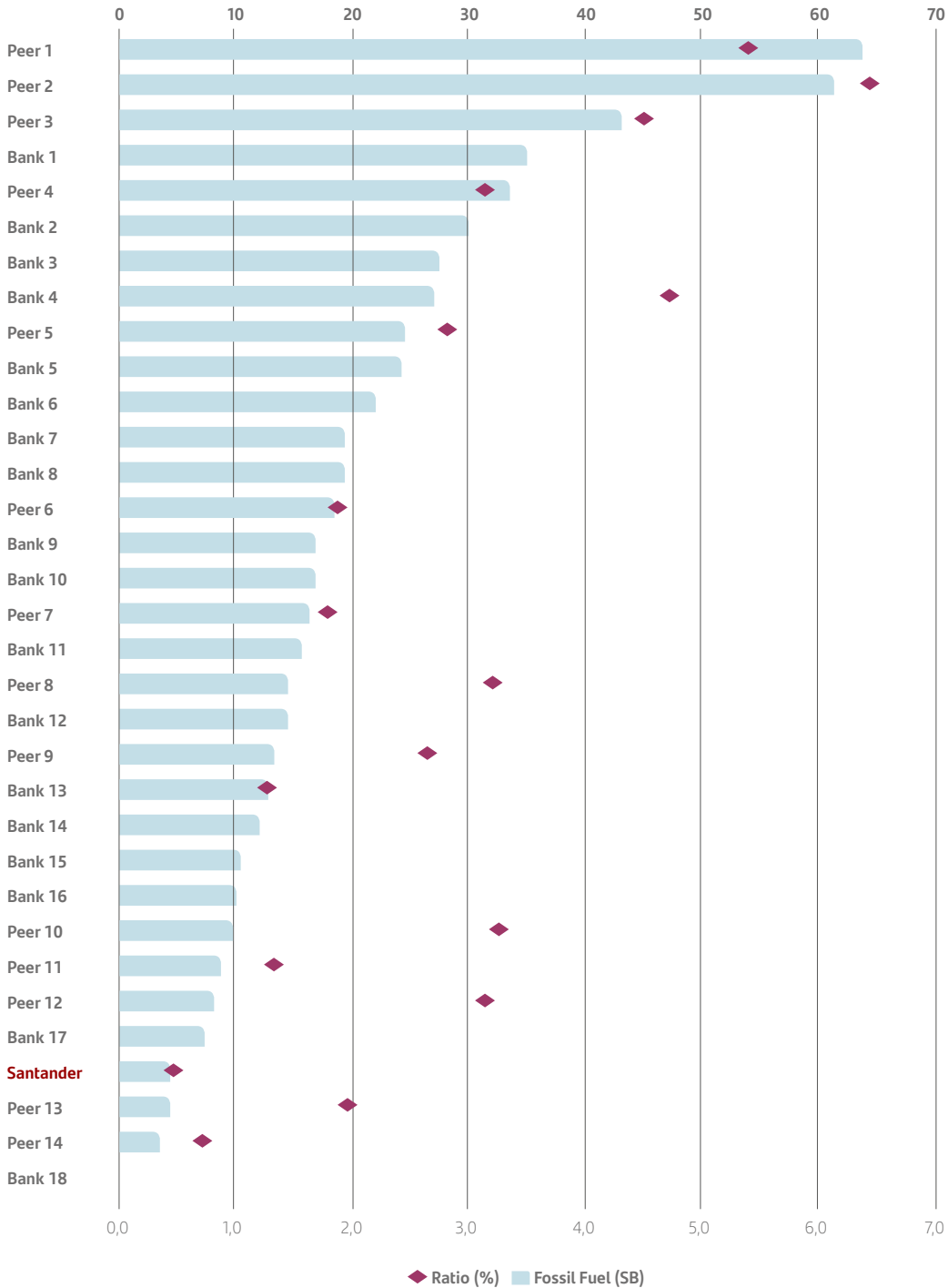
2. Peers are considered those banks that due to their size and market capitalization are comparable to Santander. The peers list includes: Bank of America, Barclays, BBVA, BNP Paribas, Citi, Deutsche Bank, HSBC, Intesa San Pablo, ING, ITAÚ, JP Morgan Chase, Lloyds Bank, Societe Generale, Standard Chartered, UBS, UniCredit, Wells Fargo.

A. Include hydroelectric for 2016 and biomass for 2018.

Banking on Climate Change

Fossil fuel finance report card 2019

2018 Fossil Fuel Financing (B\$)



Compared to other large its peers and other large commercial banks, Santander also has a comparatively low total amount of financing to fossil fuels. According to Banktrack Santander is placed in 31 out of 33 banks in absolute terms in financing fossil fuels and in the last place as 33 out of 33 as a relative measure of total credit provided.

Green bonds & ESG loans

Through our Santander Corporate & Investment Banking division we act as joint book runner in numerous emissions of green and sustainable bonds and ESG loans.

In 2018, we participated in green bond emissions for a total value of EUR 730 million, and in EUR 2,017 million in ESG syndicated loans.

“ The green bond market is gathering pace, with issuance quadrupling from USD 45 bn in 2015 to USD 168 bn in 2018. ”

European Commission Conference:
A global approach to sustainable finance.



Spain

Santander Corporate & Investment Banking (SCIB) acted as book runner of an inaugural five-year senior green bond for an amount of EUR 1,000 million for Telefónica Emisiones, S.A.U.



Chile

SCIB successfully led the placement by Empresas CMPC, S.A. of the first Chilean 'Bono Verde' (green bond) ever for USD 500 million, maturing in 2027.



Corporate

SCIB acted as joint book runner of a hybrid green bonds for an amount of EUR 800 million for Iberdrola International BV, with a specific subordinate structure that combines characteristics of debt and shares to finance renewable energy projects in the United Kingdom and Germany.



Poland

In May 2018 Bank Zachodni WBK privately issued subordinated bonds amounting to PLN 1 billion (EUR 240 million) and the European Bank for Reconstruction and Development (EBRD) subscribed the equivalent of PLN 150 million (EUR 36 million). BZ WBK has committed to spending the equivalent of 140% of these EBRD resources on financing the construction of certified commercial and residential greenfield projects in line with the EBRD Green Economy Transition.

Risk management and mitigation in the financing of infrastructure projects

At Santander we integrate environmental and social risks as part of our daily business management. As part of this, it is key to evaluating and controlling these risks from our customers' activities in sensitive sectors.

In addition to the framework of our sustainability policies, since 2009, after the approval of the board of directors, we have been signatory of the Equator Principles in order to analyse the environmental and social risks of all our project finance deals.

Energy efficiency projects

Credit lines with multilateral entities

In 2018 we signed agreements for a total value of EUR 345 million to offer financing lines for energy efficiency and renewable energy projects. And in the last three years, we signed agreements for a total value of EUR 1,080 million in Spain, Brazil, Poland and Peru.

Additionally, the European Investment Bank (EIB) and Santander Spain created a line of financing for companies and professional freelancers for projects that improve energy efficiency. Companies will be able to benefit from the advantageous conditions of EIB financing, in terms of both interest rates and repayment terms, in order to make the necessary improvements to boost their energy efficiency. This line is endowed with EUR 50 million contributed by the EIB, and is a pioneering product in the Spanish financial system.

Gender CEO award granted by Multilateral Investment Guarantee Agency of the World Bank (MIGA)

Lara de Mesa, Director of Responsible Banking for the Santander Group, received on March in Washington D.C. the Gender CEO award granted by MIGA. This award is a recognition to senior climate finance executives and highlights the position of constant global leadership of Santander in the financing of renewable energy, wind and solar projects.

It was Latin America that brought Santander and MIGA together. Our partnership began in the 1990s, when MIGA insured equity and shareholder loans in support of Santander's expansion in the region. Since then, MIGA has helped us be more responsible, by imposing strong due diligence based on sustainability requirements before progressing on projects.

In Poland, Santander signed a EUR 50 million line of credit with the European Bank for Reconstruction and Development (EBRD) to finance energy efficiency investments in local companies. Likewise, the EBRD subscribed the equivalent of EUR 36 million of subordinated debt issued in Polish currency by Santander Bank Poland, with Santander's commitment to allocate the resources to finance residential and commercial construction with energy efficiency certifications

Additional to the energy efficiency projects, Santander has also arranged credit lines with multilaterals for renewable energies. For example in Spain, in 2018 Santander arranged a credit line of EUR 200 million for the construction of renewable energy plants with the Council of Europe Development Bank. In Brazil, Santander also arranged a line of credit in 2018, in collaboration with the Development Bank of Latin America (CAF), to finance the purchase of photovoltaic equipment for a total value of USD 84 million.

We have great examples of collaboration:

- 361 million dollars non-honoured guarantee covering our loan to the State of São Paulo. MIGA's guarantee allowed us to offer a more competitive price and a longer tenor, contributing to improve the State's transport system. This financing will support the rehabilitation of about 800 kilometers of roads selected for their proximity and connectivity to inland waterway and railways/, improving efficiency and safety at the road while lowering the carbon footprint of moving goods and people in the state, / and, at the same time, creating directly over one thousand jobs in the region.
- Likewise, since 2018, MIGA is also covering 247 million dollars of Santander Peru's mandatory reserves held in the central bank. We have agreed that part of the extra capacity to lend that we now have in Peru will be focused on financing projects addressing climate change challenges.

Multilateral Development Banks are setting targets on the funds they allocate to the climate.

Total reported MDB climate finance commitments, 2020

Percent share of annual investments from own resources dedicated to the green economy

	2017
EBRD	40%
EIB	25%
IFC	28%
MIGA	28%
WBG	28%
BID Invest	30%
Grupo BID	30%
AfDB	40%
ADB	30%

1. 35% for developing countries (often the most vulnerable to climate change).

Other outstanding solutions by country

Portugal

→ Save to Compete

Save to Compete is an EDP programme to support the implementation of energy efficiency projects at companies. Santander is Save to Compete's bank and provides the financial support for the planned investments in those projects.

→ Energy Efficiency Line and Circular Economy Line

Banco Santander is one of the credit institutions that subscribed to the Protocols of Collaboration with the Financial Innovation Development Fund (FITEC) for the provision of the Energy Efficiency and Circular Economy Credit Lines.

There are two aims: first, to support investment projects for the implementation of measures to improve the energy performance of industrial and tourist facilities, and the second aim is to support investment for the transition to a circular economy, with a strong component of research, innovation and technological development.

With a global allocation of EUR 150 million and a maximum term of 10 years, the two lines benefit from an SGM guarantee up to 80% for operations with a maximum amount of EUR 2 million and a 3% spread limit.

UK

→ Battery energy storage

Santander loaned USD 39 million to the UK's Battery Energy Storage Solutions, amid growth expectations for projects that stabilise electric grids. "We believe we are one of the first senior debt lenders to close a project finance transaction in this space," said Howard Whitehead, head of infrastructure and renewable energy. Energy storage could be more crucial as increased renewables add intermittency to electricity grids.

Brazil

Santander Brazil has developed financing solutions for various sectors of society:

Individual people and legal entities

- Renewable energy consumer finance: for the acquisition of more efficient machinery and services
- CDC Processos Mais Limpos: for the purchase of machinery which helps reduce socioenvironmental impacts, such as water reuse systems and machinery to reduce of pollutating emissions.

Small and medium-sized enterprises

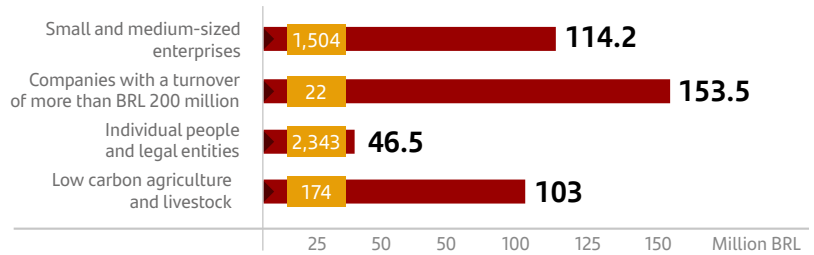
- CDC Sustentável: financing for machinery to improve energy efficiency, water efficiency and waste treatment,.
- Capital de Giro Sustentabilidade: lending for works, projects, consulting and certifications relating to energy efficiency, water efficiency and corporate governance.

Companies with a turnover of more than BRL 200 million

- Various initiatives for financing projects on energy efficiency, water efficiency, waste reduction and treatment, sustainable construction and other activities with positive environmental impacts.

Financing of projects that supports low-carbon agriculture.

Santander Brazil financing solutions



Wind energy is the clean generation alternative in which Brazil has made the most progress. Santander is behind much of this progress: more than 300 projects are supported, which represent around one third of the national market.



Solar Energy Financing

In 2012 there was a change in the regulation of electricity generation in Brazil, resulting in a new distributed generation energy police, where people and companies could generate energy for their own consumption. Since then we have created a line to finance the acquisition of photovoltaic solar panels supporting the market for individuals and companies.

Over the years, this market has grown exponentially and Banco Santander has been side by side with suppliers and end customers, creating solutions for both. In 2018, listening to the market demand, which required credit lines with longer terms and lower rates, we decided to create a special offer for our customers (Individuals, Companies and Agribusiness), "CDC Solar" (Solar Consumer Finance), a credit line specific for who want to buy a solar energy equipment. In order to do so, we have entered into a partnership with with Latin American Development Bank (CAF), where we have used cheaper funding that has provided lower rates for our clients.

“ I always wanted to put these panels on my own house to lower the cost of electricity and help the environment”, he says. With our line of credit, Reginaldo was able to install photovoltaic panels on the house where he lives with his wife and son. As a result, he saw the light bill reduced from \$ 200 to \$ 70 in a month and a half

Reginaldo Anésio, from Dois Córregos, São Paulo.

Helping to manage and conserve natural resources

Mitigating climate change is not just a question of reducing greenhouse gas emissions, but also requires a sustainable management of natural resources. The global food system as a whole is estimated to currently contribute between one quarter and one third of total global greenhouse gas emissions. Minimising emissions from the food system is therefore a necessary element of any strategy that seeks to achieve the temperature goals of the Paris Agreement.

Banco Santander has a significant business within the agricultural sector, helping to fund initiatives which are conducive to preserving natural resources. The use of sustainable techniques and high energy efficiency machinery in agriculture

has a large-scale impact on global reduction of emissions. This is why Banco Santander launches funding programmes to modernise machinery and production techniques in the main countries in which it operates.

Banco Santander conducts an annual review of its policies that relevant to this activity. The general sustainability policy, the climate change and environmental management and the sector policies (which go beyond Equator Principles) for sensitive sectors such as energy and soft commodities, define the Bank's criteria to ensure resources are used in a sustainable way to minimise negative environmental impacts for example from deforestation.

Brazil

In 2018 alone, our rural credit portfolio increased by 22.8% and we continued to expand our agro stores network within the country, with specialised managers to offer products and services that suit the business. Today, there are 21 stores that exclusively assist those who work in the field.

"The farm has changed compared with ten years ago. There were areas that were clearly deteriorating. We have been gradually reclaiming the land. The bank was responsible for this change"

Thiago Ienaga, client Santander



→ Responsible Agribusiness

In Responsible Agribusiness, we have our own lines of financing and lines of the National Bank of Development (BNDES) aimed at modernising the agricultural sector, with low socio-environmental and low-carbon impact. Through the BNDES lines, we disbursed BRL 396.1 million in the year.

In addition, we promote customer empowerment events on issues such as best practices related to soil, water, waste, energy, climate change, the Brazilian Forest Code and Rural Environmental Cadastre. In 2018 we held ten events that trained about 230 people.

In partnership with Bunge and The Nature Conservancy (TNC), we announced the financing of a mechanism for soy producers in the Brazilian Cerrado, aimed at

stimulating agricultural production without deforestation or conversion of native vegetation by promoting long-term loans to producers who undertake to comply with this commitment. The funding programme will be implemented with approximately USD 50 million in pilot form.

→ Santander Agro Sustentável

- Since 2010 Santander Agro Sustentável has promoted an inclusive low-carbon economy by supporting sustainable agriculture businesses. Alternative agricultural and fishing methods which help create a balance between economic, social and environmental issues are encouraged.
- There are awareness-raising programmes for employees and customers on environmental topics in collaboration with specialised organisations.
- Additionally, the Produzindo Certo Programme (which came about through a partnership between Santander, Bayer, Unilever, Yara Fertilizantes and an NGO called Aliança da Terra), creates an incentive for national soy producers to get in line with applicable laws and to respect international environmental regulations. Producers are supported and assisted in order to help them be awarded the RTRS (Round Table Responsible Soy) production certificate, thereby creating value added for this national product.

→ **Bunge**, Santander Brazil and The Nature Conservancy have joined forces to offer soy farmers long-term loans to expand production without clearing native habitat in the Brazilian Cerrado.

Spain

→ Santander Spain launched app agro:

- Brings farmers breaking news about agriculture, especially news related to government subsidies.
- Information about crop prices as well as agricultural products.
- It was voted best agro app of the Spanish financial sector.

Highlight A total of 30,000 downloads, 3,100 in 2018. 11,000 active users in 2018.

→ Supporting young agricultural professionals:

Agreements with autonomous communities: Granting favourable financing conditions to new young agricultural professionals, protection against drought in 5 autonomous communities.

→ Collaboration agreement with the LAFER Foundation

Development of joint initiatives for the promotion and management of specialized knowledge in the field of the agri-food sector and its social application, contributing to the incorporation into the labour market of people in that sector. Thanks to our involvement in the Master in Management programme, at agro-food companies, . 170 students participated in 9 sessions.

Portugal

→ Solução Agricultura

Farmers are given the opportunity to receive their aid in advance at no extra cost, to fund their campaigns and cope with paying their investment expenses. Particularly relevant are the partnership with the IFAP (Agriculture and Fishing Financing Institute) and with the CAP (Agricultores de Portugal).

→ Advance Income Credit Lines (EAGF)

In partnership with the Farmers' Confederation of Portugal, Santander provides a credit line that anticipates up to 80% of the amount of payment entitlements allocated by IFAP to farmers under the Single Payment Scheme provided by the Common Agricultural Policy.

Promoting low-emission transport

In the shift towards a low-carbon economy, all high energy-intensive sectors have a key role to play if we are to bring down carbon emissions. According to the International Energy Agency, the transport sector was responsible for 24% of global emissions in 2017.

To mitigate the effects of climate change, fostering the development and dissemination of alternative transport systems and of low emission vehicles will be a global priority.

Manufacturing of vehicles continued to rise in the world in 2017. Against this background, the Bank provides leasing and renting, to promote the use of hybrid or electrical cars in the country in which it operates. It also promotes emission compensation tools in Brazil and sponsors the bike-sharing scheme in London, an environmentally-friendly alternative to travelling by car.

Financing electric and low-emissions vehicles

In Spain Santander finances a fleet of 24,665 vehicles. In 2018, we financed 7,463 transactions.

In Brazil, the Bank offers all customers who take out a loan to buy a car, a way of offsetting the emissions of the financed vehicles and their personal activities through the acquisition of carbon credits, through the Reduces and Compensation programme.

We were also the first bank to offer customers the option to finance electric bicycles. The loan can be used to purchase the product of any manufacturer and may be repaid in up to 48 instalments through Santander Financiamentos.

In Portugal, Santander launched Soluções Auto Santander, a campaign which includes special financing conditions with a spread of 2% and a rebate of 15 basis points for electric vehicles for private customers and companies of the Bank.

Partnering for a greener mobility



**SOLUÇÕES AUTO
 EMPRESAS & PARTICULARES**
**Carro novo?
 Vá em frente!**
 12 modelos
 com condições especiais
 Família | Trabalho | Estudantes | Condições



2nd Chilean Energy & Infrastructure Finance Forum 2018

The SCIB team in Chile helped organise the 2nd Chilean Energy & Infrastructure Finance Forum 2018, which had high attendance and was a great success.

More than 230 members of the public and private sector attended the event – a seminar that aims to explore in depth the financing market for infrastructure projects in Chile.

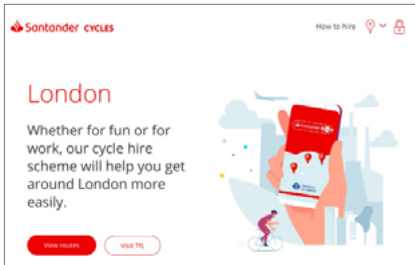
Gabriel Prudencio, Head of the Renewable Energy Division at the Chilean Ministry of Energy, underlined that there are currently 33 electrical plants under construction, of which 100% are renewable energy, highlighting of using this kind of energy.



Promoting & sponsorship the use of electric mobility in the cities where we are present.

UK

Since launching in 2015, Santander Cycles continue to help create a prosperous, connected and mobile society. Cycling can help improve physical and mental health by encouraging an active lifestyle, as well as boosting productivity at work. Public cycling schemes can also support local economies, by providing residents and tourists with an alternative way to travel and commute. This can mean that local businesses receive more exposure, with increased choice for more customers. In addition, cycling can avoid air pollution and greenhouse gas emissions caused by cars or taxis.



Germany

In 2018, Santander Consumer Bank AG launched a new bike-sharing system in Mönchengladbach in cooperation with our partner NextBike. There are now 250 Santander nextbikes at 35 stations available in the inner-city area of Mönchengladbach. The system is sponsored by Santander Germany and was developed in co-operation with the city of Mönchengladbach and the provider nextbike.

We also developed a project of providing infrastructure for electric vehicles with the installation of charging stations, which can be used by employees, customers and the public.

In addition, Santander presented with Movio CarSharing a new car-sharing concept at the International Motor Show.



Spain

In Boadilla del Monte, close to our head office in Madrid, we sponsor a bike-sharing scheme.

Additionally, a new electric car service has been launched at the Santander Spain and Technology & Operations (Abelias) offices. Santander Spain and Carsharing Bansacar have made available to all employees a free service of electric vehicles. This helps employees in commuting, meetings and visits to customers.

4. Managing our environmental footprint

We believe that measuring, managing and reducing our environmental impact is an essential element in being a responsible bank, and also needed to earn the loyalty of all our stakeholders

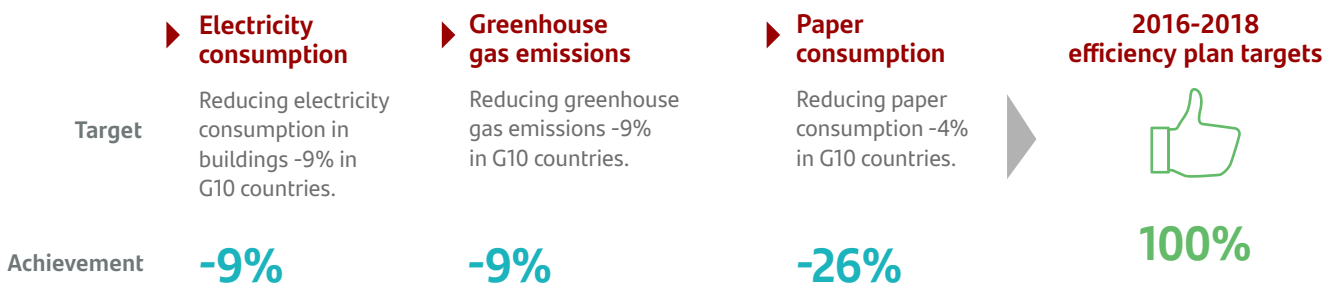
The Bank is committed to reducing its own carbon footprint, by minimising CO₂ emissions generated through the operation of its facilities.

Since 2001, we have been measuring our environmental footprint by quantifying energy consumption, waste and atmospheric emissions. And since 2011 the Group has implemented strict criteria through a range of energy efficiency and sustainability plans to ensure its environmental impact is kept to an absolute minimum.

In 2016, the Group put the 2016–2018 efficiency plan in place, with more than 250 initiatives relating to energy savings, saving raw materials, waste reduction, emission reduction and awareness campaigns, which involve investments of EUR 69.8 million.

The main projects in the pipeline across the Group's areas of operation involve reducing paper use, exchanging old boilers for more efficient models, reducing business trips and procuring green energy.

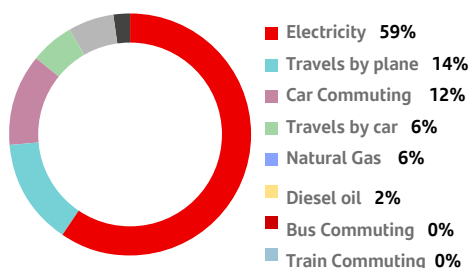
2016-2018 efficiency plan



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Emissions in 2018 by sources



Environmental footprint: energy efficiency and reduction of consumption

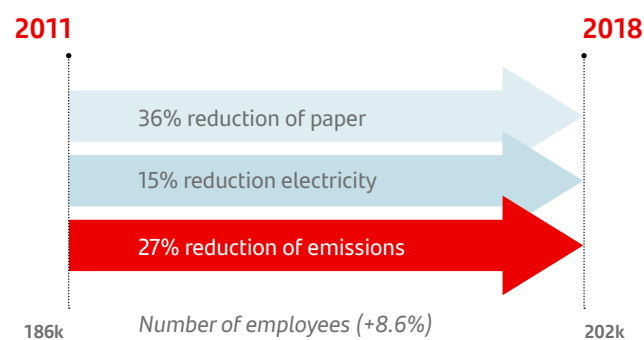
2011-2013 Energy Efficiency Plan

- **Emissions of CO₂**: a 3.5% reduction in the first year, and a 9% reduction up to 2013 in the G5.
- **Electricity consumption**: a 3% reduction in the first year in G20 countries.

2012-2015 Energy Savings Plan

- **Emissions of CO₂**: a 20% reduction of emissions in G10 countries.
- **Electricity consumption**: a 20% reduction of electricity consumption in G10 countries.

Result of plans



New 2019-2021 efficiency plan

Looking ahead, the Bank maintains its firm commitment with the environment, and will continue to establish more ambitious objectives that will help reduce its consumption, its waste generation and its emissions in its own business operations. To do so, we are going to implement a new energy efficiency and sustainability plan for the period 2019-2021.

Main areas to focus:

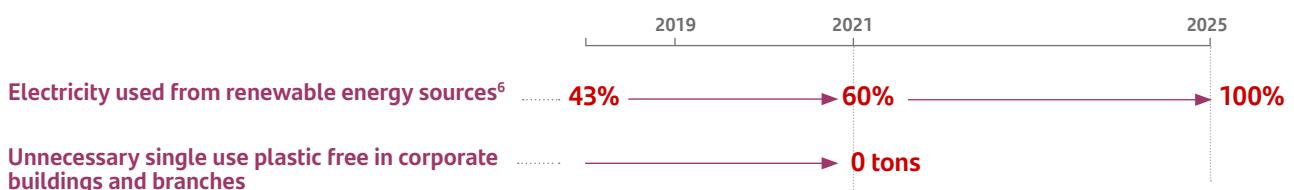
- Energy: LED lighting
- Emissions: Boost the use of green energy and promote electrical mobility.
- Other initiatives: Awareness campaigns, implementation of environmental management systems in buildings, addition of environmental requisites in contracts for

products and services, accessibility work on branches, digitalisation of processes.

Main targets for this period:

The bank has established two main targets to be a more responsible organization:

- Eliminate all unnecessary single-use plastics in all Santander’s buildings, everywhere in the world, by 2021.
- Ensure that 60% of the electricity we consume will be from renewable sources in 2021, and 100% in 2025 in all those countries where it is possible to certify the energy origin.



2018 environmental performance

24. Environmental footprint 2017-2018¹

	2018	2017	2016	Var, 2017-2018 (%)
Consumption				
Water (m ³) ²	2,956,420	2,872,853	3,148,307	2.9
Water (m ³ /employee)	15.24	14.68	15.95	3.8
Normal electricity (millions of kwh)	616	639	664	-3.5
Green electricity (millions of kwh)	461	473	514	-2.6
Total electricity (millions of kwh)	1,077	1,112	1,178	-3.2
Total internal energy consumption (GJ)	4,404,809	4,522,999	4,730,875	-2.6
Total internal energy consumption (GJ/employee)	22.70	23.11	23.96	-1.8
Total paper (t)	16,764	20,010	22,632	-16.2
Recycled or certified paper (t)	14,583	16,969	19,211	-14.1
Total paper (Tn/employee)	0.09	0.10	0.11	-15.5
Waste				
Paper and cardboard waste (kg) ³	7,656,046	8,972,420	9,199,786	-14.7
Paper and cardboard waste (kg/employee)	39.46	45.84	46.60	-13.9
Greenhouse gas emissions				
Direct emissions (Tn CO ₂ eq) ⁴	31,227	29,108	27,001	7.3
Indirect electricity emissions (CO ₂ eq)-MARKET BASED ⁵	223,920	226,455	258,356	-1.1
Indirect electricity emissions (CO ₂ eq)-LOCATION BASED ⁵	364,682	374,346	395,643	-2.6
Indirect emissions from displacement of employees (CO ₂ eq) ⁶	124,840	126,287	132,734	-1.1
Total emissions (CO ₂ eq)- MARKET BASED	379,988	381,849	418,091	-0.5
Total emissions (CO ₂ eq/employee)	1.96	1.95	2.12	0.4
Average number of employees	194,027	195,732	197,408	-0.9

1. The scope of the information includes the main operating countries: Argentina, Brazil, Chile, Germany, Mexico, Poland, Portugal, Spain, United Kingdom and United States (excluding Puerto Rico and Miami). The data regarding Banco Popular is included in Spain and Portugal in a consolidated manner.

2. Only consumption of mains water is reported.

3. 2017 and 2018 figures do not include waste from Argentina and Brazilian sales network.

4. These emissions include those arising from the direct consumption of energy (natural gas and diesel) and correspond to Scope 1 defined by the standard GHG Protocol. For the calculation of these emissions, the 2018 DEFRA emission factors have been applied for 2018 emissions and 2017 DEFRA for 2017. The variation is due to the consideration of the emissions derived from the use of own vehicles in Mexico

5. These emissions include those resulting from electricity consumption and correspond to Scope 2 defined by the standard GHG Protocol. In 2017 and 2018, IEA (International Energy Agency) 2015 emission factors were used.

· Indirect electricity emissions - Market-based: zero emissions have been considered for green electricity consumed in Germany, Brazil, Spain, UK, USA, which has meant a reduction of 140,762 tons of CO₂ equivalent in 2018 and 147,892 in 2017. For the rest of the electric power consumed has been applied the emission factor of the IEA corresponding to each country.

· Indirect electricity emissions - Location-based: the emission factor of the IEA corresponding to each country has been applied for the totality of electrical energy consumed, regardless of its source of origin (renewable or non-renewable).

6. These emissions include the emissions generated by employees working at central services of each country as they commute to work in private car, group transport and/or by train, and also includes the business travel of employees when travelling in plane or by car. Employee distribution by type of travel has been determined through surveys or other estimates. For the calculation of emissions resulting from the displacement of employees, the 2018 DEFRA conversion factors have been applied for 2018 emissions and 2017 DEFRA for 2017.

· Employees commuting to work in private car has been estimated with regard solely to the number of parking bays available to employees at the head offices of each country and the consumption mix of petrol/diesel for the vehicle fleet of each country. There is no reported data for employee travel in private vehicles in Argentina, Poland or the United Kingdom because this information is not available.

· The displacement of employees in group vehicles has been calculated from the average distance travelled by vehicles rented by Santander Group for the group transport of their employees in the following countries: Brazil, Germany, Mexico, Poland Consumer, Portugal, Spain, US, and within central services in Spain (CGS).

· There is no reported data for business trips made by plane from Poland Geoban or for business travel made by car from Poland Geoban and USA Consumer on account of the information not being available.

· Emissions deriving from the use of courier services have not been included, nor have those generated by transport of cash or from any other kind of products or services arranged or indirectly generated by the financial services provided.

Main highlights

- 100% green energy in all of the office buildings and branches of Santander in Germany, Spain and United Kingdom, which means zero CO₂ emissions. .
- In 2018 new buildings have been certified according to international LEED and ISO 14001 standards:
 - LEED GOLD certification in SCF Germany head office building at Mönchengladbach, in Santander DPC in Spain and at Santander Spain's new head office.
 - LEED GOLD certification in Spain: new head office, the "Abelias" building and the construction of Santander CPD.
 - ISO 14001 certifications in corporate buildings in Mexico: Mexico City and Querétaro.
 - As well as this, we have received certifications for the head office buildings in the main countries where Santander operates helping to improve building's.
 - 43% of the total energy consumed was renewable energy.

In line with its commitment to protecting the environment and combating climate change, on Saturday 24 March, the Bank took part in Earth Hour and turned off the lights in its most iconic buildings and its network of branches in its ten main markets, for the ninth consecutive year.

More than 60 buildings in Spain, Brazil, United Kingdom, Mexico, United States, Argentina, Portugal, Germany, Poland and Chile turn off its lights for an hour in support of the fight against climate change.



Earth Hour Germany

Energy Monitoring and Control System pilot programme in Mexico

A pilot programme of the Energy Monitoring and Control System has been implemented at the offices, to ensure more precise monitoring of energy and water consumption in new offices and refurbishment projects, automatic control of schedules and temperatures, as well as programming of parameters using innovative, remote technology (energy management, deviation alerts, level-based user authority, etc.). To date, of the five pilot projects proposed, two have been carried out. The results have been very satisfactory, since it is estimated that the savings in electricity consumption during 2018 at both sites was around 10,000 kWh.

Highlight recognition study: Among the top five in the UK CRC. Santander UK is one of the companies that falls within the government's Carbon Reduction Commitment (CRC) scheme. The system is the UK's mandatory climate change and energy saving scheme which commenced in April 2010. For the third year in a row, we are among the top five retail banks in the UK for environmental performance related to the UK CRC



New initiatives carried out at Santander Group City

AUARA water bottles were added to the vending machines. AUARA is a social project that allocates 100% of its profits to fight the problem of the lack of drinking water, which affects more than 700 million people in the world. Thanks to the 37 projects that AUARA has carried out in 15 developing countries, more than 23,000 people now have access to drinking water and sanitation.

#YoSí movement, to reduce the consumption of plastic, implementing initiatives such as the replacement of single-use plastics by biodegradable or recycled materials in restaurants, cafes and takeaway areas.



Awareness campaign in Chile awareness on the need to protect the environment

Banco Santander Chile will distribute over four million reusable and recyclable bags. With the purpose of raising awareness on the need to protect the environment. The bags will be decorated with images of endangered species, designed by two local entrepreneurs.



UK Go Green Case

Our Go Green model encourages staff to adopt sustainable environment-friendly behaviours. The Green Club has over 2,500 employees enrolled as Green Champions.

Green Club Forums at our main offices enable our Champions to lead environmental activities and give staff the opportunity to regularly meet with senior management.

For example, this network has led to a plastic reduction campaign in 2018 with great success. In our Manchester office, they achieved the removal of all plastic cups from the site. Glasses and water bottles were sold to all staff for £1 with a raffle for those who purchased.

Projects with an environmental impact in communities

Santander Universities

Support for higher education has been the hallmark of Banco Santander's commitment to communities since 2002. The Bank allocates over 77% of its Social Investment budget to Santander Universities. In 2018 alone, it spent EUR 121 million.

Promoting entrepreneurship is one of the Bank's key areas, and one of the most important objectives in the area of supporting young people.

2017 saw the launch of Santander X, which aims to become the world's largest ecosystem for university entrepreneurship. It will be a shared space for international collaboration among universities, businesses and entrepreneurs who want to make their projects a reality.



For more information

Banco Santander Foundation

Through the Foundation, the Bank carries out a number of initiatives to help protect and improve the environment.

Santander Foundation has supported various projects aimed at protecting, conserving and recovering natural areas. Examples are the restoration of the Barranco del Hocino in Guadalajara, the restoration and management of Atlantic forests, and the recovery of millennial olive trees and their surrounding environment in Castellón.

According to the International Union for the Conservation of Nature, adaptation based on ecosystems is crucial to be able to deal efficiently with climate change and to help to mitigate it, reducing the impacts caused by climate change.



For more information



Entrepreneurship projects supported by Santander Universities that support the fight against climate change

"Lunix. An intelligent way to illuminate the world: an energy efficiency project to solve the inefficient distribution of energy in large cities. Development of an intelligent sensor system that identifies the ideal lighting of each place where it is installed, helping to reduce energy consumption by up to 40%.

Project developed by Jader Stefanello and Fernando Ferreira, students of the Federal University of Santa Maria of Brazil and winners of the Empreenda Santander 2K17 prize.

VEnvirotech. Biotechnology start-up that develops "eco-friendly" plastics: a circular economy model that allows the production of PHA bioplastics from low value organic waste generated by various industries. The low-cost productive process incorporates bacteria that use organic waste as food and are able to generate rapidly biodegradable plastic that is compatible with the human body.

Project developed by Patricia Aymá, a student of Biotechnology and Environmental Engineering in Barcelona and winner of the YUZZday 2017."

Annex 1

Soft Commodities Compact 2018 Report

Our approach

Santander Group has incorporated the soft commodities compact commitments into its publicly available policy on soft commodities. The policy defines activities that the Santander Group will not finance, and those where financing is restricted under a set of strict guidelines relating to the location of the facilities used for, and the sales derived from, activities that have a detrimental impact on forestation.

Through its Corporate and Investment Banking ("CIB") division, Santander Group has active customers involved in the soft commodities value chain. These clients are identified as falling within the soft commodities policy at on-boarding, or at annual review, or when requesting specific transactions that may affect their operations and the sectors of activity covered by the policy. Due diligence on the customer and its activities – including production facilities and supply chains – is carried out through questionnaires completed by relationship managers and reviewed by the Environmental and Social Risk Management teams. Checks are carried out on customer certifications and membership of internationally recognised organisations (such as RTRS, ISCC, FSC, etc.). Enhanced due diligence may be carried out through interviews with customers if required, for example, to establish timelines for

the customer to apply and receive certifications, or to obtain external technical reports on the specific activity and potential areas of concern. Specific transactions may be subject to enhanced monitoring.

A relevant part of the identification of customers subject to the policy is establishing the materiality of soft commodity related activities to the overall business of the client (e.g. revenues arising from soft commodities vs. total revenues). This is not, however, the only element taken into consideration as experience shows that contextual factors such as location of the activity, are also important when determining application of the policy to specific transactions.

4. https://www.santander.com/cs/cs/Satellite/CFWCSancomQP01/en_GB/pdf/soft_commodities_sector_policy.pdf

5. Active customers are defined as clients of the Santander Corporate and Investment Banking Division, with approved credit limits and an active banking relationship. Banking services include debt, insurance, asset management, equity and advisory services.

Reporting on our progress

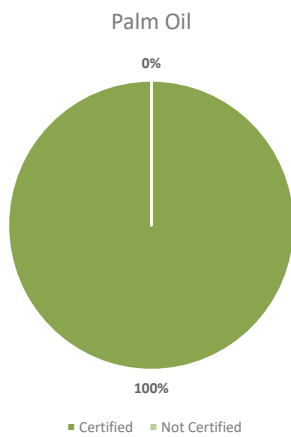
We have reviewed our list of active clients in the Soft Commodity sectors of soy, palm oil, and pulp, paper and timber as of December 2018. The following charts reflect the level of certification achieved by these customers as of Q1-19. For each of the commodities, we have analysed the extent of the operations of the customers in the following areas:

- Palm Oil: oil palm plantations, palm oil processing, palm oil trade
- Soy: soy plantations, soy processing, soy trade
- Timber products: plantations, pulp & paper manufacturing

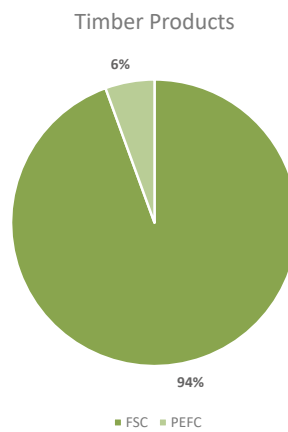
Soy: 90% of clients are either RTRS certified or buy RTRS/ISCC-certified soy. 64% of clients are RTRS members.



Palm oil: All CIB customers are RSPO certified across all their Oil Palm or Palm Oil activities.



Timber products: all customers have FSC or PEFC certifications.



3. In preparing this report we have relied upon publicly available information, without independent verification. This report is for information only and should not be considered to cover an appraisal of the assets, stock or business of any of the companies included in it.

Annex 2

Santander's case study.

Introduction

Santander Group participated in the first edition of the United Nations Environmental Programme Finance Initiative (UNEP FI) pilot project "to develop scenarios, models and metrics to enable scenario-based, forward-looking assessment and disclosure of climate-related risks and opportunities."

Santander's objective was to conduct a scenario-based experimental impact assessment of the transition and physical risks of climate change on a subsection of its global banking portfolio. Specifically, Santander chose to measure the transition risk in the transportation sector / car manufacturing subsector, as this portfolio includes investments (exposures) booked in geographies where Santander is based, and exposures to cars manufacturers are relevant by materiality for the Group, as well as being a good example of the diversified profile of global corporate customers which characterises the Santander Group.

In the case study, the methodology and scenarios were provided by the UNEP FI group, and their guidance was followed for the application of the assumptions and sector specificities. Stress Test experts in collaboration with Senior Credit Risk analysts, adapted variables and executed the model on the sample data, using the available information on exposures and applying the various risk factors to ensure that the model was aligned as closely as possible to the portfolio characteristics.

This document describes each of the elements of the pilot project and how they were applied to the Santander Group portfolio under study.

Scope of the project:

The wholesale portfolio of car manufacturers was selected given the sensitivity of the sector to climate related risks. Additionally, wholesale systems have granular and detailed information that allows the easy application of expert judgement to segmentation and sensitivities.

Car manufacturing is a good example of a global sector and global processes, regardless of the manufacturer's country of origin, as the industrial manufacturing processes can be located in any country and in different continents. The global companies selected are originally from Germany, France, Italy, Sweden, UK, U.S.A, Japan and China, and their business with Santander Group is conducted, amongst others, with our largest subsidiaries such as Spain, UK, Brazil and the US.

However, the effects of this diversity are partially limited, as the current scenarios would need further development to include more granular details by geography and sector.

Portfolio Segmentation:

The segmentation process is one of the most important steps in the stress-testing exercise definition as it is the basis for assigning transition risk to the portfolio which in turn conditions the movements of the companies in the model. The segmentation criteria looked at: the intensity of carbon consumption in the manufacturing / industrial processes, the expected capital expenditure in technology developments, and dwindling revenues.

The output of the segmentation classified companies into three categories:

- **Low carbon:** companies with low adverse impacts per unit of production, less reliant on carbon intensive inputs, requiring lower investments in low-carbon capital to compete and less negative impact in revenues relative to others in the sector.
- **Medium carbon:** moderate emissions per unit of production, segment is moderately reliant on carbon intensive inputs requiring moderate investment in low-carbon capital to compete and moderate impact in revenues relative to others in the sector
- **High carbon:** higher emissions per unit of production, highly reliant on carbon intensive inputs (e.g. oil, cement, steel, coal) requiring higher investment in low-carbon capital to compete with consequences in revenues relative to others in the sector.

The companies included in the exercise were slotted into these categories depending on their sensitivity to each risk factor that, in turn, conditioned the probability of default transition. The application of the risk factors was arrived at through a qualitative, expert judgement exercise.

Risk factors and segmentation sensitivities

The table below shows the segment sensitivity to the risk factors, representing the performance of the companies under a stress test. Although all segments are affected, there are differences that discriminate clients more resilient to climate risks than others.

SEGMENTS	Risk Factor Pathways			
	Direct emissions cost	Indirect emissions costs	Low Carbon Capital Expenditure	Revenues
Low Carbon	Moderately Low	Moderate	Moderately Low	Low
Medium Carbon	Moderately Low	Moderate	Moderate	Moderately Low
High Carbon	Moderate	Moderately High	Moderately High	Moderate

Santander's wholesale portfolio of car manufacturers comprises good credit quality companies, with high production volumes and with sufficient management capabilities to adapt their business models to external factors, making them solid and resilient.

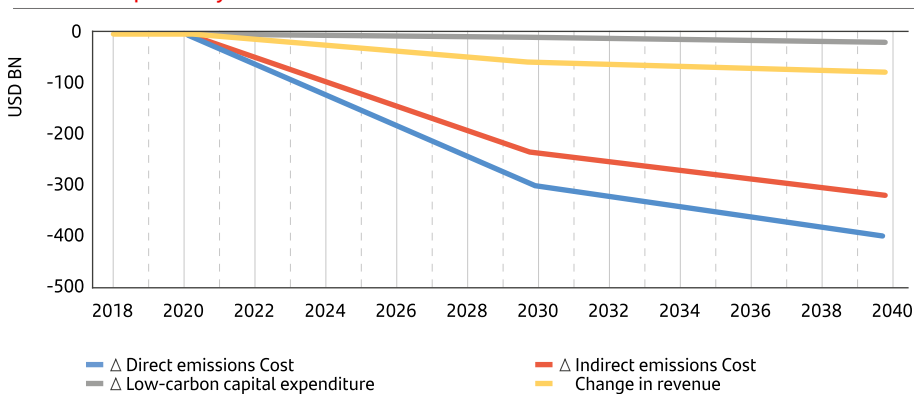
Due to these characteristics, it has been difficult to differentiate the companies. Low and Medium carbon companies are close in the classification, since the differences are subtle and interchangeable in the short term, mostly depending on their adaptability to the new challenges introduced by climate change.

Pathways selection – Scenarios

Scenario-analysis relates credit risk performance with a set of risk factors, where the pathways are the materialization of the risk factors in the form of a time series projection. In this case- study Santander used the MESSAGE model's 2°C scenario, applied to the Industrial Processes sector, within World geography, as the supply chain and the market for car manufacturers are truly global.

In the graph below we can see the incremental cost of each climate risk factor projected every 10 years and printed out with linear interpolation.

Risk factor pathways



The pathways show a quick increment in CO₂ and energy supply costs in 2030. After that, the risk factors continue to rise but with lower steepening. This trend benefits the low-carbon segments and deteriorates the transition of the high-carbon companies that are less resilient, and suffer a major impact to adapt their internal process to a non-intensive carbon economy.

Some improvements in pathways could adjust the model’s parameters, adding precision in final results:

- Santander used “Industrial process” pathways, in the absence of specific car manufacturer scenarios within the transportation sector. Industrial processes include several industries/ subsectors with different characteristics, more accuracy would enable an adjusted relation between credit transitions and scenario evolution.
- The companies are located in various countries where an optimal differentiation is a determinant to assess properly the impacts by geography.
- There are few points projected (every ten years, .e, 2020, 2030, 2040...), extended by means of linear interpolation. The effects of the 2030 decade could be mitigated with more years projected.
- Further documentation and methodology details used in the projections would help to understand the possible effects and impacts in the final results

Calibration:

The calibration point is the final step to set the model’s migration within the climate transition risk. It consists of a qualitative assessment to adjust the probabilities of default of each segment based on the performance and the resilience of the companies to the Climate stress test.

Prior to this qualitative evaluation, the credit analysts reviewed the market evolution of the historical series of external ratings to define a range of movements, and took into consideration when changes were brought on by market events or a crisis. This analysis was compared to stress movements observed in the ICAAP and EBA stress-testing exercises, in order to measure extreme impacts. As a conclusion of this analysis rating movements due to climate change transition events were defined within a range of 2 notches down and 1 notch up.

The table below reflects the effects to the adjusted PD of each segment in two time moments of 2030 & 2040.

SEGMENTS	Calibration	
	2030	2040
Low Carbon	Up 1 Notch (+)	Up 1 Notch (+)
Medium Carbon	Down 1 Notch (-)	No Change
High Carbon	Down 2 Notches (2-)	Down 1 Notch (-)

The interesting point between both calibration years is the upgrade from 2030 to 2040. The good credit quality of the companies conditions the improvement of their rating, once the investments and production adjustments have been executed.

Conclusions

Portfolio conditions: because of the good credit quality of the wholesale clients and the short portfolio duration, Santander customers are especially resilient to the stress test, including climate-related transition impacts, and are able to adapt to the technological change requirements with limited impact on their credit quality.

Pathways granularity: more granular scenarios would need to be developed to address new sectors and subsectors as specific drivers and more diverse geographical assumptions (e.g. Latin-American countries). It would be helpful to discriminate the forward-looking evolutions. The scenarios methodology would need to be fully documented to enable a complete assessment of the model.

Data management: the customer information must include climate related events, sector and subsector maintenance should incorporate new parameters that help to classify and assess customers based also on parameters related to climate change.

Model accuracy: the Portfolio Assessment Tool is reliant on expert judgement, a qualitative and deterministic model. The evolution of its methodology and calibration would improve the results and make them comparable between banks.

The experience of participating in the pilot has given us the opportunity to understand the risks of climate change at the portfolio level and be aware of the sensitivities that economic sectors and subsectors have to the different climate events. While it has been a notable progress in the climate risk assessment, there is still room for improvement in the metrics calculation of stress testing.

