CLIMATE TRANSITION RISKS AND OPPORTUNITIES

Exposure to risks and opportunities related to climate transition assessment

Rua Manuel Pacheco de Miranda, 105 & 113 Porto

Porto - Porto Tower

Version 1.0

mace

1. Object

This report presents the results of the analysis of risks and opportunities arising from the climate transition in relation to the MiCampus residences. Understanding how climate change affects our environment is important in order to understand the implications for assets, tenants, and the community, as well as what measures are needed to mitigate risks and capitalize on opportunities.

This document will examine in detail the potential impacts of climate change on MiCampus residences, providing a solid foundation for implementing adaptation and improvement strategies for the benefit of residents and the environment.

A working methodology based on the following structure is proposed:

1. Analysis ofthe risks and opportunities related to the climate transition in the following areas: building value, tenants and communities.
2. Define indicators for Energy, Water, Land Use and Waste Management

The report on climate transition risks and opportunities was developed by Mace, a comprehensive consulting firm operating in 70 countries and Spain since 1999.

Mace provides a wide range of customized project management services in the retail, public, hospitality, leisure, and residential sectors, tailored to each client's specific needs.

The Spanish team, with nearly 100 people, is responsible for providing Project and Cost Management services, as well as Responsible Business Consulting.

The Mace team is committed and driven to deliver a sustainable future for Spain, embodying the culture and best practices key to developing successful projects.

Since 2012, Mace has provided sustainability services, working with clients at every stage of the lifecycle, from scoping opportunities and setting goals to developing strategies and exploring investment opportunities.

Mace helps clients develop carbon reduction programs, sustainability strategies, green building certifications, social value delivery frameworks, and behavior change programs and ESG reporting, among others.

2. Introduction

My Campus strives to create healthy, safe, and enjoyable spaces for its building users. By integrating wellness into the design and operation of its buildings and promoting good health practices for users, the goal is to achieve adequate environmental conditions related to indoor air and drinking water quality, thermal comfort, and promote safety and health through protocols, emergency resources, and education.

The entity is managed by the European Student Accommodation Core Fund (ESACF) SCA SICAV-RAIF. The ESACF fund owns the funds, and MiCampus operates the assets.Since 2021, MiCampus has been committed to sustainable development in line with ESACF's ESG strategy. Thus, starting that year, the company's environmental performance has been measured; for the first time, it has calculated its carbon footprint and joined the SBTi (Science Based Targets) initiative as a company committed to reducing its carbon footprint.

To do this, it is essential to doparticipants to the residents, raising awareness and sensitizing them about their ecological footprint. The goal of MiCampus is to jointly promote solutions that help improve the environment, such as the decarbonization plan and the greenhouse gas (GHG) emissions offset or neutralization plan.

In addition, MiCampus continues to actively measure and monitor the environmental performance of each facility, as well as improving the energy efficiency of its design, development, and use.

To successfully implement the environmental agreement and reduce its carbon footprint, MiCampus has established a CO2 emissions offset plan, improving the energy efficiency of its facilities and reducing consumption.

Therefore, MiCampus aims to reduce carbon dioxide emissions by 2030 and achieve carbon neutrality by 2040.

Likewise, MiCampus has included an ESG policy in its new Code of Ethics, as well as a responsible purchasing policy, which serve as the basis for generating a culture based on responsible consumption and a sustainable approach.

The ESG (Environmental, Social and Governance) policy MiCampus's commitments and principles of action regarding environmental, social, and good governance are reflected in the company's overall strategy. These measures are intended for the short, medium, and long term, both for the company and its stakeholders.

In this way, MiCampus meets some of the United Nations' main SDGs (Sustainable Development Goals).

MiCampus is committed to environmental excellence, combating climate change, working to combat climate change, and taking steps to achieve the energy transition and reduce its ecological footprint.

At MiCampus, we believe in people and promote their development. The company knows that its employees are its greatest asset. Therefore, they actively promote an environment of well-being and personal and professional advancement to ensure the best working conditions.

Integrity, responsibility, and transparency are key elements in MiCampus's DNA. They uphold best practices for good corporate governance. They promote ethics, integrity, and, of course, responsibility in each of their activities.

3. Context of transition to climate change

The transition to address climate change is a critical and complex process that requires concerted efforts from individuals, communities, governments, and businesses around the world. The urgency of mitigating and adapting to climate change arises from the scientific consensus that human activities, particularly the burning of fossil fuels, are significantly contributing to global warming and its associated impacts. To effectively address climate change, several key transitions must occur:

Transition to renewable energies: It is crucial to shift from fossil fuel-based energy sources to renewable energy. This involves increasing the use of solar, wind, hydropower, geothermal, and other sustainable energy sources, while phasing out coal, oil, and gas. Accelerating the deployment of renewable energy technologies is essential to reducing greenhouse gas emissions and promoting a low-carbon future.

Energy efficiency and conservation: Improving energy efficiency across all sectors, including buildings, transportation, and industry, is another vital aspect of the transition. This can be achieved through energy-efficient technologies, improved insulation, efficient transportation systems, and sustainable practices that minimize energy waste.

Sustainable transport: The transition to low-carbon transport systems is essential. Promoting the adoption of electric vehicles, expanding public transport networks, promoting cycling and walking, and reducing dependence on fossil-fuel-powered vehicles are crucial steps. Furthermore, exploring alternative fuels such as hydrogen and biofuels can contribute to decarbonizing the transport sector.

Green buildings and infrastructure: Constructing energy-efficient buildings and infrastructure is vital to reducing energy consumption and emissions. Promoting sustainable building practices, such as the use of environmentally friendly materials, the integration of renewable energy systems, and improved energy efficiency standards, can significantly contribute to reducing the carbon footprint of the built environment.

Sustainable agriculture and land use: The transition to sustainable agricultural practices is necessary to mitigate climate change. Promoting regenerative agriculture, agroforestry, and organic farming methods can help sequester carbon, improve soil health, and reduce emissions from the agricultural sector. Furthermore, forest conservation, restoring degraded lands, and reducing deforestation are crucial to maintaining carbon sinks.

Circular economy: Moving toward a circular economy model, which emphasizes reduction, reuse, recycling, and responsible resource management, can help mitigate climate change. This approach reduces waste, promotes resource efficiency, and minimizes the extraction and consumption of finite resources.

Politics and international cooperation: Effective policy and regulatory frameworks, as well as international cooperation, are essential to facilitate the transition to a sustainable and climate-resilient future. Governments must set ambitious emission reduction targets, implement carbon pricing mechanisms, and provide incentives for clean technologies. Collaboration among nations is crucial to address global challenges, share knowledge, and support developing countries in their transition efforts.

Public awareness and education: Raising public awareness about climate change and its impacts is essential to driving behavioral change and fostering support for sustainable practices. Educational campaigns, media engagement, and public outreach can help promote understanding, encourage responsible consumption, and inspire people to take action.

3.1 International Context of Climate Change

The international context of climate change policies and regulations is constantly evolving due to the significant global importance of the issue. Here are some key aspects that have been defined and developed for each country to consider and implement.

3.1.1 Paris Agreement

The Paris Agreement is a landmark international treaty adopted in 2015 under the United Nations Framework Convention on Climate Change (UNFCCC). Its goal is to limit global warming to well below 2 degrees Celsius above pre-industrial levels, with the aim of pursuing efforts to limit the temperature increase to 1.5 degrees Celsius. The agreement requires countries to regularly report on their emissions and implementation efforts.

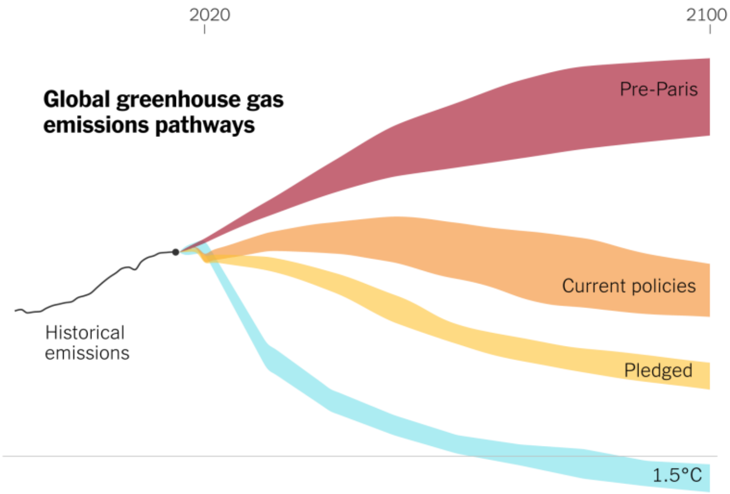


Figure 1. GHG emissions curve to 2100
Source: The New York Times

3.1.2 Nationally Determined Contributions (NDC)

Under the Paris Agreement, countries are expected to submit their NDCs, which outline their goals, policies, and voluntary actions to address climate change. These contributions vary widely from country to country and are periodically reviewed to increase their ambition.

3.1.3 World Climate Summits (COP)

The Conference of the Parties (COP) is the supreme decision-making body of the UNFCCC. COP meetings are held annually, where countries negotiate and discuss climate-related issues, such as mitigation, adaptation, finance, and technology transfer. These summits provide a platform for countries to collaborate, set goals, and assess progress.

3.1.4 Evolution of the world political landscape

The political dynamics and priorities surrounding climate change differ from country to country. While some countries are committed to aggressive climate action, others struggle to achieve consensus due to differing national interests, economic considerations, and political ideologies. The leadership and commitment of major emitters, such as the United States, China, and the European Union, are crucial to global climate efforts.

3.1.5 Climate policies and regulations

Countries implement a range of policies and regulations to address climate change. These include carbon pricing mechanisms (carbon taxes or emissions trading systems), renewable energy targets, energy efficiency regulations, subsidies for clean technologies, and investment in sustainable infrastructure. National policies can differ significantly, reflecting each country's unique circumstances and capabilities.

3.1.6 International climate finance

Climate finance refers to the financial support provided by developed countries to developing countries to mitigate and adapt to climate change. Developed countries have pledged to mobilize $100 billion annually by 2020, with the goal of increasing climate finance in the future. Discussions on climate finance remain important, particularly to support developing countries in their climate action efforts.

3.1.7 Geopolitical considerations: Climate change has geopolitical implications, such as the potential for conflict over resource scarcity, climate-induced migration, and shifting alliances. Cooperation and diplomacy are crucial to addressing these challenges and ensuring equitable and sustainable outcomes.

3.1.9 Green Deal

The Green Deal is a comprehensive and ambitious plan introduced by the European Union (EU) to address climate change, promote sustainable growth, and transition to a carbon-neutral economy. It aims to make Europe the world's first climate-neutral continent by 2050. The Green Deal covers several policy areas, including clean energy, sustainable mobility, the circular economy, biodiversity, and sustainable agriculture. It emphasizes the need for a just transition that ensures social equity and supports regions and industries affected by the transformation.

Figure 2. The European Green Deal
Source: Directorate-General for Communication (European Commission)

3.1.10 Wave of Renewal

The Renovation Wave is an initiative launched by the European Commission as part of the European Green Deal. Its main objective is to accelerate the renovation and improvement of the energy efficiency of buildings across the EU. The Renovation Wave recognizes that buildings are responsible for a significant share of energy consumption and greenhouse gas emissions. It aims to stimulate investment in building renovation, improve energy efficiency standards, promote the use of renewable energy sources, and improve building quality, thereby contributing to reducing carbon emissions, saving energy, and improving living conditions.

3.1.11 Sustainable Development Goals (SDGs)

The SDGs are a set of 17 global goals established by the United Nations (UN) as part of the 2030 Agenda for Sustainable Development. They provide a framework for countries and stakeholders to work together toward a more sustainable and equitable world. The goals cover a wide range of interconnected issues, such as poverty eradication, climate action, clean energy, gender equality, and sustainable cities.

Figure 3. Sustainable Development Goals
Source: United Nations

3.1.12 Agenda 2030

The 2030 Agenda is a global action plan adopted by UN Member States in 2015. It encompasses the SDGs and establishes a roadmap for sustainably transforming the world by 2030. The agenda emphasizes the importance of eradicating poverty, promoting social inclusion, and safeguarding the planet. It recognizes that achieving sustainable development requires a collaborative effort across all sectors.

3.1.13 Agenda 2050

The 2050 Agenda is not a specific, internationally agreed-upon framework, but rather a concept that refers to long-term strategies and goals that various countries and organizations establish for the year 2050. These agendas typically outline pathways to achieving sustainable development, decarbonization, and resilience by mid-century. They are often aligned with global commitments, such as the Paris Agreement and the SDGs, and aim to guide policy and investment decisions for long-term sustainability.

Overall, the international context for climate change-related policies and regulations is shaped by a combination of multilateral agreements, national policies, evolving political dynamics, and the need for collective action to address the urgent challenge of climate change.

3.2 Context in Spain facing Climate Change

The transition to address climate change requires a multifaceted approach, involving technological advances, political changes, and social transformations. It requires the participation and collaboration of individuals, businesses, governments, and international organizations to achieve a sustainable, low-carbon, and resilient future for all.

Thus, Spain has the National Climate Change Adaptation Plan, the National Integrated Energy and Climate Plan (PNIEC), and the Long-Term Decarbonization Strategy.

Based on these measures, Spain has already begun the path toward decarbonization through ambitious objectives, as shown in the following graph:

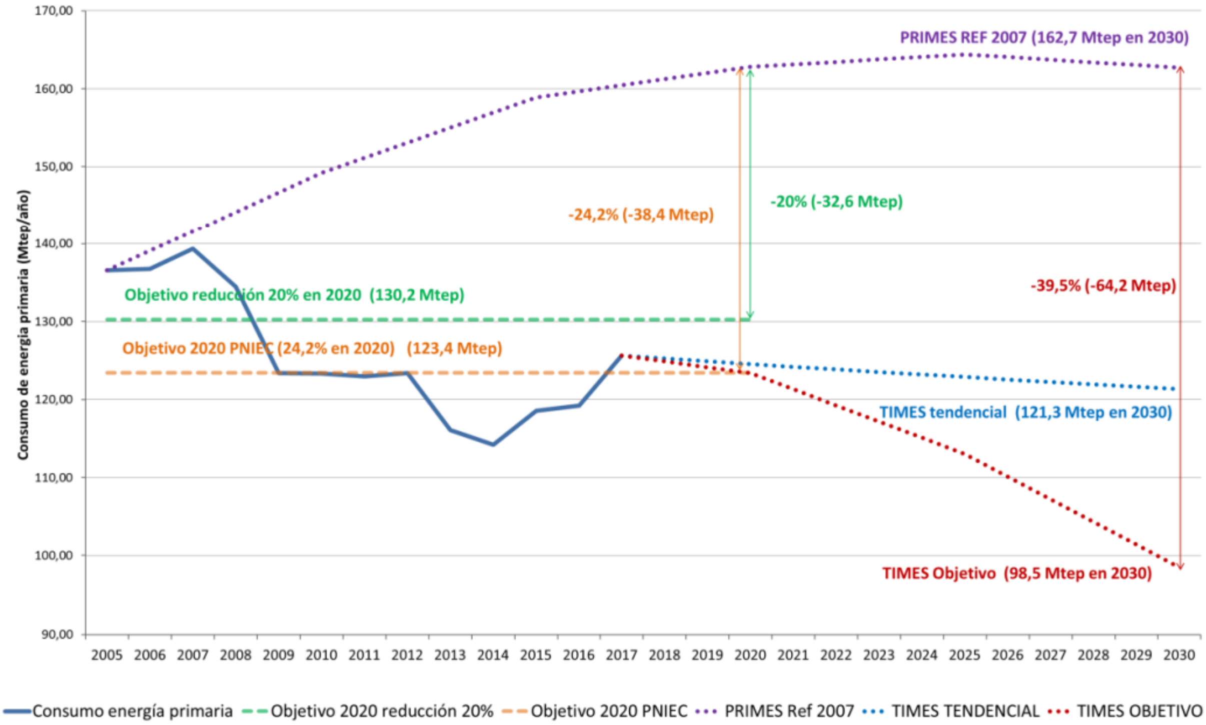


Figure 4. Primary energy consumption reduction target in Spain excluding non-energy uses (Mtoe/year)
Source: Ministry for Ecological Transition and the Demographic Challenge

With the measures contemplated in the PNIEC, the following results will be achieved by 2030:

- 23% reduction in greenhouse gas (GHG) emissions compared to 1990
- 42% of renewable energy used in final energy.
- 39.5% improvement in energy efficiency.
- 74% renewable energy in electricity generation.

The longer-term goal (2050) is to achieve GHG emissions neutrality in Spain and have a 100% renewable electricity system by then.

3.2.1 Legal framework

Spain has enacted legislation to address climate change, including the Climate Change and Energy Transition Law, passed in 2021. This law establishes long-term goals, such as achieving climate neutrality by 2050, and sets sectoral targets for emissions reductions, renewable energy deployment, energy efficiency, and adaptation measures.

3.2.2 Political commitment

The Spanish government has shown a firm commitment to addressing climate change. Spain is a signatory to the Paris Agreement and has set ambitious goals aligned with its provisions. The government has prioritized climate action and sustainability as key policy areas.

3.2.3 Transition to renewable energies

Spain has been working on the transition to renewable energy sources. The country has set a goal of achieving 100% renewable electricity by 2050 and has implemented policies to promote the deployment of renewable energy technologies such as wind and solar. Auctions and incentives have been introduced to attract investment in the renewable energy sector.

3.2.4 Emission reduction and carbon pricing

Spain has committed to reducing its greenhouse gas emissions in line with EU targets. It has implemented measures to reduce emissions from various sectors, including transport, industry, and agriculture. The country also participates in the European Emissions Trading System (ETS), which caps emissions and allows for trading in emissions allowances.

3.2.5 Energy efficiency and building regulations

Spain has introduced energy efficiency regulations for buildings, with the aim of improving energy performance and reducing carbon emissions. The regulations establish energy efficiency standards for new construction and renovations, as well as the use of renewable energy sources in buildings.

3.2.6 Just transition and social implications

Spain recognizes the social implications of the transition to a low-carbon economy and has emphasized the importance of a just transition. Efforts are being made to ensure that the shift to cleaner energy sources creates new employment opportunities, supports affected communities, and addresses social inequalities.

3.2.7 International collaboration

Spain actively participates in international climate negotiations and initiatives. The country attends the annual UNFCCC COP meetings and collaborates with other countries on climate-related research, knowledge exchange, and training activities.

It is important to note that specific policies and regulations may evolve over time as climate change continues to be addressed and actions aligned with international commitments and scientific findings.

3.3 Task Force on Climate-Related Financial Disclosures | TCFD

The Task Force on Climate-related Financial Disclosures (TCFD) is an initiative created to encourage organizations to disclose their climate-related financial risks and opportunities. It provides a framework for companies to assess and disclose the potential impacts of climate change on their business operations and strategies. While the TCFD focuses on the financial implications of climate change, it also encompasses the transition to a low-carbon economy. The TCFD framework consists of four core elements:

Figure 5. Elements of the TCFD
Source: Pacific Corporate Sustainability

Governance: This element addresses how an organization's board and management monitor and manage climate-related risks and opportunities. It involves establishing clear roles and responsibilities, integrating climate considerations into decision-making processes, and ensuring accountability.

Strategy: Organizations are encouraged to disclose information on how they identify and assess climate-related risks and opportunities. This includes assessing the potential impact of different climate scenarios on their business models and disclosing their climate change adaptation and mitigation strategies.

Risk management: This element focuses on the processes and procedures organizations use to identify, assess, and manage climate-related risks. It involves integrating climate considerations into existing risk management frameworks and disclosing the measures taken to mitigate or transfer those risks.

Metrics and objectives: The TCFD framework emphasizes the disclosure of climate change-related metrics and targets. This includes reporting on greenhouse gas emissions, energy consumption, and other relevant indicators. It also encourages setting targets to reduce emissions and increase resilience to climate change.

Regarding the climate change transition, the TCFD framework recognizes the need for organizations to disclose their plans and actions to align with a low-carbon economy. This involves disclosing information on how companies are adapting their business models, investing in clean technologies, transitioning to renewable energy sources, and managing the potential risks and opportunities associated with the shift toward a more sustainable and resilient future.

By adopting the TCFD recommendations, organizations can increase transparency, improve decision-making processes, and facilitate informed assessments of climate-related risks and opportunities. This, in turn, can help investors, lenders, insurers, and other stakeholders better understand and assess an organization's exposure to climate change and make more informed decisions regarding its financial resources.

MiCampus is conducting this exercise in line with the ESACF's actions. The fund has a TCFD report reflecting its commitment and performance in the areas of governance, strategy, risk management, and metrics and objectives related to climate-related risks and opportunities. The objective is to implement the specific measures to be implemented through this transition risk and opportunity report for each of MiCampus' assets.

3.4 Climate scenarios

Currently, some organizations are affected by risks associated with climate change. However, it is estimated that the most significant effects will likely become apparent in the medium to long term. However, their duration and magnitude remain uncertain. This scenario presents challenges in understanding the potential effects of climate change on organizations' businesses, strategies, and financial performance. To properly incorporate these risks, organizations must consider the possible evolution of climate-related risks and opportunities and their implications in different contexts. One way to do this is through scenario analysis.

Scenario analysis is a process for identifying and assessing the potential effects of a series of possible future states under uncertain conditions, based on assumptions. To this end, two different scenarios have been selected to address both physical and transition impacts.

One key type of scenario is the so-called 2°C scenario, which establishes an emissions trajectory consistent with maintaining the global average temperature increase at 2°C, above pre-industrial levels. The 2°C scenario provides a common reference point that is aligned with the objectives defined in the Paris Agreement and helps clarify stakeholders' assessments of the magnitude and duration of the implications associated with the transition.

The Paris target (1.5-2°C) for limiting the physical impacts of climate change is vital but difficult to achieve. Research indicates that a warming of 3-4°C is most likely. However, there is a risk of a temperature increase of >5°C, which would be catastrophic. The following graph shows this probability of temperature increase by 2100.

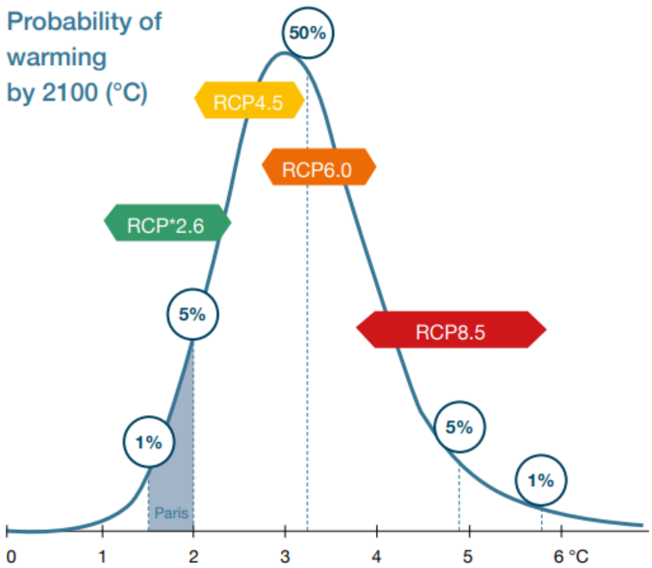


Figure 6. Probability of climate change by 2100
Source: CRO Forum, 2019

This scenario can be associated with IPCC RCP2.6 which has the following characteristics or assumptions:

- In policy terms, it is the closest to the Paris Agreement to limit warming to “well below 2°C” with the goal of reaching 1.5°C.
- Based on a rapid stabilization and eventual reduction in the level of GHGs in the atmosphere after 2050.
- Expected median temperature increase by 2100 of 1.6°C, with a range of 1.0–2.8°C allowing for climate system uncertainties.
- Sea level rise of 0.45 m, with a range ofn 0.3m and 0.8m.

This specific scenario represents the physical transition impacts listed below:

- Heat waves are likely to increase.
- Increased probability of droughts.
- Rising temperatures double forest fires.
- Extreme rainfall and flooding may increase in many areas (in Europe, recent research indicates that flood damages could increase in today's money from an average of €5 billion per year for 1976-2005 to €12 billion in a +2°C world).
- Tropical cyclones may be fewer overall, but the most powerful Category 4-5 storms can be 16% more frequent.
- Heavy rainfall associated with tropical cyclones is likely to increase by 10-15%.
- Coastal flooding is likely to cost between 0.3 and 5.0% of global GDP annually by 2100 with the current level of coastal protection.
- The Arctic Ocean is likely to be ice-free at least one in ten summers, opening it up to increased commercial use.

On the transition side, to have a realistic expectation of achieving the sub-2°C scenario, drastic policy measures will be needed, such as:

- An agreed carbon price of up to €100 per tonne across all leading nations to incentivize a rapid transition.
- Regulatory requirements for decarbonizing buildings.
- Halt the development of new fossil fuels and redirect subsidies to transition priorities.
- Implementation of CCS (Carbon Capture and Storage) systems or large-scale forestation.

To address the impacts detected in a 2ºC scenario that would directly affect MiCampus assets, a series of mitigation measures have been proposed, as set out in section 6.

Likewise, MiCampus has a Decarbonization Plan aligned with the SBTi initiative. This is the only framework in the world for setting Net Zero targets in line with climate science. This initiative refers to this same scenario in line with the Paris Agreement, which aims to limit global temperature rise to 1.5°C.

3.5 Physical Risks

Physical risks of climate change are defined as those arising from the increasing severity and frequency of extreme weather events or from a gradual, long-term change in the Earth's climate. These risks can directly affect businesses through damage to assets or infrastructure, or indirectly through disruption to their operations or the impossibility of their activities. Physical risks are further divided into two types:

Acute risks: Risks classified as acute are those caused by extreme weather events whose frequency and intensity would increase due to global warming, such as cyclones, hurricanes, floods, or fires.

Chronic risks: Chronic physical risks are those resulting from medium- to long-term changes in climate behavior, particularly due to overall temperature increases. Examples of these include impacts caused by rising sea levels, ocean acidification, or changes in the level and frequency of precipitation.

3.6 Transition Risks

The commitments made by the signatories of the Paris Agreement and the resulting transition to a decarbonized production system imply a drastic transformation of the global economy through significant changes in regulations, markets, and technology. These changes entail significant risks for companies. The TCFD distinguishes between the following categories of transition risks:

Regulatory and legal risk: The development of climate change-related regulations is evolving at an ever-increasing pace. These regulations typically seek to limit activities that contribute to climate change and promote adaptation measures. This means that economic actors must be able to adapt to new regulations, which sometimes entails significant impacts on their strategy, business models, and production models. Some examples of policies that carry a transition risk include the implementation of CO2 pricing, the promotion and subsidization of renewable and efficient energy sources, or the establishment of greenhouse gas emission reduction targets.

Technological risk: Technological innovations focused on the transition to a low-carbon economy can have a significant impact on companies and economic sectors, as they allow for anticipating losses in value of already developed infrastructure, as well as significant investments in R&D and the incorporation of new technologies that are still in the development phase. Some examples include technological improvements related to renewable energy or energy efficiency.

Market risk: Climate change can affect the market in multiple ways, with one of the main ones being changes in the supply and demand for products and services or increased production costs. Changes in consumer behavior that increase demand for products classified as sustainable, or the decrease in the supply of certain resources due to increased scarcity, are examples of this type of risk. This category would include the decrease in the financial valuation of stranded assets that have not adapted to changes in fossil fuel reserves.

Reputational risk: Changes in the image and prestige of a company or economic activity, due to its contribution to or hindrance in the transition to a more sustainable economy, can generate significant risks as well as opportunities. It is interesting to note that physical and transition risks are inversely related: the more powerful and rapid the transition to a green economy, the greater the transition risk, but the lower the physical risk, and vice versa.

3.7 Climate-related opportunities

Just as climate change can generate risks and negative impacts, there is a possibility that these changes can be exploited and represent an opportunity for organizations.

As the economy decarbonizes, real estate players can leverage their locations, utility connections, local operational footprints, and climate intelligence to create new revenue streams, enhance asset values, or launch entirely new businesses.

These climate-related opportunities will vary depending on the region, market, and sector in which the organization operates. Therefore, identifying opportunities specific to MiCampus will strengthen its strategy to mitigate and adapt to climate change.

Climate opportunities include, for example, resource efficiency and cost savings, the adoption of low-carbon energy sources, the development of new products and services, access to new markets, and building resilience throughout the entire production chain.

The TCFD working group identified different types of opportunities:

Resource efficiency: There is increasing evidence and examples of organizations that have successfully reduced their operating costs by improving efficiency across their production and distribution processes, facilities, machinery/devices, and transportation/mobility; but especially in relation to energy efficiency, and also including broader management of materials, water, and waste.

Energy source: The trend toward decentralized clean energy sources, rapidly declining costs, improved storage capabilities, and subsequent global adoption of these technologies are significant. Organizations that shift their energy use to low-carbon energy sources could save on their annual energy costs.

Products and services: Organizations that innovate and develop new low-emission products and services can improve their competitive position and capitalize on changing consumer and producer preferences.

Markets: Organizations that proactively seek opportunities in new markets or asset types can diversify their activities and improve their position for the transition to a low-carbon economy. New opportunities can also be seized by underwriting or financing green bonds and infrastructure.

Resilience: The concept of climate resilience implies that organizations develop implementation capacity to respond to climate change in order to better manage associated risks and take advantage of opportunities, such as the ability to respond to physical and transition risks. Opportunities include improving efficiency, designing new production processes, and developing new products.

4. Response to Climate Change: Risk Identification and Assessment

Climate change presents both risks and opportunities in various sectors and aspects of society. Identifying the risks to which an organization or asset is exposed is key due to the impacts they generate. Climate change can have negative consequences in various areas:

Infrastructures and ecosystems: Climate change is increasing the frequency and intensity of extreme weather events such as hurricanes, droughts, floods, and heat waves. These phenomena pose risks to infrastructure, agriculture, ecosystems, and human lives.

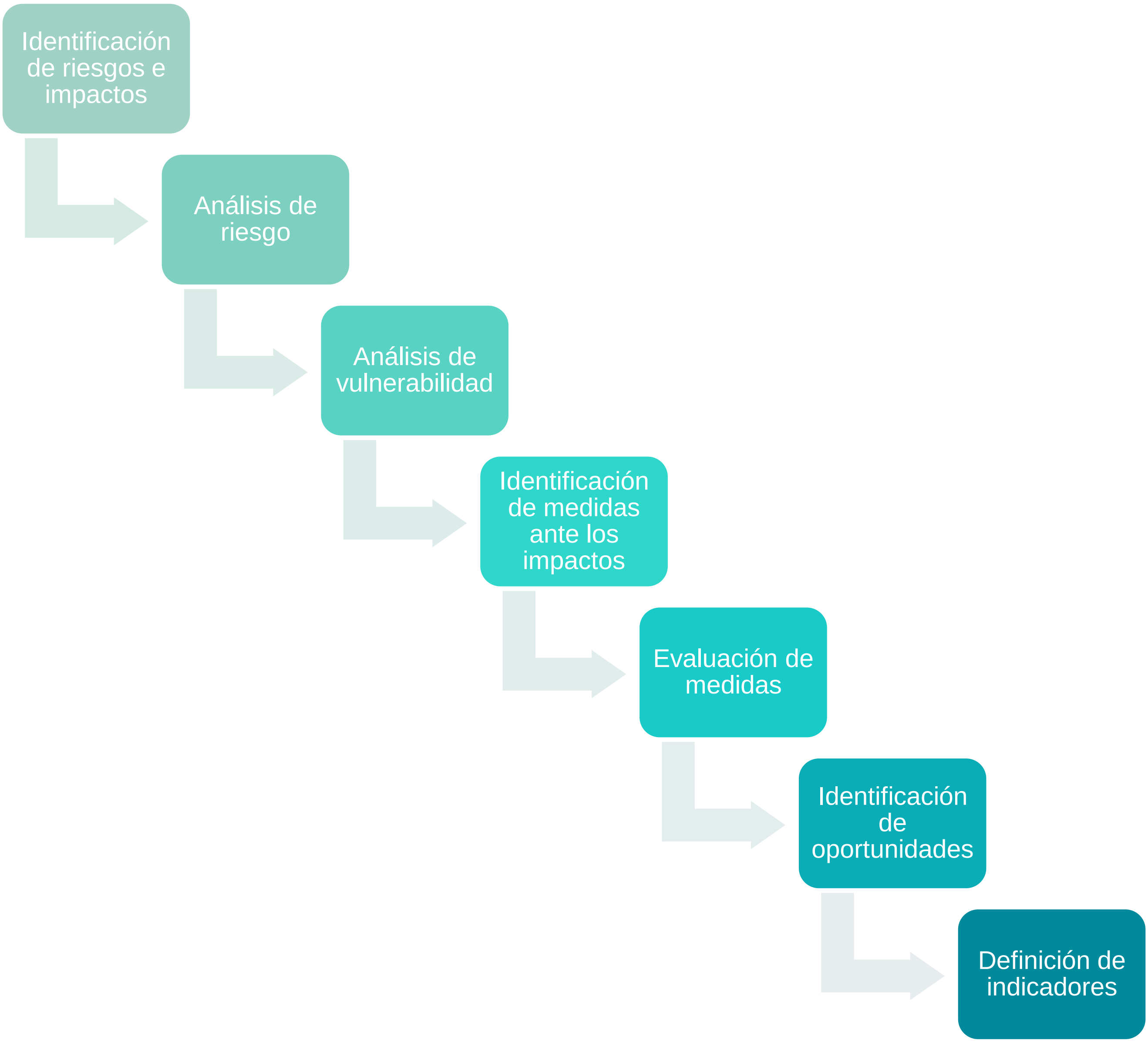
Economic: Climate change can disrupt economic activities and industries. Rising sea levels, for example, threaten coastal cities and infrastructure, resulting in increased adaptation and relocation costs. Changing weather patterns can also impact agricultural productivity, affecting food security and leading to economic losses.

Health: Climate change contributes to the spread of disease, exacerbates air pollution, and increases the incidence of heat-related illnesses. Shifts in disease patterns, such as the expansion of vector-borne diseases like malaria and dengue, pose risks to public health systems.

Society: Climate change disproportionately affects vulnerable communities, exacerbating social inequalities. Displacement due to extreme weather events, water scarcity, and food insecurity can lead to social unrest, conflict, and forced migration.

Regulations and legal: Governments and regulatory agencies are implementing policies and regulations to address climate change. Companies that fail to adapt and comply with these regulations may face legal risks, reputational damage, and financial penalties.

The process of identifying and assessing risks and impacts followed in this report consisted of the following steps:



4.1 Identification of Physical Impacts

As part of a systematic process, a series of climate-related physical impacts to which the Oporto-Porto Tower asset is exposed have been identified, which could have a financial impact on the entity.

For each of the risks, identified in the categories recommended by the TCFD—acute and chronic risks—a series of negative impacts were determined that they could have on MiCampus assets if they materialized.

Risk category	Risk	Impacts
Acute	Droughts	• Changes in runoff and water availability • Increased irrigation needs • Reduction or interruption of water supply • Reduction or interruption of the electricity supply
	Increased frequency of winds and hail	• Wind damage • Hail damage
	Torrential rains	• Flood damage • Overload of sewage infrastructure • Changes in runoff and water availability • Landslides and subsidence of land
Chronicles	Rising temperatures	• Overload or insufficiency of the air conditioning system • Energy and maintenance overcosts • Increased irrigation needs
	Higher concentration of GHGs in the air	• Reduction in air quality

4.2 Identification of Transition Impacts

Transition threats and impacts arise within the framework of the move toward an economy with less impact on the environment. In this sense, the real estate sector faces significant challenges such as sudden fluctuations in asset values and increased costs. A key aspect, more than the need for changes, is the speed at which the transition to a greener economy will occur and how this may affect the economic stability of an activity.

As part of a systematic process, for each of the climate change-related transition threats (regulatory changes, technological changes, market changes, and reputational changes), a series of transition impacts that could have a financial impact on the entity have been identified.

Risk	Impacts
Regulatory	• Increase in operational costs • Asset obsolescence • Reduction of marketable surface area • Unplanned investment for regulatory compliance
Technological	• Asset obsolescence • Reduction of marketable surface area • Unplanned investment in technological updating
From the market	• Increase in operational costs • Demand reduction • Reduction in profitability • Depreciation of the asset
Reputational	• Reduction in profitability • Reduction in financing capacity

4.2.1 Due to regulatory changes

Regulatory changes linked to climate change can pose a threat to real estate assets, which can be analyzed by considering the following impacts:

- **Increase in operational costs.**Rising operating costs are one of the main impacts to consider in the transition to a greener economy. Two sources have been identified for this threat: regulatory requirements (such as the rising cost of emission rights) and the behavior of the energy supply market (such as an increase in energy prices due to tensions between supply and demand).
- **Asset obsolescence.**Whether due to legal requirements arising from the transition to decarbonization or technological development, a building can become obsolete at a given time, which constitutes an obvious impact.
- **Reduction of marketable area.**To meet a hypothetical regulatory requirement or technical requirement (such as increasing the ventilation rate, increasing the capacity of air conditioning equipment, or increasing the thickness of thermal insulation), there could be an impact of reducing marketable surface area, due to the need to occupy additional space for, for example, the location of machinery or the passage of installations.
- **Unplanned investment for regulatory compliance.**A regulatory or technological change may require an unscheduled investment in the medium term to adapt to new regulations (as part of the transition to a greener economy) or to incorporate new, more advantageous technology into the building.

4.2.2 Due to technological changes

Technological changes linked to climate change can pose a threat to real estate assets, which can be analyzed by considering the following impacts:

- **Asset obsolescence.**Whether due to legal requirements arising from the transition to decarbonization or technological development, a building can become obsolete at a given time, which constitutes an obvious impact.
- **Reduction of marketable area.**To meet a hypothetical regulatory requirement or technical requirement (such as increasing the ventilation rate, increasing the capacity of air conditioning equipment, or increasing the thickness of thermal insulation), there could be an impact of reducing marketable surface area, due to the need to occupy additional space for, for example, the location of machinery or the passage of installations.
- **Unplanned investment in technological updating.**A regulatory or technological change may require an unscheduled investment in the medium term to adapt to new regulations (as part of the transition to a greener economy) or to incorporate new, more advantageous technology into the building.

4.2.3 Due to market changes

Market changes linked to climate change can pose a threat to real estate assets that can be analyzed by considering the following impacts:

- **Increase in operational costs.**Rising operating costs are one of the main impacts to consider in the transition to a greener economy. Two sources have been identified for this threat: regulatory requirements (such as the rising cost of emission rights) and the behavior of the energy supply market (such as an increase in energy prices due to tensions between supply and demand). This risk can directly affect the continuity of operations.

- **Reduction in demand.**Changes in customer preferences—driven by the transition to a greener economy—may cause certain real estate assets that don't fit what their customers consider valuable to be subject to reduced demand.
- **Reduction in profitability.**Significant changes in the market, whether on the demand side or due to increased supply costs, can lead to an imbalance in the economic balance sheet, leading to reduced profitability.
- **Depreciation of the asset.**One of the consequences associated with reduced profitability is asset depreciation, affecting its value. This can be exacerbated by the factors described above: increased operating costs, obsolescence, reduced marketable surface area, the need to make unforeseen investments, and reduced demand.

4.2.4 By reputation

Stakeholder perceptions of climate change can pose a threat to real estate assets, which can be analyzed by considering the following impacts:

- **Reduction in profitability.**Stakeholder perceptions of climate change can create imbalances in the economic balance sheet, leading to reduced profitability.
- **Reduction in financing capacity.**Changes in the policies and guidelines of various investment entities (prioritizing, for example, investments aligned with the transition to a greener economy) may reduce the financing capacity for the building's operation.

4.3 Risk analysis

Prior to the vulnerability analysis, the risk to buildings posed by each of the impacts listed above is studied.

In this case, the components that make up the risk assessment are:

- Severity
- Probability

The assessment scale used is three levels (high, medium and low) on the two axes, with the following matrix determining the final risk level for a given impact:

RISK		**Probability**		
		High	**Average**	**Low**
Severity	**High**	High	High	Half
	Average	High	Half	Low
	Low	Half	Low	Low

For each building in the portfolio, severity and probability values will be assigned to each of the impacts in order to obtain a risk level.

In the case of physical risks, the level of risk has been assessed according to the exact location of the building and its specific characteristics.

4.4 Vulnerability analysis

A building's vulnerability to climate impacts—which takes risk as input—is used as a reference for decision-making that shapes the corresponding action plan.

Vulnerability (the propensity to be affected by a climate impact) is studied by assessing two components:

- Risk (result of the analysis described above)
- Adaptive inefficiency

The assessment scale used is three-level (high, medium, and low) on both axes, with the following matrix determining the final level of vulnerability to a given impact:

VULNERABILITY		**Adaptive inefficiency**		
		High	**Medium**	**Low**
Risk	**High**	High	High	Medium
	Medium	High	Medium	Low
	Low	Medium	Low	Low

For each building in the portfolio, risk and adaptive inefficiency values will be assigned to each of the impacts in order to obtain a vulnerability level.

As in the risk analysis, the degree of vulnerability of physical risks has been evaluated according to the building's own characteristics that allow it to cope with the risk.

5.Result of risk and vulnerability analysis

5.1Physical Impact Matrix in Porto - Porto Tower

Physical impacts	Severity	Probability	**Risk**	Inefficiency adaptive	**Vulnerability**
Changes in runoff and water availability	L	L	L	L	L
Increased irrigation needs	M	M	M	M	M
Reduction or interruption of water supply	M	L	L	M	L
Reduction or interruption of electricity supply	M	M	M	M	M
Wind damage	L	M	M	L	L
Hail damage	L	M	M	L	L
Flood damage	L	L	L	M	L
Overload of sewage infrastructure	L	L	L	L	L
Landslides and subsidence	L	L	L	L	L
Overload or insufficiency of the air conditioning system	M	M	M	M	M
Energy and maintenance overcosts	M	M	M	M	M
Reduction in air quality	L	M	L	L	L

5.2Transition Impact Matrix in Porto - Porto Tower

Transition impacts	Severity	Probability	**Risk**	Inefficiency adaptive	**Vulnerability**
Increase in operational costs	M	M	M	L	L
Asset obsolescence	M	L	L	L	L
Reduction of marketable area	M	L	L	M	L
Unplanned investment for regulatory compliance	M	M	M	M	M
Unplanned investment in technological updating	M	M	M	M	M
Reduction in demand	M	L	M	M	M
Reduction in profitability	M	L	M	M	M
Depreciation of the asset	M	L	M	M	M
Reduction in financing capacity	M	L	L	L	L

6. Measures against climate impacts

6.1 Measures against physical impacts

Potential adaptation measures have been classified according to the impact they face.

6.1.1. In case of overload or insufficiency of the air conditioning system

- **Reduction of the building's thermal demand.**The building's reduced energy demand minimizes the need for heating and cooling (a future increase, especially in cooling demand, is anticipated). Actions compatible with the building's current situation without the need for major renovations are proposed:
  - Improve thermal insulation of facades, roofs, floors and ceilings, as well as installations and pipes.
  - Reducing thermal demand with high-efficiency insulating glass that could serve both heating demand and solar control in anticipation of temperature increases. This will not only reduce the demands on HVAC equipment, but also reduce the energy burden of pre-conditioning in mechanical ventilation.
  - Energy utilization systems in air conditioning installations such as free-cooling or heat recovery systems.
- **Increasing the energy efficiency of the air conditioning system**. Building equipment with high seasonal efficiency reduces the building's energy consumption. EER data for cooling equipment, COP or efficiency for heating equipment, and SFP for ventilation will be assessed:
  - Assessment of the suitability of replacing existing equipment with more efficient equipment in HVAC installations (EER, COP/efficiency, SFP)
  - In the case of new equipment installations, the most efficient ones should be proposed.
- **Improved control of air conditioning systems.**Using a BMS system, facility monitoring and control reduces energy costs by adapting facilities to changing conditions and controlling various parameters:
  - On/off control of facilities to avoid energy consumption when it is not necessary, avoiding passive consumption.
  - Zoning of energy uses with the installation of various circuits according to the different demands and areas of each building for better facility control.
  - Installation of natural light detectors for energy efficiency and artificial lighting savings.
- **Checking the ventilation system.**Regular ventilation checks are necessary to maintain an optimal indoor climate; they maintain a certain temperature, adequate humidity, and clean air.
- **Maintenance and revisions.**The maintenance of building facilities, as well as their inspections, contribute to ensuring that the system's expected energy efficiency does not decrease. There are several measures to consider in this regard:
  - Inspection of insulation on pipes and air conditioning ducts to prevent energy loss or freezing and breakage of pipes, resulting in water leaks.

- Insulation of DHW pipes to maintain system efficiency.
- Maintenance of the facilities by carrying out regulatory reviews.
- Analysis of the functioning of the building's facilities and the improvement proposals derived from energy audits and energy efficiency certificates.

- **Finishing and urbanization materials.**The construction materials of the building envelope and the constructed elements of the exterior spaces directly affect the heat island effect in the surrounding space. The albedo coefficient determines the reflectivity of solar radiation and, therefore, the amount of heat energy a material is capable of absorbing (for example, asphalt reflects virtually no radiation, and if the specific heat factor is added, it can be deduced that it behaves as a true heat accumulator). Criteria in this regard will be considered for the selection of exterior and urban envelope materials:
  - Define construction criteria for enclosures and urban elements and evaluate their impact on the heat island effect by selecting high-albedo (light) finishes and cool materials for pavements and facades.
- **Biodiversity measures.**Incorporating natural/green environments by taking advantage of outdoor spaces using local species that do not harm the local ecosystem and do not have a high water demand.

6.1.2. Facing energy and maintenance cost overruns

All the measures described above to address an overload or insufficiency in the air conditioning system would be applicable to adapt to energy and maintenance cost overruns.

6.1.3. Facing the increase in irrigation needs

- **Reuse of grey and rainwater.**Reusing stormwater and greywater reduces water demand for uses other than drinking water in anticipation of water consumption restrictions resulting from droughts, while also reducing energy used to transport water supplies and reducing treatment for potable water. The following measures are proposed in this regard:
  - Reuse of rainwater for irrigation of landscaped areas or green roofs with collection tanks sized to anticipate climate change with prolonged drought scenarios.
  - Reuse of greywater from sinks and showers to flush toilets and urinals.
  - Use of xerophilous species. Replacing high-water-demand plant species with xerophilous species in building landscaped areas minimizes irrigation requirements and, of course, water consumption.

6.1.4 Facing flood damage from extreme rainfall

- **Organization of uses in the building.**Potential flooding due to climate change could damage the building's facilities. Measures are proposed to reduce this impact:
  - Prohibit any potentially polluting use of lower floors to prevent possible toxic substances from being carried over during a potential flood.
  - Locate the essential facility/infrastructure elements for the building's operation on raised bases or benches above ground level to prevent damage due to possible overflows from the sewage or stormwater network.
- **Specify water-resistant materials and their containment.**Potential flooding due to climate change could damage building finishes. Measures are proposed to reduce this impact:
  - Specify structural and enclosure materials capable of withstanding flooding, minimizing damage, especially in risk areas, and preventing potential flooding from causing structural damage or damage to the building's enclosure.
  - Specify water-resistant finishing materials that not only prevent leaks into the building but also maintain its integrity after prolonged contact with water.
- **Evacuation procedures.**It is necessary to study the evacuation procedure for occupants in the event of a flood for an organized evacuation. To achieve this, the following plans must be in place:
  - Environmental Emergency Plan: This includes the procedures for action that contribute to proper emergency management, identifying potential associated environmental damage and the appropriate measures for each scenario, including flooding.

6.1.5. Facing the overload of sewage infrastructure

- **Sizing of the stormwater and sanitation network.**The flexibility of sanitation systems allows them to adapt to changing conditions resulting from climate change. Strategies for the design of sanitation and stormwater networks are proposed:
  - Provide maximum drainage duct size along the entire route from the roofs to the manholes to accommodate peak rainfall flows.
  - Maximize the size of sewage pipes to provide flexibility and prevent wastewater backflow due to flooding with preventive elements such as valves.
  - Perform proper maintenance of stormwater and sewage network elements, including manholes.
  - Install accessories and accessible manholes.

6.1.6 Facing changes in runoff and water availability

- **Sustainable Urban Drainage Systems (SUDS).**The construction of Sustainable Urban Drainage Systems (SUDS) in buildings with significant green areas allows runoff water to be recovered and reintroduced into the ground.

6.1.7. Facing slope collapses and the possibility of land subsidence

- **Land containment.** In buildings with built-up outdoor spaces, it is recommended to pay special attention to earth retention systems. Planting vegetation prevents landslides on slopes, and if necessary, retaining systems will be installed.

6.1.8. In the event of a reduction or interruption in the water supply

In addition to the following, the reuse of grey and rainwater, as described above, would also apply.

- **Low water consumption appliances and systems.** Installing low-consumption sanitary fixtures reduces both water consumption and the energy required to pump it through the system. The minimum flow rates for low water consumption are as follows:
  - Showers: Low-consumption single-lever mixer taps, with aerator/choke valve built into the shower head, and flow rate < 6 l/min, or timed taps with flow rate < 6 l/min.
  - Washbasins: Single-lever mixer tap + aerator, with flow rate < 6 l/min, or timed/electronic tap with flow rate < 6 l/min.
  - Toilets: 4.5/3 l dual flush cistern.
  - Urinals: Effective flush flow rate less than 1.5 l.
  - Efficient irrigation systems: In buildings with gardens or green roofs, consider irrigation systems that allow for greater water savings and plan the most appropriate installation for each type of landscaping (drip, micro-sprinkler, etc.), incorporating timers and humidity sensors.
- **Pipe maintenance.** Preventive and corrective maintenance of building facilities impacts water consumption. There are several actions to consider in this regard:
  - Preventive maintenance: Checking insulation on water pipes to prevent energy losses in hot water or freezing and breakage of cold water pipes, resulting in water leaks.
- **Water leak control.** Immediate detection of water leaks prevents major losses of this resource. There are several systems that can be used to control them:
  - Implementation of a water consumption monitoring system with leak detection or proximity controls that cut off the water supply to toilets when they are not occupied.
- **Backup systems for water supply.** Having emergency water supply tanks provides the ability to maintain building operation in the event of a water supply restriction or interruption. The sizing of these backup systems can be minimized by reducing water consumption in the building, along with graywater recovery techniques.

6.1.9. In the event of a reduction or interruption in the electricity supply

- **Operation of critical facilities in the event of a power outage.** Power outages cause shutdowns of critical facility equipment, such as evacuation route lighting, elevators, and air conditioning systems. Critical systems operating during a power outage include renewable energy sources, generators, or battery backups.
  - Sizing generators and power packs to accommodate potential power outages in anticipation of future effects of climate change, carrying out the necessary maintenance and overhauls on these systems.
  - Contribution of photovoltaic solar energy for electricity generation (depending on the architecture of each building, the installation of photovoltaic solar panels on the roof will be feasible, or alternatively, PV cells could be installed in windows or skylights).
- **Increase/installation of renewable energy.** The increase in renewable energy minimizes the building's energy costs. The implementation of various technologies deemed appropriate to the building's needs and installation possibilities will be assessed, proposing the maximum percentage adjusted to the building's demands. The following systems are the most effective and viable:
  - Contribution of photovoltaic solar energy for electricity generation. Depending on the architecture of each building, installing photovoltaic solar panels on the roof will be feasible, or alternatively, PV cells could be installed on windows or skylights.
  - Contribution of solar thermal energy for the production of domestic hot water if the building has sufficient roof space (a less effective measure than photovoltaic energy if the buildings' energy demand for domestic hot water is lower than the demand for electrical energy).
  - Cogeneration systems for harnessing electrical energy generation to produce heat and cold for air conditioning.
- **Consumption control.** Maintain up-to-date digital systems to monitor energy consumption for greater efficiency, reducing energy consumption and associated costs.

6.1.10. Facing damage from high-speed winds

- **Wind-resistant elements.** Potentially strong winds resulting from climate change could damage the building. Measures are proposed to reduce this impact:
  - Specify structural and enclosure materials when renovating or replacing elements capable of withstanding these impacts, minimizing damage, especially to upper floors and roofs of buildings, and preventing damage to the structure or the building's enclosure.
- **Maintenance and inspections of elements exposed to wind and hail.** Preventive and corrective maintenance of building facilities impacts their preservation and resilience against potential impacts resulting from climate change. There are several actions to consider in this regard:
  - Preventive maintenance: Review of anchoring elements of systems installed in the building in anticipation of strong winds or after an event.
  - Preventive maintenance: Inspection of the building's finishing elements and systems in anticipation of severe hail or after an event.
  - Corrective maintenance: Immediate repair of damage caused by strong winds or hail.

6.1.11. Against hail damage

- **Hail resistant elements.**Potentially severe hailstorms resulting from climate change could damage the building. Measures are proposed to reduce this impact:
  - Specify structural and enclosure materials when renovating or replacing elements capable of withstanding these impacts, minimizing damage, especially to roofs, and preventing damage to the building's enclosure.
  - Specify durable materials with specific calculations to anticipate strong hail to prevent breakage due to impact on solar panels, canopies, or other elements.
  - Specify resistant materials with specific calculations in anticipation of heavy hail to avoid breakage due to impact on the building's enclosure finishing elements.

6.1.12. Facing the reduction in air quality

- **Air quality control.**The following measures are recommended to adapt the building to the loss of air quality:
  - Conducting periodic indoor air quality checks with analysis and measurement of CO (ppm) and CO2 (ppm), indicating deviations from the RITE values and the INSH indoor air quality guidelines.
  - Installation of CO2 sensors in office floors or in the return vents of primary air treatment units. These sensors must be monitored from the BMS, with automatic primary air intake regulation based on the monitored values.
  - The use of natural ventilation, although generally an effective measure against overheating, will be less viable under future climate change scenarios due to high outdoor air pollution, so mechanical supply of pre-treated and filtered primary air will be preferable.

6.2 Measures for transition impacts

The following possible adaptation measures for transition impacts are established:

6.2.1 Facing increases in operational costs

- **On-site production of renewable energy.**Producing renewable energy in the building itself (or in a nearby environment, for example by connecting to an energy community) provides a supply – at least partially – of energy at a stable cost over the long term.
- **Implement measures to reduce energy consumption.**This measure limits the impact of the additional costs, as indicated in the sections on adaptation measures to address energy and maintenance overruns and mitigation measures for emission sources, which in summary would be:
  - Reduction of the building's thermal demand
  - Increasing the energy efficiency of the air conditioning system
  - Improving the control of air conditioning systems
  - Increasing the energy efficiency of systems other than air conditioning

6.2.2 Facing asset obsolescence

- **Prioritize the aspect of technological validity.** In order to delay the inevitable onset of technological obsolescence as much as possible, the technological relevance aspect must be prioritized over purely economic considerations when making decisions about new investments.
- **Establish regulatory prospecting programs.** Adequate forward-looking knowledge of regulations allows us to anticipate new requirements as much as possible.

6.2.3 Facing the reduction of marketable surface area

- **Provision of space reserves for future system needs.** During the design phase, it is advisable to establish a reserve space forecast in case it is necessary in the future to accommodate larger equipment due to system resizing.
- **Consideration of equipment compactness among the selection criteria.** One of the criteria to consider in new projects or projects is the volume occupied by the equipment, so that, to the extent possible, compact equipment is prioritized over larger ones.

6.2.4 Facing unforeseen investment

The same guidelines for dealing with obsolescence would apply to this impact, adding time-bound budgeting strategies that allow for increased response speed to these situations.

6.2.5 Facing the reduction in demand

Constant commercial attention to tenant needs can allow for the early activation of strategies to mitigate this impact, such as, among many others, redesigning the building to meet new needs, reorienting it toward another type of customer, or even selling the asset.

6.2.6 Facing the reduction in profitability

One way to minimize this impact is to reduce exposure to its causes by implementing the measures indicated to address increases in operational costs and reduced demand, while also incorporating operational excellence techniques that protect against hypothetical future reductions in profitability.

6.2.7 Facing asset depreciation

Implementing the measures outlined above to address the impacts would minimize the building's depreciation.

6.2.8 Facing the reduction in financing capacity

Adapting to climate change can bring various financial benefits to businesses. Here are some ways a business can gain financial benefits from climate change adaptation:

- **Access to incentives and subsidies.** Governments and organizations often offer financial incentives, grants, or tax breaks to businesses that adopt climate-friendly practices. These incentives may include grants for renewable energy installations, assistance for energy efficiency improvements, or tax credits for reducing greenhouse gas emissions. Research local and national programs to identify opportunities for financial assistance.
- **Improved brand reputation and customer loyalty.** Taking proactive steps to address climate change can enhance a company's brand reputation and attract environmentally conscious customers. Consumers increasingly prefer companies that prioritize sustainability and take steps to mitigate their environmental impact. This can increase customer loyalty, market share, and long-term financial returns.
- **Risk mitigation and insurance cost reduction** Climate change can pose various risks to businesses, such as extreme weather events, supply chain disruptions, and regulatory changes. By implementing adaptation measures, businesses can reduce their vulnerability to these risks. This can translate into lower insurance premiums and better terms from insurers who recognize and reward climate resilience efforts.
- **Greater operational resilience** The effects of climate change can disrupt operations, supply chains, and infrastructure. By investing in climate resilience measures, such as strengthening infrastructure, diversifying suppliers, and implementing risk management strategies, companies can minimize disruptions and maintain business continuity. This resilience can lead to long-term financial stability and reduced losses during extreme events.

- **Access to green financing and investments.** Many financial institutions and investors prioritize environmentally responsible companies. By demonstrating their commitment to climate change adaptation, companies can attract green financing options, such as green bonds or sustainability-linked loans. These financing mechanisms often offer favorable terms and can help finance adaptation projects while improving the company's financial position.

It is important to note that the financial benefits of climate change adaptation can vary depending on factors such as sector, location, size, and the specific adaptation measures implemented by the company. Conducting a thorough assessment of the risks, opportunities, and potential financial benefits will allow companies to develop tailored climate change adaptation strategies and maximize their financial benefits.

6.3 Evaluation of the measures for Porto-Porto Tower

Based on the identified climate-related risks and impacts and the measures proposed for each of them, the most relevant measures have been evaluated in terms of short- to medium-term applicability for the Oporto-Porto Tower asset.

Physical impact	Adaptation measures	Applicability
Overload or insufficiency of the air conditioning system **Energy and maintenance overcosts**	Reducing thermal demand with high-efficiency insulating glass and solar control	Yes
	Increasing the energy efficiency of the air conditioning system	In progress
	Installation of natural light detectors for energy efficiency and artificial lighting savings.	Yes
	Checking the ventilation system	Yes
	Maintenance and inspections	In progress
	Define construction criteria for enclosures and urbanization elements and evaluate their impact on the heat island effect	Yes
	Measures to promote and protect biodiversity	Yes
Increased irrigation needs	Reuse of grey and rainwater for garden areas and/or for sinks, toilets and urinals	Yes
	Use of xerophilous species with low water demand	Yes
Reduction or interruption of water supply	Low water consumption appliances and systems	Yes
	Pipeline maintenance	In progress
	Water leak control	Yes
	Backup systems for water supply	Yes
Reduction or interruption of electricity supply	Consumption control	Yes
	Increase/installation of renewable energy	Yes

Damage from high-speed winds	Maintenance and inspections of elements exposed to wind and hail	In progress
Hail damage	Hail-resistant elements	Yes
Reduction in air quality	Air quality control	In progress

Transition impact	Adaptation measures	Applicability
Increases in operational costs **Reduction in profitability** **Depreciation of the asset**	Implement measures to reduce energy consumption	Yes
Asset obsolescence **Unplanned investment** **Depreciation of the asset**	Prioritize the aspect of technological validity	Yes
	Establish regulatory prospecting programs	In progress
Reduction in demand **Reduction in profitability** **Depreciation of the asset**	Renovation of the building to meet new needs	Yes
Reduction in financing capacity	Access to incentives and subsidies	In progress
	Improving brand reputation and customer loyalty	In progress
	Risk mitigation and insurance cost reduction	In progress
	Greater operational resilience	Yes
	Access to financing and green investments	In progress

7. Identification of opportunities

Although climate change poses significant risks, addressing it also presents opportunities for innovation, economic growth, and a more sustainable future. By recognizing these opportunities and acting accordingly, societies can move toward a climate-resilient, low-carbon path.

Based on the assessed physical and transition risks and impacts, climate-related opportunities for MiCampus are identified below.

Guy	Chance	Description
Resource efficiency	Energy efficiency and conservation	Improving energy efficiency in buildings, transportation, and industries not only reduces greenhouse gas emissions but also offers savings opportunities. Energy-efficient technologies and practices can reduce energy bills, improve resource utilization, and increase competitiveness.
Energy source	Renewable energy and technology	The transition to renewable energy sources presents significant opportunities for job creation, technological innovation, and sustainable economic growth. Investments in solar, wind, and other clean energy technologies can spur the development of new industries and promote energy independence.
Products and services	Innovation and entrepreneurship	The challenges of climate change drive innovation and business opportunities. The development of clean technologies and sustainable products can lead to sustainable solutions for future and potential customers and create new markets.
Markets	Sustainable finance and investments	Climate change considerations are increasingly influencing investment decisions. Sustainable financing mechanisms, such as green bonds and impact investing, offer opportunities to finance climate-friendly projects and companies that contribute to sustainability goals.
Resilience	Green jobs and economic resilience	The transition to a low-carbon economy creates job opportunities in renewable energy, energy efficiency, sustainable transportation, and other green sectors. These green jobs contribute to economic resilience, poverty reduction, and social well-being.
	Greater resilience and disaster preparedness	Increasing climate resilience can reduce the risks associated with extreme weather events. Investments in infrastructure, early warning systems, and disaster preparedness measures offer opportunities to improve community resilience and reduce the impact of climate-related disasters.

As part of MiCampus's sustainability strategy, identifying climate risks that could affect its assets in the short, medium, and long term is a fundamental step in addressing these risks with an action plan to ensure they do not affect business continuity. Furthermore, the company identifies opportunities from the climate transition and applies them by incorporating digitalization, energy efficiency, innovation, and the use of renewable energy both within the company and its assets.

8. Indicators

8.1 Energy

Energy and climate change-related key performance indicators (KPIs) for the building, tenants, and community can help monitor and evaluate sustainability efforts. Here are some examples of KPIs that can be used in these areas:

8.1.1 Energy consumption

- **Energy consumption.**Measures the amount of energy used from electricity and natural gas.
- **Energy saving.**Monitor the reduction in energy consumption achieved through efficiency measures.
- **Energy efficiency index (EEI).**Evaluates the building's energy efficiency compared to industry benchmarks.

8.1.2 Renewable energy

- **Adoption of renewable energies.**The transition to renewable energy sources is essential to mitigating climate change. This KPI measures the percentage of renewable energy used in a building or community. It can include solar panels, wind turbines, or other forms of renewable energy generation.
- **Renewable energy generation**. Measures the amount of energy generated from renewable sources in the building.
- **Renewable energy capacity.**Track the installed capacity of renewable energy systems in the building or community.

8.1.3 Greenhouse gas (GHG) emissions

- **GHG reduction targets**. Establish specific targets for reducing GHG emissions and monitor progress toward meeting those targets.
- **Carbon footprint.**Indicate the total amount of GHG emissions associated with the building's activities.

8.2 Water

When it comes to water and climate change, there are several key performance indicators (KPIs) that may be relevant to assets, tenants, and the community. Here are some examples:

- **Water consumption.** It measures the amount of water used in the building. The goal is to improve water use efficiency, helping to conserve water resources and reduce environmental impact.
- **Water conservation initiatives.** This KPI focuses on the implementation of specific initiatives aimed at conserving water resources. It may include measures such as installing water-saving fixtures, implementing rainwater harvesting systems, or promoting water-saving practices among tenants and the local community.
- **Water quality control.** Monitoring the quality of water sources, such as rivers, lakes, and groundwater, is important for both the environment and human health. This KPI tracks the frequency and results of water quality testing, ensuring compliance with relevant standards and identifying potential problems or sources of contamination.

8.3 Land use

When considering land use KPIs related to climate change for buildings, it is important to focus on metrics that assess the environmental impact of the building's construction, operation, and long-term sustainability. Below are some KPIs that can help assess buildings' performance in this area:

- **Mitigation of the urban heat island effect.** Evaluate building design features that help mitigate the urban heat island effect, which refers to the increase in local temperatures in urban areas compared to surrounding rural areas. KPIs may include the use of cool roofs, green roofs, or reflective materials that reduce heat absorption and energy consumption for cooling.
- **Conservation and restoration of green spaces.** Evaluates the extent to which the construction project preserves existing green spaces or incorporates new green areas. This KPI promotes biodiversity, improves urban resilience, and contributes to carbon capture, reducing the building's overall environmental impact.
- **Life cycle assessment.** Conduct a comprehensive life cycle assessment (LCA) of the building to evaluate its environmental impact from start to finish. It considers all phases, including material extraction, construction, operation, and end-of-life. KPIs can include embodied carbon emissions, operational energy use, and waste generation.
- **Biodiversity conservation.** Protecting and enhancing biodiversity contributes to overall ecosystem health and resilience. This KPI can measure efforts to preserve or restore local biodiversity through initiatives such as creating green spaces, planting native vegetation, or supporting wildlife habitats.

8.4 Waste management

When it comes to waste management and addressing climate change in the context of buildings, tenants, and the community, several key performance indicators (KPIs) can be considered. Here are some KPIs that can help track progress and measure the effectiveness of waste management initiatives:

- **Waste diversion.** This KPI measures the waste diverted from landfills through recycling, composting, or other sustainable waste management practices. It reflects the success of waste reduction efforts.
- **Recycling.** This KPI focuses specifically on recyclable waste that is properly recycled rather than sent to landfill. It helps evaluate the effectiveness of recycling programs.
- **Amount of waste.** This KPI quantifies the amount of waste generated, taking into account paper and cardboard, plastics, mixed waste, and glass.
- **Reduction of hazardous waste.** This KPI tracks the decrease in the amount of hazardous waste generated within a building or tenant space.

It is important to note that the KPIs chosen may vary depending on the scale and context of the buildings, tenants, and community involved. These KPIs respond to the specific goals and objectives of the resource management and climate change initiatives defined in the development of this report.

8.5 Key Annual KPIs in Porto - Porto Tower

Below are the data corresponding to the last year of operation of the building:

Energy	
43,500	207,735
kWh	kWh
Natural gas consumption	**Electricity consumption**

Emissions	
82,854.60	10.85
kgCO2e	kg CO_2e/m²
Total GHG emissions	**Surface emissions**

The building does not have a renewable energy installation using photovoltaic panels.

Renewable energy	
-	-
You	kWh
Number of solar panels installed	**Estimated energy produced**

Water
5,759.00
m3
Water consumption

Below are some of the land-use measures proposed to protect and enhance the ecological value of the site, which must be implemented by MiCampus:

Land use			
8 Nest boxes **for birds with a minimum volume of 1 m³**	1 Insect hotel **with a minimum volume of 1 m³**	4 specimens **or 20 bulbs from 2 different species that support pollinators to be planted annually for 5 years**	5 cm **mulching with a thickness of at least 5 cm and a minimum coverage of 95% in all areas where this system is viable, such as tree pits and shrub zones**

My Campus does not have waste data for 2024, but has proposed measuring this KPI as a measure to identify areas for improvement in this area:

Waste	
-	-
Kg/year	Kg/year
Total amount of waste	**Amount of waste per student**

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Signed by ESG Department
Lucia Anderica

Mace Management Services, SA

Pº de la Castellana 135, 3ª Pl 28046 Madrid - Spain

T +34 91 319 85 31

www.macegroup.com