



Plan for Sustainable Development and Climate Action of the City of Rio de Janeiro

Executive Summary | 2021

Rio de Janeiro City Government

Mayor Eduardo da Costa Paes

Municipal Secretariat of Finance and Planning

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FAZENDA E
PLANEJAMENTO



MEIO
AMBIENTE



Escritório de
Planejamento

Planning and Sustainable Development Committee

Collegiate formed by all municipal agencies and the Rio Metropolis Institute of the State of Rio de Janeiro

Municipal Climate Governance Steering Committee

Secretaria Municipal de Fazenda e Planejamento/ Subsecretaria de Planejamento e Acompanhamento de Resultados - SMFP/SUBPAR

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Secretaria Municipal de Meio Ambiente da Cidade - SMAC

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Secretaria Municipal de Governo e Integridade Pública - SEGOVI

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SUPPORT



01

Letter from the Mayor

It is with great satisfaction that the City of Rio de Janeiro presents its **Plan for Sustainable Development and Climate Action ("PDS")**, an instrument that creates and updates a vision of a collectively built city for the next 30 years. Stood on important base documents, such as VISION 500 and Sectoral Plans, as well as the international commitments like 2030 Agenda and the Paris Agreement, the objective of this PDS is to organize different levels of sectoral planning and guide Rio towards sustainable development based on the medium and long term challenges the city faces. Programs, plans and actions are transversally structured to build a city that is more cooperative, modern, and prepared for leadership in tackling inequalities, climate change, pandemics, and other major contemporary challenges.

The PDS has four key approaches: (i) what do Rio's citizens expect to find in the city in a 30-year scenario - what are the long-term prospects?; (ii) what steps are needed in the first 10 years - what are the short- and medium-term results to be achieved?; (iii) how to integrate municipal planning into the 17 UN Sustainable Development Goals in a local scale?; (iv) how can we contribute at the municipal level to comply with the Paris Agreement on the neutrality of greenhouse gas emissions, and prepare the city to better cope with the effects of climate change?

The PDS is the result of debates with class entities, research institutions, experts from the public and private sectors, NGOs, international and supranational institutions, and discussions with the city's natives and permanent residents. It was guided by the 169 targets and more than 200 indicators of the UN 2030 Agenda that resulted in 134 targets and more than 900 actions at the local level.

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The PDS embraces the commitment to build by 2050 a city free of greenhouse gas (GHG) emissions, resilient and adapted to climate change, with innovative and inclusive strategies, serving the most affected citizens. For this purpose, the territorial strategies elaborated reverberated the urban fabric through Sustainability Corridors, focusing on identifying priority territories for intervention.

The implementation of the agenda aligned with the SDGs will allow the city to face powerfully the great challenges accentuated by the context of the pandemic. Reducing inequalities, -

improving living conditions and public services are the beginning of the city's great preparation for the new post-pandemic times. Innovation, green recovery and the re-foundation of public governance will allow the construction of an equitable, sustainable and resilient city for everyone. The City of Rio de Janeiro, leader in the sustainable development agenda since Eco 92, and through integrated planning, shows its permanent ability, to reinvent itself and overcome great challenges: eradicating poverty and hunger; reduction of maternal, child and violence mortality; aging with quality; assistance to people in vulnerable situations; increased -

supply of housing and improvements to existing ones; creation of good jobs and economic growth; expansion of the public transport system and quality; pleasant, safe, pedestrian-friendly public spaces; new public governance; and adequacy of health and education services to future challenges, capital for a city with a permanent capacity to reinvent and overcome itself.

The construction of the desired city has already begun! The PDS is the instrument for building a new reality.

Together we'll do more!

Mayor Eduardo Paes



Letter from the Secretary of Finance and Planning

The UN report, '*Our Common Future*', defined, in 1987, the *Sustainable Development* as development that seeks to meet the needs of the current generation without compromising the ability of future generations to meet their own needs.

In 1992, Rio de Janeiro had the great opportunity to host the United Nations Conference on Development and the Environment, Rio 92, where the attending hundred heads of State adopted Agenda 21 as the first letter of intent to promote, on a global scale, a new pattern of development for the 21st century.

In the 2000s, the UN launched the Millennium Declaration when nations pledged to reduce extreme poverty through eight goals: eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, fight AIDS, malaria and other diseases, ensure environmental sustainability and establish a global partnership for development.

Twenty years after Rio 92, also in the Marvelous City, 193 delegations and representatives of civil society, gathered together, reaffirmed their commitment to sustainable development, resulting in the document "*The Future We Want*".

As early as September 2015, the 193 Member States of the United Nations

recognized, during the Summit on Sustainable Development, the eradication of poverty in all its forms and dimensions, including extreme poverty, as the greatest global challenge and indispensable requirement to transform the world without leaving anyone behind and promoting Sustainable Development (UN, 2015). Thus, the document **Transforming our world: the 2030 Agenda for Sustainable Development**, recognized 17 goals and 169 goals to be achieved in the next 15 years.

Therefore, the city of Rio de Janeiro, inspired by the principle of acting locally and thinking globally, has, in recent years, produced innovative management instruments that enable a medium and long-term vision of what we want for our future, dialoguing and collaborating with universal guidelines for Sustainable Development.

In this direction, the Rio 500 Vision Plan was launched in 2016, which brought together the aspirations for Rio de Janeiro until 2065, divided into 59 initiatives and 68 goals organized around six cross-cutting themes.

Now, in 2021, based on the aspirations of Plan Vision 500, we are launching the Plan for Sustainable Development and Climate Action of Rio de Janeiro and presenting projections and scenarios that should support public policies within the municipality by the year 2050.

Strengthening planning and focus on managing for results: this is the way

Planning to improve the quality of life of citizens, bringing innovation, sustainability and urban and economic development. This has been the main focus of our actions since January 1, 2021 and aims to bring the wonderful city back to the leadership of the contemporary world agenda, based on the strengthening of planning and results management.

The Plan for Sustainable Development and Climate Action of the City of Rio de Janeiro - PDS - updates the Rio Municipality's long-term vision for 2050, a major international milestone towards which large global cities are aiming, especially after the Paris Agreement. It also brings 10-year goals, based on the 2030 Agenda of the United Nations - UN, where we established our Local 2030 Agenda, an unprecedented milestone for the city and that places it at the forefront in the national and Latin American context and on an equal footing with the ambitions of largest metropolises in the world.

The Plan addresses fundamental issues to improve the quality of life in our beloved city, such as facing inequalities, reducing poverty and eradicating hunger, and climate change. Our north and top priority is also the seek for good quality public services, with expansion of health care, education, social assistance and transport, issues that are even more urgent when we are at a historic moment for our generation in facing the new coronavirus pandemic.

The city finds itself at the moment of taking large steps to consolidate a quality, innovative public governance

that can overcome paradigms and redirect development towards low carbon, increased employment and income, with greater equity and equality, bringing different speeds development and giving light to the particularities of each neighborhood and region.

Thinking about new investment possibilities, projects and actions and building them in a pragmatic way, with method and focus on results was what we sought in the scope of the PDS. With this Plan, we aim and take responsibility for delivering, on a permanent basis and throughout our administrations, a more equal and long-lasting city, prepared for climate change, cooperative and peaceful.

Planning allows us to create, take risks, change patterns. Only in this way, with goals, with results, with the followed path, will we be able to bring effective deliveries in line with the desires of cariocas. New projects are planned to address the major challenges, as well as the main axes of intervention in the coming decades, also called Sustainability Corridors, which cross the city from north to south, from the center to the west, are presented and defined. Our ambition is that the strengthening of these instruments and, consequently, of municipal planning, can support the life decisions of our citizens, as is the case in cities like Paris, New York and Tokyo.

Attentive listening was also the central point of the entire collective construction that resulted in this document.

Made by many hands, it had the important support of reference institutions such as the C40, UN Habitat, UNICEF, Instituto República and UFRJ, as well as several other partners and groups from organized civil society. It also brought the invol-

vement of more than 300 technicians from 40 municipal agencies and the metropolitan region and also listened attentively to children, young people and the population in general.

The PDS is one of the instruments of the municipal planning system, which brings different cycles and scales of plans, and in whose framework we also have the Strategic Planning, the Master Plan, the sector plans and the Vision 500 - which brings a time scale to 2065.

Therefore, with the PDS, we consolidate the culture of planning in the Municipality of Rio, paving the way for the

long term, with the incorporation of 10-year goals, which will have to be pursued by different administrations, aiming at achieving sustainable development for all.

Once again, the city of Rio de Janeiro confirms its pioneering and innovative character, being the first city in the country to dedicate itself so deeply to the construction of a Plan for Sustainable Development and Climate Action, proudly aligned with the great cities of the world that are producing great strategies for the next 30 years.

Pedro Paulo
Secretary of Finance and Planning

With an eye on the future of the Rio's citizens, Rio reopens its doors to the world

The launch of the Plan for Sustainable Development and Climate Action (PDS) of the City of Rio de Janeiro materializes the relevance of urban planning with a view to the population of Rio de Janeiro. It's making Rio work again for its residents, thinking about how the city can become even more wonderful by reducing its inequalities, making it fairer and more sustainable.

Sustainability has always been in the soul of Cariocas, due to the reality of the population's coexistence with the largest urban forest. This international agenda, so discussed these days, has in Rio de Janeiro one of its most important stages. It was in 1992, with Rio92, that the city conveyed to the world a strong message that we need to protect our common home for present and future generations.

Twenty years later, countries and global organizations met again in Rio de Janeiro, this time to discuss how to accelerate the creation of a better world for all. At Rio+20, we reinforced the global commitment for the construction of concrete solutions to the climate, economic, social and environmental challenges that have such a significant impact on the lives of the world's population.

The effort to make the city more resilient, sustainable and fair is ongoing in the municipal public administration. With the launch of the PDS, the City of Rio de Janeiro is moving towards the fulfillment of its assumed commitments,

those of building a greener, fairer and better city for all Cariocas.

The broad alignment of the Plan for Sustainable Development and Climate Action with the Sustainable Development Goals and the New Urban Agenda demonstrate Rio's leadership in implementing its international agreements in the short, medium and long term.

With strong participation from society, the PDS is a milestone in the internal structuring of public policies in a transparent manner, in addition to being guided by the demands of the Rio population.

The PDS also counted on the work of several international organizations, which strengthened the elaboration of municipal actions, projects and programs based on the objectives of the Paris Agreement. This document is part of a major effort by the current municipal administration to work hard and with great love for Rio to regain its leading role in the development of sustainable, inclusive and resilient policies.

Its launch takes place at the same time that the administration is restructured and starts to incorporate the international perspective in a transversal way in public policies, to the benefit of all City Secretariats and Departments. The PDS is an important milestone at this time of the city's return to the international negotiation table.

Marcelo Calero

Municipal Secretary of Government and Public Integrity

Hope: the value of climate action

Rio has a vocation to lead hope. From Urca to Campo Grande, from Deodoro to Grumari, from Penha to Gericinó, the city spreads across a privileged territory that unites mountain ranges with springs and lowlands with highly productive soils, the coast and its tourist vocation. Despite the common difficulties to every South American metropolis, our identity remains unchanged: we are the natural capital of Brazil. Our commitment is to hope.

This **Plan for Sustainable Development and Climate Action (PDS)** is a map and a compass that serves to build a resilient and a prosperous city, which is also proud of its environmental role in Brazil and in the world.

We are home to two large urban forests (Pedra Branca and Tijuca) and we maintain more than 30% of our territory protected by conservation units - 22% of the total surface being entirely taken up by forests. This heritage gives us hope that we can face a challenge that will determine the future of everyone, especially those who need it most: the face of the climate emergency by bringing dreams and actions, goals and public policies together.

Offering an attentive look at the reality of Rio, the PDS is the result of the participation of employees of the Municipal Department of Finance and Planning in close cooperation not only with all the city hall bodies, but with civil society in Rio de Janeiro and throughout the world.

Supported by C40 Cities, UN Habitat, UNICEF and the British Government, the plan is the result of the hope - increasingly present - that Rio can work again.

As the climate agenda gains new global momentum, the responsibility of local governments for climate action grows. Rio is ready to arrive at the UN Conference of the Parties in Glasgow (COP26) in November 2021, with a rich portfolio of concrete actions, clear goals for 2030 and an ambitious climate vision for 2050.

Achieving a 20% reduction in greenhouse gas emissions in 2030 compared to the 2017 base year - until we reach the neutralization of emissions in 2050 - will require joint, coordinated and committed action on the part of everyone. It's possible.

Consolidating paths already successfully trodden brings the horizon closer in this climate journey anchored in socio-environmental justice.

For 34 years, the Department of the Environment has been in charge of the largest reforestation program in Latin America, working with its own methodology based on instruments such as the Atlantic Forest Municipal Plan and the Master Plan for Urban Afforestation (PDAU).

This plan sets out goals and ambitions for all major categories of greenhouse gas emitters. The Municipal GHG Emissions

Inventory totals 11.3 million tons of carbon equivalent. The transport sector presents the main percentage of emissions (41.25%) followed by the stationary energy (30.24%) and waste (28.51%) sectors.

Projects such as the electrification of 100% of the municipal bus fleet by 2050, and the implementation of a Neutral District in the central region by 2030, are ways to reach neutrality in 2050.

More clean and accessible energy: in addition to the reduction of at least 50% of electricity consumption in public lighting by 2024, through LED technology, the PDS foresees the implementation of three distributed mini-generation solar farms. Energy efficiency in buildings and clean energy generation contribute to more jobs and attract investments for the city.

The circular economy is the path for a future in which one of Rio's greatest challenges will have been overcome: the valuation – and management – of waste.

The first step is to maximize the use of waste organic – which constitute 53.2% of the city's total – for composting. More than preventing organic waste from going to landfills, the plan provides for greater education on waste separation and the goal of including all neighborhoods in selective collection route.

In this PDS, we signed a commitment to maintain the 3,400 reforested hectares – located, in large part, in areas of real estate pressure – and to consolidate another 1,206 hectares of Atlantic Forest in Rio de Janeiro, building new forests concentrated in stretches of more mature green areas from the West Zone of the city. We have a restorable paradise at hand.

The legalization of 100% of recycling cooperatives integrates agents into the circular economy by creating points of contact with industries and productive

chains for the reincorporation of goods. In addition to climate ambitions, the PDS is a plan to reduce income inequalities through the creation and formalization of jobs with a positive impact on the environment.

In Rio, the goal is for 40% of jobs in the city to be green by 2030.

Hortas Cariocas, an existing program that hires people from nearby communities to produce organic food, is a good example of green jobs that should be encouraged and expanded in the coming years. By 2030, we will double food production through the program, ensuring food security, green income and environmental education in the territories that most need it.

To support these structuring initiatives, minimum investments of 350 million reais a year are planned for the sustainable development of the city and the implementation of projects by 2030.

By 2030, Rio will build nature-based solutions to the challenges of urban space. The goal of revitalizing 300 km of streets and public spaces with sustainable urban drainage and extensive tree-planting integrates mobility with the need for climate-resilient infrastructure.

The Plan for Sustainable Development and Climate Action identifies common goals between government and civil society. This is the plan of hope for a greener and more democratic future. And the result, which is the fruit of a construction with intense social participation, presents an ambitious goal: to conquer an environment of climate justice for Rio de Janeiro.

We are ready to regain the city's historic environmental role: **Rio will be successful again.**

Eduardo Cavaliere

City Environment Secretary

Letter from the C40 Cities

Rio de Janeiro has had a prominent role in the climate agenda for decades. The Rio Earth Summit in 1992 marked the creation of the United Nations Framework Convention on Climate Change (UNFCCC) and Rio+20 in 2012 was a crucial event in the green economy and sustainable development agenda. Rio was also the first city in Brazil to have an emissions inventory and a climate change law and it currently hosts the only C40 office in Latin America.

Now, the city takes another bold and groundbreaking step in its climate commitment with the publication of its first Plan for Sustainable Development and Climate Action of the City of Rio de Janeiro, aligned to the Paris Agreement goals and setting a clear roadmap to limit temperature rise to 1.5°C and adapt the city to the impacts of climate change.

Launched by Mayor Eduardo Paes in 2016, the City of Rio de Janeiro signed the document "Deadline 2020", a global C40 commitment of the most ambitious cities to achieve net zero emissions and climate resilience by 2050, committing the city to do its part to meet the Paris Agreement's most ambitious goal of 1.5°C increase in global temperature.

Rio signed this commitment, which allowed the beginning of the process of

developing the plan. C40 has been proud to support Rio every step of the way, from reviewing the emissions inventory to modeling emissions scenarios, engaging stakeholders, listing priority targets and actions and providing a comprehensive technical assistance package. We are happy to confirm that our technical teams have validated that the Plan is fully compliant with the C40 **Climate Action Planning Framework**, the methodology used in all C40 cities across the globe.

This Plan sets a clear path to a sustainable, resilient and inclusive city, and also a future that provides cariocas with more social and economic inclusivity and better health conditions.

In a critical moment of the climate crisis, I congratulate Rio for its leadership, in Brazil, in Latin America and internationally to help ensure a climate safe future for its citizens and for the world.

C40 is looking forward to walking hand in hand with Rio in the next steps towards the implementation of the Plan for Sustainable Development and Climate Action for the City of Rio de Janeiro.

Mark Watts

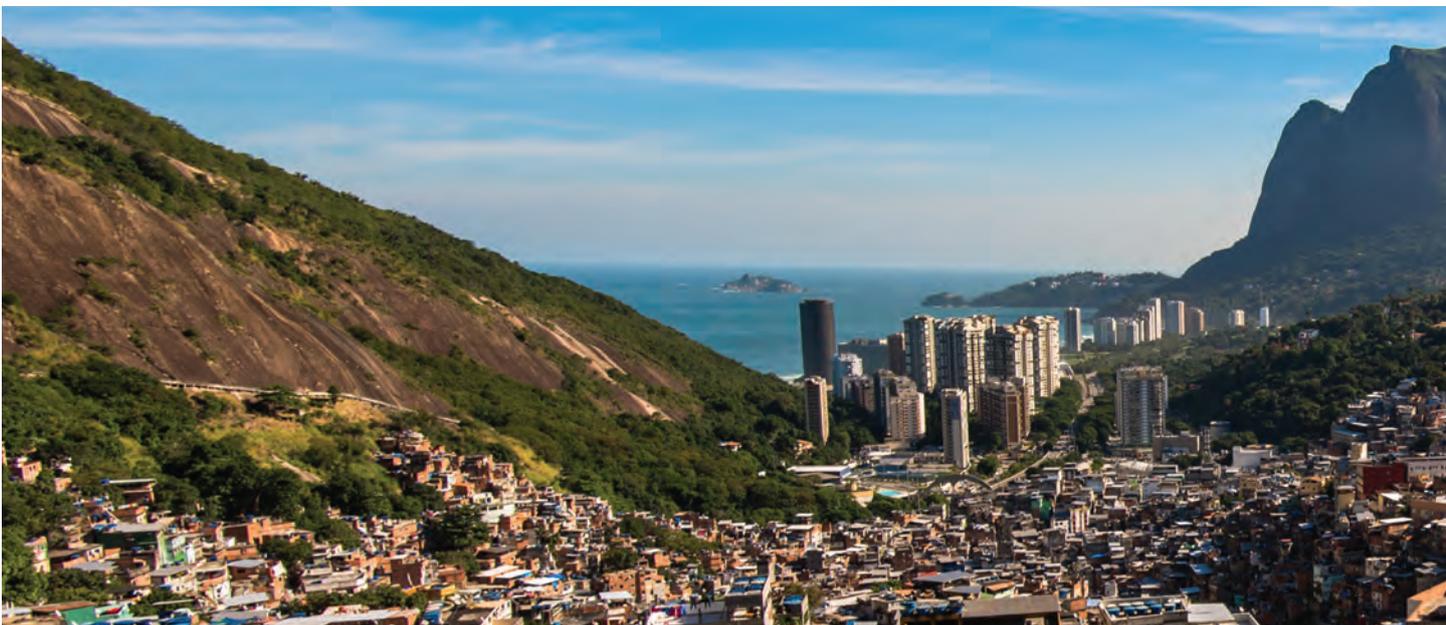
Executive Director C40 Cities
c40.org

Letter from the ONU-HABITAT

The Plan for Sustainable Development and Climate Action of the City of Rio de Janeiro represents an enormous advance in the city's short, medium and long-term participatory planning. In addition to a commitment to society, it is a plan oriented and inspired by the United Nations global urban development agendas, such as the 2030 Agenda for Sustainable Development - including its 17 Sustainable Development Goals (SDGs) - and the New Urban Agenda, a declaration resulting from the Habitat III Conference that re-thinks the phenomenon of urbanization and establishes guidelines for urban management.

It was with immense joy that the UN-Habitat had the opportunity to actively participate in the entire process of preparing the PDS, from its conception to the organization and holding of participatory workshops in different parts of the city.

It was a continuous learning process, built collectively, led by the Municipal Department of Finance and Planning through its Planning Office, but which included several people and partner institutions. The result is a well-structured, robust, detailed, monitorable plan with clear goals of where you want to go.



The PDS is the result of a participatory process that had the engagement of cariocas who want a better future for their city, and who understand that responsibilities are shared.

We know that more than half of the world's population lives in urban environments and that this number grows every year. In Brazil, the urban population now exceeds 87% of the country's total population. We are also aware that urbanization generates wealth, but that there are great challenges for its equal distribution. Inequality affects the country, its cities, and is reflected in the urban space.

Having a plan and the practice of integrated and participatory planning, guided by a long-term vision and staggered goals, shows that the city of Rio de Janeiro implements the guidelines of the global development agendas produced by the United Nations System at the local level. It is this effort that UN-Habitat, the UN agency responsible for urban issues and local authorities, seeks to promote with its partners.

It is considered that the PDS should be an example, an inspiration, for other munic-

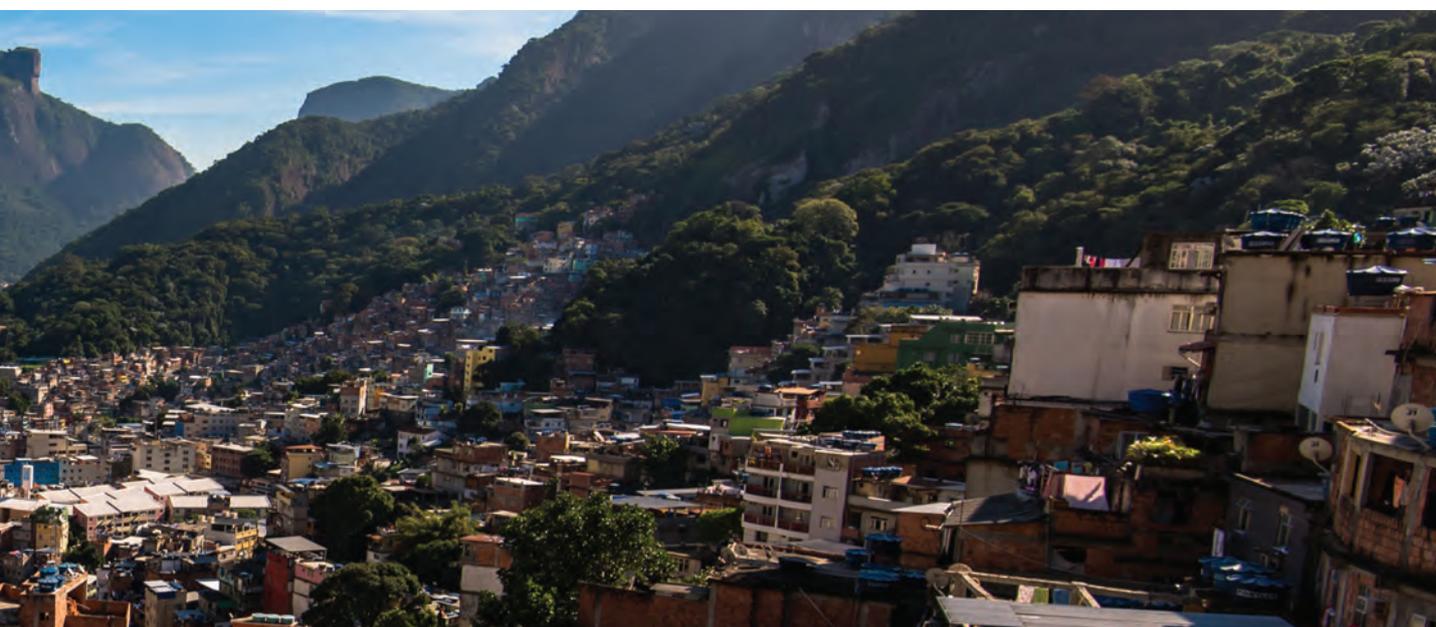
palities in Brazil and the world. In addition to considering the specifics of the city's territory, the Plan focuses on people in an inclusive way and is guided from a human rights perspective, seeking to respond to the guiding principle of the 2030 Agenda: *"not leaving anyone behind"*, in the same sense that it seeks to leave no place behind.

UN-Habitat is grateful for the opportunity to have participated in the entire process, at the invitation of the City Hall of Rio de Janeiro, which is an historic and essential partner for our institution. It is because of this partnership that we have, in the marvelous city, our Regional Office for Latin America and the Caribbean and a specific team dedicated to programs, projects and initiatives in Brazil. And it was with great affection that we supported the City Hall, at each stage of the PDS, so that it could reflect the newest and most inspiring elements of the international scenario and good urban management practices.

Thank you.

Alain Grimard

UN-Habitat Representative for Brazil and Southern Cone



02

Introduction

Building policies based on the Sustainable Development Goals (SDGs) to guide the actions of the City of Rio de Janeiro on the path to efficiency, transparency and sustainability over the next 30 years is the central objective of the Plan for Sustainable Development and Climate Action (PDS). The challenge of making the city compatible with the detected aspirations of the Rio de Janeiro population requires modern public governance, and full participation and engagement of the society in the process of building the desired environment.

In addition to the proposed climate and sustainable development goals and actions, aligned with the 17 SDGs, and the initiatives against global warming set out in the Paris Agreement (2015), the PDS presents a cross-sectional approach to important issues such as combating socio-territorial inequalities, the promotion of citizen safety, and the inclusion of children and youths and their right to the city.

Given the perspective of population aging in Rio de Janeiro, themes related to longevity, well-being and collective coexistence are also included in the document.

2.1 A plan made by **many hands**

The technical data — economic, social, urban-environmental — that support the proposals for public policies of the PDS are supported by more than 100 municipal civil servants who make up the Integrated Committee for Planning and Sustainable Development of the Municipality of Rio de Janeiro. The broad technical and institutional adherence to the plan helped raise \$700 thousand in awards and tenders to subsidize the work.

The successful development of some projects during the preparation of the PDS was crucial for the

consolidation of important partnerships with the C40 Cities, UN-Habitat, UNICEF, UFRJ, and Instituto República. Their support broadened the articulation of the Plan, especially with the society. Broad social participation was facilitated through an online tool called Participa.rio, technical training initiatives, and face-to-face meetings using the school network, reaching an audience of all age groups, including children — about 35,000 people participated in the elaboration of “The City We Want” proposal.

CONHEÇA O DOCUMENTO INTEGRAL DO PDS:
<http://rio.rj.gov.br/web/planejamento/pds>

Consolidating Long-Term Planning: Vision for 2050 and Hierarchical Structure

The City of Rio de Janeiro is the first in the country to make a Plan for Sustainable Development and Climate Action of such magnitude. The PDS equates Rio to major cities in the world that develop long-term strategies and plans, seeing and plotting paths for the next 30 years. With this instrument, long-term planning is directed through goals and actions aligned with good practices for the elaboration of strategic plans.

The communication strategy adopted emphasizes the presentation of the numbers to be achieved, facilitating the monitoring of results, decisions on replanning, and understanding by the public.

Building long-term planning lines is fundamental for the consolidation of state policy. Thus, the PDS is structured under three planning cycles:

- a) 2020-2030 Cycle:** The current planning stage of the PDS, in which all targets have a deadline for completion by 2030.
 - The Rio 2030 Agenda brings 134 goals, unfolded in 978 actions, which establish the necessary commitments to reach the outlines of the desired city. In addition to prioritizing issues of great urgency, the Rio 2030 Agenda also points to the construction of

a plural and intersectoral plan that interrelates the many municipal public policies.

- The targets set for attainment in 2030 have numerical indicators that can be monitored, and oriented towards the 2050 Vision: the construction of a city free of GHG emissions, resilient and adapted to climate change.
- b) 2030-2040 Cycle:** Next Step of the PDS, for goals with a 2040 deadline — expected to begin in 2028.
 - The targets will be reviewed according to the performance indicators and demand updates, keeping oriented toward the 2050 Vision.
- c) 2040-2050 Cycle:** Last Step of the PDS, for goals aligned with the 2050 Vision, and with a completion deadline for 2050 — it is expected to begin in 2038.
 - Municipal planning is consolidated through continuous review and improvement to ensure the effectiveness of long-term implementation of public policies.

Figure 1 - The Three Planning Cycles



Source: EPL Production

Vision for 2050

The PDS for the City of Rio de Janeiro reaches an unprecedented magnitude in the country. One of its pillars is the Vision for 2050. To design the desired city in a 30-year scenario, the actions are divided into the three major 10-year cycles summarized earlier.

The City Vision for 2050 arises from the engagement of the Rio de Janeiro population, municipal civil servants, institutional partners, and a thorough revisit to important plans produced by the City of Rio de Janeiro, among which: the Plan for Vision

Rio 500 (2016), the Resiliente Rio Strategy (2016), the Municipal Sustainable Urban Mobility Plan (SMP, 2019), and the Climate Change Adaptation Strategy (2016).

The PDS Vision 2050 is structured into five major transversal themes - (1) Cooperation and Peace, (2) Equality and Equity, (3) Longevity and Well-Being, (4) Climate Change and Resilience and (5) Governance —, under which the many challenges to be faced by the city are unfolded, and whose highlights are in Chapter 4 of this Executive Summary.

Figure 2 — The 2050 Visions for each of the five cross-sectional themes



Source: EPL production (pg. 37 of the PDS).

Hierarchical Structure

The Plan for Sustainable Development and Climate Action is organized into a hierarchical structure in which **Vision** and **Aspirations** bring the long-term prospects (30 years), while the **Strategies, Targets** and **Actions**, in addition to being directly related to SDGs, achieves what is expected in the next 10 years. In all, 134 goals were produced and expected to be achieved by 2030 through 978 actions. In turn, the actions are categorized according to their temporal milestones: 2022, 2026 and 2029, as well as routine actions. This summary document contains only the highlights for some aspirations and goals of the PDS by cross-sectional theme, but we recommend consulting the full document to obtain a complete knowledge of the plan.

Figure 4 — Face-to-face meeting with CEC representatives



Source: EPL collection (pg. 49 of the PDS).

2.3 Participatory Process

Following citizenship assumptions, the organization of the PDS was based on three concepts of participation: legitimacy, representativeness, and autonomy, with actions performed online and face-to-face. The document was created after extensive conversation with the city's locals

about their hopes, dreams, and aspirations for the city's future. In 2018, a democratic process of mobilizing the people and planning the stages began.

In order to achieve the largest number and differentiated profiles of citizens in such a large and multifaceted city, different participation strategies were created, among them: technical workshops for training and engagement; online digital platform; specific content for communication with children and youths; face-to-face meetings in various regions of the city with the presence of the technicians of the Planning Office in schools and regional educational boards; projects with the municipal system to gather information about the city through the eyes of children of different age groups; and waves of participation accessible to all citizens through the digital platform.

Figure 3 — Hierarchical Structure of PDS Components



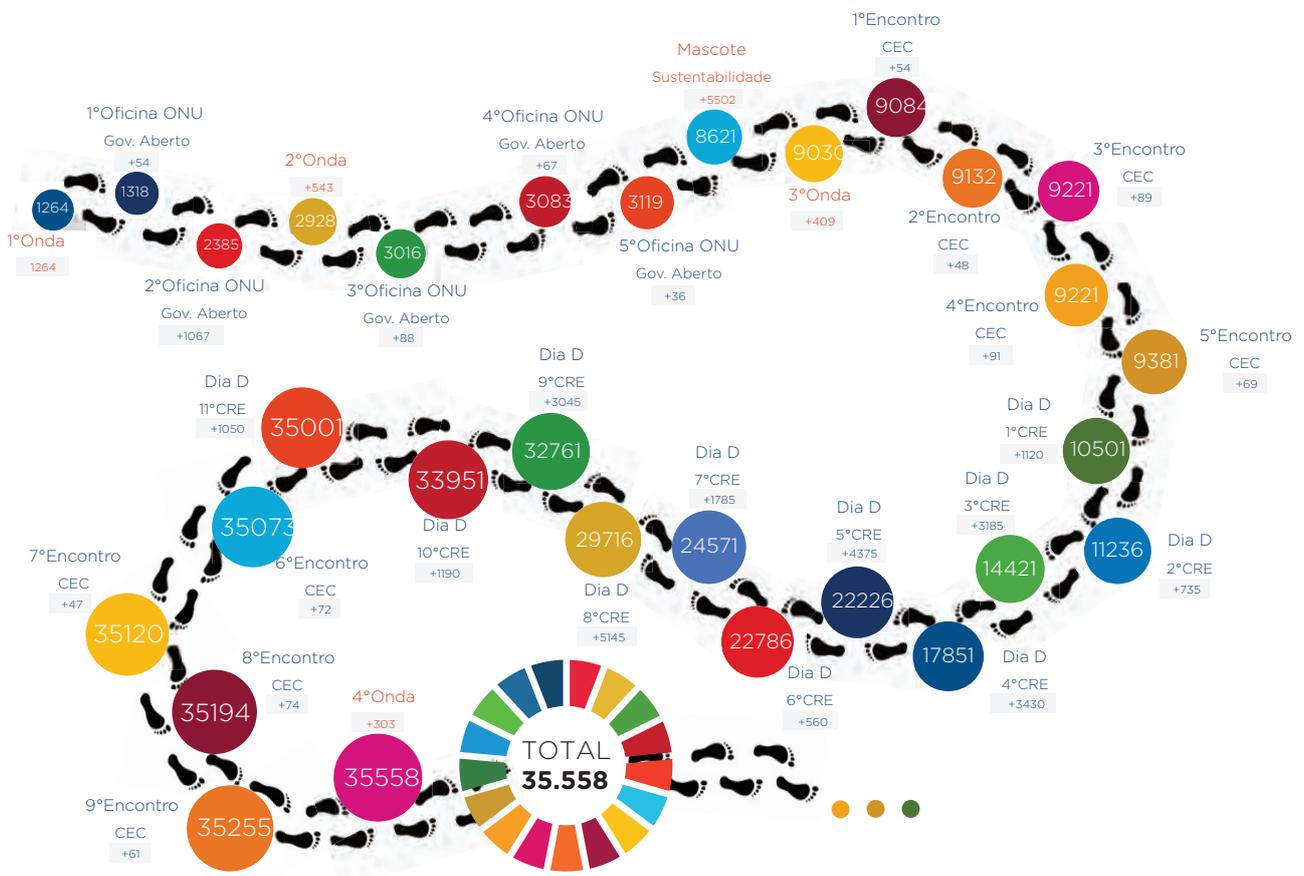
Source: EPL production (pg. 40 of PDS).

More than 35,000 people participated directly in the debates on the city's future for the next 30 years. Through the Participa.Rio platform, the city's locals "dived" into the waves of participation online and left their contributions. Face-to-face activities were also fundamental for literal dialogue with the population at events that returned many relevant contributions. The projects include improvements to the city's infrastructure as well as for its residents.

During the activities, it was possible to strengthen ties, understand if the choices pointed to the right direction, engage and involve each participant, stimulate citizenship, and effectiveness in policies and planning. In this decentralization of the process, responsibilities were shared and difficulties divided. Collectively outlined the strategies and new paths to a city that is welcoming to everyone.

TO LEARN MORE ABOUT THE PARTICIPPA.RIO PLATFORM, VISIT: [HTTPS://PARTICIPARIO-PCRJ.HUB.](https://participario-pcrj.hub)

Figure 5 – Social Participation Process





THE PANDEMIC AND CHALLENGES OF OVERCOMING COVID-19

The elaboration of the PDS in the face of the current global health crisis caused by Covid-19 brought important reflections and directions to tackle possible new epidemic outbreaks in the future.

According to the known patterns of disease transmission, territorial inequalities tend to cause greater risk of contamination, such as high family cohabitation in residential units of improper size, high urban density, and the absence of treated water and sewage treatment systems.

The sanitary crisis evidenced the various socioeconomic and environmental weaknesses existing in the urban context of megacities. On the one hand, it demonstrated the importance of science and public services for the quality of life of citizens. On the other hand, it shed light on the vulnerabilities to which a significant portion of the population is exposed.

More resilient cities will be those which in the face of all existing challenges are able to produce rapid, integrated, coordinated and planned responses to minimize loss of life, whether in the context of pandemics or any other adversities.

Considering that other outbreaks similar to the Covid-19 pandemic may arise in the coming years, and with accumulated learning and experience due to this epidemiological crisis, it is evident the need to develop actions that allow differentiated responses to protect the city. Thus, during the process of building the plan, medium and long-term strategies were drawn up to face possible future epidemiological outbreaks.



03

Planning for Inclusive Climate Action and Urban Expansion Scenarios

Climate change is a reality that directly and systemically affects urban populations. Health, water, food security, welfare are some of the fundamental human rights negatively impacted by climate change. Extreme events, such as heat waves, forest fires, waterborne diseases and arboviruses, floods and landslides, can trigger premature deaths and cause economic, social and political losses. Thus, the PDS brings climate action as a planning guideline.

To address events arising from climate change, city planning is oriented in the following components: (1) Mitigation, which seeks to reduce the amount of GHG emitted; (2) Adaptation, which shows the city's ability to adjust to reduce the vulnerability of spaces and people to the reality of climate effects; and (3) Inclusion, which implies including everyone in climate actions, reducing inequalities; (4) Governance, encompassing the administrative and institutional structures necessary to direct the planning, implementation and monitoring of climate action. Decree No. 46079/19 created the **Climate City Pro-**

gram, which aims to propose, plan, and integrate the implementation of actions and projects, seeking low-carbon development in the city in line with goals established by the Paris Accord.

3.1 Mitigation

One of the city's major efforts will be to **neutralize** its greenhouse gas (GHG) emissions by 2050. This objective is directly related to the Paris Agreement signed in 2015 by Brazil, which sets responsibilities at all Brazilian federative levels, including municipal.

Rio de Janeiro (RJ) Decree No. 46079 of June 11, 2019. Available at: http://smaonline.rio.rj.gov.br/legis_consulta/58600DECRETO%2046079_2019.pdf. Access on: Nov-4-2020.

LEARN MORE

Mitigating means to reduce GHG emissions in various activities, such as the energy consumption of buildings, facilities, modal transport systems, waste and effluent generation, industrial activities, and land use. It also encompasses emission sequestration by removal of GHGs from the atmosphere and their storage in carbon sinks (or reservoirs) such as forests and green areas. The residual emissions remaining after the planned mitigation actions have been implemented must be neutralized, either by new strategies and technologies not yet available during the planning phase, or canceling by carbon offset mechanisms. These involve carbon credit projects (verified units of equivalent carbon not released or removed from the atmosphere), among others.

After the launch in 2016 of the 2020 deadline, Rio de Janeiro signed a commitment in 2017 with C40, joining more than 100 major cities around the world to work toward emissions neutrality by 2050. The agreement led to the enacting of Decree No. 46079/19, to elaborate climate action planning based on data, scenarios and specific studies, in order to enable Rio's proper and viable transition to a low-carbon economy.

The sources of GHG emissions are derived from activities within the geographical boundaries of the municipality and directly related to its economic performance. The City of Rio de Janeiro holds the second largest GDP in Brazil, with an

economy predominantly of services and commerce (54%), government (14%), and industry (11%). Most of its GHG emissions are related to energy consumption. The Municipal Inventory of 2017 reported that 71.74% of emissions are due to stationary energy (generated by buildings and industries) and the transportation sector (see below).

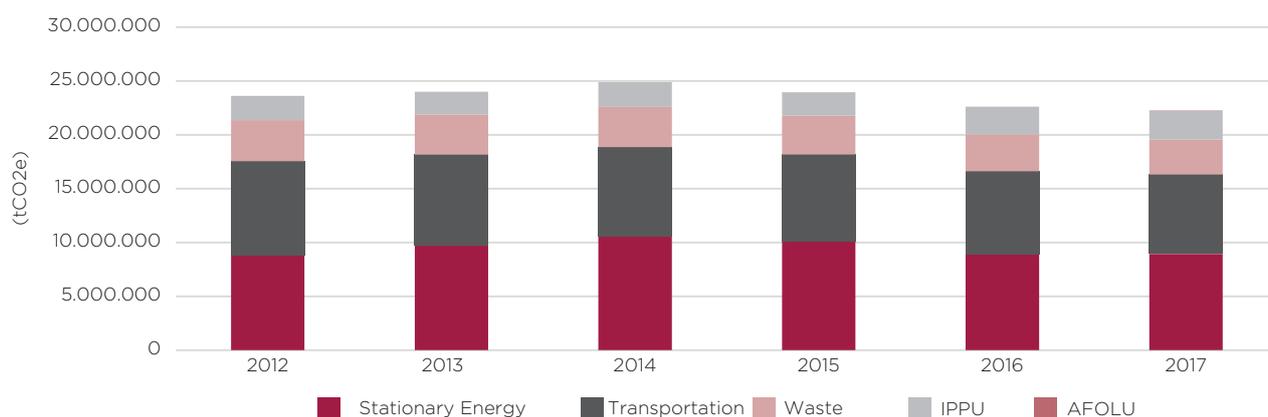
3.1.1 Municipal Greenhouse Gas (GHG) Inventory

The GHG emission inventories identify the origin and location of the sources of emissions, as well as the amount of these gases released into the air. They provide the baseline data for developing future scenarios for the city and plotting mitigation actions.

In 2019, Instituto Pereira Passos (IPP) published the Monitoring of Greenhouse Gas Emissions of the City of Rio De Janeiro between 2012 and 2017, using the GPC methodology — **Global Protocol for Community Scale Greenhouse Gas Emissions Inventories** (Global Protocol for GHG Inventories at Community Scale) — developed by C40, WRI and ICLEI.

The compiled inventories present all relevant emission sources reported in tonnes of CO₂ equivalent (TCO₂e). The trajectory of the total emissions recorded by the 2012 to 2017 Emissions Monitoring Report, divided by the five main emission sectors, is illustrated in the graph below, and the trajectories of the sectors are summarized below.

Figure 6 — Greenhouse Gas Emissions (TCO₂eq) of the City of Rio de Janeiro by year and sector — 2012 to 2017



Source: Own preparation based on IPP Report, 2019 (pg.77 of the PDS).



The top five emission sectors

The GPC methodology admits two levels of emission reporting in Municipal GHG Inventories:

- The **BASIC** level, which covers the sectors and sources of emission that occur in almost all cities: (1) stationary energy, (2) internal transport, and (3) internally generated waste;
- The **BASIC+** level, which in addition to BASIC sources, also covers (4) IPPU, (5) AFOLU, inter-municipal transport, and energy transmission and distribution losses.

The GHG emissions reporting of the City of Rio de Janeiro adopts the BASIC+ level, covering the following emission sectors::

1. **STATIONARY ENERGY:** accounts for emissions resulting from consumption of electricity and fuels in buildings and installations, industries, rural activities; electricity generation and energy transformation; plus fugitive emissions of electricity and oil and gas activities;
2. **TRANSPORTATION:** reports emissions from the burning of fossil fuels in the engines of vehicles in road, water and air transport; and from the consumption of electricity from

subway, trains, VLT and other electric modals;

3. **WASTE:** reports emissions generated by the treatment to which solid waste is subjected (disposal in landfills, incineration, open burning, recycling or composting); and effluents (biological treatment in ETE - sewage treatment plants, release into the sea by means of submarine emissaries, release into water bodies and use of cesspool);
4. **IIPPU (Industrial Processes and Product Usage):** Industry emissions result from industrial processes (e.g. use of fossil fuels as raw materials and processes in the production of ammonia, cement, glass, etc.), and from the use of products such as lubricants, greases and gases in industries, hospitals, etc. In the City of Rio de Janeiro, only steel mills and glass industries were considered.
5. **AFOLU (Agriculture, Forest and Land Use):** accounts for emissions caused by land use changes, including loss and gain of plant cover, through deforestation or reforestation and natural regeneration, as well as broadcasting activities related to agriculture and livestock.

3.1.2 The paths to 2050

Scenario design is critical in the emission mitigation process. Through them, it is possible to plan feasible emission reduction strategies with the city's capacity to implement,

and identify the challenges for an emissions neutrality path.

For the construction of the city's emission reduction scenarios, we adopted the scenario modeling tool Pathways, developed by the C40 Network and adopted by all the cities that are part of the C40 Climate -

Action Program, in which a reduced scope of the base year modeled from the 2017 Inventory of the City of Rio de Janeiro (see box below).

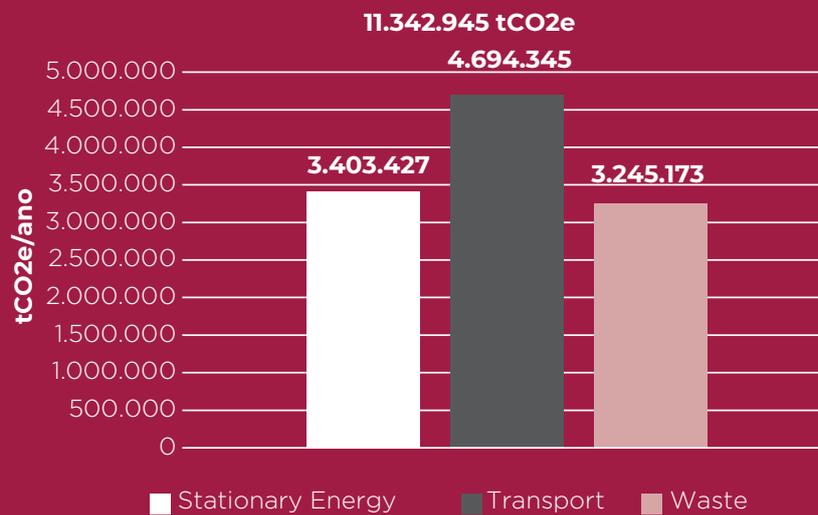
THE PREPARATION OF THE BASE YEAR PATHWAYS

The Pathways tool models mitigation scenarios within the reporting level of BASIC in the GPC methodology, which covers emissions over which the city has the highest capacity to operate, allowing to simulate mitigation strategies fully recognized by academia and the market as factual and of feasible implementation.

The base year that fed Pathways considered the following cut-off in the emissions reported in the 2017 Inventory of the City of Rio de Janeiro, already considered the exclusion of IPPU and AFOLU sectors, not included in the BASIC level::

1. **Stationary energy**, excluding emissions from the **steel sector**;

Figure 7 — Total BASIC Sector emissions for the 2017 base year for the Pathways tool



Source: Own development based on data from the Pathways tool (pg. 82 of the PDS).

2. Transport, excluding emissions from air transport
3. Waste.

The City Base-Emissions Inventory (2017) totals 11.3 million tCO₂ and (excluding 3.6 million tCO₂ generated by the steel sector). The transport sector has the main percentage of emissions, 41.25% of total GHG emissions. Then comes the stationary energy sector,

with 30.24%, followed by the waste sector, with 28.51%

To learn more, see Annex 6 — Additional Information to Planning for Inclusive Climate Action of the Plan for Sustainable Development and Climate Action in the full PDS document.

Starting from the modelled base year, Pathways made it possible to develop emission reduction paths based on the following scenarios:

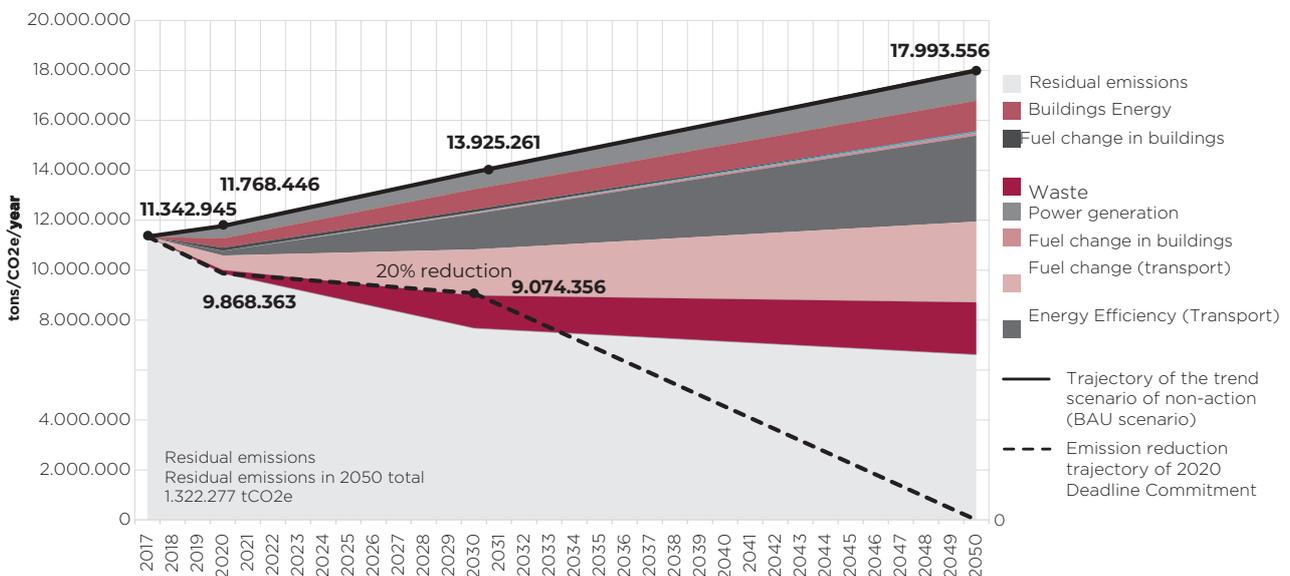
- **Trending scenario of non-performance (Scenario business-as-usual – BAU):** Draws the evolution of emissions without considering the anticipated mitigation strategies, based only on projected population and economic growth for the city and subsectors of the economy.
- **Ambitious GHG emission reduction scenario:** Considers the mitigation strategies planned by the city, the same that guide the mitigation goals assumed in the Plan.
- **Maximum ambition scenario for reducing GHG emissions:** Covers mitigation strategies considered necessary to achieve neutralization of emissions in the city by 2050, but facing political, economic, technical and social barriers to implementation at the present time.

3.1.3 Mitigations obtained in the three scenarios

The results of the three mitigation scenarios projecting emissions recorded in the base year (2017) up to 2050, with the year 2030 as an intermediate milestone, are as follows:

- **Trending non-performance scenario (BAU scenario):** Emissions forecast shows an increase of 6.6 million TCO_{2e} from 2017 to 2050. With this, the city’s emissions will reach 17.9 million TCO_{2e}, with emissions from the stationary energy and transport sectors more expressive.
- **Ambitious GHG emission reduction scenario:** Following the implementation of the mitigation targets and actions proposed in the Plan, the ambitious scenario achieves a reduction in emissions, compared to base year 2017, of 32.3% in 2030 and 40.9% in 2050. Emissions decrease more sharply until 2020, at a lower speed between 2020 and 2030, and more slowly, almost stabilizing, by 2050, as can be seen in the chart below.

Figure 8 – Chart of the Emission Reduction Path by Sector in the Ambitious Scenario. The 20% figure indicates the emission reduction target assumed by the city in this Plan



Source: Own data development of the Pathways tool (pg. 86 of the PDS).

- Maximum ambition scenario:** The scenario of maximum ambition of reducing GHG emissions is built on the premise that the city overcomes obstacles in an accelerated manner — which promotes a rapid energy and technological transition in transport and buildings to ensure the neutrality of emissions by 2050. After the implementation of the strategies, the scenario shows a drop in the emissions of 88.3% in 2050 compared to base year 2017.

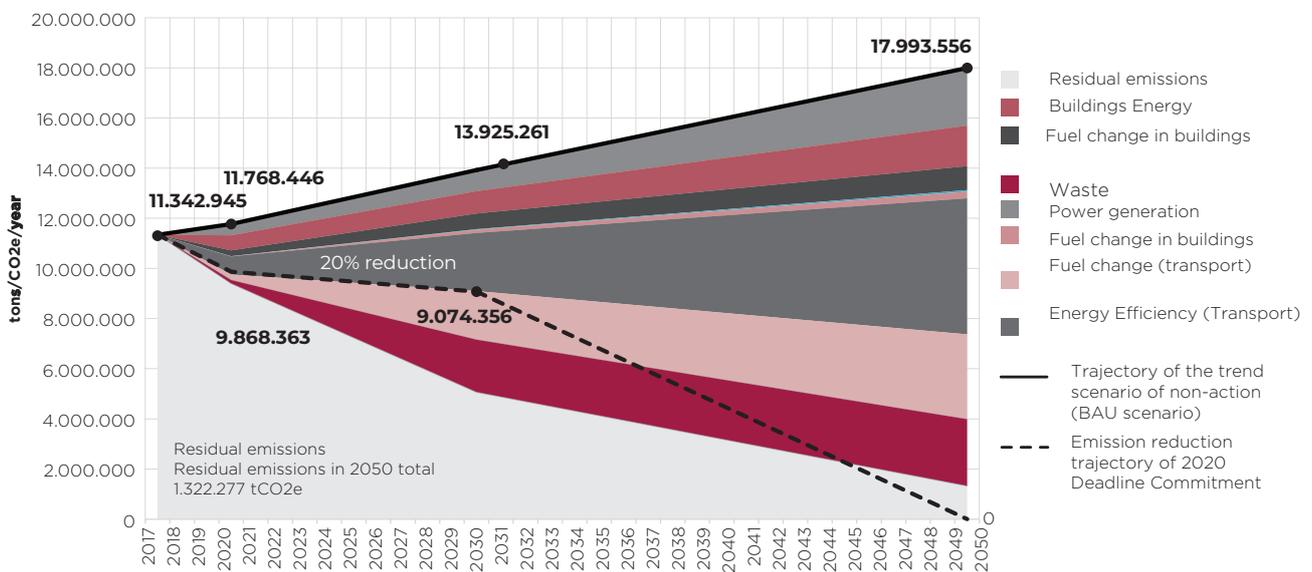
complex urban densification results in a remarkable history of natural disasters, especially when rains are intense and recurrent. Floods and landslides impact the population and cause severe damage to infrastructure and buildings, as well as disruptions in the provision of urban services. The tendency is for extreme events to become more frequent due to climate change.

To understand the risks and vulnerabilities of the city, studies are needed to point out the most critical regions and place them at the top of the list of those that will receive adaptation actions and policies, capable of moderating the threats and risks arising from climate change, protecting people and their assets, and the city's infrastructure.

3.2 Adaptation

The scenic beauty of the City of Rio de Janeiro hides a challenging urban context. The combination of forested mountain massifs with flooded areas and

Figure 9 - Chart of emissions reduction path by sector in Maximum Ambition Scenario



Source: Own design from the Pathways Tool (pg.88 of the PDS).

LEARN MORE...

CONCEPTS RELATED TO ADAPTATION

The Intergovernmental Panel on Climate Change (IPCC, 2014) establishes some important concepts to understand the theme of climate adaptation:

Impact: refers to the effects on natural and human systems by extreme climate events and climate change. Impacts are usually effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate change or hazardous climate events occurring within a specific period of time, and the vulnerability of a society or system exposed.

Climate Hazard : refers to the potential occurrence of a climate event that may induce a physical impact on populations and systems. In this

document, it will focus on extreme climate events caused by floods, heat waves, average sea level elevation and landslides.

Vulnerability: is the degree to which a system is susceptible or unable to cope with the adverse effects of climate change. Vulnerability depends on a number of elements of the system, including the degree of sensitivity and adaptive capacity.

Exposure: is the presence of people, livelihoods, species or ecosystems, infrastructures and economic systems, social or cultural assets that may be adversely affected.

IPCC. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp. 2014. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf

3.2.1 Major future climate trends and current impacts

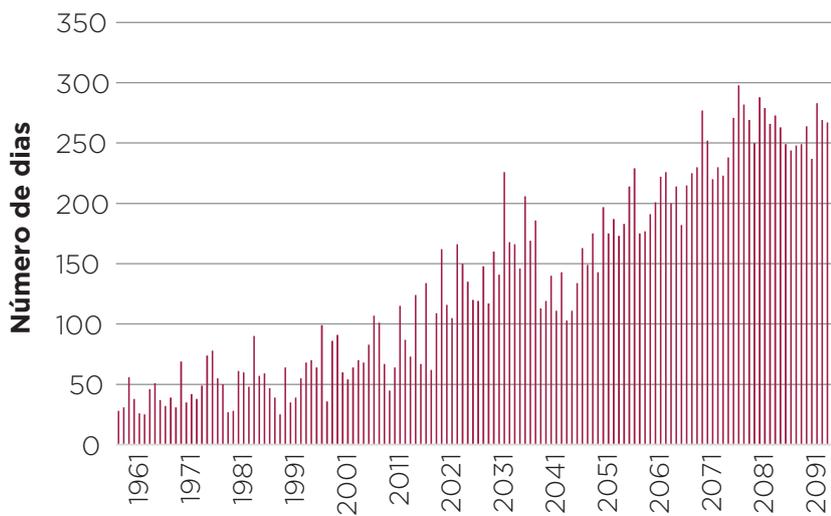
How to create defenses for a hazard that at the present time has not yet been fully established?

The analysis of a climate hazard requires the use of projections of current and future climate models. These projections estimate future time based on variables such as temperature and precipitation — how long these events occur today and in the future.

For the analysis of future climate trends, a regionalized climate model Eta/HadGEM-2-ES, 5.0 km (INPE) was used. The results

of a round of the model made for the City of Rio de Janeiro show that the most threatening future climate trend is the rise of global temperatures and extreme heat wave events. The results of the evaluation show that projected days with potentially hazardous temperatures increase significantly by the end of the 21st century, as observed in Figure 10. In addition, the extreme events that the city already faces, such as floods and landslides, can be aggravated due to climate change, which shows the urgency to act in the face of the climate crisis.

Figure 10 — Projected number of days with a Heat Index above 40°C, as modeled by HADGEM2-ES under the 8.5 RCP scenario



Fonte: Ramboll, 2020 (pág. 93 do PDS).

Impact assessment developed a methodology to identify the most impacted areas by means of a multi-criteria analysis (MCA). The study adopted the climate hazard data developed by the Adaptation Strategy, combined with vulnerability data prepared for this assessment, in order to assess the current impact of climate-related hazards, and identify the most impacted areas. The results of the climate impact assessment identified the most critical areas in impact level severity.

Climate impacts present in the City of Rio de Janeiro

For climate adaptation, it is important to identify which impacts of extreme weather and weather events and climate change can interfere on natural and human systems. In this document, the term impact comprises the effects on life, ecosystems, urban systems and infrastructure.

The Climate Change Impact Assessment for the City of Rio de Janeiro aims to identify the regions of the city most prone to climate impacts with more serious consequences in the present context. This document was based on the study developed for the 2016 Climate Change Adaptation Strategy that introduces four climate hazards for the City of Ja-

neiro: (1) Raising average sea level and wave levels; (2) Landslides; (3) Heat waves and heat islands; and (4) Floods.



Source: EPL Production

Some highlights are presented below:

AVERAGE SEA LEVEL RISE - *In the future, sea level rise could affect about 10% of the municipality's area.*

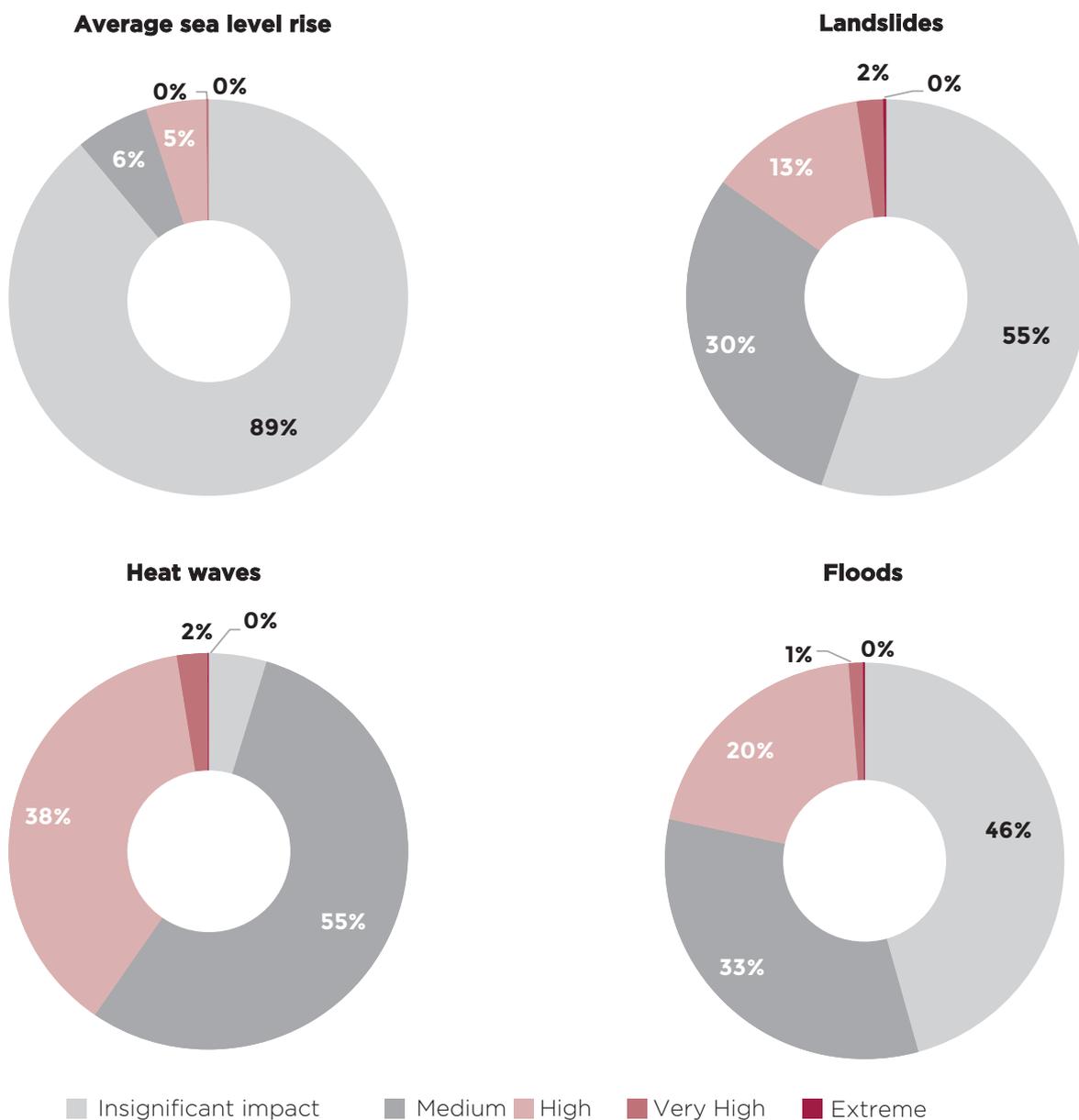
LANDSLIDES - *It is estimated that almost half of the city's territory may be exposed to this climatic danger.*

HEAT WAVES - *They represent one of the most relevant climate hazards to Rio, as virtually the entire city is exposed to the phenomenon, generally under-reported.*

FLOODS - *It is estimated that the climatic danger of floods is present in more than half of the territory of the municipality.*

The following graphs show the proportion of areas (percentage of territorial areas) that may be impacted by a climate hazard in the future, and at what level. For example, about 2% of the city's territory is at very high and extreme risk of impact to landslides.

Figure 11 – Proportion of Hazard Areas



Source: Ramboll,2020 - Climate Change Impact Assessment for the City of Rio de Janeiro(pg. 95 of the PDS).



Source: EPL Production

3.3 Urban expansion scenarios

Understanding the distribution of the population in the territory and observing the forms of housing occupation are fundamental to define the planning process of urban expansion. For example, occupation of areas prone to flooding and erosion brings risks of human and economic losses; urbanization of forest areas and the distance of housing from centers, with occupation of peripheral areas within the limits of the urban spot, contribute to GHG emissions.

Thus, the PDS conducted two comparative studies related to urban occupation in the next 10 years: one, called the Tendency Scenario, considers the continuity of the current occupation pattern. Another,

the Planned Scenario, shows occupation alternatives conditioned to the goals of the Rio 2030 Agenda described in chapter 4.

TRENDING SCENARIO - *represents the most feasible possibility if there are no significant normative or legislative changes, since it registers the urban growth of the city spontaneously, considering the current expansion models and trends of recent decades..*

PLANNED SCENARIO - *is one in which urban spot growth and population distribution are influenced by urban policies to restrict city advancement to environmentally sensitive areas or with high climatic risk - or through policies that encourage differentiated dynamics for stagnant areas, influencing the population's interest in settling according to strategic orientation (C40 CITIES, 2020).*

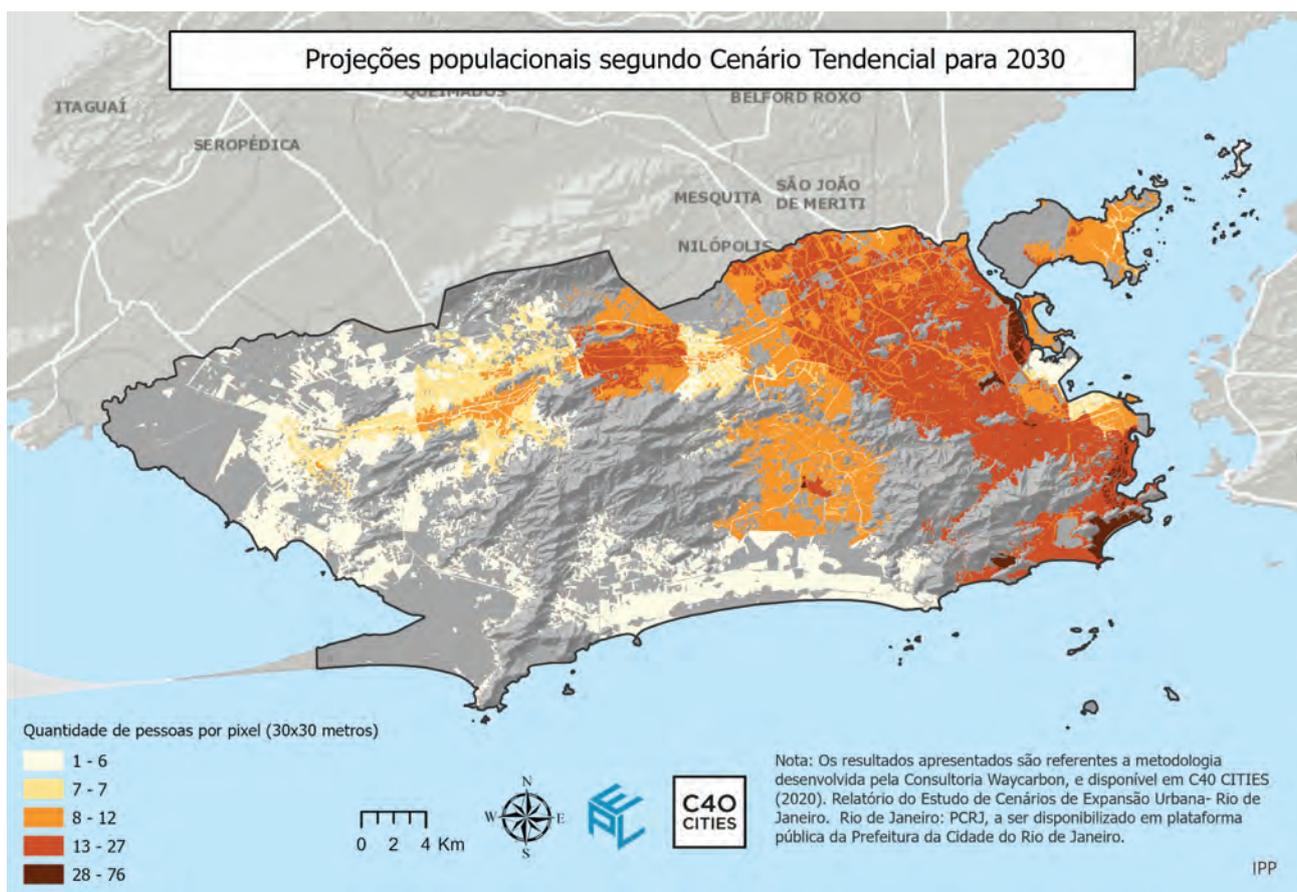
The results of this study were as follows:

The **Tendential Scenario** indicated the permanence of an emptied Central Zone and horizontal expansion to the West Zone, with much of the new occupations located in fragile areas with no infrastructure. Simultaneously, the South Zone and Tijuca — which have a greater concentration of infrastructure, services and trade, in addition to landscape attributes — will maintain their potential for attractiveness, with higher population densities until 2050.

The shanty towns and informal settlements, which today already have very high densities, will remain at high levels. The North Zone, despite still standing out in terms of occupation density in relation to the West Zone, shows a current trend of relative stagnation, or even population reduction.

Finally, the constructive potential and areas available for occupation in the West Zone will continue to generate a marked propensity for occupation, but with lower densities than the city average, with few exceptions (Cidade de Deus, and the Realengo and Bangu region).

Figure 12 — Map of population projections according to trend criterion for 2030



Source: C40 CITIES, 2020 (pg 59 of the PDS)

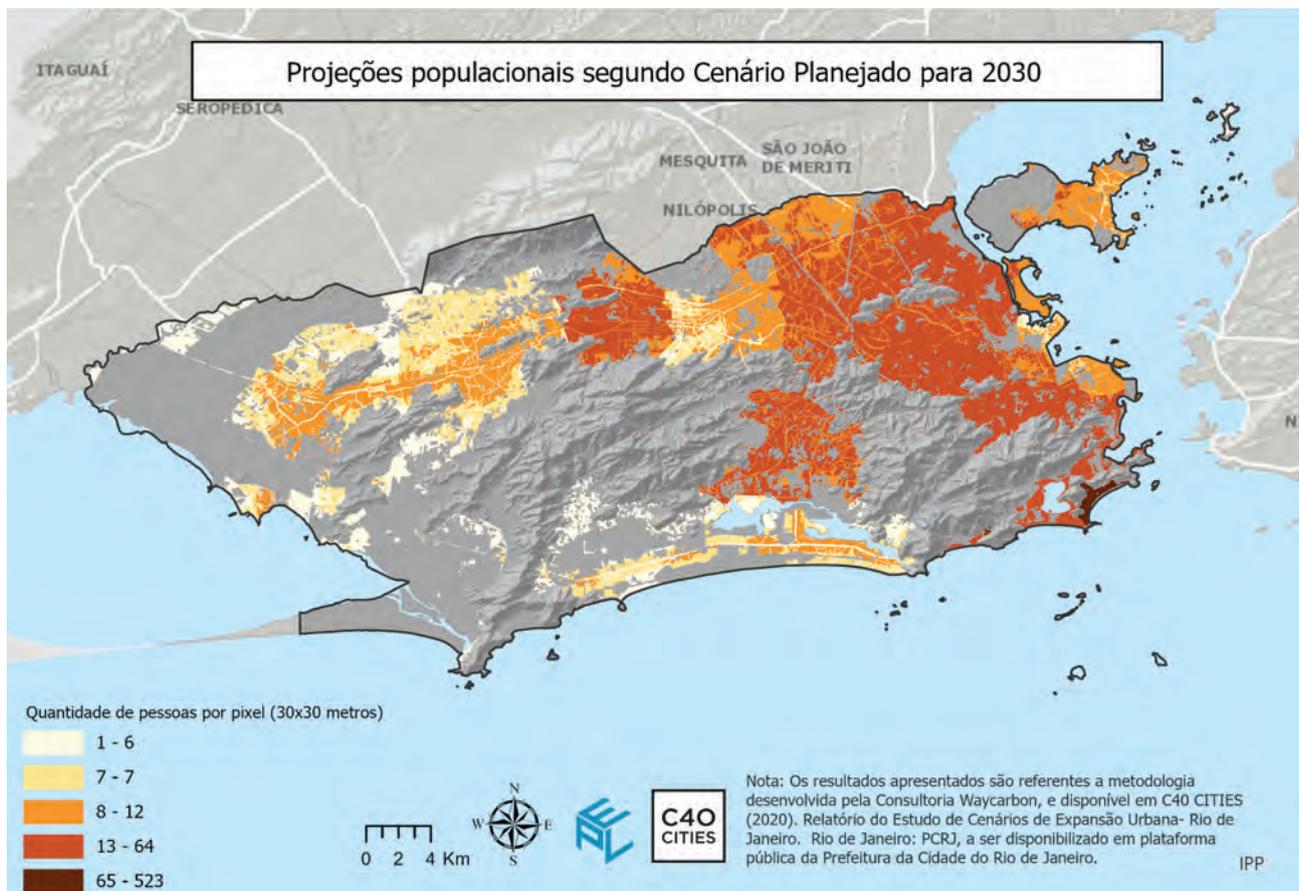
In the **Planned scenario**, the planning of urban expansion processes considers reducing territorial inequalities and combating climate change. For example, the expansion of the West Zone, without strengthening existing centralities — such as Bangu, Campo Grande and Santa Cruz — with increased employment and income, would aggravate the home-work-home pendulum movement. Therefore, it would be harmful to the city, worsening the quality of life and overloading the existing infrastructure. This process would also strain the areas surrounding the massif with some forested areas not yet protected.

In this case, the study points out that the construction of new dwellings in the infrastructured areas of the Center and

North Zone is essential to reduce the pressure of expansion towards the west, at the edges of the massifs, and in the remaining green areas in peripheral regions.

The Central Area, particularly, is fundamental in the context of city planning, given the need to increase the number of inhabitants both in the most vibrant business area, along the main axes (Presidente Vargas and Rio Branco avenues), and in historical centers (the sea port region, São Cristóvão, Cidade Nova, Estácio, Catumbi, and Lapa). The rescue of the Central Area will bring new dynamics with strong potential to boost the entire metropolis towards sustainable development.

Figure 13 - Map of population projections according to planned criterion for 2030



Source: C40 CITIES, 2020 (pg. 62 of PDS).

04

Rio 2030 Agenda and Climate

The Rio 2030 Agenda and Climate Action propose to be the permanent transformation of Rio de Janeiro. Herein are the commitments of the city in the various public policies for the year 2030, marked by indicators and progress monitoring.

To build intersectoral commitment, the PDS is divided into five Cross-Sectional Themes: (1) **Cooperation and Peace**, (2)

Equality and Equity, (3) **Longevity and Well-being**, (4) **Climate Change and Resilience**, and (5) **Governance**. These Themes are subdivided into 23 Aspirations, 60 Strategies, 134 Goals and their respective Actions.

The following are 47 goals highlighted to represent all the Aspirations of the Plan.

LEARN ABOUT ALL PDS ASPIRATIONS, STRATEGIES, GOALS AND ACTIONS BY VISITING:
[HTTP://RIO.RJ.GOV.BR/WEB/PLANEJAMENTO/PDS](http://RIO.RJ.GOV.BR/WEB/PLANEJAMENTO/PDS)





4.1 Cooperation and Peace

VISION 2050 - Cariocas [Rio citizens] who are supportive, fair and inclusive, engaged in living networks in a fully capable city that cultivates a culture of peace, neighborly love, and respect for all.

Where we are



The hospitality characteristic of the people of Rio de Janeiro does not eliminate the fact that there are still problems to be overcome. The City of Rio de Janeiro, as a metropolis, presents issues that need to be addressed. It is the right moment to mobilize to revive dialogue, empower the population, and ensure public policies more related to local needs, mainly through contribution flows between the public sector and civil society. It should be emphasized that the aspects related to municipal violence cover different perspectives, being greatly linked to security actions that fall on the state.

Where we want to be



The city we want has no room for gender and racial violence. It is necessary to drastically reduce the mortality rate caused by the violence against Afro-Brazilian youths, and violence against women. The increase in the capacity to assist victims should reach at least 80%. The rate of accidents with serious injuries and culpable homicides in traffic also needs to be reduced by at least 50%. A more cooperative and peaceful society requires, first and foremost, the participation of the population in the planning of solutions.

Aspirations and Goals

ASPIRATION

CPI

SOCIAL PARTICIPATION IN PUBLIC PLANNING AND BELONGING



Cariocas [Rio citizens] will engage in the collective construction of solutions for the city together with government.



GOAL:

CPI.1 - Incorporate into the municipal sector planning at least 50% of the suggestions from the population, validated by the competent bodies, published in Rio city hall's official social participation channel.

ASPIRATION

CP2

ENGAGEMENT AND AWARENESS FOR THE PRESERVATION OF THE CITY AND HEALTHY COEXISTENCE



Rio’s citizens will engage in cooperation, the protection and recovery of natural, landscape and cultural heritage, strengthening their identity, and belonging to a more inclusive, supportive and just city.



GOAL

CP2.6 - Triple the number of volunteer actions aimed at the protection, conservation, and recovery of natural and cultural facilities in the city.

ASPIRATION

CP3

CULTURE OF PEACE



The city will be a safe urban space, recognized for the promotion of peaceful and equitable coexistence between citizens.



GOALS:

CP3.1 - Reduce the vulnerability situation of 100% of families mapped by the Social Territories program;

CP3.5 Reduce by 50% the rate of accidents with serious injuries and culpable homicides in traffic (based on SDG goal BR3.6).



Fonte: Acervo EPL - RJ, 2019



4.2 Equality and Equity

VISION 2050 - A city that seeks social, territorial, economic and digital inclusion; that provides conditions for full development of rights and duties that rescue the sense of humanity and citizenship.

Where we are



Equity and respect for differences are basic premises for the promotion of human rights. However, as we know, universal, human rights do not always encompass everyone, because there are certain particularities among individuals. The universal application of the law that “all are equal” may lead to injustices because, by guaranteeing equality, standardization also occurs, which ends with the sense of plurality and diversity. For this reason, it becomes insufficient to treat the individual by equality alone — it is necessary to specify, through equity, who the subject of law is, and their particularities. We highlight the role of the Municipal Education System of Rio de Janeiro in building a more egalitarian society, since its educational commitment is based on social inclusion policies and the strengthening of

citizenship and protagonism.

Where we want to be



Overcoming the economic crisis that the city is experiencing is key to attracting jobs and raising per capita income. To do this, it is necessary to increase by 30% the participation of inductive activities (industry and services), and attract R\$10 billion in investments in smart city projects, with emphasis on the energy, creative economy, technology, life sciences, and financial services sectors. However, these investments should be shared equally to reduce by 5% the difference in the proportion of formal jobs between areas of the city.

Aspirations and Goals

ASPIRATION

IE1

EARLY CHILDHOOD



Every child will be able to thrive healthily, safely and fully.



Climate Action

GOAL:

IE3.2 - Implement at least 33 Youth Committees, one in each Administrative Region (R.A.), to monitor the implementation and periodic evaluation of the fulfilment of SDGs goals in the City of Rio de Janeiro PCRJ.

ASPIRATION

IE2 **QUALITY EDUCATION**

The city will have access to quality, inclusive, equitable schools that meet the specificities and stimulate the potential of the entire school community.

GOAL
IE2.11 - Ensure school transport to all students of schools with high dropout rates aggravated by the home-school journey.

ASPIRATION

IE3 **YOUTH AND YOUNG PEOPLE IN VULNERABILITY**

Young people will have opportunities for full development, with equity and respect for their choices, and access to broad policies for vulnerable situations..

GOALS:
IE3.2 - Implement at least 16 nucleus of the Innovation Lab for sociopolitical mediation of Rio de Janeiro youth (Lab.Juv RIO), one in each Planning Region - P.R., for the monitoring of the execution and periodic evaluation of the compliance with the SDGs targets in the city of Rio de Janeiro PCRJ.

ASPIRATION

IE4 **INCLUSIVITY AND DIVERSITY**

The city will be recognized as one of the most welcoming and inclusive in terms of diversity and lower social inequality.

GOALS:
IE4.2 - Reach 80% of families in extreme poverty, identified according to the parameter proposed by the World Bank of 1.90 (USD) per capita/day, with access to the municipal income transfer program;
IE4.5 - Eradicate hunger and ensure access to healthy food for all people, especially the poor, and those in vulnerable situations (based on SDG target BR2.1).



ASPIRATION

IE5

SPORT, CULTURE AND HERITAGE



Rio's citizens will have the opportunity to sports and culture as a means of developing citizenship and ethical values, enhancing the economy of culture, access to sports practice and cultural territory for all.

Climate Action

GOAL:

IE5.3 - Have 25% of the areas protected by cultural heritage preserved in a sustainable and integrated system.

ASPIRATION

IE6

ECONOMY AND INNOVATION



Inductive economic activities will have an expanded presence in the city, contributing to reduce inequality of access to employment opportunities.

GOAL:

IE6.1 - Increase by 30% the participation of inductive activities (industry and services of the upper tertiary level) in the total of the city's formal jobs;

IE6.3 - Reduce by 5 percentage points the difference between the proportion of resident population and formal jobs in Planning Areas 3 and 5 by attracting new economic opportunities for these areas (see map below);

Climate Action

Figure 14 — Division of the City of Rio de Janeiro by Planning Areas



Source: Own elaboration, 2021.

IE6.4 - Reduce by 5 percentage points the difference between the proportion of formal jobs and resident population in the central region by attracting housing to different social strata, especially Social Interest Housing (HIS);

IE6.5 - Attract \$10 billion invested in smart city projects, with an emphasis on energy, creative economy, technology, life sciences, and financial services sectors.



4.3 Longevity and Wellness

VISION 2050 - An inclusive and gentle city that guarantees the right to decent housing and provides conditions for a long, healthy and active life, promoting autonomy, mobility and coexistence in public spaces.

Where we are



There are several challenges that the city hall of Rio de Janeiro will be facing in the area of longevity and well-being. In this context, public health stands out, which is crucial for human development, an inalienable human right and essential contributor to the economic growth of society. To this end, city hall monitors a series of strategic indicators related to public health. Indexes such as infant mortality, maternal mortality, mortality due to infectious diseases, chronic non-communicable diseases, among others, reflect the living conditions of a population. Detailed profiles on health care, sanitary conditions, and other social determinants that play an important role in the outcome of longevity and well-being can be examined in detail in the full version of the PDS.

Where we want to be



The challenges arising from the pandemic of the new coronavirus shed even more light on the importance of the Unified Health System, which needs significant improvements in terms of valuing its professionals, improving of infrastructure, and articulated actions between different federative entities. Investments in primary and hospital care are a central point that will bring results in increasing life expectancy. To this end, initiatives aimed at reducing the current rates of infant and maternal mortality are priority, as well as actions to promote an active and healthy aging of the population. Another challenge that is very much present in the City of Rio de Janeiro is the reduction of the number of accumulated cases of arboviruses, through the implementation of a Permanent Mobilization Plan involving the population, health professionals, managers, and organized civil society in the fight against the **Aedes aegypti** mosquito.



Source: Flickr Riotur. Photo: Fernando Maia|Riotur

Aspirações e Metas

LB1

ASPIRATION

HEALTHY EATING AND AGROECOLOGICAL PRODUCTION



The city will have a sustainable food system, encouraging organic family farming, food in natura, and proximity between producers and end consumers.

Climate Action

GOALS:

LB1.3 - Increase local agricultural production by at least 20%, with stimulus to agroecology (form of agriculture with systemic focus on the management of production units, environmental conservation, biodiversity, biological cycles, and quality of life);

LB1.4 - Reduce food loss and wastage by 50% (based on SDG target 12.3).

LB2

ASPIRATION

PUBLIC WOODED AREAS



Tree-lined public spaces, equitably distributed, stimulating healthy habits in Rio's population of all ages..

Climate Action

GOALS:

LB2.1 - Double tree coverage in streets, squares and parks in the North Zone, an area with lower green area index and high average surface temperatures compared to other regions of the city;

LB2.3 - Establish at least four public-private partnerships for urban parks.

LB3

ASPIRATION

ELDERLY PEOPLE AND GENERATIONAL



The city will be recognized for promoting healthy ageing, fostering intergenerational integration and sociability of the elderly population.

GOAL:

LB3.2 - Double the participation of the target audience in activities aimed at the elderly, developed by different municipal sectoral policies, considering the centrality of these services in the promotion of active aging, and the maintenance and/or reintegration of the elderly into the family and/or community.

LB4

ASPIRATION

**INFRASTRUCTURE,
HOUSING, AND
TRANSPORT**



The entire population will have access to quality urban infrastructure and housing that are regulated, safe, dignified, and integrated to the city's equipment and public transport.



GOALS:

LB4.2 - Reduce the city's housing deficit and inadequacy by 50%;

LB4.4 - Reduce by 10% the average travel time in home-work-home travel in accessible public transport.

LB5

ASPIRATION

**EXCELLENCE IN
PUBLIC HEALTH**



The city's public health system will be of excellence, organized and multidisciplinary, with computerized access to patients' health data, and prepared to employ specific actions to ensure comprehensive health care in all life cycles.



GOALS:

LB5.8 - To elaborate at least five studies on the impacts of climate change on the health of the population living in the Municipality of Rio de Janeiro;

LB5.9 - Decrease by 50% the cases of water-borne diseases

LB6

ASPIRATION

**URBAN DESIGN AND
ACTIVE MOBILITY**



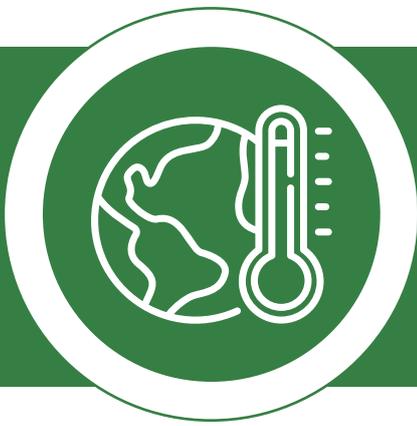
The city will be recognized for prioritizing people in urban planning and design, resignifying the shared public environment, and encouraging walking and cycling to places.



GOALS:

LB6.1 - Revitalize 300 km of public areas, prioritizing the design on the pedestrian scale with sustainable urban drainage;

LB6.2 - Quadruple the number of trips by bicycles and foster the use of other non-polluting small active transport in the municipality.



4.4 Climate Change and Resilience

VISION 2050 -City of exquisite landscape, resilient and neutral in emissions, with a leading role in confronting and adapting to climate change through planning, technological innovation, and engagement.

Where we are



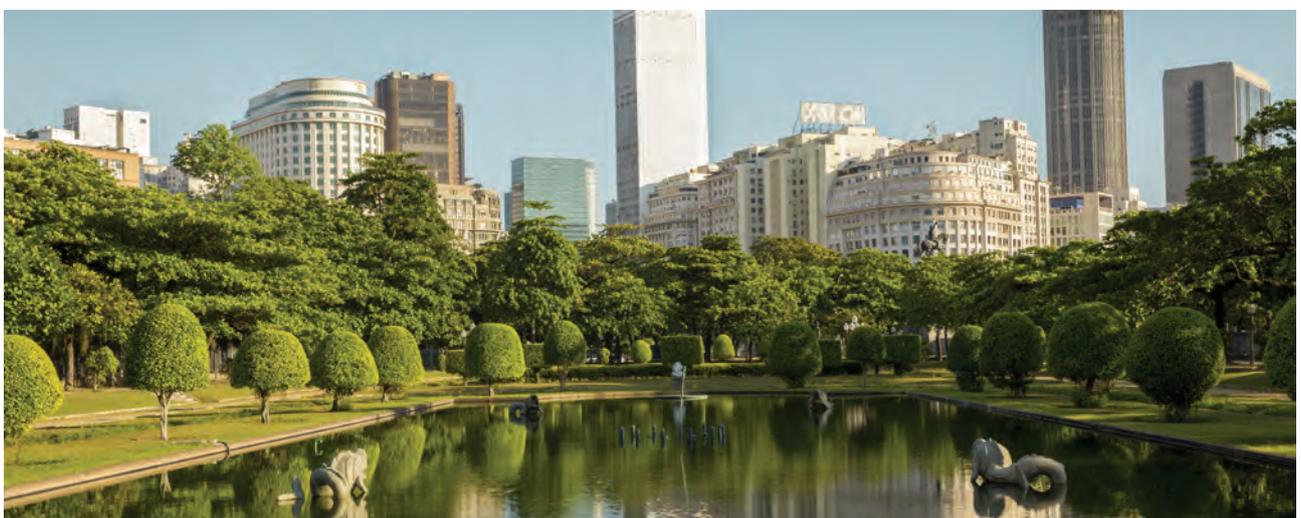
Rio has experienced frequent events of heavy and/or prolonged rainfall and suffered from floods and landslides. Meteorological phenomena, involving records and predictions of rainfall, winds, extreme temperatures, storm tides, and other natural variables, have impacts on the urban infrastructure and logistics of the city and pose diverse risks to citizens. These phenomena cause several incidents, such as the uprooting of trees, traffic accidents, geotechnical accidents, mass disaster, water pockets and flooding, and changes in condition, and public transport incidents.

is no different. However, it is essential to increase the population's awareness regarding waste disposal in public areas, and selective solid waste collection campaigns to help reduce flooding. Another important challenge for the city is to build a low-carbon economy. For that, it is essential to reduce the global emissions of the municipality by encouraging, for example, the expansion of non-emitting or low-emitting vehicles in the city's circulating fleet. The increase of formal jobs related to the green and circular economy is also one of the major challenges to be overcome. What's more: the city must guarantee the protection of 100% of the priority areas defined as of relevant environmental interest, through the creation of Conservation Units, in addition to managing and expanding its reforested areas. Another aspect concerns the strengthening and expansion of areas destined for agricultural production.

Where we want to be



Waste management is one of the main problems of big cities and Rio de Janeiro



Aspirations and Goals

MCR1 ASPIRATIONS

SOLID WASTE



The city will focus on reducing waste generation, increasing recycling, and waste recovery, strengthening a zero waste policy.



GOALS:

MCR1.1 - Increase recycling of dry waste such as glass, paper, plastic, and metal to 35%

MCR1.2 - Reach 80% of the forwarding of organic food waste produced by large sources (supermarkets, restaurants, etc.) to waste processing/recycling plants (composting and/or biodigestion);

MCR1.4 - Use 70% of the landfill's available biogas potential.

MCR2 ASPIRATIONS

CITIZEN AND INSTITUTIONAL RESILIENCE



The city will play a leading role in planning, monitoring, and responding to climate change, with high responsiveness of institutions and the population to face major threats.



GOALS:

MCR2.1 - No person in areas of high risk of flooding and no housing in areas of high risk of landslides in the areas mapped and identified by Rio's City Hall;

MCR2.2 - Perform an annual minimum of 20 simulated emergency response to the impacts of climatic extremes, with the life and well-being of all citizens of Rio de Janeiro as the fundamental pillar;

Source: RICHARD SANTOS/PREFEITURA DO RIO



ASPIRATIONS

MCR3

CARBON NEUTRAL CITY



The city will stimulate low-carbon urban development, promoting the use of clean technologies and energy efficiency, and boosting the green economy.

GOALS:

MCR3.1 - Achieve in 2030 the 20% reduction of the municipality's GHG emissions compared to the 2017 base-year emissions, excluding emissions from the steel industry, and in 2050 the neutralization of emissions through mitigation and compensation strategies;

MCR3.3 - Replace 20% of the fleet of the Public Bus Transport System (SPPO) with non-emitter vehicles, with impact on air pollution reduction and urban noise;

MCR3.5 - Ensure that at least one area of the city has zero carbon emissions.



ASPIRATIONS

MCR4

ENVIRONMENTAL ASSETS



The city will have its green areas protected and expanded, water resources preserved and recovered, valuing the landscape, biodiversity, and ensuring water security and sustainable management of natural resources.

GOALS:

MCR4.1 - Establish Nature Conservation Units in 100% of the areas defined as priority and identified as of relevant environmental interest (ARIA) by the Municipal Department for the Environment;

MCR4.3 - Undertake management of 3400 reforested hectares and consolidate 1206 hectares of forest in the municipality.



Source: Acervo técnico EPL.





4.5 Governance

Vision 2050 - *A city of responsible, transparent, integrated and planned governance, aimed at guaranteeing rights to all, and consolidating metropolitan participation.*

Where we are



The focus of public governance should be the satisfaction of the citizen with the services provided. One way of making this possible is through the de-bureaucratization of administrative processes, reducing the response time to the citizen and modernizing the public machine. Aiming to strengthen government integration, the municipal administration has been promoting several governance initiatives, such as, for example: coordinating actions in the development and monitoring of social projects and programs in which more than one body and/or entity of the administration must participate; propose guidelines for the process of integrating bodies and/or entities in projects and programs in the areas of infrastructure and social services; interacting with agencies from other spheres of government in dealing with issues related to the projects and programs they participate in; and the planning of municipal public policies in a modern, transversal fashion, in line with key national and international discussions.

Where we want to be



Aiming for a better management scenario, some governance challenges lie ahead. The first of these is the articulation and integration of municipal plans, all in the same direction: sustainable development. Another is the implementation of modern tools for monitoring plans and consultations with the population, with broad transparency and participation. To such end, society's knowledge in relation to decisions is important, since it allows for their proper planning and strengthens the path towards a governmental agenda that lasts across different elected governments. Good governance also requires quality in public spending and the creation of a system of continuous development of competencies, with the appreciation of leadership, opening opportunities to new talents, the search for innovative solutions, and the constant exchange of experiences among the city hall staff, and between them and society.



Aspirations and Goals

ASPIRATIONS

GOV1 **DEMOCRATIC GOVERNANCE**



City Hall will be an example of effective, coherent, integrated and innovative management based on democratic principles such as integrity, transparency and accountability of its civil servants.

GOALS

GOV1.1 - Implement the Municipal Planning, Sustainability and Resilience System;

GOV1.10 - Get 75% satisfaction from the services delivered by municipal agencies in each Administrative Region;

GOV1.13 - Map the entire municipal territory regarding climatic and environmental hazards: geological-geotechnical risk, flooding, average rise in sea level and waves, island and heat wave (extreme heat), winds, noise, air, and water quality;

GOV1.14 - All programs, projects and actions by City Hall to be implemented in the areas defined as Sustainability Corridors should be aligned with the criteria and diagnoses elaborated.

Climate Action

ASPIRATIONS

GOV2 **LEADERSHIP BY EXAMPLE**



City Hall will keep all of its actions in line with the good practices of sustainable development.

GOALS

GOV2.1 - Have 25% of municipal government buildings compliant through renewable energy sources, beginning with the [Rio] Carioca Solarium Program, and energy efficiency actions, strengthening City Hall's strategy to be carbon neutral in 2050;

GOV2.4 - Reduce by at least 50% electricity consumption in public public lighting by 2024.

GOV2.5 - Ensure that 30% of the city's fleet of vehicles, including those of its contractors, will be non-emitter vehicles.

Climate Action

GOV3

ASPIRATION

METROPOLITAN REGION



The city will be permanently active in the integration of intermunicipal policies, aiming at the development of sustainable strategies for the metropolitan region.



GOALS:

GOV3.2 - Implement system for mapping metropolitan agri-food production centers in order to value regional food production;

GOV3.3 - Implement 6 thematic strategic committees to address issues common to metropolitan municipalities in the areas of management, intermunicipal transport, environment, sanitation, water security, and public safety.

GOV4

ASPIRATION

INTEGRATED CLIMATE PLANNING



Urban and environmental planning integrated with a focus on climate change for city management and protection of people's lives.



GOALS:

GOV4.2 - Develop and implement the Sustainability Code of Responsible Water Management of the City of Rio de Janeiro (Water Code);

GOV4.3 - Implement the Sustainability Code in Buildings with so as to achieve high energy and water efficiency in all new large and medium-sized buildings and major renovations;

GOV4.4 - Develop and implement at least three sectoral plans to tackle the city's main climate events, with periodic review: Municipal Coastal Management Plan, Action Plan to Combat Heat, and Summer Plan.

05 Sustainable Projects

The materialization of the PDS translates into the implementation of projects, many of which are already a reality in the municipal government. The comprehensive document brings 63 projects linked to the aspirations, goals and structuring actions assumed in the sustainable planning of the city. Some of these projects are programs that have been in operation for a long time. Others are recent or in the process of implementation, facing the new challenges set by the current context. We highlight in this summary three of them: Neutral District, Rio Solarium, and Rio Reforest.

5.1 Neutral District

The Neutral District Project foresees the implementation of actions to reduce greenhouse gas emissions — GHG. The District will be first deployed in the Rio de Janeiro downtown region.

The Project complies with Rio Decree no.

46081, dated June 11, 2019, and will have the articulation and integration for the development of the works, considering the transversality of the intervention, with several institutional partnerships.

The actions focus on walkability, smart cities, environmental education, healthy cities, participation, adoption of clean technologies, encouraging clean transport, mobility active, sustainable urban rehabilitation of public spaces, improvement of air quality, and educational projects to raise awareness and engagement in the population about the relevance of direct and indirect benefits in health and quality of life.

In the map below you can see the perimeter chosen to receive the necessary actions.



Figure 15 – Neutral District: location map



Source: City Hall Collection (pg. 419 of the PDS).

PRESIDENTE VARGAS Avenue Neutral District

The project for the implementation of the Neutral District is still under development. Thus, this image is only illustrative, referring to a simulation of solutions. It is not a project approved by the competent organs.



Simulation of urban-environmental solutions



1. Reduction of the number of lanes and expansion of the central boulevard
2. Implantation of water fountains
3. Implantation of green infrastructure
4. Increasing the afforestation

5. Application of permeables paviments
6. Implantation of bicycle path
7. Exclusive lane for electric cars

5.2 Carioca Solarium: The Santa Cruz Solar Farm

This project foresees the installation of solar photovoltaic energy generating units up to 5MWp, clean (without GHG emissions) and renewable, in landfills in the Municipality of Rio de Janeiro. The objective is to generate

photovoltaic solar energy for energy autonomy by the Municipal Government.

Construction of the pilot project at the Santa Cruz Sanitary Landfill should begin in 2021. At least three solar plants will be deployed in decommissioned landfills in the municipality. The idea is that by 2030 the facilities provide 25% of the energy consumed in municipal buildings. By 2050, clean energy supply is expected to reach 100% of municipal buildings.

CARIOCA SOLARIUM SANTA CRUZ SOLAR FARM

Note: This image is for illustrative purposes only. The Santa Cruz Solar Solar Farm project is under development, and may differ from the version shown in this illustration.



Santa Cruz Solar Farm Project



1. Solar Farm Deployment

5.3 Refloresta [Reforest] Rio

Begun in 1986, the Reforest Rio Program consists of increasing tree coverage forest areas, restingas and mangroves, preferably with community participation, especially the low-income population.

The objectives are the protection and recovery of native vegetation, reducing of landslides, creation of barriers to prevent communities growing upstream of hills, reactivation of water springs, increase in biodiversity, and capturing of carbon from the atmosphere.

The project currently plants and manages 3,400 hectares in reforested areas. By 2030, it intends to deliver 3,550 hectares of early and medium-stage forest formations. To do this, it needs, among other actions, to increase biodiversity and ecosystem services; maintain reforested areas at an early stage of development; survey the priority areas for reforestation, considering the different ecosystems that make up the Atlantic Forest Biome; elaborate diagnoses and mappings of the areas to be reforested; design and adapt teams to enable new reforestation fronts; and work on the diagnosis and management of fauna, with reintroduction, relocation and reinforcement, where relevant in reforested areas.

Figure 16 — Area reforested in Morro do Urubu, Leme neighborhood. Comparative images of the 1990s (left) and 2019 (right)



Source (Picture 1990): City Hall

Source (Picture 2019): SMAC. Photo: Angela Meurer (pg. 421 of the PDS)

06 Sustainability Corridors

The axis of the Plan for Sustainable Development and Climate Action, the objective of the Sustainability Corridors is to make the plan a reality in the daily lives of citizens. The corridors spatialize the proposals for goals and actions according to the priorities indicated in the diagnoses for a city less unequal and more adapted to major medium- and long-term challenges, such as combating and adapting to climate change.

There are 45 corridors that make the main areas subject to intervention tangible and guide the implementation of the different policies presented in the five transversal themes. In order for its nomenclature to be easily assimilated and identified by Rio de Janeiro, the axes are classified by colors that represent the priority aspects analyzed in the diagnosis.

Green is related to strengthening and increasing green areas; Blue, the appreciation of water bodies such as rivers, bays and lagoons; Brown, directed to areas of denser occupation and their urban reorganization; and Orange, linked to urban requalification, with special attention to populations that are vulnerable, improvement of social indicators, and reduction of inequalities.

Although they are thematic, the Sustainability Corridors were developed in an articulated manner, since their actions materialize on the same geographical space. The perspective of the thematic axes favors the understanding of the proposals without, however, disregarding the various territorial complexities that exist, and the need for integrated solutions.

Source: EPL production.



6.1 Green Corridors

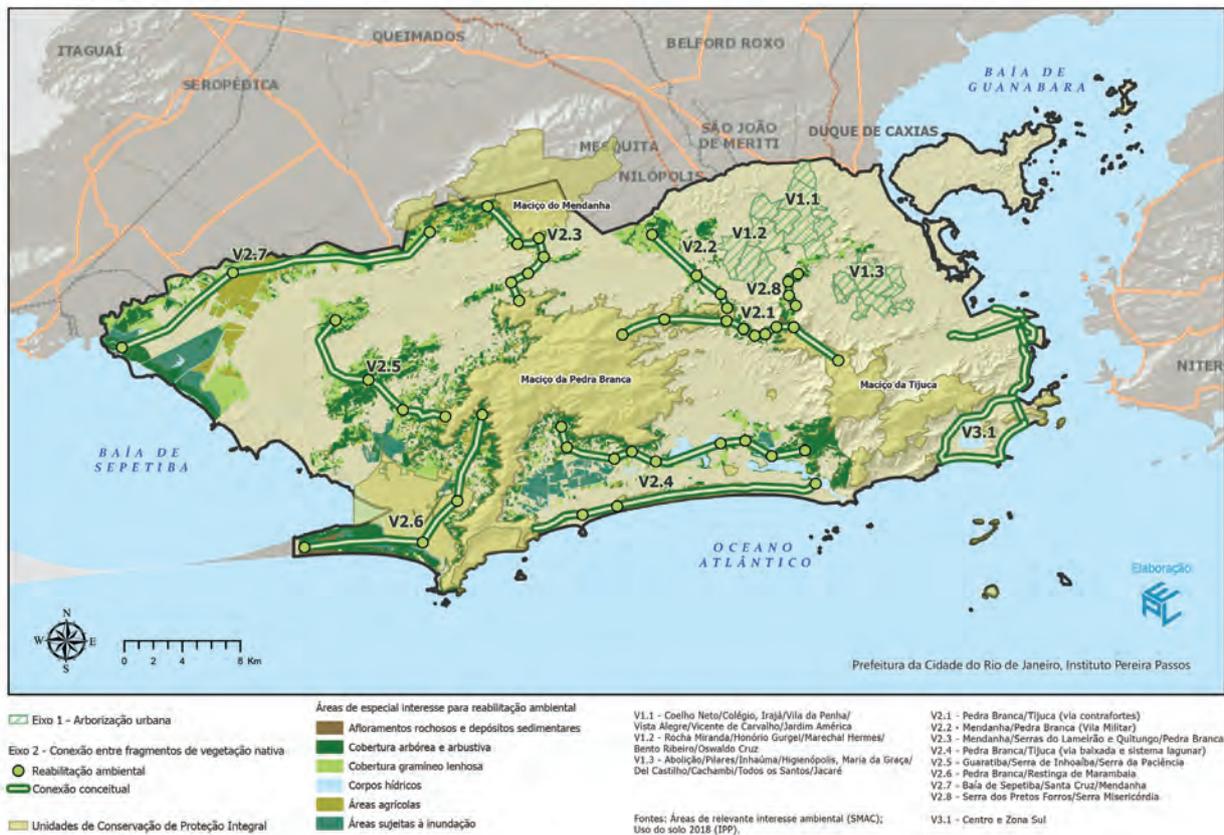
They can be defined as priority areas for the expansion of green infrastructures through reforestation actions; urban afforestation; creation, protection and connection of conservation units; stimulus to maintenance and expansion of agricultural areas. Also included are green areas of relevant landscape and historical interest,

with a view to their proper maintenance and conservation.

In this axis, we sought to select the neighborhoods with the greatest tendency to the formation of heat islands. Thermal maps were analyzed and the neighborhoods with the highest surface temperature (annual average) between 2015 and 2019 identified.

Figure 17 - General Map of Green Corridors (Axis 1, Axis 2, and Axis 3)

Corredores Verdes



Source: EPL production (pg. 447 of the PDS).



6.2 Brown Corridors

They include priority areas for urban density, installation or expansion of infrastructure, areas that require revision of

land use and occupation patterns, as well as stimulating the concentration of jobs and housing aligned with the principles of TOD (Transit-Oriented Development). For these corridors are also foreseen the detection of opportunities for the application of urban planning tools.

Figure 18 - General Map of the Brown Corridors



Source: EPL production (pg. 464 of the PDS).

Source: EPL production.

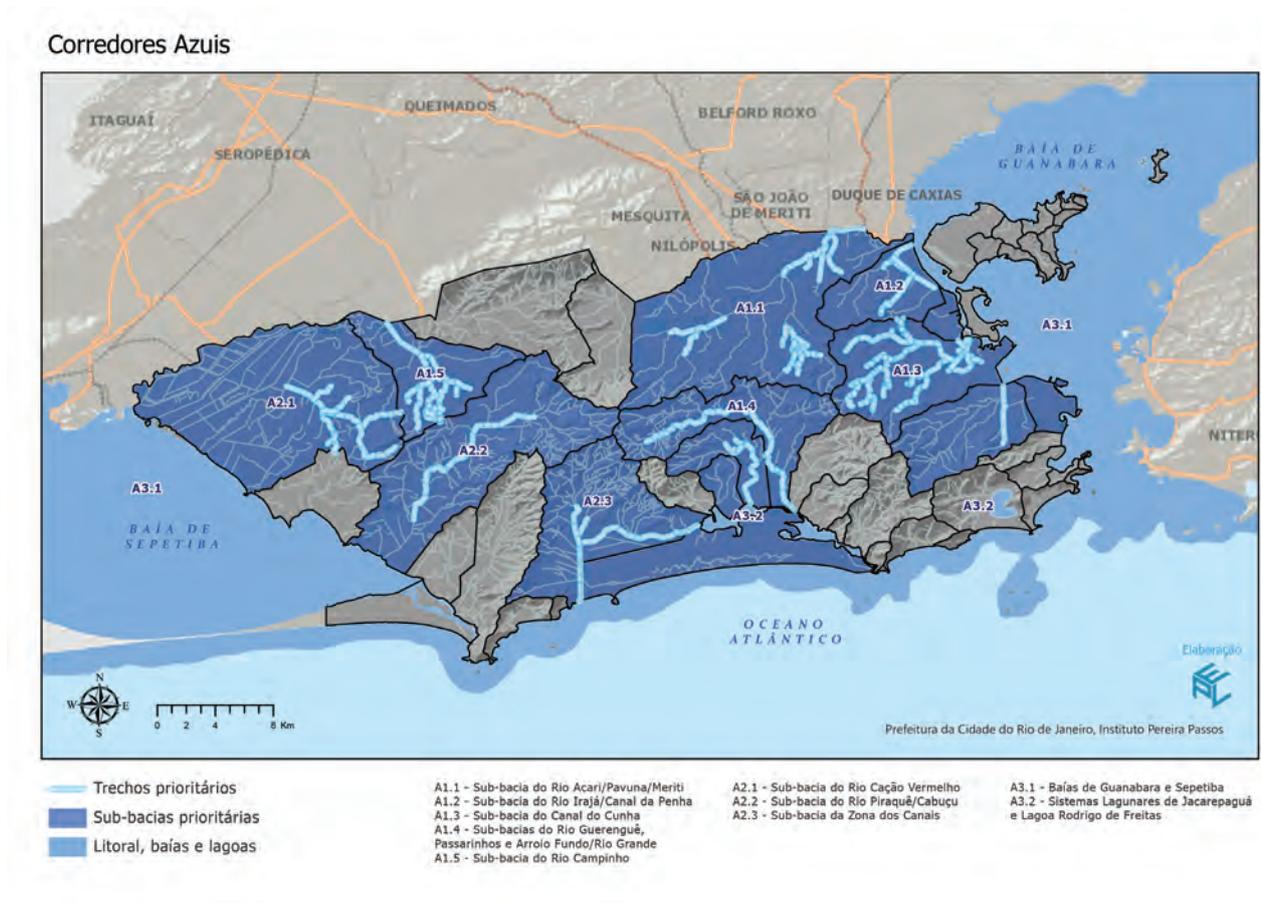


6.3 Blue Corridors

They correspond to the priority areas for the protection and recovery of water bodies. In these corridors the infrastructural actions are concentrated to reduce floods,

and solutions that promote the restoration of the environmental quality of rivers, ponds, bays, oceans and wetlands, associated with the sustainable use of water resources.

Figure 19 - General Map of the Blue Corridors



Source: EPL production (pg. 486 of the PDS).



Source: EPL production.

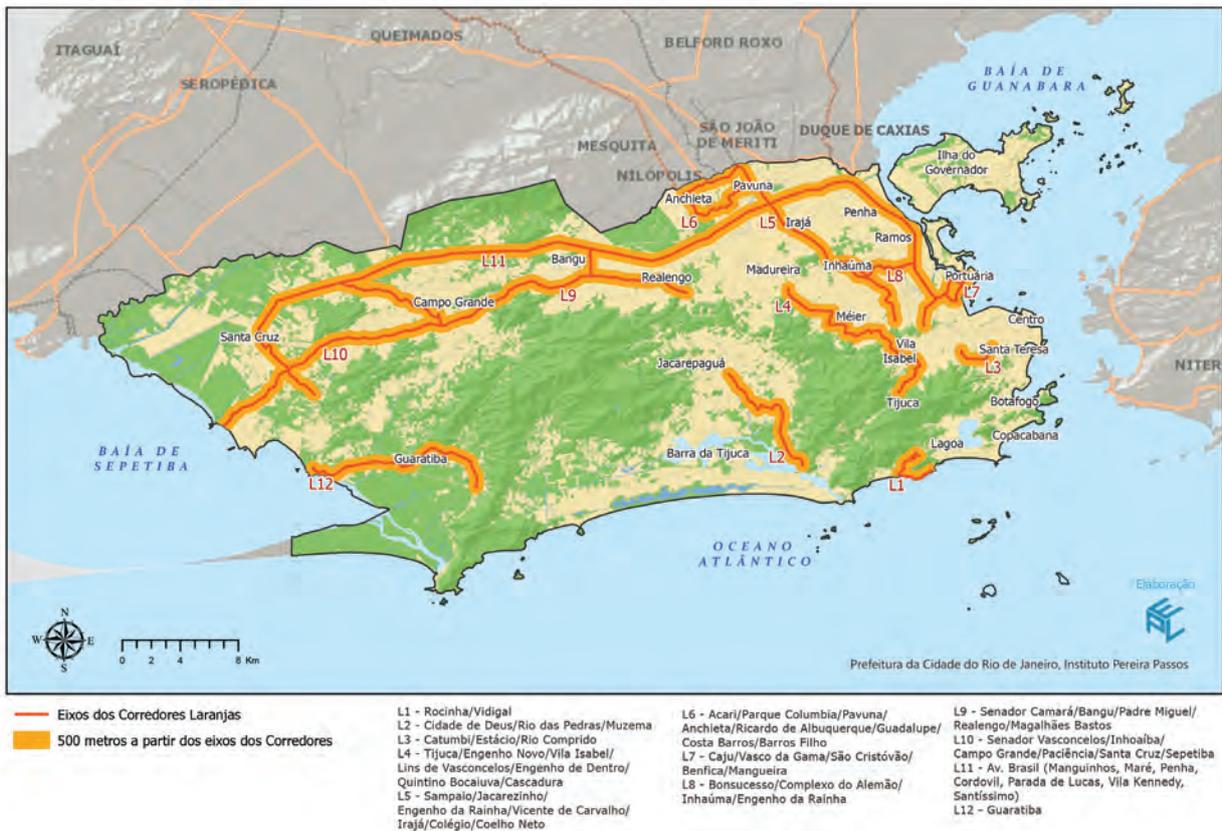
6.4 Orange Corridors

These are the areas identified as priorities for the implementation of

various social and economic actions, with emphasis on families under extreme poverty, reducing social inequalities, and improving health, education, culture, sport, leisure, and social assistance infrastructure.

Figure 20 - General Map of the Orange Corridors

Corredores Laranjas



Source: EPL production (pg. 495 of the PDS)



The Sustainability Corridors were planned according to their specificities, but due to the profound inequalities existing in the city, socioeconomic actions are essential in all of them. The intention is to promote social policies aimed at the well-being of the population, at improving economic development, and reducing social and territorial inequalities. In other words, “leave no one behind,” as the UN advocates..

07

Monitoring and Review

To ensure the implementation of the Plan for Sustainable Development and Climate Action, and obtain the long-term results desired for the city, monitoring the goals is essential. The goals contained in the PDS, established according to the Sustainable Development Goals and contemplating the city's specificities, will be monitored through municipal indicators produced for this purpose. It sought as much as possible the elaboration of finalistic goals (whose object is directly related to the specific SDG desired) that enable the construction of complex monitoring metrics, but whose process is facilitated by the medium or long term temporality

to implement the actions. However, there are also goals related to the monitoring of business processes and work of municipal agencies, which need to be redirected or remodeled towards sustainable development, and linked to a higher management objective aligned with the SDGs.

By monitoring PDS goals, one can:

- Monitor the implementation of the UN 2030 Agenda in the city;
- Monitor the implementation of climate action planning articulated to municipal governance;
- Monitor the implementation of municipal



public policies and steering adjustment, if necessary, by the executive bodies in an integrated manner;

- Engage municipal servants in the implementation of the 2030 Agenda to deliver results to the city toward sustainable development;
- To provide transparency to society by disseminating the results;
- Promote social control, providing tools for monitoring and scrutinizing municipal actions.

The implementation of the PDS, under Rio Decree No. 46,078 of June 11, 2019, requires a governance structure responsible not only for monitoring the goals, but also for future adjustments in planning needed in long-term plans. It is also expected that a structure will be established for integrating the various bodies involved with well-defined routines and working methods, as well as project management and monitoring of results.

Figure 21 - Summary Picture: Recurrence of Activities

ACTIVITY	RECURRENCE
1. Sharing the progress of the PDS to the Integrated Committee for Planning and Sustainable Development	Quarterly
2. Preparation of consolidated annual reports on PDS results.	Annual
3. Annual availability of the results in a specific panel on the Participa.Rio platform, making the results public and monitorable by citizens;	Annual
4. Assessment and updates of the Plan for Sustainable Development and Climate Action	Every 5 years
5. Full PDS review	Every 10 years

Source: EPL production (pg. 522 of the PDS)



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Plan for Sustainable Development and Climate Action of the City of Rio de Janeiro

We recommend consulting the full document of the Plan for Sustainable Development and Climate Action, including its annexes, available at: <http://rio.rj.gov.br/web/planejamento/pds>

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Review

Página 22

Design and desktop publishing

Ig+ Integrated Communication

Rio

