Climate finance: transition to the future
Implementing TCFD recommendations
Our vision and role

“Be a leading bank in sustainable performance and client satisfaction”

For us, sustainable performance is to create value for employees, clients, stockholders and society, ensuring the longevity of the business
At Itaú Unibanco, we understand the importance that the climate change topic has globally, in addition to its impact on society as a whole. As a financial institution, we engage with all of the economy’s production sectors and, accordingly, we believe we have the potential to influence positive transformations in society and foster a low-carbon economy.

The global commitment to limit warming to 1.5 °C, in accordance with the Intergovernmental Panel on Climate Change (IPCC), requires unprecedented efforts and changes in all aspects, involving investments of around 2.4 trillion U.S. dollars every year until 2035 (1).

Brazil’s voluntary commitments
Nationally Determined Contributions (NDCs)

In view of the impacts of climate change that have already been observed, countries around the globe are mobilizing and establishing ways to voluntarily comply with international commitments to reduce emissions of greenhouse gases (GHG). The Brazilian Government, by ratifying the Paris Agreement – a global climate convention signed in 2016 – assumed the commitment to adopt absolute targets to reduce GHG emissions. These commitments will directly affect the sectors of the economy and, indirectly, the financing, investment and insurance industries:

Brazilian commitment: To reduce by 37% GHG emissions by 2025 in relation to emissions in 2005. By 2030, the target is to reduce GHG emissions by 43%. The measures of the sector identified to achieve these targets are:

- **To integrate** 5 million hectares of plantations-cattle raising-forests
- **To recover** 15 million hectares of degraded pastures
- **To restore** 12 million hectares of forests
- **To end illegal deforestation**
- **To ensure 45% of renewable sources** in the total energy mix
- **To increase** electric energy efficiency by around 10%
- **To increase to 66% the share of water as a source** for the generation of electric energy
- **To increase to 16% the share of fuel ethanol** and other biomasses derived from sugar cane in the total electric energy mix
- **To increase to 23% the share of renewable sources** (wind, solar and biomass) in the generation of electric energy

Source: Ministry of Brazilian foreign affairs

(1) www.ipcc.ch/report/sr15
Climate finance: transition to the future

Taking into consideration the relevant role of the financial and capital industry as an agent of transition to the new economy, this document brings transparency to our actions with respect to the climate finance agenda. Among our activities is the assessment and consideration of the risks and opportunities for our clients, our businesses and society with respect to climate change.

Climate risks and opportunities may affect the analyses of credit, operational, reputational and market risks of financial institutions.

Therefore, the companies we finance and invest in will have to adapt to this new reality and the financial industry will have to increasingly incorporate these issues into their analyses of risks and opportunities. By incorporating such variables also into its business strategy, the bank becomes more resilient, understands the new opportunities in this transition to a low-carbon economy and influences its value chain, particularly its clients and suppliers.

We are in favor of comparability and materiality of disclosures on climate in all industries and, for this reason, we are working on the progressive alignment of our disclosure related to Climate Change with the recommendations of the Financial Stability Board (FSB) with the Task Force on Climate-related Financial Disclosures – TCFD (https://www.itau.com.br/relacoes-com-investidores/Default.aspx). In June 2017, TCFD presented its final recommendations, and in October of this same year, Itau-Unibanco officially supported its initiative.

**Physical risks**

The physical risks considered connect to changes in rainfall patterns, extreme events or scarcity of natural resources and they can affect our branches, buildings and also the assets and the companies we insure, finance or invest in.

**Transition risks**

Meanwhile, the transition risks are connected to regulations, such as carbon-emission restrictions, implementation of pricing, new technologies and/or changes in the behavior of consumers.
**Task Force on Climate-related Financial Disclosures**

The Task Force on Climate-related Financial Disclosures initiative of the Financial Stability Board encourages organizations from different industries to assess physical and transitional climate risks to which they are exposed and proposes voluntary and consistent financial disclosures so as to ensure greater transparency for creditors, insurance companies and investors to make better business decisions. The recommendations are based on four main pillars:

<table>
<thead>
<tr>
<th>Governance</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclose the organization’s governance on climate-related risks and opportunities.</td>
<td>Disclose the real and potential impacts of climate-related risks and opportunities on the business and the organization’s financial strategy and planning when the information is relevant.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk management</th>
<th>Metrics and targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclose how the organization identifies, assesses and manages climate-related risks.</td>
<td>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where this information is relevant.</td>
</tr>
</tbody>
</table>

Since the launch of the recommendations, we have worked to align our actions with these pillars. The following figure describes a possible way to implement these recommendations.
As shown in the chart, TCFD does not expect immediate implementation of the recommendations. Companies will evolve in understanding the potential risks and climate opportunities over a period of approximately five years.

One of the initiatives related to the TCFD in the year 2018 was the coordination of the working group in FEBRABAN that made diagnosis within the participating banks of the capacity to meet the recommendations of the TCFD and created a more detailed action schedule so that the main gaps encountered are overcome.
Governance

“More and more global, regional and local environmental and social challenges are part of the context of the operations of organizations, affecting their strategy and value chain, with impacts on their reputation and long-term economic value. Climate change, rising social inequality and technological innovations, among other factors, have been imposing transformations on the lives of organizations”

Our corporate strategy is supported by our sustainability values and governance is integrated into our business. This allows us to incorporate environmental and social trends into our business and monitor the performance of selected indicators.

Climate issues are part of our **Sustainability and Environmental and Social Responsibility Policy**\(^{(1)}\), which provides guidelines for the entire organization, and, additionally, we have our **Positioning of Environmental and Social Risks and Opportunities**\(^{(2)}\), which describes our commitments and targets for the coming years.

### Climate finance Squad

In 2018, with the mission to articulate and drive the climate finance topic in the bank’s corporate governance, we prepared a working structure in a Squad format. The Sustainability Department acts as a Squad leader, which counts on the participation of representatives from other key departments, such as financial impact, socio-environmental risk and investor relations to address the climate change topic. This structure has provided us with greater interaction with other departments of the institution and additional speed in the climate agenda engagement and structuring processes. The Squad is also responsible for implementing and monitoring the recommendations of the publication of the TCFD, of FSB.

---


Solar panels at Itaú Unibanco Business Center
The climate change topic is strategically discussed at all levels of our sustainability governance. Whenever necessary, it is addressed by the Sustainability Committee, the main forum of the organization on the matter, which meets every two months. The Superior Ethics and Sustainability Committee resolves upon the institution’s actions with respect to the climate change agenda and the Board of Directors guides our Sustainability and Environmental and Social Responsibility Policy for climate-related risks and opportunities.
“If the knowledge we have today on the operation of the global climate system had been available to previous generations, that of our parents or grandparents, and there had been a reaction by society, perhaps there would have been time to avoid most of the climate change. If the trajectory is not changed, the human experience will leave to future generations a planet in a level of environmental crisis that is incomparably greater in relation to the environmental conditions that we received from our parents”

(MCTI, 2016)

Our strategic commitment requires the mapping of new opportunities, the anticipation of risks and the support to our partners, clients and communities in the development of their agendas, considering climate financing. We constantly seek to capture trends, challenges and opportunities to improve our strategy and our climate management tools.
Strategic relationship with our suppliers

The climate change topic is also present in our management tools with our suppliers. This is part of our selection criteria, in addition to our recommendations for the need to adjust the management of their business for any impacts of climate change. We seek to contract suppliers that are in line with the creation of value for society and that have good environmental and social practices, and we have structured processes in place to ensure these choices.

Climate change is also included in the monitoring and training that we carry out with our suppliers. Those that present high environmental criticality participate in an external audit conducted by an independent third party, which, among other actions, assesses the management of the topic in these companies. The participants are chosen based on a risk matrix that cross references the criticality of the areas of activity and their possible impacts with our billing volume upon the contracting of products and services.

Additionally, we are signatory to the Carbon Disclosure Project (CDP), a non-governmental organization that has the largest global database on climate corporate governance and inventory of greenhouse gas emissions, and we participate in the CDP Supply Chain program, which is focused on the supply chain. As participants, we invited our largest suppliers from critical industries in GHG emissions to answer the CDP questionnaire. This initiative helps us better understand how the topic is addressed by suppliers and how we can help them introduce climate change into their strategies, thus increasing the resilience to climate in our value chain.

We are increasingly committed to integrating climate variables into the management of risks and opportunities in our businesses and operations.
**Digitalization**

We have internally developed a study to assess the carbon footprint by establishing a comparison between the operation of a physical branch and a digital branch. The digital branches are to serve clients who do not usually go to our branches and who carry out practically all their transactions in our remote channels, allowing for a service with their manager and with investment, foreign exchange and real estate credit consultants in the way they prefer: email, phone, SMS, online messaging or videoconference. In 2017, we had 160 digital branches, a growth of 19% in relation to 2016. We tried to understand the impacts and opportunities of the **digitalization strategy** related to Greenhouse Gas emissions.

The carbon footprint of the hour of a digital branch manager is 26% lower than that of the physical branch due to their increased service capacity. This shows an efficiency gain in terms of GHG emissions by the digital branches.

**Engaging our employees**

The awareness and engagement of Itaú employees are ensured by means of specific training programs, workshops and internal newsletters. For the climate change topic, this work is very relevant to the success of the initiatives so that employees can influence and promote reflections in their relationship networks inside and outside the bank.
Engaging with and learning from our value chain and external stakeholders

Making a new economy viable depends on the joint action of the private sector, government and society. For this reason, we actively participate in multi-sector discussion groups to mobilize and organize corporate leaders, debate possible impacts and mitigating actions of climate change and contribute to the preparation of public policies related to the topic.

We are part of many fronts of the national and global agendas that address climate change, through voluntary commitments to which we are signatories, and of being present in many different forums, workshops and specific working groups. Our objective is to anticipate risks, map opportunities and keep our agenda and operations in constant evolution and growth.

We have created strategies, routines, processes and products, we have adopted specific policies and joined voluntary commitments, such as the Principles for Responsible Investment (PRI), the Equator Principles (EP), the Carbon Disclosure Project (CDP) and the Global Compact, which guide our institutional and business practices.

We support and develop many studies that help overcome the barriers that preclude or hinder the development of a low-carbon economy. These studies are not only aimed at the financial industry but they also address topics such as urban mobility and water resources, among others.
By joining forces with our employees, partners, stockholders and communities, we can effectively contribute to the conception and facilitation of solutions that bring environmental, social and economic benefits.

**External work of the bank on the topic**

Adaptation

**GVCES:**
EPC; Public Registration

Energy efficiency

GHG emissions

Water

Public policies

Simulation – Emission Trade System

Sustainability Commission

**FEBRABAN**

Environmental and Social Risk

Thematic Climate and Energy Chamber (CT Clima)

**CEBDS**

Positive impact

Thematic Sustainable Finances Chamber (CT Fin)

**UNEP FI**

TCFD (FSB) Task Force on Climate-related Financial Disclosures

Climate change

**CDP**

**GLOBAL COMPACT**

To learn more about our work on Sustainability, external participations and voluntary commitments, please visit [www.itau.com.br/sustentabilidade](http://www.itau.com.br/sustentabilidade).
Climate finance: transition to the future
Climate risk management

“We have been following this discussion on the Low-Carbon Economy very carefully, we have been talking to many research centers and market players, and we are structuring actions for the bank to operate under this new reality. What is being discussed today is the New Economy, that is, the Economy for the reversal of global warming. According to the rationale of the New Economy, companies will have to adapt to the climate scenario and change their operating strategies. Companies that insist in the Traditional Economy model may not survive”

(Denise T Hills, President of Brazil Global Compact and Itaú Unibanco specialist on sustainability and inclusive business, 2018)
Environmental and social risk management

With our focus also on environmental and social risks and opportunities, we study market trends, the geographical coverage of our operations and topics such as the scarcity of natural resources, climate change, payment for environmental services and biodiversity so as to improve risk management and seize the new opportunities of sustainable business.

The purpose of managing environmental and social risk is to identify, measure, mitigate and monitor the direct and indirect risks related to environmental and social topics. To this end, we have incorporated the social and environmental criterion, which includes the climate variable, into many processes that are described in more detail below.

Loans and financing

In the process of granting credit to small and medium businesses, the Environmental and Social Risk Management Department makes a compliance analysis for the companies whose industries are classified as having a medium or high environmental and social impact. The environmental and social risk is part of our integrated risk management and integrates the bank’s decisions on exposure to certain industries and segments.

For the corporation segment, the environmental and social risk variable is considered in the credit rating models. This is one of the most important credit management tools and the rating influences the cost of operations, the industry allocation, the types of guarantee and the product mix to be offered. It is important to note that the credit rating models are always being reviewed and the climate issue tends to be increasingly more present in these models.

We have already identified the way climate change can affect 25 industries, which represent more than 65% of the granted credit of CIB’s total portfolio, over a period of 3 to 10 years. The way to measure the impact takes into consideration any rating downgrades and a high environmental and social impact industry does not necessarily represent credit risk. The following key drivers that may affect a company’s cash flows and jeopardize its payment ability and, consequently, the credit quality, are used in the identification of risk: i) Regulatory change; ii) Litigation and fines; iii) Technological change; iv) Barriers/market restrictions.

With respect to the financing of large projects, Itaú is a signatory to the Equator Principles. In the projects that are subject to these criteria, some of the variables to be assessed are associated with climate change. When a significant risk is identified, some specific procedures are established, such as the preparation of an inventory of greenhouse gases or an estimate of the emissions of these gases for projects that have not yet been implemented. In some cases, specific clauses are included in loan and financing agreements.

Our work does not end with the identification and mitigation of environmental and social risks. Thinking on the opportunities for financing Low-Carbon projects, by means of our business, we identify and incorporate activities that promote positive environmental and social impacts.

We offer many environmental and social credit lines to our clients for projects related to the mitigation of climate change, reduction of greenhouse gas emissions, renewable energy,
improvements to the energy transmission and distribution system (energy efficiency), biofuel, infrastructure and improvement of the logistics sector, basic sanitation, sustainable agriculture and renovation of sugar cane plantations.

We coordinated the first issue of an agribusiness receivables certificate - green CRA in the Brazilian market in 2016. In this transaction, Suzano Papel e Celulose contracted R$1 billion (approximately US$290 million) in an eight-year securitization operation.

In 2017, we participated in another issue of green bonds in the Brazilian market. In this operation, Klabin contracted US$500 million (approximately R$1.745 billion) in bonds distributed in the U.S. market and maturing in 2027. In addition to the green bonds mentioned above, we carried out a social and environmental due diligence process to enable the issue of R$7.67 billion in bonds to be used for long-term investments in specific projects.

We are aware of the needs associated with the effects of climate change. For this reason, over the past few years, our teams have been working on onlendings of funds related to the effects of climate change, such as funds from the Inter-American Development Bank (IDB) for renewable energy, energy efficiency, cleaner production, biofuel, sustainable construction and other green projects.

Other environmental benefits, such as increased energy and production efficiency with a reduction of waste and use of natural resources, restoration of degraded areas and incentives for low-carbon agriculture and environmental sanitation projects, were provided through financing from the National Bank for Economic and Social Development (BNDES), by means of the BNDES Finem and BNDES Automático products, in addition to financing via Rural Credit and onlendings from Caixa Econômica Federal (CEF). Also by means of BNDES Finem, we offer credit from the Prorenova line, a credit line aimed at supporting the renovation of sugar cane plantation and the introduction of new sugar cane plantations.
Investments

Since 2008, Itaú Asset Management, the department specialized in the management of clients’ assets, has been a signatory to the Principles for Responsible Investment (PRI). It is also a signatory to the Carbon Disclosure Project (CDP) and requests information from companies on Climate Change-related Risks and Opportunities. The adherence to these voluntary commitments provides us with references to integrate environmental, social and corporate governance issues into investment practices for the purpose of mitigating risks and identifying opportunities for our clients.

We incorporated environmental, social and governance issues into our investment analyses by means of a proprietary methodology that considers eight different dimensions of sustainability, including climate change.

**Environmental and social analysis dimensions**
The purpose of the analysis is to identify and price risks and seek opportunities to increase the return for our investors. Impacts from any charge for water use and carbon pricing, for example, are estimated for the purpose of calculating the cost and market value of the companies in which we invest.

The matrix below consolidates the importance of the impacts of climate change on the 10 industries analyzed using the percentage of the impacted market value of the companies of each industry.

### Impact of climate change on the market value of industries, by industry and type of impact
(Dissemination of diseases, Changes in the hydrological cycle, New products, Pricing of emissions, Agricultural and Forest productivity and cost of inputs)

<table>
<thead>
<tr>
<th>Industry/Impact</th>
<th>Physical damages</th>
<th>Dissemination of diseases</th>
<th>Changes in the hydrological cycle</th>
<th>New products</th>
<th>Pricing of emissions</th>
<th>Agricultural and Forest productivity and cost of inputs</th>
<th>Grand total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Materials</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Public services</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Cyclic consumption</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Non-cyclic consumption</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Industrial</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Financial</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Information technology</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Health</td>
<td>○</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

- ○ Negative/very high
- ○ Negative/high
- ○ Negative/medium
- ○ Negative/low
- ○ Negative/very low
- ○ Neutral
- ○ Positive

Source: Itaú Asset Management, 2017
The quality of the management of the impacts of climate change varies considerably between companies. The amounts of the impacts presented above were consolidated at the industry level and hide significant difference between companies of the same industry. In the financial industry, for example, banks with credit portfolios that are more exposed to the agricultural industry tend to be more sensitive to climate variations (Itaú Asset Management, Climate Change and its impacts).

In the process of assessing the “climate change” variable, we use carbon pricing tools. Attributing a price to carbon is an innovation in the international market and has been discussed by governments and companies as a tool to drive an economy that is less carbon intensive. In our methodology, carbon is priced based on the international market. We simulated the application of a price on carbon emissions as from 2021. The estimated price is used as an entry variable in our model so as to estimate the cost of the greenhouse gas emissions (Scope 1, direct emissions) of the companies with shares traded on the Brazilian stock exchange (B3). Based on that, we calculate the value of the financial impact of these emissions on the market value of the companies and, by consequence, on the price of their shares. We believe that this approach allows investors to make a more accurate analysis of the risks involved in the companies and, when it is well communicated, it can stimulate the adoption of best practices by the invested companies.

Insurance

We have closely followed the magnitude expected for the impacts of climate change, which directly affect the essence of the insurance area. The main reason is the necessity for companies to protect themselves against climate damage, and consequently increase liability for the risks of the insurer. One of the major challenges facing the insurance industry is to quantify these risks, price them adequately, and in parallel reduce exposure and customer vulnerability in their operations.

Our assessment of environmental and social risk in insurance takes into consideration the guidelines of the Principles for Sustainability in Insurance (PSI) to which we have been a signatory since 2012. This voluntary commitment introduces guidelines to minimize exposure to the environmental and social risk and drive adequate management by insurance companies. In addition to the PSI, we also follow the guidelines of our Environmental and Social Risk Policy for Insurance for the products aimed at companies. This document sets rules and provides general and specific guidelines for environmental and social risk analysis, claims, product development and environmental and social clauses. Currently, in the pricing of Corporate Insurance, we consider climate issues. The analysis of these issues in insurance pricing is based on the geographical location and the frequency and potential to cause environmental, social and economic tragedies.

Currently, we use the climate variables for the pricing of business Insurance. This pricing is based on the geographical location, frequency and potential of generating social, environmental and economic tragedies. Itaú Business Insurance offers coverage, assistance and sustainability tips for some business segments, branches such as offices, bars, restaurants, food trade, clothing companies, among others. Our website for Business product, related to climate change, contains indications to customers about the guarantees that best fit their business, in addition to sustainability tips for these companies.
Targets and metrics

Mitigating the impact of our operations

“Mitigation is a key component of a process, it is essential to achieve a healthy environmental plan”

(USAID)
Investing in internal projects

We share the vision that there is no management without measurement. Since 2008, we have been annually quantifying and disclosing our greenhouse gas (GHG) emissions, which are assured by a third party, and we have been working hard to reduce them. In line with the commitment to mitigate the impact of our operations, we acquired more than 90% of the electric energy used in our administrative buildings from clean energy sources, such as small hydroelectric, biomass or wind plants.

Over the past three years, our investments in eco-efficiency and operational improvement generated positive impacts on our environmental performance. As an example, in the period from 2014 to 2016, we reduced our water consumption by approximately 300,000 CM (17%), our electric energy consumption by 86,000 MWH (12%) and our direct and indirect GHG emissions by 34%. The details are available in our annual report.


We are currently investing in new technologies, testing our own sources of generating renewable energy within our operations. We have, for example, pilot projects of solar panels and films in some of our administrative buildings and branches. It is also worth noting the investment in energy from renewable sources by the branch network through the shared generation system in which the energy used is acquired from generating units located in a different place from the place of consumption.

In the search for a sustainable operation, we already have some defined long-term commitments. Our targets consider the consumption of water and energy, emissions, waste and transportation.
### Targets for the operation

<table>
<thead>
<tr>
<th>Water consumption</th>
<th>Electric energy consumption</th>
<th>Renewable energy consumption (administrative buildings)</th>
<th>Power usage effectiveness (PUE)</th>
<th>Scope 1 emissions</th>
<th>Scope 2 emissions</th>
<th>Waste / landfill (administrative buildings)</th>
<th>Business trips (air + taxi)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Absolute target 2020</strong></td>
<td><strong>Relative target 2020</strong></td>
<td><strong>Performance 2017</strong></td>
<td><strong>Previous</strong></td>
<td><strong>Actual</strong></td>
<td><strong>Previous</strong></td>
<td><strong>Actual</strong></td>
<td><strong>Previous</strong></td>
</tr>
<tr>
<td>To reduce by 16% our water consumption between 2013 and 2020</td>
<td>To reduce by 11% our electric energy consumption between 2013 and 2020</td>
<td>To reach an indicator of 96% of the energy consumed from renewable sources</td>
<td>To reach a PUE indicator of 1.60</td>
<td>To reduce by 3% our scope 1 emissions between 2013 and 2020</td>
<td>To reduce by 11% our scope 2 emissions between 2013 and 2020</td>
<td>To reduce by 46% the disposal of waste from our administrative units to landfills between 2013 and 2020</td>
<td>To reduce by 10.5% the number of kilometers run between 2013 and 2020</td>
</tr>
<tr>
<td>To reduce by 43% our water consumption per R$1 million in banking products between 2013 and 2020</td>
<td>To reduce by 40% our electric energy consumption per R$1 million in banking products between 2013 and 2020</td>
<td>Not applicable</td>
<td>This is an absolute indicator. There are no scales</td>
<td>To reduce by 35% our scope 1 emission per R$1 million in banking products between 2013 and 2020</td>
<td>To reduce by 40% our scope 2 emission per R$1 million in banking products between 2013 and 2020</td>
<td>We do not measure it by a relative indicator in this case</td>
<td>To reduce by 40% the number of kilometers run per banking product between 2013 and 2020</td>
</tr>
<tr>
<td>Currently, we have reduced our absolute consumption by 17% and our relative indicator by 40%</td>
<td>Currently, we have reduced our absolute consumption by 1% and our relative indicator by 27%</td>
<td>Currently, 96% of the energy of the administrative buildings comes from renewable sources</td>
<td>We reached a PUE indicator of 1.81 in 2017</td>
<td>In 2017, we had a reduction of 23% in our absolute consumption and of 44% in our relative indicator</td>
<td>In 2017, we had a reduction of 6% in our absolute consumption and of 31% in our relative indicator</td>
<td>The amount disposed to landfills increased because, in 2017, administrative buildings and branches implemented the management of these data</td>
<td>Currently, we reduced our absolute consumption by 2% and our relative indicator by 29%</td>
</tr>
</tbody>
</table>

(1) The reference year for the targets is 2013.
Our next steps in the scope of this topic also include the expansion of internal carbon pricing to all our business units, respecting the characteristics and purposes of each one.

**Offsetting our GHG emissions**

In addition to continuously investing in projects that mitigate our impact on climate change, in 2015 we launched the Itaú Unibanco’s Greenhouse Gas (GHG) Emissions Offset Program. This program has consolidated a carbon management cycle that, from now on, consists of five phases: measuring our GHG emissions; having our GHG inventory checked by an independent third party; publishing our results; implementing internal emissions reduction projects; and offsetting carbon with certified carbon credits.

We have offset all our direct emissions (Scope 1) from 2012 to 2016, as well as all our indirect emissions from energy consumption (Scope 2) at our new Data Center (CTMM) in Mogi Mirim, State of São Paulo. Since 2017, as part of our current guideline, we offset 100% of scope 1 and scope 2 emissions of all administrative units, totaling 73,396 metric tons of CO₂ this year.

Since our Offset Program is biannual, in 2017 we launched a new Greenhouse Gas (GHG) Offset Bid Notice to offset our emissions in 2016 and 2017.

And this year, for the first time, we published a “Bid Notice” in partnership with Natura for the attraction of GHG offset projects. The partnership is called *Compromisso pelo Clima* – Commitment to Climate – and presents a distinctive, participative format and raises institutional support for innovative and sustainable solutions.

The purpose of the Commitment to Climate Program is to stimulate new partners and suppliers to neutralize their emissions by means of projects in the fields of energy, agriculture, forestry and waste treatment, among others. By means of the Ekos Social platform, built in partnership with the Ekos Brazil Institute, it is possible to learn about the participating projects and pick the project of your choice for the purchase of carbon credits. Additionally, we are inviting new organizations to participate in this movement towards a low-carbon economy ([https://www.ekos.social](https://www.ekos.social)).

With respect to climate change, in addition to specific emission reduction targets, we are developing indicators and tools to strengthen the assessment and disclosure of risks and opportunities related to climate change by means of UNEP-FI’s working group on the recommendations of TCFD.
Following the final publication of the TCFD recommendations, Itaú and other 15 of the world’s leading banks joined a working group, coordinated by UNEP-FI. The challenge was to pioneer in the development of methodologies that allow consistent dissemination of metrics and goals related to climate change, one of the 4 pillars of TCFD. For this work, two consultancies were contracted. One focused on advising the development of a transition risk methodology and the other focused on physical risks. This working group resulted in two publications by UNEP-FI: “Extending Our Horizons” and “Navigating a New Climate”, focused on transition and physical risk methodologies, respectively.

In the scope of these publications, the developed pilots were applied to the agribusiness portfolio of Itaú. These cases are briefly described below.
Itaú’s transition risks related to agribusiness

Conceptually, transition risks are linked to regulatory and technology changes aimed at mitigating the risk of climate change. The hypothesis adopted by the present methodology is that companies will suffer impacts on their revenues, costs and investments as a response to transition risks.

In a simplified way, the tool developed consists of five steps:

1) Establishment of climate scenarios. In this case, we considered two climate scenarios (1.5 degrees and 2 degrees) both with horizons until 2040.

2) Based on a general equilibrium model, the behavior of the economy sectors in different regions of the globe was estimated for each scenario. This estimate generates different curves of revenue, cost and investment of sectors over time (up to 2040).

3) Considering that there can be different types of industry within a single sector, the methodology proposes a sector segmentation that differentiates the impact in each segment in terms of cost, revenue and investment. The objective is to create homogeneous groups, which will respond in a common way to the different impacts of climate change.

4) After segmentation, a calibration phase is proposed. In this phase, it is necessary to select five clients from each established segment minimally and to estimate the impact on their default probability against the established revenue, cost and investment impacts. There is no single way to apply this step, and it can be constructed either quantitatively or qualitatively.

5) The last step consists of a model in which portfolio information is entered. With this information, a stress test is carried out in this portfolio in order to distribute the transition impacts, using the calibration result as a reference. The result can be observed by the migration of default probability of the clients.

As a result of this methodology in our agricultural portfolio, we noticed that there is a great variation of impact between different segments. The segment that had the greatest impact is associated with bovine activity. The segment associated with sugarcane production suffered the least impact. However, all the impacts were negative, that is, a reduction in the credit quality of the portfolio.

Another relevant result found is that the most significant impact is in the horizon of 2030, compared to the 2040 horizon, where the impact is considerably flattened, remaining neutral for some segments.
**Itaú’s physical risks related to agribusiness**

For estimating physical risks, the hypothesis adopted by the present methodology is that there are two ways companies can be impacted by climate change: Firstly, through an incremental change in temperature, that will occur gradually over the years. The scale of this impact is global and therefore affects the financial health of companies by changing the quantity produced and the respective price of the good. In this type of risk, each company will be impacted differently, depending on the region.

Climate change may also change the frequency of extreme events over the years. There were five types of extreme events selected: cyclones, drought, extreme heat, floods and fires. They all present local impact and therefore affect the financial health of companies by changing the quantity produced and the cost of production. In this type of risk, each company in the same region should be impacted differently, depending on its recovery capacity.

In a simplified way, the tool developed consists of four steps:

1) **Establishment of climate scenarios.** In this case, two climate scenarios (two degrees and four degrees) were considered and two horizons (2025 and 2045) were evaluated.

2) **Bibliographical verification of how some indicators of interest (production, price, cost) will behave when facing incremental and extreme events risks.** It is expected that there will be different behaviors according to the scenarios, sectors and regions studied.

3) **Evaluation of how the probability of default (credit quality) of a sample of companies is affected by the isolate change of indicators.** That is, a stress test exercise that proposes the variation of each factor studied individually.

4) **Extrapolation of the results of this sample to the entire portfolio of the bank.** The result observed is the migration of default probability (credit quality) of the clients.

As a result of the application of this methodology in our agricultural portfolio, it can be inferred that the physical risk associated with climate change has a low downgrade potential in this sector. Specifically, we noticed that the negative lower impacts of revenue and cost do not affect rating, but after a certain level of impact, there is a large variation on rating. On the other hand, no client has benefited from climate change.

[www.unepfi.org/category/publications/climate-change-publications]
**GHG inventory of financed emissions**

We conducted an initial study in which we prepared the GHG inventory of the emissions financed for the real estate loan, rural credit and vehicle financing portfolios. The tool used in the identification of the emissions of each industry is customized for Itaú Unibanco based on the guidelines from the Carbon Initiative Portfolio.

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>Metric ton of CO$_2$e for each R$10,000 financed$^{(1)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>16.5</td>
</tr>
<tr>
<td>Vehicles</td>
<td>5.8</td>
</tr>
<tr>
<td>Real estates</td>
<td>0.47</td>
</tr>
</tbody>
</table>

$^{(1)}$ The emissions were calculated with the use of an internal tool with specific assumptions for each topic.

This topic has been becoming increasingly more relevant since the spirit of joint responsibility for the financed emissions within the bank is also growing. The portfolios will be regularly monitored and this study is being expanded to other industries.
Transition for the future

Our environment changes and, along with it, the way we relate and do business also changes. The reality of climate change imposes structural and deep changes on the way we see the sustainability of the planet and the quality of life of the people that are directly or indirectly involved with our actions.

Organizations and the understanding of investors about the physical risks and the possible financial implications associated with the transition to a low-carbon economy will grow, information will become more decisive, and risks and opportunities will have a more accurate price, allowing for greater efficiency in the allocation of capital.

Accordingly, information related to climate finance is essential and transparency in reporting the recommendations made by the TCFD depends on the broad adoption of this agenda by organizations (from the financial and non-financial industry).

We are in favor of comparability and materiality of disclosures on climate in all industries and we will continue to work on the progressive alignment of our climate finance-related disclosure with the recommendations of the TCFD.

We understand we play a transforming role beyond our business in the generation and sharing of knowledge in the fields in which we operate. Together with our industry partners and with multilateral organizations, we will continue to strategically work on indicators, measurements, monitoring and responses that meet the needs of our society and our planet.

We will continue to develop products, services and processes that take into consideration and reduce the effects of climate change in the segments and industries in which we operate so as to contribute to a more sustainable society.
Implementing TCFD recommendations at Itaú Unibanco
2018