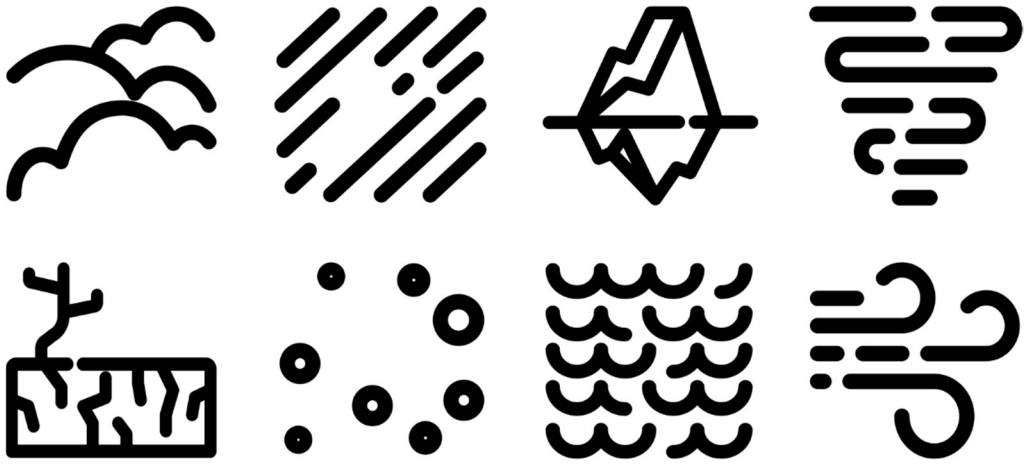
LISBON
Climate City Contract 2030



A sustainable, resilient, inclusive city that brings the climate neutrality goal forward by 2030

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Abbreviations and acronyms :

AFOLU	Agriculture, Forestry and Other Land Use
AML	Lisbon Metropolitan Area
BASIC / BASIC+	GHG emissions reporting level
TRUNK	Business as usual
BIP/ZIP	Neighborhoods and Intervention Zones Lisbon Priority
CAPEX	Capital Expenditure
CBI	City Biodiversity Index
CC	Coordination Committee
CCS	Carbon capture and storage
CCU	Carbon capture and utilization
CDP	Carbon Disclosure Project
Cen. NL	Scenario of the previous version of the Action Plan Climate 70% reduction in emissions compared to 2002
CEN.N30	Scenario Neutrality 2030 80% reduction in emissions compared to 2002
CMH	Municipal Housing Council
CML	Lisbon City Council
CO_2 e	Carbon dioxide equivalent
A.D	Decision Making Council

DM	Municipal Directorate
EIB	European Investment Bank _
IN	Municipal Company
EMAAC	Municipal Adaptation Strategy to the Changes Climate
ENAAC	National Adaptation Strategy to the Changes Climate
EU	European Union
GHG | GHG	Greenhouse gas | Greenhouse Gases
GoO	Guarantees of Origin | Guarantee of Origin
G.O.P.	Major Planning Options
GPC	Global Protocol for Community
HRC	Resources Humans and Capacities
ICLEI	International Council for Local Environmental Initiatives
ICT	Information and communication technology
IMI	Municipal Property tax
IMT	Municipal Transaction Tax
IOT	Internet of things
IP	Public Lighting
IPPU	Industrial Processes and Product Use | Industrial Processes and Product Use
IT	Information Technologies
KPI	Key Performance Indicators
LEZ	Low Emission Zone
LISBON CCC2030	Lisbon Climate City Contract 2030
MaaS	Mobility solutions as a service
MOVE Lisbon	2030 Mobility Strategy
NBS	Nature based solutions
NZC	Low Case Scenario
NZC	NetZeroCities
NGO	Non-Governmental Organizations
P-3AC	Action Program for Adaptation to Climate Change
PAAPI	Annual Activity and Multi-annual Investment Plan
PAC2030	Climate Action Plan 2030
PAESC	Action Plan for Sustainable Energy and Climate
PALB	Local Action Plan for Biodiversity
PAMUS	Sustainable Urban Mobility Action Plan
PDM	Municipal Master Plan
PGIL	Management Platform _ Lisbon Smart
PMAAC	Metropolitan Climate Change Adaptation Plan
PMIG	Municipal Plan for Gender Equality

PNEC	National Plan for Energy and Climate
POR Lisboa	Lisbon Region Operational Program
PPI	Annual Investment Plan
FOR	Affordable Income Program
PRR	Recovery and Resilience Plan
QEPiC	Climate Policy Strategic Framework
REOT	Spatial Planning Status Report _
RNC2050	Roadmap to Carbon Neutrality 2050
SDGs | SDG	United Nations Sustainable Development Goals
SECAP	Sustainable Energy Action Plans
SIADAP	Integrated Performance Assessment System for Public Administration
TGR	Waste Management Tax
TRH	Water Management Tax
GIS	Information system Geographic
ICT	Information and Communication Technologies
TVDE	Individual passenger transport in vehicle mischaracterized
UN | UN	United Nations
WG | GT	Work group
WYD Lisbon 2023	World Youth Day Lisbon 2023

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1. Lisbon Commitment Letter 2030
2. Commitment for 2030
3. Action Plan for 2030
4. Greenhouse Gas Inventory
5. Investment Plan for 2030
6. Checklist

COMMITMENT FOR 2030

C1 Introductory note

The City's Commitments and Targets

Lisbon has the vision and ambition of becoming a sustainable, resilient, inclusive, climate-neutral city by 2030, reinforcing its leadership position in climate matters both at European level and globally.

After joining the Covenant of Mayors in 2009, Lisbon has been following a path that has included signing several commitments and targets on Climate and Energy matters, including the Paris Climate Agreement goals, joining the *C40 Cities* Climate Leadership Network, and approving the Action Plan for Sustainable Energy and Climate (PAESC), which later evolved into the 2030 Climate Action Plan (PAC2030), and now into the Lisbon Climate City Contract 2030.

In 2020 Lisbon was awarded with the European Green Capital Award, distinguishing the city's transformation to improve its urban environment and climate resilience. In the wake of this distinction, Lisbon created the "Lisbon Green Commitment," namely by challenging civil society, Businesses, organizations, associations and institutions, both public and private, to join the city's climate agenda for this decade.

The 2030 Climate Action Plan (PAC2030), approved in 2022, was a strategic planning instrument for local climate action, with the aim of reducing greenhouse gas (GHG) emissions by 70% by 2030, compared to the reference year of 2002, plus the goal of achieving climate neutrality by 2050.

Lisbon's accession in 2022 to the "EU Mission on Adaptation to Climate Change" highlights the importance of climate resilience in the Municipality's strategy and its interdependence vis-a-vis other levels of governance and sectors of activity.

Presently, Lisbon remains committed to energy transition, climate adaptation, and enhancing the value of the environment, making its local contribution to the convergence of the Paris Agreement and the European Green Deal targets.

The 'Cities Mission' Challenge

The European Commission has officially launched five "European Missions," i.e., innovative initiatives to face global challenges in health, climate and environment, which include the "EU Mission for climate-neutral and smart cities by 2030," also known as the "Cities Mission." In November 2021, it invited all European cities to join this Mission, thus recognizing that cities are the territorial and administrative entities best positioned to implement policies for achieving climate neutrality.

Lisbon accepted the challenge and was selected as one of the "100 Climate-Neutral and Smart Cities by 2030." To this end, it must implement policies and measures that anticipate climate neutrality, in conjunction with other public environmental policies at a regional, national and international level, and establish itself as a centre for experimentation and innovation in the field of climate action.

This enormous challenge commits Lisbon itself, the City Council, citizens and their representatives, Businesses and institutions, research centres, the Media, and the community as a whole, to go much further in the development, implementation and monitoring the Lisbon Climate City Contract 2030 (LISBON CCC2030), which defines the path to be followed to bring the climate neutrality goal forward in the city by 2030.

To achieve climate neutrality Lisbon must equalize the total GHG emissions generated by its activities with its carbon sequestration capacity (net emissions equal to zero), which will require

substantial reductions in emissions by at least 80%, while increasing its carbon sink areas and carbon sequestration capacity, and investing in offsetting schemes (for residual emissions).

The Vision for Lisbon's climate transition is based on the following targets and objectives:

- Reduce GHG emissions by 80%, compared to 2002 (baseline), bringing the climate neutrality goal forward by 2030;
- Adapt the city to extreme climate events, by increasing its resilience to climate risks (both current and future), and its response capacity;
- Ensure a fair, inclusive transition, combating inequalities and mitigating energy poverty;
- Value participation in the "Mission 100 cities with a neutral impact on climate by 2030," as a strategy to attract new investments and talents.

To achieve this goal, Lisbon shall foster partnerships that facilitate commitments and shared responsibility for climate transition, actively involving public and private entities, research centres, Non-Governmental Organizations (NGOs), citizens, and the entire community. And it is in this context that the Sustainable Lisbon Platform (Lisbon Green Deal) plays a fundamental role.

Lisbon needs everyone

The impact of each citizen, of each organization per se, on the city's total emissions may be limited, but as a whole it can have consequences and limit or accelerate Lisbon's climate transformation.

Therefore, to achieve the Mission's goals, everyone must commit to a joint, comprehensive climate action, involving partners, public and private entities, universities, research centres, non-governmental organizations, and citizens.

Lisbon's climate action will therefore be based on the active, informed participation of the local community, Businesses, institutions, associations and civil society, in the debate, co-creation and implementation of measures and projects that can accelerate the energy transition, the sustainable expansion of energy renewable sources, first of all by investing in Lisbon's enormous solar potential, climate adaptation, environmental protection, safeguarding natural capital and ecosystem services, as well as circularity of materials.

Lisbon's climate action must also be asserted at global level, so that the city may play a relevant role in the development of public policies and business commitments, and, above all, to enhance the value of Lisbon and, along with it, that of all the organizations that are part of it, making its voice heard, and encouraging and inspiring other cities in their climate transition.

To this end, Lisbon keeps counting on all the organizations that subscribed the Lisbon Sustainable Businesses Platform, to work together within the scope of the Lisbon Climate City Contract 2030 and of its main objective, which is to bring the climate neutrality goal forward by 2030.

C2 Target: Climate Neutrality by 2030

Lisbon's approach to the 2030 climate neutrality target essentially aims to explain how the city will deal with the gap between the current GHG inventory, existing and planned measures, and the 2030 climate neutrality target.

Lisbon's **climate neutrality target for 2030** assumes a **80% reduction in GHG emissions** compared to the reference year 2002 (Baseline), with the corresponding level of **residual emissions equivalent to 20%** of emissions compared to 2002. This option takes the following into account:

- GHG emission inventories (GPC methodology) and emission scenarios for 2030, prepared within the scope of **current and planned climate policy instruments**;
- **The reduction targets already established** within the scope of instruments already developed and in force (PAC2030);
- The need to define a set of **additional measures** (considering a joint strategy of mitigation, adaptation, and some transversal measures) in order to — together with the measures already implemented, under implementation, and planned — **bring forward the neutrality target by 2030.**

The 2030 climate neutrality target **includes the entire Municipal territory**, and covers the 'GPC BASIC' reporting level, including **Scope 1, 2 and 3 emissions (waste)**.

Figure 1 illustrates Lisbon's approach to the climate neutrality scenario for 2030. All three 2030 Lisbon PAC scenarios (defined in a top-down approach) point to an emissions reduction (compared to the 2002 baseline) between 58% (Cen.B - BAU) and 71% (Cen.NL). Bringing forward the neutrality target implies an additional reduction (Cen.N30).

To meet the neutrality target, Lisbon must achieve at least an **80% reduction; which corresponds to an emission level, in 2030, of 747 ktCO2e** (80% reduction compared to 2002; or 61% compared to 2019). Therefore, **additional reductions in the amount of 352 ktCO$_2$e** ('GAP' compared to existing and planned policies) will be required.

Figure 1 — Climate Neutrality Scenario in 2030 (illustrative diagram)

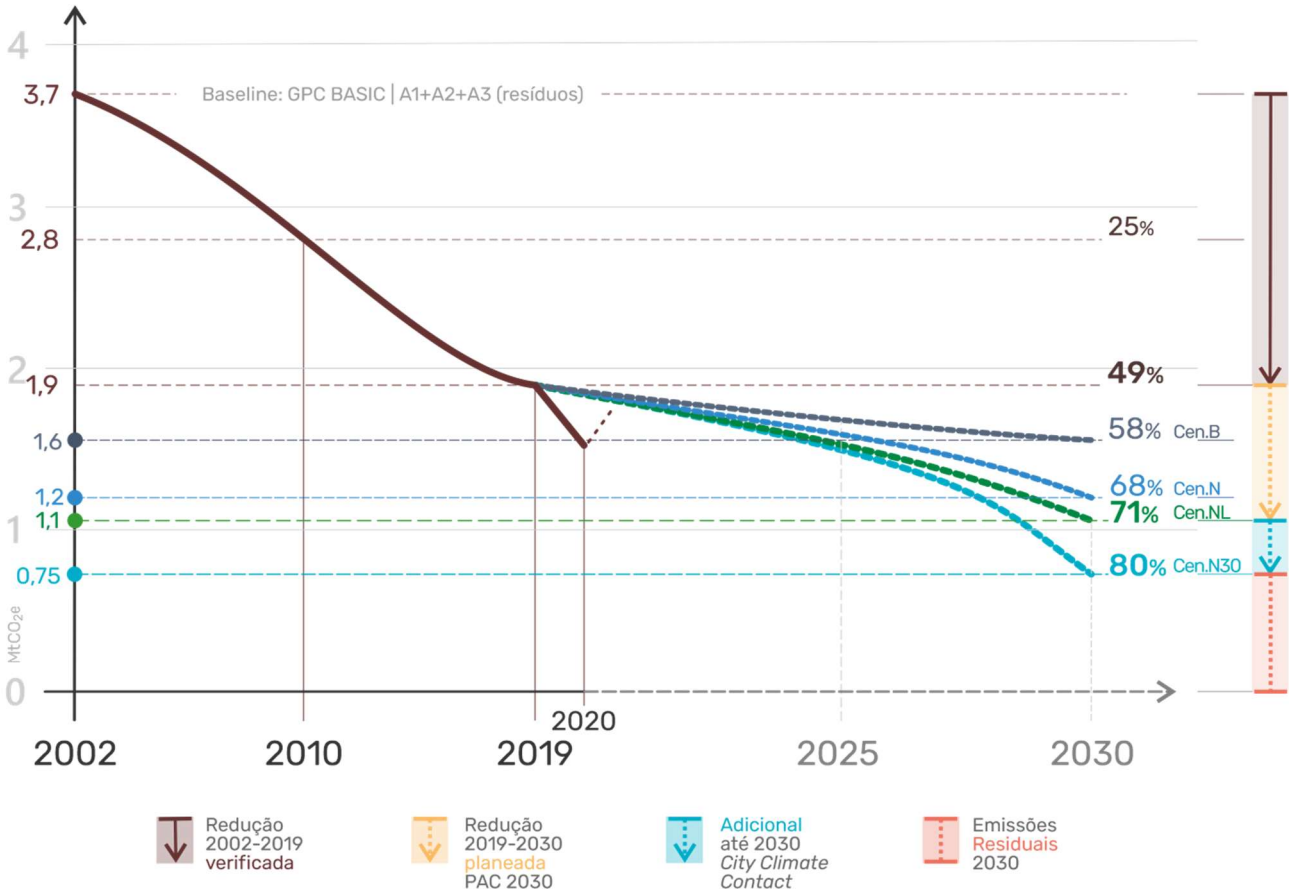


Table 1 — Existing/Planned Sectorial Emissions Scenario (Optimistic 2030 Lisbon PAC scenario) and Estimated Additional Reduction (2030 neutrality scenario)

Emissões	**Baseline**	**Atual**	**Cen.B**	**Cen.NL**	**N30**	
	2002	**2019**	**BAU 2030**	**2030**	**2030**	Adicional
Setor	$ktCO_2e$	$ktCO_2e$	$ktCO_2e$	$ktCO_2e$	$ktCO_2e$	$ktCO_2e$
Trans.		845	779	589		
Serv.		585	388	198		
Res.		284	241	192		
Ind.		104	96	67		
Agri.		9	5	4		
Re/ Ar		86	62	49		
Total	**3 737**	**1914**	**1570**	**1099**	**747**	**-352**
redução face a 2002	$ktCO_2e$	-1823	-2 167	-2 638	-2 990	
redução face a 2002	%	-49%	-58%	-71%	-80%	
redução face a 2019	$ktCO_2e$	-	-344	-815	-1 167	-352
redução face a 2019	%	-	-18%	-43%	-61%	

The city of Lisbon has a vision and ambition regarding its priorities in terms of climate action and respective strategic interventions:

1. Recreate a new governance paradigm capable of promoting solutions that reduce dependence on personal vehicles in favour of public transport and a fair transition to a city model based on proximity and that leverages new soft mobility technologies.

2. Foster the development of an integrated, connected, accessible multimodal ecosystem, integrating active, public and shared transport modes, in order to make life easier for Lisbon residents, promoting efficient and comfortable mobility, focused on their needs, while being sustainable at the same time.
3. Reduce commuting traffic entering Lisbon, by building dissuasive parking lots on the outskirts of the city, evolving towards a more attractive and multimodal typology, in conjunction with neighbouring Municipalities.
4. Optimize school, university and business traffic flows:
    - Adopt new work policies in CML institutions, with an impact on mobility standards;
    - Promote new workplace mobility policies with major employers to reduce commuting and peaks during rush hours.
5. Promote electric mobility by increasing charging stations and dedicated locations for innovative projects.
6. Improve accessibility to public transport, continuing with the tariff changes already introduced, such as the creation of a single, low-cost metropolitan transport ticket, with free access for children up to 12 years of age and for citizens over 65.
7. Adopt best practices in urban smart strategies, where data, technology and connectivity can allow more accurate planning, reaching a larger number of users.
8. Continue with the development of the Sustainable Lisbon Platform, the City's mobilization forum, Citizen's Council, with a view to co-deciding the city's shared sustainability goals, mobilizing citizens, Businesses, confederations from all sectors with relevant activity in the city, NGOs, neighbourhood associations, universities and school representatives at all levels of education.
9. Keep implementing measures that promote energy transition through:
    - Improved energy performance of buildings and other facilities;
    - Increase the number of electric vehicles;
    - Installation of LED lamps in all street lighting poles;
    - Improve the thermal insulation of buildings, particularly residential buildings, reducing expenditure on electricity consumption and increasing the thermal well-being and environmental health of its inhabitants;
    - Democratize access to the production of electrical energy from renewable sources, by encouraging the creation of producer cooperatives and supporting existing ones.
10. Continue with the Solar City programme, taking advantage of the city's natural potential for this resource, namely by:
    - Increasing the installed capacity of photovoltaic solar energy;
    - Promoting photovoltaic systems for self-consumption in social housing buildings, schools, and hospitals;
    - Producing photovoltaic energy on municipal pilots and buildings/facilities to supply collective public transports.

11. Establish the Lisbon Commitment for environmental and climate policies, programmes and actions in the city, namely by:
    - operationalizing the Municipal Environmental Advisory Council;
    - coordinating and promoting municipal environmental management with other public environmental policies at a regional, national and international level.
12. Keep implementing the adaptation measures defined under the municipal climate action strategy, with emphasis on the integration of response measures to the heat island, temperature extremes (maximum and minimum), water scarcity, protection against inundations and floods, namely by:
    - Consolidating and implementing nature based solutions (NBS) for water retention and re naturalize water lines;
    - Adapting the city to climate change with measures from the “cool down the city” programme as a strategy to mitigate the effects of the “Urban Heat Island” by increasing soil permeability in the consolidated city with the presence of trees in streets and squares, and by reinforcing water masses;
    - Continuing to establish rules that impose green roofs and encourage vertical gardens;
    - Continuing with the “Water for All” Plan, by placing drinking fountains in all gardens, parks and squares;
    - Continuing with the investment strategy in urban planning focused on concerns associated with climate change scenarios.
13. Continuing with Water Efficiency measures, namely by:
    - Monitoring water consumptions and controlling the quality of this resource (drinking, reclaimed, underground, recreational, ornamental and spring water);
    - Implementing the recycled water programme for irrigation and street cleaning;
    - Investing in new solutions for using rainwater and other water solutions.
14. Promote Environmental Enhancement and the Circular Economy in Lisbon, namely by:
    - Adopting “Sustainable and Circular Public Procurement” in Lisbon City Council departments;
    - Distinguishing hotels and restaurants that meet environmental and energy sustainability criteria, by creating a “Green Facility” award.
15. Introducing a municipal policy for reducing waste production.
16. Increasing recycling, improving the quality of materials, and reinforcing the concept of circular economy.
17. Strengthening the ongoing strategy of Education for Sustainability, and Fostering Climate Literacy.
18. Involving citizens in decision-making and promoting their participation in the design and experimentation of different adaptation solutions.
19. Taking actions, aimed at creating the necessary conditions to achieve climate resilience and contribute to the achievement of the European objectives of the "EU Mission for climate-

neutral and smart cities" and of the "Adaptation to Climate Change Mission," with emphasis on:

- Using the best available knowledge for carrying out analyses of current climate risks and those predicted to be amplified by climate change in the city of Lisbon, and promote public access to the results;
- Using such knowledge to support the community, citizens, entrepreneurs, researchers and political decision-makers in designing and implementing adaptation measures;
- Supporting the demonstration and application of innovative adaptation solutions;
- Participating in exchanges of experiences and collaborative activities with other cities and regions.

C3 Principles, Priorities, and the Participatory Process

Fulfilling the commitments undertaken by Lisbon for climate neutrality by 2030, with a direct impact at national and international level, constitutes a quite ambitious strategy not only for the City, but also for the organization itself and its employees, all its inhabitants, workers, students, and also the visitors who seek it. By taking on these commitments, Lisbon is taking co-responsibility in meeting the decarbonization and climate change adaptation goals, which impose:

- Bringing forward to 2030 actions and measures defined by the PAC2030 for 2050;
- Implementing additional actions and measures to reinforce mitigation, adaptation and transversal interventions in response to current and future challenges;
- Rethinking the municipal budget, prioritizing planned actions and monitoring the respective implementation stages;
- Continuing with the integration of financing from public (own revenues, subsidies and contributions), EU, and private (including loans) sources into the multi-annual investment plan for the coming years;
- Prioritizing structuring projects, based on integrated, scalable and replicable actions, with scrupulously monitored schedules to allow for their timely completion;
- Pursuing the Lisbon Participates strategy, with specific, inclusive, innovative, diversified actions, allowing the involvement of citizens, Businesses, universities and other key actors in the construction of the Lisbon ecosystem;
- Continuing with the commitment aimed at Businesses and organizations, a strategy of joint mobilization in decision-making regarding the prioritization of investments and interventions to be followed;
- Continuing with the strategy of individual and social accountability;
- Making the Lisbon City Council more sustainable, resilient, a driver of change, and an accelerator of leadership.

The joint commitment already includes the involvement of the Municipality of Lisbon, society and of citizens themselves, fundamental pieces for the implementation of the respective Climate City Contract based on the key principles of accountability, transparency, justice, inclusion, innovation, and co-creation.

The key actors already involved and to keep involving include political decision-makers, technical officers, researchers, experts, the Media, representatives of citizens, minorities, men and women, young people, and families, both national and foreign.

To this end, there are several ongoing citizenship initiatives that call for everyone's participation in Lisbon's commitment to carbon neutrality by 2030.

Lisbon, a sustainable, resilient, inclusive, fair city that is accelerating climate neutrality until 2030

The challenge is launched through programmes, services, community initiatives and protocols with the involvement of multiple players and citizen representatives, which call for participation and training in the fields of environment, sustainability, climate resilience, energy, circular economy, citizenship, and participation. It is worth highlighting the Citizens' Council, the Participatory Budget, municipal meetings, municipal councils, collaborative networks, the Lisbon Commitment Agenda – Climate Action 2030, systematizing the work carried out or in progress by all of the municipality's Units, and the Sustainable Lisbon commitment. It is also worth noting the regular adherence to European and national initiatives in the field of sustainability awareness, such as the European Car-Free Day or the National Sustainability Day.

Based on exhaustive monitoring, it has been possible to overcome barriers, promote the city, and reinforce joint learning.

C4 Signatories and Stakeholder Commitments

The joint commitment to bring forward climate neutrality to 2030 includes the involvement of the Municipality of Lisbon, society, and of citizens themselves, all of which are critical pieces for implementing the respective Climate City Contract 2030 based on the key principles of accountability, transparency, justice, inclusion, innovation, and co-creation.

The key actors already involved and to keep involving include political decision-makers, technical officers, researchers, experts, the Media, representatives of citizens, minorities, men and women, young people, and families, both national and foreign, all of which have an active, facilitating role.

Based on the assumption that “more active citizens strengthen local power”; Lisbon bases the development of its Climate City Contract 2030 on participatory processes with involvement at all levels, namely, neighbourhoods, parishes, the city itself, the metropolitan area, the country and the EU. The challenge is launched through programmes, services, community initiatives and protocols with the involvement of multiple players and citizen representatives, calling for participation and training in the fields of environment, sustainability, climate resilience, energy, circular economy, citizenship and participation. Several ongoing initiatives are worth being highlighted, such as the Citizens' Council, the Participatory Budget, the municipal meetings, the municipal councils, and collaborative networks.

Internally, the Lisbon Commitment Agenda — Climate Action 2030 systematizes the work carried out or ongoing by all the municipality's Units and the Sustainable Lisbon commitment, with 237 commitments already made.

Figure 2 — Climate Change on the Lisbon Participates Platform — Commitments and Strategy in Numbers

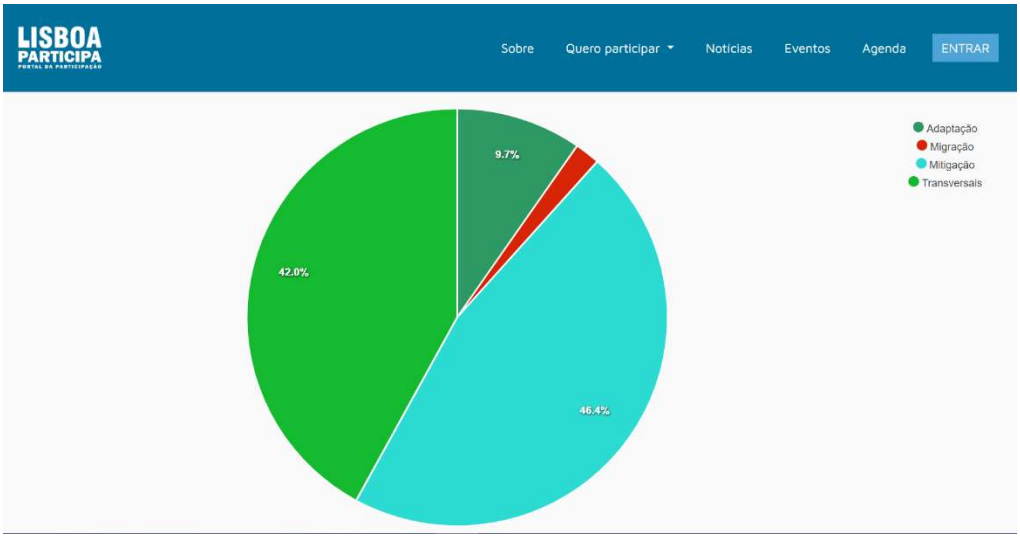
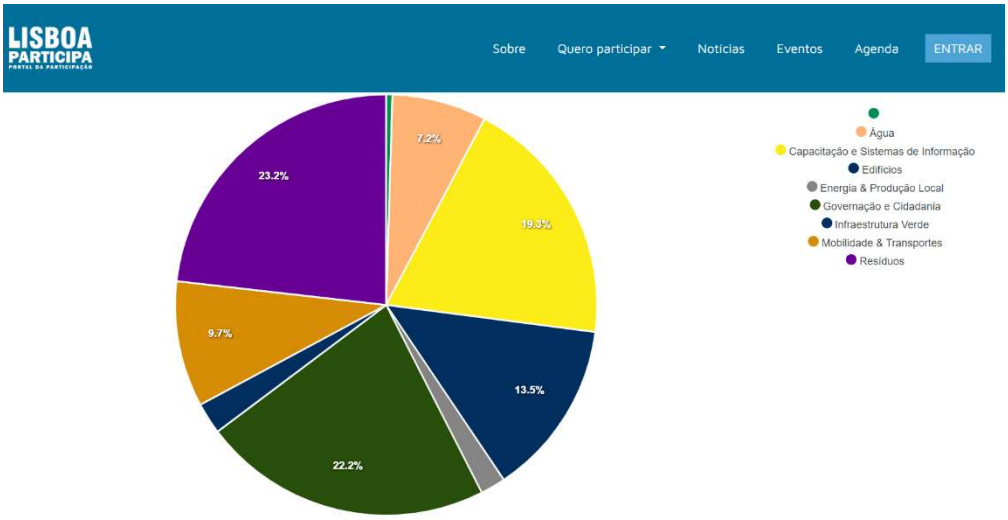


Figure 3 — Climate Change on the Lisbon Participates Platform — Commitments by Area of Intervention



The Lisbon Sustainable Business Platform (Lisbon Green Deal) is a commitment for the decade of 2020-30 in which Businesses and organizations pledge — within the scope of their activity — to actively contribute to the city's sustainability goals.

Figure 4 — Lisbon Sustainable Businesses Platform, in numbers (Commitments)

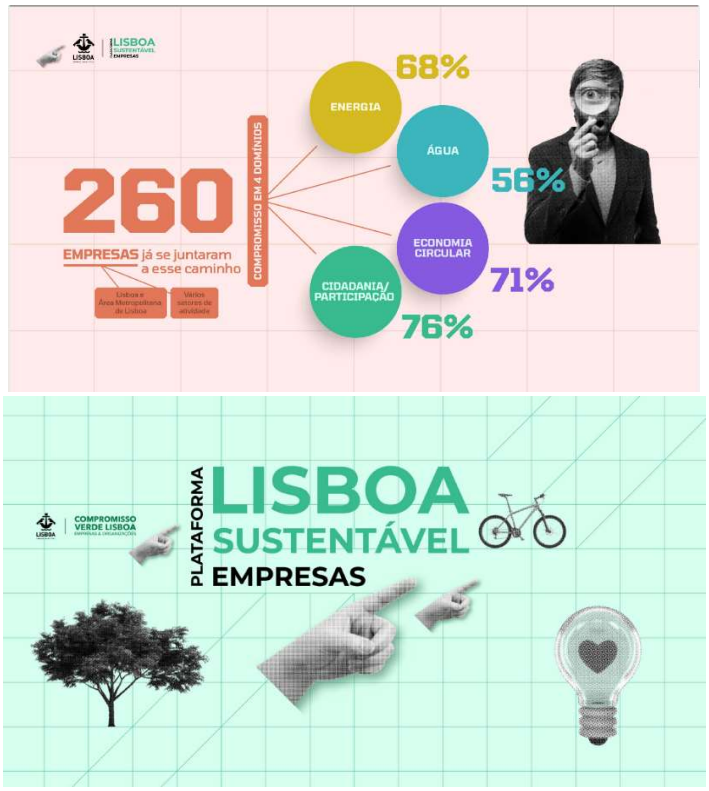
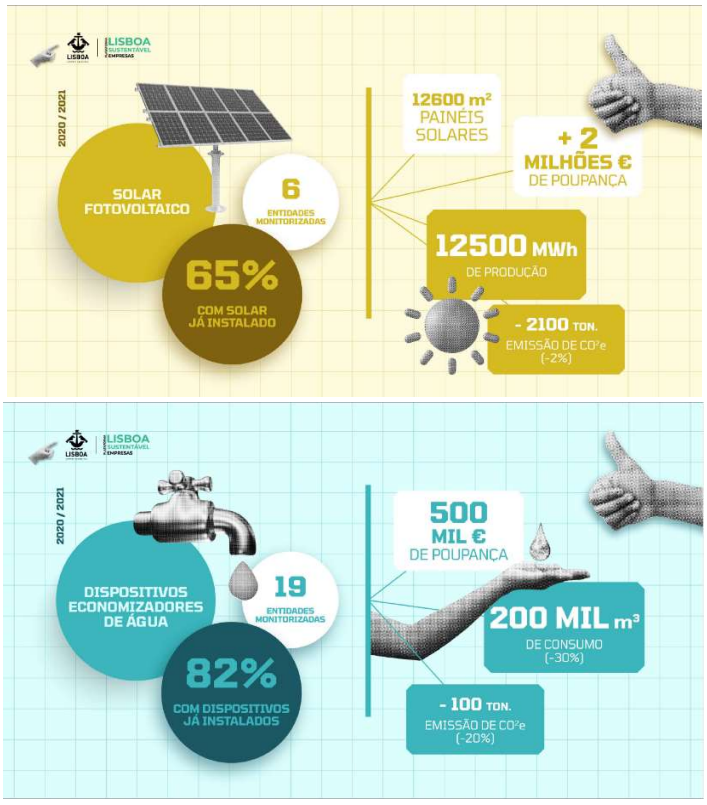


Figure 5 — Lisbon Sustainable Businesses Platform, in numbers (Energy and Water)



The 2030 Lisbon Climate Action Commitment should be understood not only as a formal mechanism, such as the one signed by about 260 entities, but also as an informal mechanism, which uses various

instruments to achieve the city's objectives, fostering partnerships that facilitate commitments and shared responsibility for climate transition, and actively involve public and private entities, research centres, NGOs, citizens and others.

The Commitment undertaken by Lisbon under this Climate City Contract is aligned with the Sustainable Development Goals (SDGs) described in the Local SDG Platform.

Figure 6 — Sustainable Development Goals

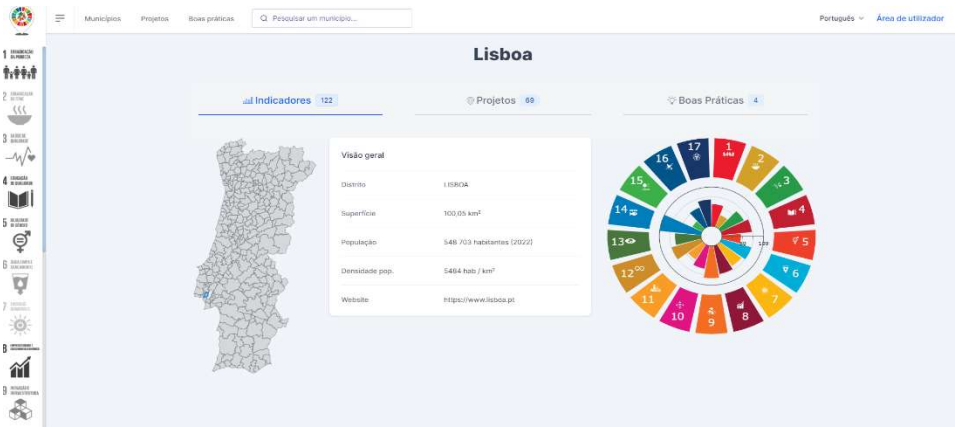


Table 2 summarizes data on the Commitments under the Sustainable Lisbon Platform and frames them in the context of the Lisbon Climate City Contract 2030.

Citizen involvement, through 2 Citizen Councils, demonstrates a clear position regarding the importance of their participation in designing and implementing climate policies. This is an innovative, differentiated initiative for citizen participation, inviting the co-construction of proposals for the city of Lisbon. It was launched in 2022 by the executive of the City Council of Lisbon, as the first assembly of citizens organized locally, with the 1st edition focused on "Climate Change," and the 2nd edition on the "15-Minute City," which, considering its success, will continue in future editions.

The Volunteering Bank project for the City of Lisbon emerged in 2003 and works by publicizing the link between supply and demand for volunteering opportunities, supporting the recruitment of volunteers and their placement in projects. It also promotes, in collaboration with other local, national and international entities, initiatives aimed at reflecting on, sharing and disseminating best practices in the field of volunteering.

An initiative of the Lisbon City Council, its guidelines include an active policy for social inclusion, boosting coordination with public and social partners, creating a support network and providing an opportunity for civic participation.

Volunteering focuses on several areas, with emphasis on the environment, with specific actions, scheduled at the request of interested parties that, in an articulated way, allow participants to collaborate in environmental conservation tasks, cleaning, and maintenance of green areas, among other volunteer services.

The action in Lisbon is part of other inclusive initiatives involving the participation of different organic units directed towards various vulnerable groups and their representatives in support of the definition of inclusive municipal policy. This policy is inseparable from climate resilience and carbon neutrality, with co-benefits at the social, economic, environmental, health, biodiversity, and ecosystem levels, among others. In this context, in addition to the previously mentioned initiatives, the following stand out:

- BIP/ZIP Program: Targeted at the population of neighborhoods and Priority Intervention Areas of Lisbon, created in 2011 by the municipality as a tool for municipal public policy. Its aim is to stimulate partnerships and small local interventions to improve the habitats covered. This is done by supporting projects carried out by parish councils, local associations, collectives, and non-governmental organizations, contributing to the strengthening of socio-territorial cohesion in the municipality (Energia BIP/ZIP: BIP/ZIP Program (lisboa.pt)).
- One Square in Each Neighborhood: Directed at local interventions in public spaces, the program proposes to organize a meeting point for the local community based on a square, street, commercial area, neighborhood garden, or an existing or planned collective facility (Câmara Municipal de Lisboa, Urbanism, Public Space, One Square in Each Neighborhood - MUNICÍPIO de LISBOA).
- Municipal Housing Council (CMH): Established as an advisory space for participation and dialogue that allows the Municipality of Lisbon to permanently and structurally listen to all social partners in the housing sector. It responds to the right to housing enshrined in Article 65 of the Portuguese Constitution. The council includes relevant partners such as residents' associations, cooperatives, property and tenant associations, municipal deputies from various political forces, various civic organizations, among others.
- Municipal Council for Interculturality and Citizenship: Instrument for reinforcing immigrant integration policies, respecting different identities, integrating various associations, and promoting their active participation in the civic life of the city (Participation - Citizenship (lisboa.pt)).
- Municipal Council for the Inclusion of Persons with Disabilities: Aiming to promote and value the citizenship and participation of people with disabilities and their non-profit organizations representing the Municipality of Lisbon. This is in the construction of city policies and the implementation of policies and measures facilitating their social inclusion (Participation - Citizenship (lisboa.pt)).
- Municipal Plan for Gender Equality (PMIG): An action plan for the promotion of gender equality supported by a Local Gender Equality Diagnosis in the Municipality of Lisbon. It is the result of the demands of partner entities of the Equality Working Group of the Municipal Council for Equality (PMIG_13agosto2020 (lisboa.pt)).
- Social Network of Lisbon: A program with the purpose of combating poverty and promoting social inclusion from a local social development perspective. It is based on broad, effective, and dynamic partnership work and aims at the strategic planning of social intervention coordinated among different agents for local social development (Participation - Citizenship (lisboa.pt)).

At international level, twinning and connecting Lisbon to other cities cements relationships of exchange, cooperation and solidarity, contributing to fostering mutual trust, friendship and understanding at both personal and civic level. It also helps celebrate and strengthen the strong historical and cultural ties that unite cities, and to recognize mutual interests in trade, industry and education, among many other areas.

Taking up joint responsibility for meeting the decarbonization and climate change adaptation targets, agreed by the Municipality of Lisbon at local, regional, national and international levels, constitutes an ambitious strategy launched by the city, for the city. Only with continued, quality, innovative, inclusive, efficient involvement has the Municipality and its employees, the various levels of government, the private sector, citizens, other cities and regions, academic and research institutions, the Media and others, taken definitive steps on the path to climate neutrality, without losing identity.

The key actors, already committed with the Municipality of Lisbon, united to share responsibilities and overcome targets are described in Annex 1B_LXcommitments.

This responsibility is joined by the various departments and respective employees of the Lisbon City Council, as well as by municipal Businesses, public and private entities, and research centres that have already signed the commitment to implement initiatives leading to lower emissions and climate resilience.

Table 2 — Systemic Transformation: Emissions Impact Sectors-Domains

	MITIGATION				ADAPTATION				CROSS-CUTTING	
SECTORAL IMPACTS SYSTEMIC TRANSFORMATION: EMISSIONS IMPACT SECTORS-DOMAIN	TRANSPORT & MOBILITY	BUILDINGS	ENERGY AND LOCAL PRODUCTION	WASTE	GREEN INFRASTRUCTURE	WATER	TERRITORY PLANNING AND PUBLIC SPACE	SAFETY OF PEOPLE AND PROPERTY	CAPACITY BUILDING AND INFORMATION SYSTEMS	GOVERNANCE AND CITIZENSHIP
***Plataforma Lisboa Sustentável* Businesses**										
No. of Commitments *Plataforma Lisboa Sustentável* - Companies	33	29	156	150	7	123		1	11	153
Number of actions *Plataforma Lisboa Sustentável* Businesses	70	37	408	493	7	245		1	12	487
Public entities involved	3	7	36	19	1	29		1	4	116
Business/Private Entities involved	28	19	107	119	4	82			5	24
Research & Development involved	2	3	13	12		12		1	3	13
Municipal Council Responsible Department	Municipal Mobility Directorate	Municipal Directorate of Maintenance and Conservation / Municipal Directorate of Housing and Local Development	Municipal Directorate of Maintenance and Conservation	Municipal Directorate of Urban Hygiene	Municipal Directorate of Environment, Green Structure, Climate and Energy	Municipal Directorate of Environment, Green Structure, Climate and Energy	Municipal Directorate of Urbanism	Civil Protection Municipal Service	Lisbon Urban Management and Intelligence Center / Department of Information Systems	Office of the President of CML / Municipal Directorate of Environment, Green Structure, Climate and Energy
Lisbon City Climate Contract										
Number of actions	29	12	5	4	13	13	17	1	15	21
Investment (M€)	1556,5	2327,0	75,0	180,0	186,0	564,7	73,0	1,0	51,9	39,5

As a complement to this challenge, many other institutional relationships, partnerships, signed agreements and shared responsibility movements have also joined, which have contributed to the 2020-30 commitment.

With this joint effort, it is estimated that Lisbon will keep bringing down its emissions, as a result of the implementation of strategic measures, regional, local and neighbourhood initiatives, and the adoption of more environmentally friendly behaviours. At the same time, it will keep improving the quality of life of its population, maintaining the city's identity, reinforcing biodiversity and less artificialized ecosystems, ensuring the continuity of existing resources.

Given their great diversity, commitments were classified by governance level as local, national, and international, thus demonstrating the relevant interdependencies that exist to deconstruct sectoral and territorial “silos”.

Local Level

1. 238 Commitments by Units of the Municipality
2. 5 Municipal Businesses: joint responsibility and pledges for shared management
3. 12 Organizations with municipal participation: joint responsibility and pledges
4. 24 Parish Councils
5. Citizen Council
6. Volunteer Bank for the City of Lisbon
7. Other Initiatives (Municipal Councils for Housing, Interculturality and Citizenship, Inclusion of Persons with Disabilities, Municipal Plan for Gender Equality, and Social Network of Lisbon):

National Level

8. 260 Businesses and Organizations
9. Climate Action Protocols

International Level

10. Twinning Agreements
11. Cooperation and/or Friendship Agreements
12. International Organizations

Investing in daily communication, the Municipality provides updated information on its official website through the following links:
https://lp.lisboaparticipa.pt/compromisso/em-numeros
https://lisboaparticipa.pt/pt/lisboa-sustentavel-empresas
https://cidadania.lisboa.pt/participacao
https://cidadania.lisboa.pt/participacao/conselho-de-cidadaos

At the same time, alternative communication channels are available, with emphasis on Social Networks.

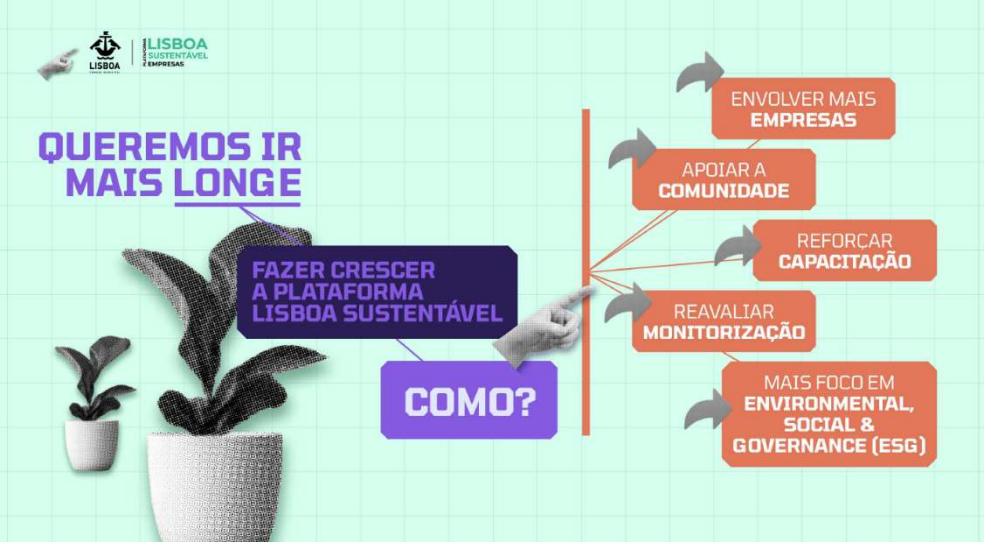
The periodic monitoring system being developed by the Municipality of Lisbon will help evaluate the execution of its Climate City Contract in terms of commitments. This system is described in item AP4 B-3 Monitoring, Evaluation and Learning Indicators. It is expected that it will be reviewed every 2

years. At each review, a status assessment will be carried out, accompanied by the publication of interim progress reports.

Future Developments

It is important to note that the development of the 2030 Commitment Plan, as a key element of this Climate Contract, will continue to be in line with the Action Plan and with the Investment Plan.

Figure 7 — Lisbon Sustainable Platform, in Numbers



The next steps include:

- Strengthening the project team, with greater proximity in daily work;
- Investing in inclusive, fair participation;
- Reinforcing the commitments signed with and for the Municipality, both internal and external to the Municipality, based on what is proposed in this Lisbon Climate City Contract 2030 ;
- Increase monitoring based on KPIs to evaluate performance and innovation;
- The continued implementation of a communication plan aimed at different audiences, based on different channels.

Serving People

Lisbon, by continuing to engage in politics with the people, will reinforce the strategy of participation, involvement and mobilization of its citizens around common objectives and commitments, in designing solutions to respond assertively to the city's main problems, which are seen as priorities, such as climate challenges.

This ongoing municipal strategy, aimed at climate change, will continue to value the active citizenship component and the involvement of different actors, with strong investment in participatory processes at different levels of governance, in which discussion and co-decision making will play a central role in the future of the city, parishes, and neighbourhoods of Lisbon.

C5 2030 Lisbon Climate Contract

The draft Commitment Letter can be found in Annex 1A_LXcommitments__com_contrato. For illustrative purposes, the agreement signed between the Lisbon City Council (CML) and CARRIS (public passenger transport company, managed by Lisbon municipality) is shown in the annex.

2030 Action Plan

AP1 Introductory Note

Cities currently have an increased responsibility in creating solutions for change and must establish themselves as innovative, scalable, replicable centres in responding to current and future climate challenges.

Lisbon, as a city and experimentation centre, has the responsibility, capacity, and ambition to strengthen its leadership in this climate process, side by side with the cities that have joined the “EU Mission for climate-neutral and smart cities by 2030," which have jointly committed to carbon neutrality by 2030. These cities are joined by other cities, at both European and global level, which are also leaders.

Ensure that Lisbon becomes a sustainable, resilient, inclusive, fair city:

- requires continued, joint involvement, action and investment to exceed the agreed targets,
- ensures reinforcing the city’s position,
- obliges us to do so with and for citizens.

With this vision, Lisbon took up the commitment — along with its citizens, employees, residents, students, tourists and visitors — of reviewing the PAC2030, currently in force, and to implement a new Climate Contract. More ambitious, in terms of Action, Investment, Commitment and Involvement, in order to achieve climate neutrality by 2030. To this end, a strategy to reduce climate emissions by 80% by 2030, and a target of neutrality by 2050 is required.

With this framework, Lisbon intends to comply with what is set forth in the Climate Base Law, regarding the mandatory approval of its Municipal Climate Action Plan.

Making change and serving people requires a commitment to keep making Lisbon into a more participatory city, a more sustainable city, a supportive city that invests in health and education, a city of culture, economy and innovation, a safe, resilient city that responds to the challenge of being one of the 100 European cities that have committed to being carbon neutral by 2030. This is the strategy for Lisbon 2030, based on 6 interconnected strategic pillars responding to climate challenges.

AP2 A shared, enriched Mission with over 20 years of initiatives valuing the Environment and Climate Action

The commitments undertaken by Lisbon, within the scope of Climate Change, and the results of their implementation are as follows:

- In 2009, Lisbon signed the Covenant of Mayors, an initiative focused on mitigating emissions (Resolution No. 994/CM/2008, published in Municipal Bulletin No. 772);
- In 2014, Lisbon signed the Mayor's Adapt declaration an initiative aimed at adapting to climate change in urban areas (Resolution No. 468/CM/2014, published in Municipal Bulletin No. 1067);
- In 2015, Lisbon signed the Compact of Mayors initiative, the largest global platform of cities aimed at promoting the reduction of emissions, monitoring the progress achieved, and preparing for adaptation to climate change (Resolution No. 571/CM/2015, published in Municipal Bulletin No. 1128);

- In 2016, Lisbon signed the Covenant of Mayors for Climate and Energy, thus committing to reducing CO_2 emissions (and possibly other greenhouse gases) in its territory by at least 40% by 2030 (Resolution No. 331/CM/2016, published in Municipal Bulletin No. 1168);
- Also in 2016, it developed and approved the Local Action Plan for Biodiversity (PALB, 2016);
- In 2017, Lisbon approved the Municipal Strategy for Adaptation to Climate Change (EMAAC), in the context of the "ClimAdaPT.local" project, intending to integrate the strategy into municipal planning tools, as well as to empower municipal services and to integrate local actors (Resolution No. 232/AML/2017, published in the 4th Supplement to Municipal Bulletin No. 1224);
- In 2018, Lisbon approved the Action Plan for Sustainable Energy and Climate (PAESC), a mandatory instrument under the Global Covenant of Mayors for Energy and Climate. The PAESC brings together, frames and proposes, with regard to climate mitigation, a set of strategic objectives and targets in the areas of reducing emissions and primary energy consumption, and reviews the commitment to reduce CO_2 emissions by 60% by 2030 (Resolution No. 241/AML/2018, published in the 5th Supplement to Municipal Bulletin No. 1271);
- In 2019, Lisbon signed the "Deadline 2020 — Commitment to the Climate *Action* Plan" established by the C40 network to support the implementation of the Paris Agreement that establishes 2020 as a target for defining and starting to implement climate action plans to limit the increase in global average temperatures to 2ºC compared to pre-industrial levels, and to make all efforts to limit the temperature increase to just 1.5ºC (Resolution No. 007/AML/2019, published in the 2nd Supplement to Municipal Bulletin No. 1304);
- Also in 2019, Lisbon joined the C40 Cities Climate Leadership Network, following the approval of its application by the C40 Steering Committee, within which it committed to developing the PAC2030, an instrument focused on 4 major pillars — Mitigation; Adaptation; Benefits, Inclusion, Equity and Fair Transition; Governance, Resources and Mobilization (Resolution No. 183/AML/2019, published in the 2nd Supplement to Municipal Bulletin No. 1316);
- Also in 2019, on a regional scale, and within the specific scope of adaptation, the city of Lisbon — among the 18 municipalities in the Lisbon Metropolitan Area — signed the commitment to adapt the Metropolitan Area of Lisbon (AML) to climate change, according to the action principles of the Metropolitan Adaptation Plan to Climate Change. Recognizing the global climate emergency, the signatories consider that it is urgent to adapt the metropolitan territory to climate change and to reduce its vulnerabilities, as well as the exposure of communities to risks, acting in a continuous, articulated manner at intermunicipal level;
- For the purpose of submission to public consultation and subsequent submission to the Municipal Assembly, Lisbon has approved the PAC2030 in 2021, which reflects the "one-decade commitment" to making the Portuguese capital a "neutral, resilient, inclusive" city. This Plan reinforces the GHG reduction target for 2030, accelerating the initial path to neutrality by 2050. Lisbon thus establishes a more ambitious target of a 70% reduction of its emissions by 2030 compared to the base year of 2002 (Resolution No. 443/2021, published in the 1st Supplement to Municipal Bulletin No. 1429);
- In 2022, the PAC2030 was unanimously approved, a strategic instrument for the Municipality's climate policy and strategy in force;

- That same year, Lisbon was selected to join the “EU Mission for climate-neutral and smart cities”, thus joining a group of 100 cities committed to finding joint solutions, and to positioning themselves at the forefront of innovation and of transition to climate neutrality by 2030.
- Also in 2022, Lisbon joined the "Mission Adaptation to Climate Change: challenges and opportunities for regions and communities," thus joining the first 118 regions and local authorities eligible to sign the Mission Charter.
- In 2023, Lisbon is appointed as mentor city for the "Intelligent Cities Challenge community," a European Commission initiative that supports European cities in the green and digital transition of their local economies, through local green deals.
- Within the scope of the 'Cities Mission,' Lisbon is preparing the approval of the Climate City Contract, which represents a set of commitments aimed at fulfilling the climate neutrality goals by 2030, co-created with various stakeholders and interested parties, and supported by the 2030 Action Plan for Climate Neutrality, by the 2030 Investment Plan for Climate Neutrality, and by the 2030 Investment Plan for Climate Neutrality. The Lisbon Climate City Contract 2030 is an updated, strategic, flexible document, aligned with the PAC2030 and with other key instruments of the Municipality, such as the current 'Major Planning Options' (GOP), and with other strategic guidelines for the region and the country, centred on climate action.
- Like other intersectoral action strategies adopted by the city of Lisbon, identified in the '*Climate-Neutral and Smart Cities Mission Call for Expression of Interest*,' considered relevant to the area of climate action and for the reduction of GHG emissions, it is important to mention the Sustainable Urban Mobility Action Plan (PAMUS) and the strategy for Mobility 2030 (MOVE Lisbon). “The option for smarter mobility that ensures maximum accessibility with minimum impacts has become a critical commitment for Lisbon. The city has already implemented many measures promoting more sustainable mobility.”
- It is also worth highlighting the alignment of the climate strategy with the 'Plan for the Improvement of Air Quality in the Lisbon and Tagus Valley Region,' a mandatory legal document for the city of Lisbon, as a urban conglomeration whose levels of one or more pollutants are found to be higher than the limit values, requiring the preparation of the respective execution programme, defining the actions to be carried out, their respective schedule, as well as the identification of the entities responsible for their execution, as well as the indicators for assessing their effectiveness.

Lisbon’s commitment to climate action is also visible at international level

As previously described, and in addition to what has been mentioned above, it is important to mention that the continued work with international networks, projects, partnerships and protocols prove the climate policy adopted by the Municipality, whose dissemination and sharing, carried out through different communication channels and media, reinforces the ongoing policy and helps it to secure a leadership position.

It is important to highlight that Lisbon is an active member of the Covenant of Mayors for Climate and Energy, under which the city approved and submitted its Action Plan for Energy and Climate. It also participates in various networks, such as ICLEI — Local Governments for Sustainability —, EUROCITIES — a network of European cities for the development of common projects —, *the Urban Water* Agenda 2030, and C40 Cities, which are critical points for sharing and learning best practices and for agreeing on articulated climate policies, with a focus on resilience and sustainability.

By joining the C40 city network in 2019, Lisbon committed itself to global mobilization and climate emergency, by signing the following documents:

- "*Deadline 2020*" — Commitment to the Climate Action Plan [Jan 2019];
- "*Global Green New Deal*" [Oct 2019];
- "*C40 Clean Air Cities*" Declaration [Oct 2019];
- "C40 *Clean Air Accelerator*" Declaration (2021);
- "C40 Renewable Energy Accelerator" Declaration (2022)
- "*C40 Water Safe Cities Accelerator*" Declaration (intended to be signed in Oct 2023).

The European Commission, by officially launching five European Missions, and Lisbon, by embracing two of them, places in the hands of the city and of its citizens, some of the most ambitious challenges defined to date, namely the construction of "Smart Cities with a neutral impact on climate" and the local response to "Adaptation to Climate Change".

Within the scope of Missions:

- On January 27, 2022, Lisbon signed the Commitment with the "*EU Mission on Climate-Neutral Smart Cities";*
- On December 15, 2022, Lisbon signed the City of Lisbon Charter for "Adaptation to Climate Change Mission";
- On April 13, 2023, Lisbon submitted the Letter of "*Support to the Mission on Climate-Neutral and Smart Cities' to be addressed to the Project Group of Commissioners on Research and Innovation"*.

With extensive experience and strong involvement with the UN SDGs and with the seven clear goals and four action priorities to prevent new disaster risks and reduce existing ones defined in the *Sendai Framework for Disaster Risk Reduction 2015-30*, Lisbon believes that the success of European Missions requires a joint effort, which simultaneously feeds back into common public policies, to prioritize the intervention of new global solutions, in response to the call of the Paris Agreement.

On May 9, 2023, Lisbon reiterated its commitment to climate neutrality on Europe Day, at the international meeting organized by the Municipality on the role of cities in the European Challenge for Climate Neutrality in 2030.

Other highlights:

- In 2018, Lisbon won the European Mobility Week, for larger municipalities, with the program presented at the European Mobility Week, with emphasis on promoting the use of bicycles in the city in several initiatives, with the opening of new bike sharing stations, of new, expanded bike lanes, and 800 new bike parking spaces, accompanied by an effective communications campaign.
- In 2020, Lisbon won the World Smart City Award with the investment made in the smart cities component, in terms of sharing data from smart technologies, including the Internet of Things (IOT) and Information Technologies (IT) to improve service efficiency, minimize the emission of polluting gases, and improve its citizens' quality of life.
- In 2020, Lisbon was awarded the 2020 European Green Capital award, as the result of an assessment conducted by a group of international experts on sustainability in the city. This

award acknowledges the work that Lisbon has been developing over the last few decades towards a greener, people-friendly city, namely by monitoring the following indicators: Climate Change Mitigation, Climate Change Adaptation, Sustainable Urban Mobility, Sustainable Land Use, Nature and Biodiversity, Air Quality, Noise, Waste, Water, Green Growth and Eco-Innovation, Energy Performance, and Governance. It was the first time that a Southern European capital received this distinction.

- In 2022, Lisbon was internationally distinguished for its commitment to climate neutrality through the *Covenant City in the Spotlight Awards* (4th edition), in the Large Municipalities category. This award was established by the Covenant of Mayors for Climate and Energy — Europe, and it was awarded to Lisbon in recognition of the city's commitment, motivation and progress towards climate neutrality.

A city desired and idealized in the field of climate action

Lisbon takes a clear position in what regards responding to Climate Change:

- it is actively engaged and committed to the future;
- it has the ambition of being a European reference city by 2030;
- it intends to benefit from the visibility and prestige that comes from participating in "Climate-Neutral and Smart Cities by 2030," which leverages the attraction of new investments and talents;
- it accepts the challenge of the Cities Mission, anticipating the ambition of achieving climate neutrality by 2030.

Thus, the Municipality of Lisbon has been asserting itself as a greener and bluer city, of and for the people, which prioritizes climate action by accelerating the energy transition and the climate resilience of both natural and built systems.

“Constructing a sustainable city requires the determined intervention of the municipal executive body through a leading approach across the areas of Environment, Green Structure, Urban Planning, Mobility, and Public Space, among others. The political response to sustainability issues requires urgent, articulated action across the board, translated into the construction of a platform that mobilizes citizens, Businesses, schools, NGOs, and other agents around common commitments. Our urban planning policy aims at proximity urbanism, which reinforces the sense of belonging and community, seeing neighbourhoods as secular units of multiple relationships between Lisbon residents and their city. In turn, harmonizing the community with the surrounding space will involve multiple partners in the area of mobility at different scales, namely those taken up within the scope of the Municipal Assembly and the Lisbon Metropolitan Transports. Giving Lisbon back to its residents will involve redefining the parking offer, improving the conditions for soft mobility with enhanced information, safety, comfort, and functionality. A sustainable Lisbon must involve a renewed public space, by reinforcing the enjoyment of green spaces, shaping neighbourhood centralities, and promoting universal accessibility.” *In GOP 2023-2027*

Based on the proposal of the current government program, included in the **Major Planning Options (GOP 2023-2027)**, it appears that in terms of actions, measures, projects and activities, Pillar B “**A sustainable city**” encompasses the greatest in responding to the challenge of climate neutrality included in this Climate City Contract.

Table 3 — Major Planning Options (GOP 2023-2027)

PILLAR A — A Participating City	
A1	**Encourage Participation**
A2	**Greater Transparency and Efficiency**
A3	**Smart City**
A4	**Mobilize the CML Universe**
PILLAR B — A Sustainable City	
B1	**Preserve the Environment Every Day**
B2	**Proximity Urban Planning**
B3	**Diversify Mobility**
B4	**A Renovated Public Space**
PILLAR C — A City of Culture, Economy and Innovation	
C1	Culture, a Place of Identity and Encounter
C2	Boost Economic Activity
C3	Relaunch Tourism
C4	Invest in Entrepreneurship, Employment and Innovation
C5	**Retain and Attract More Investment**
PILLAR D — A Supportive City	
D1	**Support Those Who Need Us Most**
D2	**Open Door to Housing and Habitat**
D3	More Opportunities for Families
D4	Strengthen Associations, Institutions, and Communities
PILAR E — A City that Invests in Health and Education	
E1	Affordable Healthcare
E2	Boost Sports
E3	Education as a Driving Force
PILLAR F — A Safe, Resilient City	
F1	A Safe, Resilient City

How is this climate neutrality ambition addressed in the 2030 Lisbon CCC2030?

The Lisbon Climate City Contract 2030 is an update of the current PAC2030, for the time horizon of 2030. It is a municipal instrument based on policies and strategies focused on ongoing climate action, which defines a schedule of priority actions and measures, involvement and joint investment. They correspond to measures and projects that accelerate the energy transition, carbon neutrality, the sustainable expansion of renewable energy, climate adaptation, environmental protection, safeguarding natural capital and ecosystem services, and the circularity of materials. All these areas of activity are considered as transversal to the entire Municipality and keep counting on the active, informed participation of the local community, of Businesses, institutions, associations, and civil society.

To this end, the Contract focuses on an integrated policy of mitigation (interventions that seek to reduce GHG emissions) and adaptation (interventions aimed at minimizing negative impacts in terms of climate change and at increasing co-benefits at different levels on the territory, goods, services and people), given that most of the actions and measures from these two aspects end up competing for common purposes, articulating each other, and generating synergies between them. Their description is presented in item B.2 and complemented in Annex 2A_LXactionplan.

In terms of framework, it is important to have a global view of which sectors and subsectors are included, the type of actions that need to be pursued, the associated cost, and the required involvement, not forgetting time and the territorial components. The Table below provides a joint presentation, highlighting the sectoral, territorial, and transversal components, of the various actions,

subsectors and sectors involved, which are active in the decarbonization strategy and in meeting the target of 80% reduction of GHG emissions by 2030, compared to 2002.

Table 4 — Lisbon: 2030 Urban Strategy for Climate Action

		MITIGATION														ADAPTATION																			CROSS CUTTING									
		TRANSPORT & MOBILITY							BUILDINGS				ENERGY AND LOCAL PRODUCTION	WASTE	GREEN INFRASTRUCTURE				WATER						TERRITORY PLANNING AND PUBLIC SPACE						SAFETY OF PEOPLE AND PROPERTY	CAPACITY BUILDING AND INFORMATION SYSTEMS			GOVERNANCE AND CITIZENSHIP							
ID	ACTIONS	Reduced motorized passenger transportation need	Modal shift	Shared mobility/carpooling increase	Vehicle electrification	Electrification of public transport	Electrification of commercial vehicles	Optimization of freight transport logistics	Renovation	Efficiency	Efficient Lighting and Appliances	Heating/cooling systems	Renewable Energy Production	Recycling Rate	Green space	Green corridor	Agroecological territory	Natural ecosystem	Water efficiency	Non-potable water	Potable water	Drainage system	Natural base basin	National policies	Local policies	Blue economy	Public place	Riverfront	Municipal cemetery	Emergency action	Studies, strategies and plans	Collaborative knowledge	Intelligent information management	Commitments	Service training	Financing	Civic participation	Environmental education
TM11	Promote the use of smooth modes when traveling in the CML universe	x	x	x																				x			x				x				x	x	x	x		
TM12	Promote the use of public transport when traveling within the CML universe	x	x																					x			x				x				x	x	x	x		
TM13	Increase public pedestrian space	x													x	x								x			x	x			x				x	x	x	x		
TM14	Consolidate and expand traffic calming policy	x																						x			x				x				x	x	x	x		
TM15	Expand the Low Emission Zone (LEZ)	x																						x			x				x				x	x	x	x		
TM16	Update City Paid Parking Management Strategy	x		x																																					
TM21	Increase the cycling network and promote the expansion of the use of soft mobility	x	x												x	x								x			x	x			x				x	x	x	x		
TM22	Promote new forms of shared mobility	x	x	x																																					
TM23	Strengthen the service and coverage of the Carris network and its reliability/regularity	x	x			x									x	x								x			x	x			x	x	x	x	x	x	x	x		
TM24	Coordinate jointly with the central government the expansion strategy of the heavy Metro network	x	x																					x			x				x	x	x	x	x	x	x			
TM25	Introduce public transport networks on specific sites (bus rapid transit and light rail vehicles)	x	x																					x			x				x	x	x	x	x	x	x			
TM26	Coordinate jointly with the central government to reinforce the operational capacity of river transport	x	x			x																		x				x			x	x	x	x	x	x	x			
TM27	Coordinate jointly with the central government to reinforce the operational capacity of rail transport	x	x																					x			x				x	x	x	x	x	x	x			
TM28	Strengthen municipal intermodal capacity	x	x												x	x								x			x	x			x	x	x	x	x	x	x			
TM29	Strengthen and expand the offer of public transport on a metropolitan scale	x	x			x									x	x								x			x	x			x	x	x	x	x	x	x			
TM31	Regulate mobility solutions as a service (MaaS)	x		x	x																				x											x				
TM41	Electrify municipal light vehicle fleet				x																				x											x				
TM42	Electrify specialized and emergency transport				x																									x						x				
TM43	Strengthen electrical charging infrastructure				x					x					x	x									x			x	x	x	x					x		x	x		
TM44	Regulate electrification of Taxis, TVDE's				x	x																			x											x				
TM45	Regulate the Electrification of Freight Transport				x	x	x																																	
TM51	Electrify public transport					x																			x											x				
TM52	Diversify clean sources in public transport and municipal fleet (e.g. green hydrogen)				x	x																														x				
TM61	Grant access to ZER				x		x																		x											x				
TM62	Create green urban logistics zones						x	x																												x				
TM63	Electrify the municipal fleet of specialized heavy vehicles				x		x																		x											x				x
TM64	Electrify municipal van fleet				x		x																		x											x				x
TM71	Create logistics and micrologistics terminal centers							x																	x		x									x				
TM72	Continue the strategy of extending and increasing the efficiency of loading and unloading exchanges							x																	x		x									x				
ED11	Certify and update energy performance of CML service buildings	x	x	x	x	x	x		x	x														x			x	x	x							x	x	x		
ED12	Rehabilitate public housing stock	x	x	x	x	x	x																	x																	
ED13	Promote commitments with private entities to integrate/implement energy efficiency solutions	x	x	x	x	x	x																		x											x				
ED14	Intervene in Efic. Energy with support for improving thermal efficiency	x	x	x	x	x	x																		x											x				x
ED15	Create facilities and ensure the operation of the Lisbon Energy Store (for Municipal Citizens and Businesses)	x	x	x	x	x																			x							x				x	x	x		
ED16	Create tax incentives, credits or benefits for building renovation	x	x	x	x																																			
ED21	Build public housing with high efficiency				x	x	x												x					x			x					x								
ED22	Support integration of energy efficiency solutions				x	x	x								x				x			x			x				x			x					x			
ED31	Replace intelligent traffic light and public lighting (IP) luminaires				x								x												x											x				
ED32	Create facilities and ensure the operation of the Lisbon Energy Store (for Municipal Citizens and Businesses)	x	x	x	x								x	x					x						x							x				x	x	x	x	
ED41	Certify and update the energy performance of CML service buildings				x	x	x						x	x	x				x						x		x	x	x							x	x	x	x	
ED42	Intervene in improving the thermal efficiency of residential buildings				x	x	x						x	x					x						x															
EP11	Create Municipal Energy communities (Buildings, Schools, Parking Lots, Photovoltaic Parks and others)				v	v							v														v	v	v						v		v		
EP12	Promote the implementation of the Social Solar Tariff												x																							x	x	x		
EP13	Install photovoltaic systems for self-consumption in the private sector								x	x			x											x												x	x			
EP14	Implement renewable production plots in the CML universe and others								x	x	x	x	x		x		x		x						x		x	x	x						x	x	x		
EP15	Develop projects to install a hydrokinetic pilot system to generate energy (1MW power), using the currents and tides of the Tagus River												x						x						x	x		x							x	x	x		
RU11	Expand the selective collection network for urban waste						x	x						x	x	x	x								x	x	x	x	x						x	x	x		
RU12	Increase preparedness for reuse and recycling													x											x											x	x	x	x	
RU13	Implement and continue solutions for reuse, recovery and recycling of materials													x	x		x					x		x			x	x	x						x	x	x	x	
RU14	Reduce per capita waste production										x			x										x			x	x	x						x	x	x	x	
IV11	Increase the green area by connecting the nearby green structure with other green spaces, gardens and urban parks (in 200ha)										x			x	x		x		x				x					x							x	x	x	x	
IV12	Strengthen and densify the arboreal heritage through the planting of trees and shrubs and alignment trees										x			x	x				x								x	x							x	x	x	x	
IV13	Recover public places								x	x	x		x	x	x				x						x										x	x	x		
IV14	Promote the construction of green roofs and vertical gardens in municipal and other buildings								x	x	x		x		x				x						x		x								x	x	x		x
IV15	Reconvert existing public green spaces with adequate vegetation adapted to climatic conditions (micro scale)														x	x	x	x	x				x		x		x	x							x	x	x		
IV16	Rehabilitate biodiverse grasslands and continue existing ones														x	x		x	x						x		x	x	x						x	x	x		
IV17	Rehabilitate public green spaces in response to climate conditions (micro scale)														x	x	x	x	x						x		x	x							x	x	x	x	
IV21	Complete the green corridor network													x	x	x	x	x	x		x	x	x		x		x	x							x	x	x	x	
IV31	Increase the network of urban gardens and agricultural parks													x	x	x	x	x	x						x		x	x							x	x	x	x	
IV32	Promote urban and peri-urban agriculture													x	x	x	x	x	x						x		x	x							x	x	x	x	
IV41	Valuing the Monsanto Forest Park													x	x	x		x	x			x	x		x							x			x	x	x	x	
IV42	Value the ecosystem and biodiversity													x	x	x		x	x			x	x		x							x			x	x	x	x	
IV43	Promote animal welfare													x	x			x	x						x							x			x	x	x	x	
AG11	Build zero-waste rainwater and/or wastewater prototypes								x	x			x		x	x			x	x	x	x			x			x	x			x			x	x	x	x	
AG12	Continue the policy of installing intelligent and automated irrigation management systems									x	x				x	x	x	x	x	x	x	x			x		x	x	x			x			x	x	x	x	
AG13	Expand the reused water network (Agua+)								x	x	x		x		x	x			x	x	x	x			x		x	x	x			x			x	x	x	x	
AG14	Carry out the maintenance and repair program for water elements														x	x			x		x				x		x	x	x			x			x	x	x	x	
AG15	Execute the water resources quality monitoring program in public spaces														x	x			x		x				x		x	x				x			x	x			
AG16	Monitor consumption reduction solutions								x	x					x	x	x		x		x				x		x	x				x			x	x			
AG21	Execute the strategic program for the use of treated wastewater								x	x					x	x			x	x		x			x		x	x				x			x	x			
AG22	Use non-potable water from alternative sources (springs and aqueduct) in municipal buildings								x	x									x	x					x							x			x	x			
AG31	Install new drinking fountains, requality and ensure the functioning of existing ones														x	x	x		x		x				x		x	x	x			x			x	x			
AG41	Build new tunnels and complementary works to the Lisbon General Drainage Plan													x					x			x	x		x		x	x				x			x	x	x	x	
AG42	Integrate the reused water transport network																		x	x		x			x		x	x	x			x			x	x	x		
AG43	Rehabilitate and reinforce the collector network																		x	x		x			x		x	x	x			x			x	x	x		
AG51	Execute projects to renaturalize valleys and watercourses														x	x	x		x			x			x			x				x			x	x	x		
OT11	Carry out scheduled interventions	x	x							x				x	x	x	x	x	x	x	x	x	x	x			x	x	x			x			x	x	x		
OT12	Monitor the process of defining alternative solutions to the construction of the new airport in the Lisbon Metropolitan Area (AML)													x		x			x			x		x								x			x	x	x		
OT31	Implement urban planning, territorial management, resilience, sustainability and emergency strategies													x			x		x					x	x			x	x			x			x	x	x		
OT41	Continue the rehabilitation of the Cruise and Container Terminal													x	x				x					x		x														
OT51	Strengthen adaptive capacity to climate risks through the execution of municipal programs								x	x	x	x		x	x	x	x	x	x			x	x		x		x	x				x	x	x	x	x	x		
OT52	Increase permeable spaces													x	x	x	x	x	x	x		x	x		x		x	x				x	x	x	x	x	x		
OT53	Increase the cycling network	x	x													x	x								x		x	x				x	x	x	x	x	x		
OT54	Improve drainage and runoff of rainwater														x	x	x	x	x		x	x	x		x		x	x				x	x	x	x	x	x		
OT55	Introduce rainwater infiltration solutions into the soil and in situ retention														x	x	x	x	x			x	x		x		x	x				x	x	x	x	x	x		
OT56	Increase pedestrian areas	x	x												x	x									x		x								x	x				
OT57	Adapt the lighting system, traffic lights, furniture and urban equipment																					x	x		x		x								x	x			
OT58	Continue the "Cool the City" Program														x	x	x	x				x	x		x		x	x	x						x	x	x	x	
OT59	Reinforce Pest Control and Monitoring														x	x	x	x		x	x	x	x		x		x	x										x	
OT61	Reconvert uses into public space														x				x			x	x		x		x		x			x			x	x	x	x	
OT62	Regulate minimum threshold levels in buildings and public spaces								x	x												x			x		x	x				x			x	x	x	x	
OT63	Carry out defense, protection and adaptation works of the drainage system and buildings								x													x	x		x		x	x				x			x	x	x		
OT71	Implement the concept of Sustainable Cemeteries								x	x	x	x	x	x	x							x			x				x						x	x	x		
SP11	Ensure the safety of people and goods																								x					x						x	x	x		
CS11	Prepare and apply technical-scientific studies to support the municipality's activities and monitor innovative pilot solutions				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x		x				x			x			x	x	x	x	
CS12	Participate in technical-scientific projects and studies and propose pilot solutions with partners external to the municipality				x	x	x		x	x	x	x	x	x	x	x	x	x	x			x	x		x				x			x			x	x	x	x	
CS13	Update and develop municipal planning instruments in compliance with legal requirements								x	x			x	x	x	x			x			x			x	x						x			x	x	x		
CS14	Develop the Circular Citizen Profile													x																					x	x	x		x
CS15	Develop manuals, standards, good practices, internal procedures and/or regulations to support municipal activity								x				x	x					x			x		x					x						x	x	x		
CS16	Develop, participate in and apply studies, pilot projects or others on an international scale								x				x	x					x			x			x				x						x	x	x		x
CS21	Establish, appoint and continue interdepartmental working groups at the municipal level																							x						x						x	x	x	
CS22	Promote municipal participation in regional, national and international networks to share good practices	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				x	x	x	x					x	x	x	x	
CS23	Promote knowledge sharing in scientific research and leadership projects	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				x	x	x	x					x	x	x	x	
CS31	Monitor ecosystem services														x	x	x	x	x			x	x		x		x	x	x						x	x	x	x	
CS32	Monitor interventions carried out								x	x	x				x	x			x	x	x	x	x		x		x	x	x						x	x			
CS33	Strengthen the municipal monitoring, warning and alert network																					x	x					x	x	x						x	x	x	x	
CS34	Strengthen the integration of digital platforms into the municipality's service			x				x					x	x					x			x			x				x						x	x			x	
CS35	Continue the implementation of interactive reporting and communication applications with citizens																								x											x	x	x	x	
CS36	Continue with the policy of production and integration of georeferenced information and monitoring of KPIs																								x		x									x	x	x	x	
GC11	Ensure leadership on a local, regional, national or international scale																								x								x			x				
GC12	Monitor the municipality's commitments																																x	x	x	x		x		
GC21	Implement measures in the field of HR / Green jobs	x	x																						x										x					x
GC22	Implement sustainability measures in municipal buildings, Parish Councils or shared management (internal commitment)								x	x	x	x	x	x											x										x					x
GC23	Promote environmental monitoring campaigns																																		x					
GC24	Apply environmental sustainability criteria to events organized and promoted by the municipality													x					x						x											x				x
GC25	Apply environmental sustainability criteria in public contracts																																			x				
GC31	Participate in applications for financing programs, European funds and others																								x								x	x	x	x	x		
GC32	Develop tax instruments and other incentives																								x								x			x	x		
GC33	Create the CML Sustainable Energy cooperative												x														x						x			x		x	x
GC34	Establish incentives for attracting projects within the scope of climate change																							x									x	x	x	x	x		
GC41	Promote and raise awareness among public and private entities and academia to adhere to the commitment of the City of Lisbon 2030 Climate Contract	x	x	x	x		x	x	x	x	x	x	x	x					x						x	x									x		x	x	
GC42	Strengthen participatory processes at the scale of the neighborhood, parish or city itself, contributing to the pillar of a Participated City																																					x		
GC51	Produce and implement programs, campaigns, visits, training and information and awareness actions, aimed at diverse target audiences										x			x					x						x													x	x	
GC52	Strengthen the Communication Strategy of the City of Lisbon 2030 Climate Contract, integrated into the Sustainable City pillar																								x								x	x	x	x	x	x	
GC53	Create and make available a communication portal offering initiatives and educational resources to raise awareness and environmental literacy																								x									x				x	x	
GC54	Streamline the space of the Lisboa Energia Store								x	x	x		x												x											x	x	x	x	
GC55	Value local resources/equipment as proximity ecosystem spaces												x	x					x						x		x										x	x	x	
GC56	Promote the creation of community actions																		x						x		x	x								x	x	x	
GC57	Participate and promote initiatives with partners external to the municipality																																			x	x	x		
GC58	Promote the carrying out of actions, training, courses and others, aimed at municipal services																																			x		x		

The measures, actions and projects listed in the previous Table focus on the following 8 sectors: buildings, transports and mobility, energy and local production, waste, green infrastructure, water, spatial planning and public space, and security of people and goods.

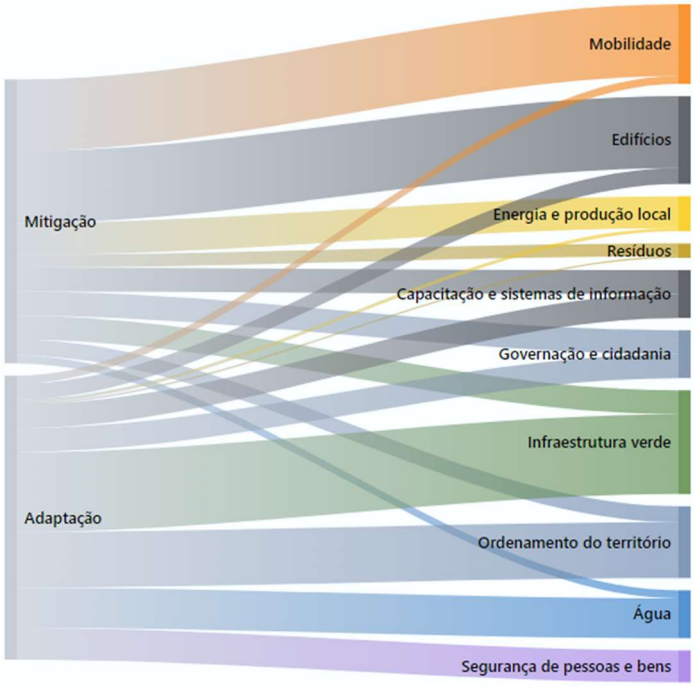
Table 5 — Measures, Actions and Projects Classified by Area of Intervention

	Mitigation	Adaptation	Transversal
No. of Actions	50	44	36
No. of Subsectors	13	16	8
No. of Sectors	4	4	2
Investment (M€)	**4138.5**	**824.7**	**91.4**

Note: the estimated investment amount is just a basic reference, requiring a review of allocations by sectors in the coming months.

Although the concepts of **mitigation** (processes that seek to reduce GHG emissions) and **adaptation** (processes aimed at minimising the negative effects of climate change impacts on biophysical, and social and economic systems) are quite distinct, most of the initiatives, measures and projects classified under one of these aspects end up fulfilling common purposes, working in articulation and generating synergies between them, as illustrated in the following Figure.

Figure 8 — Integration Between Mitigation and Adaptation Measures by Sectors



In addition to the sectoral and territorial impact, additional action measures were also considered that work across the board as support and leverage instruments, common to all sectors identified above. The transversal measures of the Capacity Building and Information Systems and Governance and Citizenship sectors, act in the field of studies, strategies and plans, collaborative knowledge, smart management and information, commitments, empowering departments, financing, civic participation, and environmental education.

AP3 Part A — Current Status of Climate Action

The ongoing Lisbon Climate City Contract 2030 strategy is based on assessing various expected climate change scenarios for 2030, 2050 and 2100 and on emissions inventories with the definition of GHG scenarios and trajectories, in order to thus define actions and measures to be implemented with estimated GHG reduction potential and/or sequestration capacity, that is, off-setting, and general balance of emissions, with carbon capture and storage. The goal is to prevent proposed projects and actions from leading to unintended emissions or to increased vulnerability to climate risks.

In Lisbon, the proposal presented includes an assessment of co-benefits in order to avoid unforeseen and undesirable consequences.

Decarbonization has the direct, most tangible benefit of reducing GHG emissions. From 2002 to the present, the city has decreased its emissions by 40%, which is equivalent to 1.6 million tons of CO2e. Over the next decade we want to decrease 1.1 million tons of CO2e to reach the target of 80% reduction by 2030.

Adaptation acts directly to reduce exposure and vulnerabilities to the risks of climate change (excessive heat, water scarcity, rising average sea levels, intense precipitation, and extreme weather phenomena), offering benefits in terms of increased resilience and robustness of infrastructures and buildings, as well as of the city's other anthropogenic and natural systems. The city's adaptive process makes it stronger and better prepared in its ability to respond to external impacts and in warning, alert, and emergency situations.

Mitigation and adaptation measures, in addition to their direct repercussions on the response to climate change, translated into lower GHG emissions, offer broad benefits to the city, making it stronger, sustainable, balanced and attractive in different areas, namely:

- Environmentally and in terms of public health, namely, in terms of air quality, noise, road safety, temperature extremes and adverse meteorological events, physical and mental well-being, public space and quality of life, fair access to housing;
- In resource efficiency, namely with regard to waste and wastewater, the circular economy, efficient water management, sustainable food, management of land use practices;
- In biodiversity and ecosystems, namely with regard to urban forests, plantations and health plan improvement, local species and pollinators, ecological warnings, connection between habitats, restoration of nature;
- In biodiversity, air, water and soil pollution, noise control, circularity of resources;
- Socially, namely with regard to the population's physical and mental health, quality of life, security, justice and social cohesion, empowerment, good governance, democracy and transparency, access to information, and social innovation;
- Economically, namely with regard to employment, innovation, research and competitiveness, productivity, reduction of losses, appreciation of assets, and business continuity.

These benefits and externalities contribute globally to the city's objectives, defining priorities in the implementation of measures and actions that have already begun.

Lisbon, as part of its commitments, is aligned with the objectives of the United Nations (UN) 2030 Agenda, a global development agenda for the coming years based on 17 SDGs, which include 169 targets.

Along this path of responding to climate change and reducing GHG emissions, achieved through the commitments of the Climate City Contract and the city's local policies, Lisbon is also contributing to achieving the SDGs under the 2030 Agenda in its various dimensions, through mobilization of resources, the establishment of partnerships or scientific empowerment in the areas of Mitigation, Adaptation or Transversal.

AP3 A-1 Baseline Greenhouse Gas (GHG) Emissions Inventory

Figure 9 — Evolution of Energy Consumption and GHG Emissions (*GPC Basic Report*)

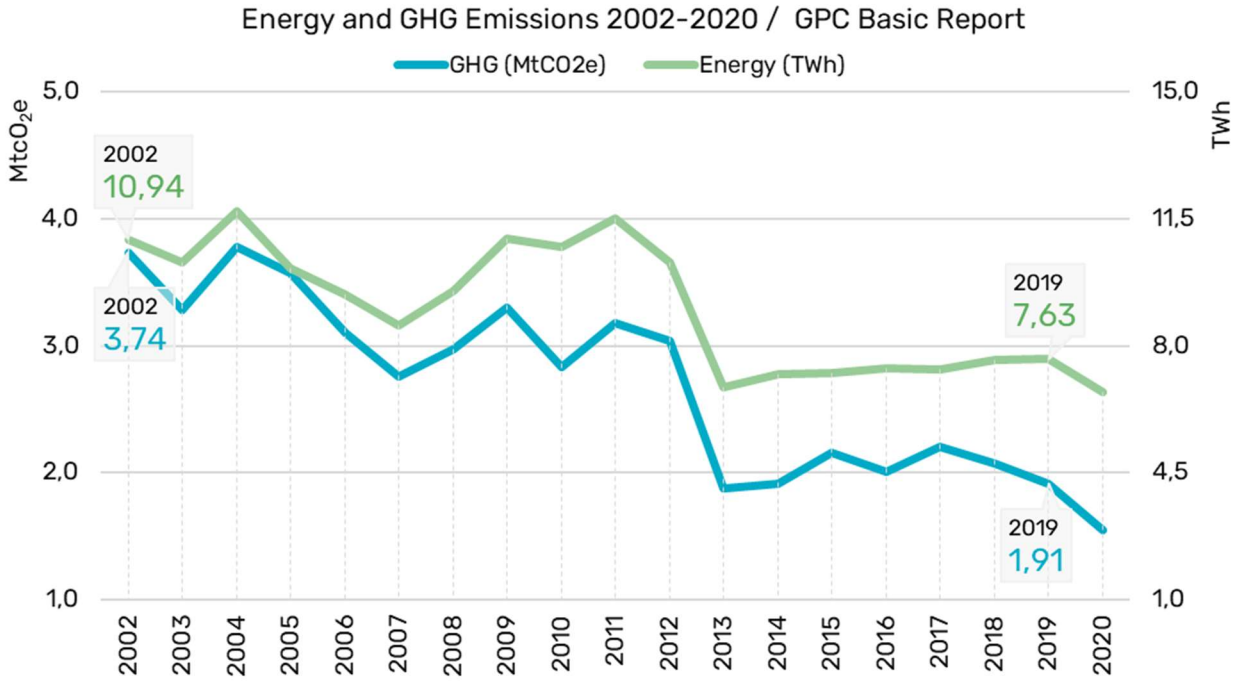


Table 6 — 2019 GHG Emissions Inventory Summary (GPC Format)

SECTOR		Total by scope				Total by city-induced reporting level	
units: tCO_2e		Scope 1 (territorial)	Scope 2	Scope 3 (included in BASIC/ BASIC+)	Other Scope 3	BASIC	BASIC+
Stationary Energy	Energy use	307 136	675 167	56 311	95 152	982 303	1 038 614
	Energy generation						
Transportation	(all emissions)	795 072	50 412	236 129	-	845 483	1 081 613
Waste	Generated in the city	55 597		30 725	-	86 322	86 322
	Generated outside city	10 167					

SECTOR		Total by scope				Total by city-induced reporting level	
units: tCO_2e		Scope 1 (territorial)	Scope 2	Scope 3 (included in BASIC/ BASIC+)	Other Scope 3	BASIC	BASIC+
IPPU	(all emissions)	-			-	-	-
AFOLU	(all emissions)	.			-	-	-
Total		**1 167 971**	**725 579**	**323 166**	**95 152**	**1 914 108**	**2 206 549**

Sources required for BASIC reporting
Sources required for BASIC+ reporting
Sources required for territorial total but not for BASIC/BASIC+ reporting (italics)
Sources included in Other Scope 3
Non-applicable emissions

A-1.1: Final energy use by source sectors

Base year	2019			
Unit	MWh/year			
	Scope 1	Scope 2	Scope 3	Total
Buildings	**1 479 064**	**2 844 006**	**0**	**4 323 070**
Natural Gas	1 343 251			1 343 251
LPG	87 474			87 474
Diesel	48 339			48 339
Petrol	0			0
Electricity		2 844 006		2 844 006
Other				0
Transport	**3 098 816**	**212 349**	**0**	**3 311 165**
Natural Gas	45 245			45 245
LPG	17 243			17 243
Diesel	2 310 692			2 310 692
Petrol	725 636			725 636
Electricity		212 349		212 349
Other				0
Waste	-	-	-	-
Industrial Process and Product Use (IPPU)	-	-	-	-
Agricultural, Forestry and Land Use (AFOLU)	-	-	-	-

A-1.2: Emission factors applied

Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC) [1]

Primary energy/ energy source	Carbon Dioxide (CO_2)	Methane (CH_4)	Nitrous Oxide (N_2O)	F-gases (hydrofluorocarbons and perfluorocarbons)	Sulphur hexafluoride (SF_6)	Nitrogen trifluoride (NF_3)

[1] For information on Emission Factors, see the attached information (LIS_GHG_INVENTORY.zip)

A-1.3: Activity by source sectors

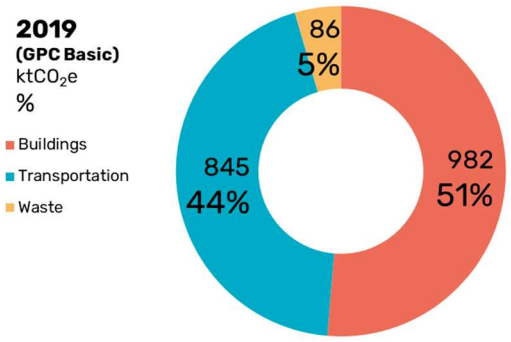
Base year	2019		
	Scope 1	Scope 2	Scope 3
Buildings			
Energy demand (MWh)	1 479 064	2 844 006	0
Transport			
Energy demand (MWh)	3 098 816	212 349	0
Waste			
Urban Waste generated (t)	331 131		
Wastewater treated (eq. inhabitants / 10^6 m^3)	1 002 792 / 59,1		
Industrial Process and Product Use (IPPU)	-	-	-
Agricultural, Forestry and Land Use (AFOLU)	-	-	-

A-1.4: GHG emissions by source sectors

Base year	2019 (GPC Basic)			
Unit	CO_2equivalent/year			
	Scope 1	Scope 2	Scope 3	Total
Buildings	307 136	675 167		982 303
Transport	795 072	50 412		845 483
Waste	55 597	-	30 725	86 322
Industrial Process and Product Use (IPPU)	-	-	-	-
Agricultural, Forestry and Land Use (AFOLU)	-	-	-	-
Total	**1 157 804**	**725 579**	**30 725**	**1 914 108**

A-1.5: Graphics and charts

Figure 10 — GPC Basic 2019



A-1.6: Description and Assessment of GHG Baseline Inventory

The GHG emissions inventory for the city of Lisbon is prepared annually in accordance with the methodological framework "*Global Protocol for Community-Scale Greenhouse Gas Emission Inventories*" (GPC *Protocol*), and includes the 3 main GHGs (CO_2 / CH_4 / N_2O).

To complement the information on the GHG inventory, we attach detailed information (4A_LX_GHG_INVENTORY.zip), namely the files submitted under the *CDP Cities 2023* and the *C40 Leadership Standards*:

- LIS GHG GPC 2002-20 V2 221130.xlsx
- Lisbon_2019_CIRIS_Standard_v2.4_Rev.20221130.xlsx

AP3 A-2 Current Policies and Strategy Assessment

A-2.1: List of Relevant Policies, Strategies & Regulations

Name & Title	1- 2030 Lisbon Climate Action Plan (PAC2030)
Description	Instrument for integrating and managing the city's policies on mitigation and adaptation to climate change, for eradicating energy poverty, and for promoting quality of life and well-being. It sets the target of reducing greenhouse gas emissions by 70% by 2030 compared to the base year of 2002, and between 85% and 90% by 2050.
Type	Action Plan
Level	Local
Relevance	High
Need for action	Comply with the proposed schedule and current legislation Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	2- Municipal Strategy of Adaptation to Climate Change (EMAAC)
Description	Establishes the Municipality's strategic vision for adaptation to climate change, and identifies and prioritizes the city's climate vulnerabilities and risks, and reviews climate projections until the end of the 21st century, identifying an open set of adaptation options to minimize the effects of climate change.
Type	Strategy
Level	Local
Relevance	High
Need for action	Comply with the municipal strategy, articulated with other levels of governance and current legislation Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	3- Action Plan for Sustainable Energy and Climate (PAESC)
Description	Action plan for environmental policies in the city of Lisbon, while working simultaneously as an instrument for monitoring the City's environmental performance. It establishes the target of reducing the cities GHG emissions by 60% by 2030 compared to the base year of 2002.
Type	Action Plan
Level	Local
Relevance	High
Need for action	Comply with periodic monitoring mechanisms Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	4- Metropolitan Climate Change Adaptation Plan (PMAAC)
Description	Establishes a regional strategy to enhance inter-municipal synergies in understanding risks and vulnerabilities when implementing adaptation measures and mobilizing key actors and populations.
Type	Plan
Level	Regional
Relevance	High
Need for action	Comply with investment priorities across the Lisbon Metropolitan Area Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	5- National Energy and Climate Plan (PNEC)
Description	It is the main national energy and climate policy instrument for the 2021-2030 10-year period, establishing national goals in terms of reduction of greenhouse gas emissions, incorporation of renewable energies, energy efficiency and interconnections, and implements the policies and measures to achieve them.
Type	Plan
Level	National
Relevance	High
Need for action	Comply with the municipal strategy, articulated with other levels of governance and current legislation Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	6- Climate Policy Strategic Framework (QEPiC)
Description	Establishes the vision and goals of the national climate policy for the 2030 horizon, articulating the various instruments and measures, based on a national context of green growth.
Type	Strategy
Level	National
Relevance	High
Need for action	Align guidelines, policies and strategies across various levels of governance Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	7- Roadmap to Carbon Neutrality (RNC2050)
Description	Identifies and reviews the implications associated with alternative, technically feasible, economically viable and socially accepted trajectories to help achieve the goal of carbon neutrality for the Portuguese economy by 2050.
Type	Road map
Level	National
Relevance	High
Need for action	Align guidelines, policies and strategies across various levels of governance Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	8- Action Programme for Adaptation to Climate Change (P-3AC)
Description	Defines the lines of action and priority measures for adaptation and direct intervention in the territory and infrastructures, complemented by a line of action of a transversal nature, aimed at responding to the main impacts and climate vulnerabilities identified for Portugal, identifying the entities involved, monitoring indicators and potential sources of financing.
Type	Programme
Level	National
Relevance	High
Need for action	Align guidelines, policies and strategies across various levels of governance Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	9- National Strategy of Adaptation to Climate Change (ENAAC)
Description	Establishes the model for implementing solutions aimed at adapting various sectors to the effects of climate change, with the main goals of improving the level of knowledge on climate change and promoting the integration of adaptation to climate change into sectoral policies and territorial planning instruments.

Type	Strategy
Level	National
Relevance	High
Need for action	Comply with the municipal strategy, articulated with other levels of governance and current legislation

Name & Title	**10 - MOVE LISBOA — Sustainable Urban Mobility Action Plan (PAMUS)**
Description	Establishes the city's vision for mobility until 2030, defining municipal actions for future plans, studies and projects, based on a more integrated, reliable, connected, accessible and open to new solutions transport system, reclaiming space for people, increasing the community's sense of belonging, maximizing the quality of life of the population residing in the city and in the metropolitan area, and improving the experience of those who use and live Lisbon.
Type	Strategy
Level	Local
Relevance	High
Need for action	Fulfil the Climate Action targets and the Air Quality Improvement Plan in the Lisbon and Tagus Valley Region (implementation programme) Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	**11 - Lisbon Municipal Master Plan (PDM)**
Description	Establishes strategic principles for climate change, in the fields of mitigation and adaptation, considering critical elements for the city's territorial development model, supported by two vital systems: the ecological system, and the mobility and transport system.
Type	Plan
Level	Local
Relevance	High
Need for action	Comply with the municipal strategy and with the need for monitoring the city with regards to achieving a trajectory that converges towards the pre-defined goals(Reports on the Status of Spatial Planning — REOT). Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	12 - Major Planning Options (GOP 2023-2027)
Description	The main objectives and strategic principles that guide the government programme for the city of Lisbon, defined in the Major Planning Options (GOP 2023/2027), structured into 6 pillars, as previously mentioned
Type	Strategy
Level	Local
Relevance	High
Need for action	Comply with its periodic update Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	13 - Climate Change Scenarios — IPCC
Description	Follow-up on the climate scenario projections at local and regional levels
Type	Report
Level	Regional
Relevance	High
Need for action	Model scenarios at the scale of the city Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	14 - Plan for Improving Air Quality in the Lisbon and Tagus Valley Region (implementation programme)
Description	The legislation in force, related to assessment and management of air quality, establishes that in areas and settlements where the levels of one or more pollutants are higher than the limit values — as is the case in Lisbon — air quality improvement plans must be drawn up and implemented aimed at enforcing limit values.
Type	Plans and Programmes
Level	Regional
Relevance	High
Need for action	Comply with legal requirements Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EU scales.

Name & Title	15 – CDP Carbon Disclosure Project
Description	Platform to monitor the city's performance annually and enable the definition of a ranking in terms of GHG and other parameters.
Type	Programmes
Level	Local
Relevance	High
Need for action	To monitor the city's performance annually and enable the definition of a ranking. Alignment of LISBON CCC2030 with current policies at the local, regional, national, and international/EC scales.

The 15 programs or plans listed, regardless of their strategic or operational nature, are presented here as they allow defining the main guidelines for the actions of the municipality of Lisbon. In this way, they highlight the importance that the LISBON CCC2030 will play in accelerating interventions, reinforcing investment, and thus achieving carbon neutrality by 2030. By combining strategies designed at different scales—local, regional, national, and international—with an impact on local policy, following a top-down and bottom-up approach, it was possible to develop the presented Climate Covenant City until 2030. This covenant is based on an alignment between actions, investment, and global commitment.

Given recent climate projections and the unpredictability associated with extreme weather events, investment in adaptive capacity associated with mitigation strategy is today the main challenge for coordinated prevention, planning, and response to reduce direct and indirect impacts.

Thus, climate scenarios combined with socio-economic projections at the local level constitute the main difficulty to be addressed at this stage. Together, the programs, plans, and strategies presented above constitute a fundamental framework for climate action, enabling the acceleration of the energy transition, strengthening the climate resilience of natural and built systems, and implementing coordinated, innovative, inclusive, and fair action.

At the same time, it is necessary to advance the measures resulting from the energy and climate obligations already assumed at the European and national levels.

A-2.2: Description & Assessment of Policies

All main policies, strategies, regulations, standards and other supporting documents have been previously referenced and will therefore not be listed at this point.

However, it is important to emphasize that the policy pursued by the municipality in response to climate change, energy transition, and fair social inclusion aligns with the international and European call presented in the Cities Mission. Simultaneously, it represents an opportunity to assert Lisbon's leadership in the process of accelerating climate resilience and responding to the Sustainable Development Goals (SDGs), combining economic, social, and environmental engagement with political modernization and innovation.

As a cross-cutting challenge, it reinforces synergies between mitigation and adaptation strategies, leading to multi-sectoral engagement and investment. This enables a coordinated, accountable, and shared action involving everyone without exception, including the most vulnerable groups.

A-2.3: Emissions Gap														
	Baseline emissions			**Residual emissions / offestting[1]**			**Baseline emissions reduction target[2]**			**Emissions reductions in existing strategies[3]**			**Emissions gap (to be addressed by action plan)[4]**	
	* (2002 absolute)	(2019 absolute)	(%)	(absolute)	(% of baseline 2019)	(% of baseline 2002)	(absolute)	(% of baseline 2019)	(% of baseline 2002)	(absolute)	(% of baseline 2019)	(% of baseline 2002)	(absolute)	(% of baseline 2019)
Buildings		**982**	**51%**	**461**	**47%**		**521**	**53%**		**521**	**53%**		**0**	**0%**
Commercial		585	31%	198	34%		387	66%		387	66%		0	0%
Residential		284	15%	192	68%		92	32%		92	32%		0	0%
Industry		104	5%	67	64%		38	36%		38	36%		0	0%
Agriculture		9	0%	4	45%		5	55%		5	55%		0	0%
Transport		**845**	**44%**	**237**	**28%**		**608**	**72%**		**256**	**30%**		**352**	**42%**
Waste		**86**	**5%**	**49**	**56%**		**38**	**44%**		**38**	**44%**		**0**	**0%**
Industrial Process and Product Use (IPPU)		-	-	-	-		-	-		-	-		-	-
Agricultural, Forestry and Land Use (AFOLU)		-	-	-	-		-	-		-	-		-	-
Total	**3737**	**1 914**	**100 %**	**747**	**39%**	**20%**	**1 167**			**815**	**43%**	**71%**	**352**	**18%**

[1] Residual emissions consist of those emissions which can't be reduced through climate action and are being offset. Residual emission may amount to a maximum of 20 % as stated by the Mission Info Kit.

[2] Baseline reduction target = Baseline emissions – residual emissions.

[3] Emission reductions planned for in existing action planning and strategies should be quantified per sector.

[4] Emissions gap = Baseline emission reduction target – Emissions reduction in existing strategies.

* Sectoral breakdown not available for 2002; just by type of energy

Table A-2.3 from AP shows the emissions gap, defined based on the reference year of 2002 witch is the baseline Lisbon is working with and compares this scenario with 2019.

The evolution of the strategy pursued by the municipality is also shown in the figure below, indicating a positive trend in terms of reducing greenhouse gas emissions.

Figure 11 — GHG Evolution 2002-2019

AP3 A-3 Systemic Barriers and Opportunities for Climate Neutrality by 2030

The complexity of the challenge of climate neutrality associated with the city's dynamic ecosystem imposes upon Lisbon the urgent need for involving the maximum number of facilitators in this process. Innovating, executing, monitoring, educating, informing, raising awareness and holding people accountable personally, professionally, and socially are critical shared responsibilities to achieving the goals taken up in this Cities Mission. Therefore, it is worth highlighting the involvement directed to the entire population, as well as to vulnerable groups, a class not forgotten in this challenge.

Next, we present the mapping of the stakeholder ecosystem, highlighting the degree of influence, interest, involvement, responsibility and commitment undertaken regarding the challenges launched by the Lisbon Climate City Contract 2030.

A-3.1: Systems & Stakeholder Mapping			
Stakeholders involved	Network	Influence and Interest	Level and type of Engagement
Lisbon Municipality (executive body, public servants, employees and other stakeholders) Municipal Businesses and Organizations with municipal participation	Lisbon — LISBON MUNICIPALITY (institutional website) Lisbon Participates	Influence: Municipality of Lisbon, as a capital of excellence Sectors with direct influence on the decarbonization process (facilitators)	Political Commitments Signed agreements and protocols Legal impositions

Parish Councils and neighbourhood representatives Citizen Council, representing citizens Volunteering Bank for the City of Lisbon "Municipal Councils (in social, housing, and other areas)" National and regional public organizations, in the following areas: social, environmental, meteorological, financial, economic, heritage, citizenship and awareness, circular economy, energy, mobility, security and civil protection, health, nature and forest conservation, among others. Associations with Climate Action Protocols with Lisbon Private Businesses from various sectors, with emphasis on ICT, R&D Academia, and Research and Education Institutions Media European Commission NetZeroCities International and National Networks International Organizations	and Lisbon Citizenship Lisbon Sustainable Platform — Businesses NZC — European Platform of Cities for Climate Neutrality Social Networks Participation in events and training National and international relations networks Committed entities Various partnerships Information and awareness raising initiatives	Sectors with direct influence on climate action and public policies, Politicians, decision makers and legislators Economic and financial sector / investors Technical officers and experts with the ability to innovate, lead and implement solutions Technical team involved Media (dissemination of the Lisbon CCC2030) Civilians and their representatives Environmental groups Intervention forces Interest: Politicians and decision makers Investors R&D / Innovation and experimentation Beneficiaries, namely Businesses that attract investment, employment, position, increased quality of life..., with special emphasis on young people and children Vulnerable groups (individuals experiencing homelessness, children and youth, elderly, gender equality, immigrant communities, ethnic minorities, people with disabilities, among others) Population directly impacted	Agreements signed in participatory processes, with public and private Businesses and others Agreements signed with Municipal departments and public servants Agreements signed with stakeholders involved in the Lisbon CCC2030 Partnerships and consortia signed in projects and programmes

A-3.2: Description of systemic barriers

The barriers that the city of Lisbon will face in achieving climate neutrality by 2030 are expected to be related to the following:

- Needs in terms of Human Resources;
- Lack of experience in combining funding sources (including public and private);
- Difficulties in involving the private financial sector;
- Difficulties in developing projects, due to procedural and financing difficulties;
- Collaboration issues between Departments, due to the existence of “silos” that must be overcome and each Department's priorities;
- Alignment between local needs (city), and funding for European and National programmes;
- Unpredictability of climate challenges and direct benefits in the short term (medium and long term vision);
- Prioritization of investment and actions;
- Regulatory and legal constraints;
- Lack of financing instruments dedicated to climate neutrality aimed at different recipients, without additional investment;
- Lack of financing policies to accelerate climate neutrality;
- Legal impositions;
- Fragmented responsibilities;
- Public procurement constraints;
- Lack of compatible information, and of centralized smart management systems;
- Lack of compatible platforms;
- Inconsistency between various types of projections, namely of GHG emissions, demographic, macroeconomic, and local climate scenario projections.

As an opportunity, it is worth highlighting the status achieved by all cities participating in this Cities Mission, which requires that each city makes a joint effort to overcome barriers and obstacles, while enabling the opportunity for pursuing the ambition of global climate neutrality.

A-3.3: Description or visualisation of participatory model for the city climate neutrality — textual and visual elements

As described in Section C3 - Principles, Priorities, and Participatory Process and Section C4 - Signatories and Commitments of Stakeholders of the Commitment 2030 section.

The participation model embraced by Lisbon involves the Municipality of Lisbon, society, and the citizens themselves, crucial components for the implementation of the respective City Climate Covenant based on key principles - responsibility, transparency, justice, inclusion, innovation, and co-creation, aligned with the Sustainable Development Goals (SDGs).

Key actors already involved and to continue involving include policymakers, technicians, researchers, experts, the media, representatives of citizens and minorities, men and women, youth, families, nationals, and foreigners.

Building on the assumption that "more active citizenship strengthens local power," Lisbon bases the construction of its City Climate Covenant on participatory processes with involvement at the neighborhood, parish, city, metropolitan area, country, and EU levels.

As mentioned earlier, the participation model integrates different levels—local, national, and international—thus demonstrating the relevant interdependencies existing to deconstruct sectoral and territorial "silos."

Local Level:

1. 238 Commitments from Municipal Organic Units
2. 5 Municipal Businesses: Joint responsibility and commitments for shared management
3. 12 Organizations with municipal participation: Joint responsibility and commitments
4. 24 Parish Councils
5. Citizens' Council
6. Volunteer Bank for the City of Lisbon
7. Other initiatives (Municipal Councils for Housing, Interculturality and Citizenship, Inclusion of Persons with Disabilities, Municipal Plan for Gender Equality, and Social Network of Lisbon)

National Level:

8. 260 Businesses and organizations
9. Climate Action Protocols

International Level:

10. Twinning Agreements
11. Cooperation and/or Friendship Agreements
12. International Organizations

AP4 Part B — Pathways to Climate Neutrality by 2030

To meet the neutrality target, Lisbon must achieve at least an **80% reduction; which corresponds to an emission level, by 2030, of 747 ktCO2e** (80% reduction compared to 2002; or 61% compared to 2019). Therefore, **additional reductions in the amount of 352 ktCO$_2$e** (the gap, compared to planned policies) will be required.

The emission scenarios for 2030 (

Figure 12) whose origin is a previous version of the Climate Action Plan (CEN.NL) show that the **capacity for additional reductions is mostly concentrated in the transport sector**. In 2030, it is estimated that transports will emit 55% of the total emissions (589 ktCO$_2$e), while it is the sector that reduces emissions the least compared to 2019 (30%).

Therefore, in order to accelerate the energy transition and advance the roadmap to climate neutrality, in line with the "Climate Neutral and Smart Cities by 2030" targets, it is inevitable to define and evaluate complementary mitigation measures, particularly in the transports sector. Notwithstanding the need for a detailed assessment — to be prepared at a later stage of the Climate City Contract — the **most relevant complementary measures to be assessed** have already been identified.:

- Discourage individual motorized transports (reduction);
- Modal shift (to public transports/soft modes);
- Shared mobility;

- Electrification of vehicles;
- Optimize freight transport logistics.

The measures listed above made it possible to achieve additional reductions of about 352 $ktCO_2e$ (see Figure 13 – N30 Scenario) and, in this way, enable a level of emissions reduction of 80% (baseline 2002) / 61% (baseline 2019) by 2030.

It should be noted that the initiatives in the field of urban mobility compete (in)directly with other critical challenges to the city's sustainability goals, with very clear co-benefits, namely in public space (e.g., adaptation, and the 15-Minute City), in the quality of air and noise (public health and quality of life).

In addition to the transports and mobility sector, the Lisbon Climate City Contract 2030 Action Plan also includes other measures associated with the building/housing, industry, services, agriculture, waste and waste water sectors, as well as adaptation and transversal measures, which complement this portfolio.

Figure 12 — Planned / Current Sectoral Emissions Scenario — PAC Lisbon 2030 (CEN.NL)

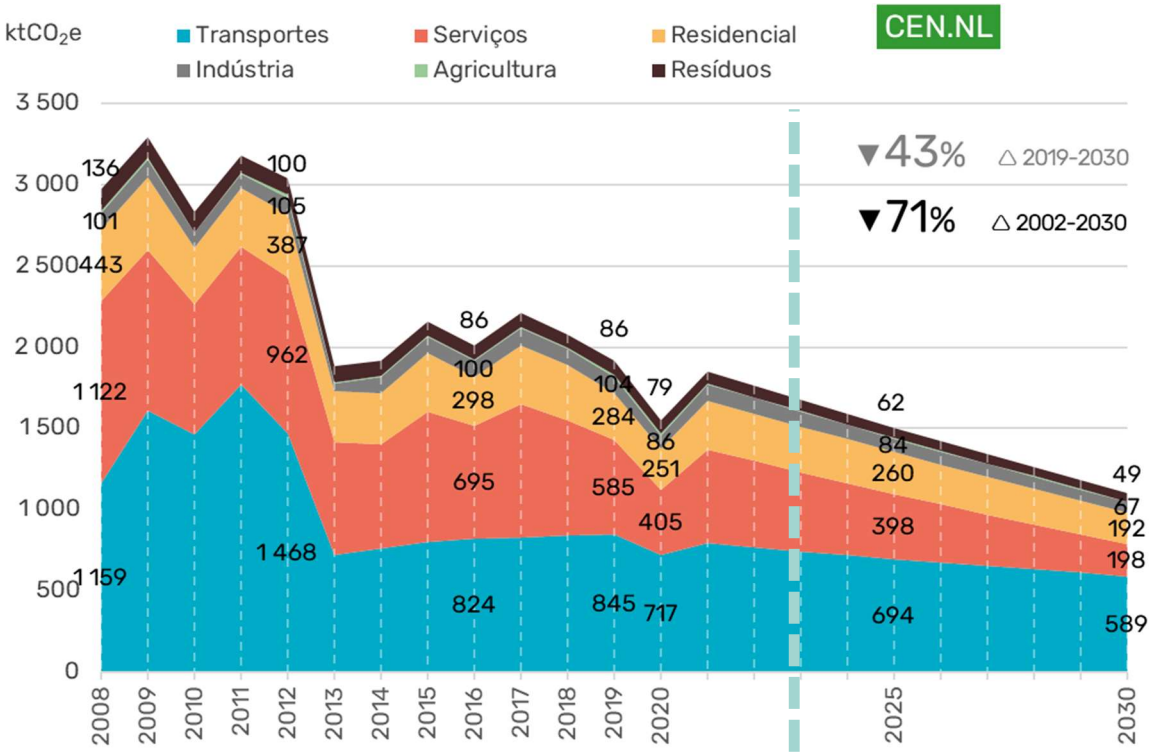
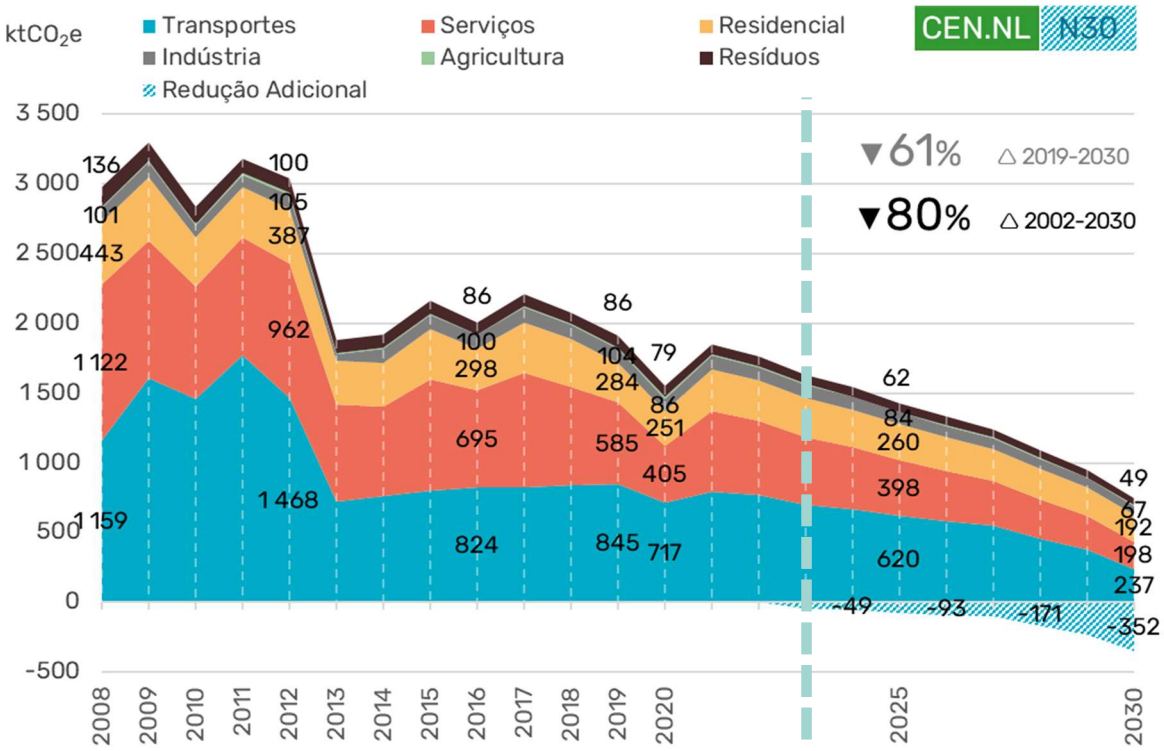


Figure 13 — Sectoral Emissions Scenario — Neutrality 2030 (N30)



AP4 B-1 Climate Neutrality and Impact Scenarios

B-1.1: Impact Pathways					
SECTOR	**SYSTEMIC LEVERS**[1]	**EARLY CHANGES**	**LATE OUTCOMES**	**EMISSION REDUCTION**	**COBENEFITS**
TRANSPORT & MOBILITY	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation Learning and Empowerment	Public transport price incentives Priority in access to public transport Creation of public spaces suitable for soft modes Investment in electrification (vehicles and infrastructure) Creation of green micro logistic areas	Exclusive/dedicated infrastructure for public transports Extension of the PT railway network Creation of new pedestrian/mixed areas Total conversion of public and commercial fleets to electric mobility Reduced emission areas in force Reduction in the total number of vehicles circulating in the city New legal framework for restricting circulation of vehicles in urban areas Integration of real-time IT platforms on public transports	-608 ktCO2e -72%	Air Quality, Noise, Road Safety, Urban Heat Island, Physical and mental well-being, Quality of Life, Changing behaviours towards a zero-carbon lifestyle, Qualified jobs and employment rate, Economic Prosperity, Entrepreneurship and local businesses, Water management, Land use management practices, Conversion of natural areas. SDGs: 7, 9, 11, 13, 17
BUILDINGS	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation	Renovation of existing buildings with efficient thermal retrofitting solutions Scheduled replacement of	Construction of energy-efficient/neutral public housing Electrification of thermal equipment New mandatory efficiency standards for public procurement	-521 ktCO2e -53%	Air Quality, Physical and mental well-being, Quality of Life, Equal access to housing, Qualified jobs and employment rate, Economic Prosperity, Technological Availability, Entrepreneurship and local businesses, Changing behaviours

[1] See detailed description of the systemic levers used in individual actions, detailed in tables B-2.2

	Learning and Empowerment	lighting equipment by more efficient solutions Efficiency support for citizens and Businesses			towards a zero-carbon lifestyle. SDGs: 1, 7, 9, 10, 11, 13, 17
ENERGY AND LOCAL PRODUCTION	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation Learning and Empowerment	Using solar energy in microgeneration systems	Energy communities Installation of municipal solar plants More favourable legal framework for the installation of self-consumption solutions	-40 ktCO2e	Equal access to housing, Civic participation, Social Justice, Social cohesion and equity, Innovation and Development, Qualified jobs and employment rate, Economic Prosperity, Technological Availability, Entrepreneurship and local businesses. SDGs: 7, 9, 10, 11, 13, 17
URBAN WASTE	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation Learning and Empowerment	Increased use of biological and non-biological waste	Reduction of waste production per capita Incentives system and penalties related to waste production by resorting to monitoring	-38 ktCO2e -44%	Air Quality, Civic participation, Capacity for citizen engagement, Technological Availability, Entrepreneurship and local businesses, Waste Management, Circular Economy. SDGs: 2, 6, 9, 11, 12, 13, 15, 17
GREEN INFRASTRUCTURE	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation Learning and Empowerment	Planting of alignment trees and shrubs Completion of connecting green areas (green corridors)	Creation of new green areas Re naturalization of depressed areas Increase of climate regulation areas through vegetation cover Safeguarding and promoting biodiversity in the city	n. a.	Air Quality, Noise, Urban Heat Island, Physical and mental well-being, Quality of Life, Equal access to housing, Civic participation, Capacity for citizen engagement, Social cohesion and equity, Water management, Sustainable Food Production, Land use management practices, Urban Forests: Plantation, Non-invasive species and pollinators,

					Environmental Awareness, Green structure, Conversion of natural areas. SDGs: 2, 6, 9, 11, 12, 13, 15, 17
WATER	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation Learning and Empowerment	Improved water efficiency of irrigation systems Installation of drinking fountains Use of recycled water	Recycled water network for irrigating green areas Drainage network prepared to respond to climate events, including new permeable areas	n.a.	Urban Heat Island, Physical and mental well-being, Quality of Life, Capacity for citizen engagement, Water management, Sustainable Food Production, Land use management practices, Urban Forests: Plantation, Non-invasive species and pollinators, Environmental Awareness, Green structure, Conversion of natural areas. SDGs: 6, 9, 11, 12, 13, 15, 17
SPATIAL PLANNING AND PUBLIC SPACE	Technology and Infrastructure Financing and Investment Social Innovation Democracy and Participation Learning and Empowerment	Adaptation of public space with the incorporation of natural-based solutions, namely through vegetation Adoption of water and energy efficiency measures	Intervention in public space with the creation of protected areas against extreme events and climate shelters Energy transition in the city's port services Increased resilience in the face of extreme weather events, coordinated at metropolitan level	n.a.	Air Quality, Noise, Road Safety, Urban Heat Island, Physical and mental well-being, Quality of Life, Social Justice, Social cohesion and equity, Changing behaviours towards a zero-carbon lifestyle, Innovation and Development, Qualified jobs and employment rate, Economic Prosperity, Entrepreneurship and local business, Water management, Sustainable Food Production, Land use management practices, Urban Forests: Plantation, Green structure, Conversion of natural areas. SDGs: 1, 6, 9, 11, 12, 13, 14, 15, 17
SAFETY OF PEOPLE AND PROPERTY	Technology and Infrastructure Financing and Investment Social Innovation Democracy and	Ensure contingency plans for CAs	Increase emergency response preparedness, including through monitoring and forecasting models	n.a.	Air Quality, Noise, Road Safety, Physical and mental well-being, Quality of Life, Capacity for citizen engagement, Functioning of democratic institutions, Access to Information. SDGs: 1, 9, 11, 13, 15, 17

	Participation Learning and Empowerment				
CAPACITY BUILDING AND INFORMATION SYSTEMS	Technology and Infrastructure Financing and Investment Social Innovation, Democracy, and Participation Governance and Policies Empowerment and Training	Increase monitoring capacity Development of best practice plans and regulations	Provision of decision support systems based on sensor networks and other data sources Technical empowerment of CML and of private agents to improve efficiency in the use of resources and responses	n.a.	Road Safety, Capacity for citizen engagement, Social Justice, Social cohesion and equity, Functioning of democratic institutions, Access to Information, Changing behaviours towards a zero-carbon lifestyle, Innovation and Development, Qualified jobs and employment rate, Economic Prosperity, Technological Availability, Entrepreneurship and local businesses. SDGs: 2, 6, 7, 9, 11, 12, 13, 14, 15, 17
GOVERNANCE AND CITIZENSHIP	Technology and Infrastructure Financing and Investment Social Innovation, Democracy, and Participation Governance and Policies Empowerment and Training	Creation and expansion of efficiency commitments with public and private entities Environmental awareness campaigns	Strengthen participation mechanisms with a strong environmental component Creation of financing opportunities for transformative programmes Increase international cooperation	n.a.	Civic participation, Capacity for citizen engagement, Social Justice, Social cohesion and equity, Functioning of democratic institutions, Access to Information, Social Innovation, Changing behaviours towards a zero-carbon lifestyle, Innovation and Development, Qualified jobs and employment rate, Economic Prosperity, Technological Availability, Entrepreneurship and local businesses. SDGs: 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

Table 7 — Systemic Transformation: Systemic Levers

	MITIGATION *MITIGATION*				ADAPTATION *ADAPTATION*				CROSS *CROSS SECTOR*		Comments
	TRANSPORT & MOBILITY	BUILDINGS	ENERGY AND LOCAL PRODUCTION	WASTE	GREEN INFRASTRUCTURE	WATER	TERRITORIAL PLANNING AND PUBLIC SPACE	SAFETY OF PEOPLE AND PROPERTY	CAPACITY BUILDING AND INFORMATION SYSTEMS	GOVERNANCE AND CITIZENSHIP	
Technology and Infrastructure	1	1	1	1	1	1	2	2	2	2	Prioritize the development of applied technology and research (1) and ICT / ICT (information and communication technologies) for management, planning, decision support and monitoring (2)
Financing and Investment	1	1	1	2	1	2	3	3	3	3	Invest in projects and structuring policies (1), capture revenue (2) and create opportunities to finance action programs (3)
Social Innovation	4	4	1	1	3	3	3	2	2	1	Boost entrepreneurship, social innovation and investment by civil society, in the areas of citizenship (1), education (2), health and environment (3) and innovation incubators (4), in response to the Portugal Social Innovation 2030 initiative and in compliance with the Sustainable Development Goals. The training instruments and partnerships for Social Innovation and the Centers for Impact Entrepreneurship are worth highlighting.
Democracy and Participation	1	2	1	1	2	2	2	2	2	2	Continue with civic participation initiatives in the city of Lisbon, to involve citizens, companies, organizations, research and others, in decision-making on the city's major challenges. It constitutes a process of local governance, to involve, responsibility and innovate with territorial, sectoral (1) and transversal (2) projects
Governance and Policies									1	1	Involve decision-makers and key actors with a view to aligning climate action agendas, prioritizing interventions, investment and partnerships.
Learning and Training	1	1	1	2	2	2	2	2	2	2	Promote learning and innovation opportunities, invest in active participation, involve and mobilize the community, provide the community with a set of skills, promote the development of talent, contributing to the training of citizens in favor of building a more qualified, inclusive city , resilient and sustainable. The initiatives focused on climate action with a sectoral (1) and transversal (2) focus are worth highlighting.

Note: Attached file

Table 8 — Direct and Indirect Impacts (co-benefits)

			MITIGATION				ADAPTATION				CROSS-CUTTING	
			TRANSPORT & MOBILITY	BUILDINGS	ENERGY AND LOCAL PRODUCTION	WASTE	GREEN INFRASTRUCTURE	WATER	TERRITORIAL PLANNING AND PUBLIC SPACE	SAFETY OF PEOPLE AND PROPERTY	CAPACITY BUILDING AND INFORMATION SYSTEMS	GOVERNANCE AND CITIZENSHIP
Direct	Greenhouse gas emissions	Reduction (ktCO2e)	-608	-521	-	-38						
		Sequestration (ktCO2e)					-50					
Indirect	Public health and environment	Air quality	1	1		1	1		1	1		
		Noise	1				1		1	1		
		Road safety	1						1	1	1	
		Urban Heat Island	1				1	1	1			
		Physical and mental well-being	1	1			1	1	1	1		
		Quality of life	1	1			1	1	1	1		
		Equity in access to housing		1	1		1					
	Social Inclusion, Democracy and Cultural Impacts	Civic participation			1	1	1					1
		Capacity for citizen involvement				1	1	1		1	1	1
		Social justice			1				1		1	1
		Social cohesion and equity			1		1		1		1	1
		Functioning of democratic institutions								1	1	1
		Access to information								1	1	1
		Social Innovation										1
		Changing behaviors towards a zero-cab lifestyle	1	1			1		1		1	1
	Economic	Innovation and Development			1				1		1	1
		Skilled employment and employment rate	1	1	1				1		1	1
		Economic Prosperity	1	1	1				1		1	1
		Technological Availability		1	1	1					1	1
		Entrepreneurship and local business	1	1	1	1			1		1	1
	Resource Savings	Waste Management				1						
		Circular Economy				1						
		Water management	1				1	1	1			
		Sustainable Food Production					1	1	1			
		Land use management practices	1				1	1	1			
	Biodiversity	Urban Forests: Plantation					1	1	1			
		Non-invasive species and pollinators					1	1				
		Environmental Awareness					1	1				
		Ecological structure					1	1	1			
		Reconversion of natural areas	1				1	1	1			
TOTAL			13	9	9	7	18	12	19	8	12	13
SDG		1 - Eradicate Poverty		1					1	1		1
		2 - Eradicate Hunger					1				1	1
		- Quality Healthcare										1
		4 - Quality Education										1
		5 - Gender Equality										1
		6 - Drinking Water and Sanitation				1	1	1	1		1	1
		7 - Renewable and Accessible Energy	1	1	1						1	1
		8 - Decent Work and Economic Growth										1
		9 - Industry Innovation and Infrastructure	1	1	1		1	1	1	1	1	1
		10 - Reduce Inequalities		1	1							1
		11 - Sustainable Cities and Communities	1	1	1	1	1	1	1	1	1	1
		12 - Sustainable Production and Consumption				1	1	1	1		1	1
		13 - Climate Action	1	1	1	1	1	1	1	1	1	1
		14 - Protect Marine Life							1		1	1
		15 - Protect Earth Life					1	1	1	1	1	1
		16 - Peace, Justice and Effective Institutions										1
		17 - Partnerships for the Implementation of Objectives	1	1	1	1	1	1	1	1	1	1
	TOTAL		5	7	6	5	8	7	9	6	10	17

Note: Attached file

Table 9 — Indirect impacts (co-benefits)

	MITIGATION				ADAPTATION				CROSS SECTORS	
	TRANSPORT & MOBILITY	BUILDINGS	ENERGY AND LOCAL PRODUCTION	WASTE	GREEN INFRASTRUCTURE	WATER	TERRITORY PLANNING AND PUBLIC SPACE	SAFETY OF PEOPLE AND PROPERTY	TRAINING AND INFORMATION SYSTEMS	GOVERNANCE AND CITIZENSHIP
Public health & Environment	Improvement of air quality; reduction of comorbidities and mortality associated with air pollution; reduction of noise and associated pathologies (stress); reduction of the urban heat island effect; reduction of the ecological/carbon footprint;	Improvement of indoor air quality; reduction of the urban heat island effect; improvement of thermal comfort; reduction of comorbidities and mortality among the most vulnerable groups; reduction of ecological/carbon footprint	External reduction of GHG emissions at production sites; reduction of ecological/carbon footprint	Improvement of air quality; improving the quality of public space; reduction of ecological/carbon footprint	Improvement of air quality; noise reduction; greater water efficiency; promotion of sustainable (active) mobility; greener and more permeable public space; reduction of the urban heat island effect; improving thermal comfort	Sustainable and efficient management of a scarce resource; reducing the depletion of natural resources; adequacy of water use suitability (fit for purpose); diversification of alternative sources; efficiency in wastewater management and treatment (rainwater separation); control of surface runoff and erosion; regulation of the water cycle; reduction of the urban heat island effect; reduction of morbidity and human health effects associated with heat, especially in the vulnerable population; promotion of green and blue infrastructure (ecological structure and wet system) and ecological connectivity; reduction of pollution in wastewater and rainwater	Improving the suitability of using the territory and adapting its functions; connectivity of city functions and sustainable mobility; promotion of green and blue infrastructure (ecological structure and wet system) and ecological connectivity; promotion of soil permeability and quality; promoting the energy-environmental efficiency of buildings and public spaces; scenic enhancement of the landscape; regulation of the water cycle; increased water retention capacity in the soil; control of surface runoff, promoting sustainable mobility; noise reduction; improving landscape aesthetics/visual impact; reduction of the urban heat island effect; noise reduction; reduction of heat impacts on plants and other living beings; improvement of air quality (formation of tropospheric ozone due to heat); adequacy of water use suitability (fit for purpose); Reduction of the ecological/carbon footprint; reduction of mortality, morbidity and other health impacts associated with heat, especially in vulnerable groups; mitigating the temperature and thermal comfort of public spaces	Protection and safeguarding of natural values and most vulnerable areas; improving the suitability of using the territory and adapting its functions; minimization of environmental impacts caused by extreme weather events and climate change; monitoring and controlling the quality of the city's environment (air and water quality, noise, soil pollution); improving public health	Monitoring/assessment of environmental impacts caused by extreme weather events; Increased knowledge about self-protective behaviors; increased knowledge and healthier and more sustainable environmental attitudes; Reduction of environmental impacts through awareness and training; reduction of ecological/carbon footprint	Encouragement for better environmental practices by different sectors of society; improving environmental sustainability at local level; minimization of environmental impacts caused by climate change; reduction of ecological/carbon footprint
Resource Efficiency	Saving energy resources (fossil fuels) with renewable alternatives	Saving energy resources; protection of heritage and cultural values	Sustainable local production (no need for energy transport) Saving resources (fossil fuels) with renewable alternatives	Promotion of the circular economy and recycling of goods and resources	Regulation of the water cycle and reduction of consumption; erosion control and improvement of soil quality; protection of heritage and environmental values	Increased water retention capacity in the soil; regulation of the water cycle; greater efficiency in the use of water resources; protection of heritage and cultural values	Erosion control and improvement of soil quality; preservation of natural resources; protection of heritage and cultural values	Improvement of environmental policies and the quality of the urban environment; protection of heritage and cultural values	Improved monitoring and optimization of resource management; protection of heritage and cultural values	Savings, management and sustainable consumption of resources; improvement of environmental policies and the quality of the urban environment; encouraging/boosting the production of environmentally sustainable goods and services
Biodiversity	Reduction of circulation space to green, more naturalized and permeable areas, promoting greater biodiversity and water efficiency			Reducing the depletion of natural resources	Promotion of biodiversity; increasing ecosystem services and protecting local ecosystems and native species	Protection of biodiversity; flow regulation and reduction of surface runoff; creating microclimates and refuges for biodiversity	Increasing ecosystem services from green infrastructure and ecological connectivity; biodiversity protection	Protection of ecosystems (through training and knowledge of their importance)	Valuing and protecting ecosystems (via training and knowledge of their importance)	
Economy	Reduction of motorized traffic in the city; creation of new business opportunities; opportunity for new technologies (e.g. batteries); less exposure to the volatility of fuel prices, reduced external dependence on fuels; reduction of expenses associated with public health (e.g., diseases caused by air pollution); increase in municipal revenues (parking meters); reduced transport costs for citizens, lower vehicle maintenance costs; benefits for tourism with greater diversity and ease of travel	Improving productivity (workplaces, education); reduction of health expenses due to the reduction of comorbidities; reduction of current energy expenses; increase in the value of real estate assets (energy efficiency); short-term local job creation	Reduction of current energy expenses/revenues for energy producers; energy autonomy / reduction of external dependence; increase in the value of real estate assets (energy producers); short-term local job creation; opportunity for new technologies (e.g., more efficient energy production solutions); boosting the green economy by inducing public procurement	Financial benefits associated with waste recovery; increasing the circular economy	Improved productivity by reducing exposure to heat; benefits for tourism - greater attractiveness; reduction of healthcare costs; appreciation of territory and real estate properties; reduction of municipal expenditure on water consumption and maintenance of green spaces	Reduction of water supply charges; stimulus for the development of smart technologies associated with water efficiency; reduction of transport costs in the supply of treated water (local production) in the long term; safeguarding the functioning of economic activities; reduction of costs for losses, repairs, compensation; minimization of expenses due to disruption of essential services, networks and infrastructures; reduction of charges for losses resulting from floods; reducing healthcare costs	Reduction of healthcare costs; benefits for tourism; economic valorization of the territory; long-term resilience and sustainability of the economy; reduction of charges due to damages and losses; minimization of material damage to public space structures; greater attractiveness for local commerce and restaurants; improving performance/productivity in workplaces and education; economies of scale in supra-municipal projects; greater opportunity to attract external financing	Reduction of charges due to damages and losses, emergency funds; international projection of the city and attraction of external investment; efficiency gains (means and resources) in the municipality's coordinated response to the emergency; reduction of health costs and property damage; decision support in financial leasing and investments in adaptation to climate change (by determining the impacts that occurred: climate events and damages); inclusion of environmental economics (via knowledge and quantification of environmental impacts associated with climate change) in city governance and management	International projection of the city and attraction of external investment; improving the municipality's financial management in adapting to climate change (via economic calculation of negative externalities and cost-benefit analysis); stimulus for innovation and technological development (e.g., artificial intelligence) and job creation; decision support in financial leasing and investments in adaptation to climate change (by determining the impacts that occurred: climate events and damages)	Increase in municipal revenue; safeguarding the functioning of economic activities; reduction of impacts on labor productivity due to casualties/accidents; economic valorization of the territory/attraction of investment; boosting the green economy; creation of new business opportunities; promoting transparency, communication/information to the public and citizen participation through new technologies
Social Inclusion, Democracy and Cultural Impact	Improving accessibility and mobility; environmental responsibility in the external reduction of GHG emissions at production sites; promotion of sustainable mobility and active mobility; improvement of physical condition and well-being (active modes of transport); universal access (diversification of means of transport); improving quality of life; ; improving the city's attractiveness	Greater equity in thermal comfort; reducing energy poverty; reduced mortality and morbidity by reducing exposure to heat/cold, humidity and indoor air pollution; protection of heritage and cultural values	Universal access (diversification of energy sources); democratization of access to renewable production; reducing energy poverty; promoting energy citizenship; environmental responsibility in the external reduction of GHG emissions at production sites	Awareness, responsibility and environmental culture of citizens; environmental responsibility in the external reduction of GHG emissions at production sites	Improving public health (mental and physical), in particular reducing diseases related to air pollution and heat; greater thermal comfort (via lower air temperature); promotion of leisure, outdoor recreational activities and contact with nature; improvement of well-being and quality of life; promoting active mobility and outdoor physical exercise; greater attractiveness of the urban environment; promotion of green and blue infrastructure (ecological structure and wet system) and ecological connectivity; increasing environmental capacity	Guarantee of reserves for the supply of an essential good (water); environmental awareness for responsible consumption and attitudes; environmental awareness for the use and recirculation of goods and resources; security of people and essential services (e.g., health, education, communications, transport, water and energy supply); enhancement of the landscape and green leisure spaces with water elements; promotion of cooler and more pleasant areas for enjoying nature; increased water reserve capacity; improving quality of life	Promotion of quality of life, well-being and attractiveness of the city; promoting equity, social inclusion and social cohesion; promoting accessibility between different functional areas in the city; risk prevention in the territory through transversal and multi-risk analysis; improving public health; protection of heritage and cultural values; protection and security of people, goods and buildings (housing, essential services); attractiveness of the riverside area for recreational activities, leisure and sports; promoting well-being, leisure and outdoor physical activity; greater thermal comfort in public spaces; promoting social relationships and a sense of community; pedestrian and cyclist safety; greater attractiveness of the urban environment; protection of heritage and cultural values; improving quality of life; appreciation of the landscape	Prevention of risks in the territory and protection of people and assets (housing, assets and vital infrastructures), especially the most vulnerable population; minimization of social impacts caused by extreme weather events; monitoring/evaluation of social impacts caused by extreme weather events; improving quality of life and social well-being; improving public safety and protection of goods and people; improvement in response readiness to occurrences and emergency situations	Promotion of transparency, communication/information to the public and citizen participation through new technologies; monitoring/evaluation of social impacts caused by extreme weather events; environmental responsibility in the external reduction of GHG emissions at production sites; raising public awareness of the impacts of climate change and the importance of climate action	Promotion of Governance/leadership; promoting equity, social inclusion and social cohesion; increased environmental awareness and the impacts of climate change; promoting energy citizenship and the importance of climate action; environmental responsibility in the external reduction of GHG emissions at production sites; monitoring the impacts of CA and including knowledge in the city's governance strategy; promotion of citizenship, participation and accountability of society and economic agents through greater community involvement in governance and the definition of the city's environmental policies

B-1.2: Description of Impact Pathways

The Climate City Contract Action Plan proposed for Lisbon, defined on the bases of the Lisbon Urban Strategy and the current PAC2030, foresees the need for implementing actions, measures and projects to accelerate carbon neutrality by 2030. Based on a strategic vision, it individualizes the sectors and subsectors with an impact on climate neutrality, which resonate with the municipality, and with which it has worked.

The actions presented below, classified in the fields of mitigation, adaptation and transversality, despite being broken down into sectors and subsectors, highlight their relevance for meeting emission reduction targets and the importance of strengthening synergies between sectors. This approach will see further developments in future iterations of this Climate City Contract Action Plan.

It is important to highlight that since the Cities Mission is also an Innovation Mission, this component was valued throughout the process for selecting the measures, actions and projects to be carried out in this Action Plan.

AP4 B-2 Climate Neutrality Portfolio Project

The portfolio of actions, measures and projects are presented in Annex 2A_LXactionplan, section B-2, in response to what is proposed in the templates presented by NZC. In total, 130 actions are described distributed across 37 subsectors and 10 sectors representing the mitigation, adaptation and transversality components, summarized in the following tables.

B-2.1: Description of Action Portfolios

Table 10 — Mitigation Actions, Measures and Projects

No.	ID	Sector	Subsector (objective)	Measures	Investment (Million €)	Investment by Sector (Million €)
1	TM11	**Transport & Mobility**	Discourage Individual Motorized Transports	Promote the use of soft modes when traveling within the CML universe	48	1556.5
2	TM12	**Transport & Mobility**	Discourage Individual Motorized Transports	Promote the use of public transports when traveling within the CML universe		
3	TM13	**Transport & Mobility**	Discourage Individual Motorized Transports	Increase pedestrian public space		
4	TM14	**Transport & Mobility**	Discourage Individual Motorized Transports	Consolidate and expand traffic calming policies		
5	TM15	**Transport & Mobility**	Discourage Individual Motorized Transports	Expand the Low Emission Zone (LEZ)		
6	TM16	**Transport & Mobility**	Discourage Individual Motorized Transports	Update City Paid Parking Management Strategy"		

7	TM21	**Transport & Mobility**	Modal Transfer	Increase the cycling network and encourage greater use of soft modes		
8	TM22	**Transport & Mobility**	Modal Transfer	Foster new forms of shared mobility		
9	TM23	**Transport & Mobility**	Modal Transfer	Strengthen the service and coverage provided by the Carris network and its reliability/regularity at city scale	160	
10	TM24	**Transport & Mobility**	Modal Transfer	Coordinate, jointly with the central government, the expansion strategy of the heavy Metro network	920	
11	TM25	**Transport & Mobility**	Modal Transfer	Introduce public transport networks (bus rapid transit and light rail vehicles) *in specific areas*	392	
12	TM26	**Transport & Mobility**	Modal Transfer	Coordinate, jointly with the central government, the expansion of the operational capacity of river transport		
13	TM27	**Transport & Mobility**	Modal Transfer	Coordinate, jointly with the central government, the expansion of the operational capacity of railway transport		
14	TM28	**Transport & Mobility**	Modal Transfer	Strengthen the municipal intermodal capacity		
15	TM29	**Transport & Mobility**	Modal Transfer	Strengthen and expand the offer of public transport on a metropolitan scale (TML/CARRIS, Metro, CP)		
16	TM31	**Transport & Mobility**	Shared Mobility	Regulate mobility solutions as a service (MaaS)		
17	TM41	**Transport & Mobility**	Electrification of Vehicles	Electrify the municipal light vehicles fleet	2.5	
18	TM42	**Transport & Mobility**	Electrification of Vehicles	Electrify specialized and emergency transports		
19	TM43	**Transport & Mobility**	Electrification of Vehicles	Strengthen the electrical charging infrastructure	1	
20	TM44	**Transport & Mobility**	Electrification of Vehicles	Regulate the electrification of individual, paid transport of passengers on ordinary vehicles (Taxis and TVDEs)		
21	TM45	**Transport & Mobility**	Electrification of Vehicles	Regulate the Electrification of Freight Transport"		
22	TM51	**Transport & Mobility**	Electrification of Public Transport	Electrify public transports		
23	TM52	**Transport & Mobility**	Electrification of Public Transport	Diversify clean sources in public transports		
24	TM61	**Transport & Mobility**	Electrification of Commercial Vehicles	Create green urban logistic areas		
25	TM62	**Transport & Mobility**	Electrification of Commercial Vehicles	Define the access(Camera Circuit) to Low Emission Zone (LEZ)		

26	TM63	**Transport & Mobility**	Electrification of Commercial Vehicles	Electrify the municipal vans fleet	2.5	
27	TM64	**Transport & Mobility**	Electrification of Commercial Vehicles	Electrify the municipal fleet of specialized heavy vehicles	10,5	
28	TM71	**Transport & Mobility**	Optimize Freight Transport Logistics	Create logistics and micrologistics terminal centres	20	
29	TM72	**Transport & Mobility**	Optimize Freight Transport Logistics	Continue the strategy of extending and increasing the efficiency of dedicated loading and unloading parking spaces		
30	ED11	**Buildings**	Renovation	Certify and update energy performance of CML buildings		2327
31	ED12	**Buildings**	Renovation	Renovate the public housing stock	652	
32	ED13	**Buildings**	Renovation	Foster commitments with private entities to integrate/implement energy efficiency solutions		
33	ED14	**Buildings**	Renovation	Intervene in buildings in terms of Energy Efficiency (with support for improving their thermal efficiency)		
34	ED15	**Buildings**	Renovation	Create facilities and ensure the operation of the Lisbon Energy Store (for Municipal Citizens and Businesses)		
35	ED16	**Buildings**	Renovation	Crate tax incentives, credits or benefits for building renovation		
36	ED21	**Buildings**	Efficiency	Build public housing with high efficiency	860	
37	ED22	**Buildings**	Efficiency	Support the integration of energy efficiency solutions	300	
38	ED31	**Buildings**	Efficient Lighting and Appliances	Replace traffic lights and street lighting columns (IP) Smart p	15	
39	ED32	**Buildings**	Efficient Lighting and Appliances	Create facilities and ensure the operation of the Lisbon Energy Store (for Municipal Citizens and Businesses)		
40	ED41	**Buildings**	Heating/Cooling Systems	Certify and improve the energy performance of CML buildings	8	
41	ED42	**Buildings**	Heating/Cooling Systems	Foster the improvement of thermal efficiency in residential buildings	500	
42	EP11	**Local Energy & Production**	Renewable Energy Production	Support and encourage the creation of Municipal Energy communities (Buildings, Schools, Parking Lots, Photovoltaic Farms, and others)		75
43	EP12	**Local Energy & Production**	Renewable Energy Production	Promote the implementation of the Solar Social Tariff		
44	EP13	**Local Energy & Production**	Renewable Energy Production	Promote the installation of photovoltaic systems for self-consumption in the private sector		

45	EP14	**Local Energy & Production**	Renewable Energy Production	Implement renewable production pilots within the CML universe and others		
46	EP15	**Local Energy & Production**	Renewable Energy Production	Develop projects to install a hydrokinetic pilot system for generating energy (1MW power), by using the Tagus River currents and tides		
47	RU11	**Urban Waste**	Recycling Rate	Expand the urban waste selective collection network		180
48	RU12	**Urban Waste**	Recycling Rate	Increase the reuse and recycling percentage		
49	RU13	**Urban Waste**	Recycling Rate	Implement and pursue the various reuse, recovery, and recycling solutions		
50	RU14	**Urban Waste**	Recycling Rate	Decrease the per capita production of waste		

No. of Actions 50

No. of Subsectors 13

No. of Sectors 4

Investment | Estimated amount under review (M€) 4138.5

Programmes by pillar

Transport & Mobility	B3. A Sustainable City — Diversifying Mobility
Buildings	B1. A Sustainable City — Protecting the Environment Day by Day D1. A Supportive City — Open Door to Housing and Habitat
Local Energy & Production	B1. A Sustainable City — Protecting the Environment Day by Day
Urban Waste	B1. A Sustainable City — Protecting the Environment Day by Day

Table 11 — Adaptation, Actions, Measures and Projects

No.	ID	Sector	Subsector	Measures	Investment (Million €)	Investment by Sector (Million €)
51	IV11	**Green Infrastructure**	Green Areas	Increase the number of green areas by connecting the nearby green structure with other green spaces, gardens, and urban parks (in 200ha)	150	186.038
52	IV12	**Green Infrastructure**	Green Areas	Strengthen and densify the arboreal heritage by planting trees and shrubs and alignment trees	0.438	
53	IV13	**Green Infrastructure**	Green Areas	Recover patios	1	
54	IV14	**Green Infrastructure**	Green Areas	Promote the construction of green roofs and vertical gardens in municipal and other buildings	1	

55	IV15	**Green Infrastructure**	Green Areas	Reconvert existing public green areas with adequate vegetation, adapted to climate conditions (micro scale)	5	
56	IV16	**Green Infrastructure**	Green Areas	Renovate biodiverse grasslands, and continue the existing ones	0.5	
57	IV17	**Green Infrastructure**	Green Areas	Renovate public green spaces in response to climate conditions (micro scale)		
58	IV21	**Green Infrastructure**	Green Corridor	Complete the green corridor network		
59	IV31	**Green Infrastructure**	Agro-ecological territory	Expand the network of urban gardens and agriculture parks	0.1	
60	IV32	**Green Infrastructure**	Agro-ecological territory	Promote urban and peri-urban agriculture		
61	IV41	**Green Infrastructure**	Natural Ecosystem	Enhance the value of the Monsanto Forest Park	10	
62	IV42	**Green Infrastructure**	Natural Ecosystem	Enhance the value of the ecosystem and biodiversity		
63	IV43	**Green Infrastructure**	Natural Ecosystem	Promote animal welfare	18	
64	AG11	**Water**	Water Efficiency	Build zero-waste rainwater and/or zero-wastewater prototypes	0,7	564.7
65	AG12	**Water**	Water Efficiency	Keep pursuing the policy of installing smart, automated irrigation management systems		
66	AG13	**Water**	Water Efficiency	Expand the reused water network (water +)		
67	AG14	**Water**	Water Efficiency	Implement the water elements maintenance and repair programme	14,8	
68	AG15	**Water**	Water Efficiency	Implement the water resources quality monitoring programme in public spaces	17.8	
69	AG16	**Water**	Water Efficiency	Monitor consumption reduction solutions	0.25	
70	AG21	**Water**	Non Potable Water	Execute the strategic programme for using treated wastewater	0.25	
71	AG22	**Water**	Non Potable Water	Use non potable water from alternative sources (springs and aqueduct) in municipal buildings	55.5	
72	AG31	**Water**	Drinkable Water	Install new drinking fountains, renovate and		

				ensure the functioning of existing ones		
73	AG41	**Water**	Drainage System	Build new tunnels and complementary works to the General Lisbon Drainage Plan	185	
74	AG42	**Water**	Drainage System	Integrate the reused water transport network	184.8	
75	AG43	**Water**	Drainage System	Renovate and reinforce the collector network	100	
76	AG51	**Water**	Natural Base Basin	Implement projects for renaturalizing valleys and watercourses	5.6	
77	OT11	**Spatial Planning and Public Space**	National Policy	Implement all scheduled interventions		73
78	OT12	**Spatial Planning and Public Space**	National Policy	Monitor the process of defining alternative solutions to the construction of the new airport in the Lisbon Metropolitan Area (AML)		
79	OT31	**Spatial Planning and Public Space**	Local Policies	Implement urban planning, territory management, resilience, sustainability, and emergency strategies	0.5	
80	OT41	**Spatial Planning and Public Space**	Blue Economy	Keep pursuing the renovation of the Cruise and Container Terminal		
81	OT51	**Spatial Planning and Public Space**	Public Space	Strengthen the adaptive capacity to climate risks, promoting public health, by implementing municipal programmes	59	
82	OT52	**Spatial Planning and Public Space**	Public Space	Increase permeable spaces	0.5	
83	OT53	**Spatial Planning and Public Space**	Public Space	Increase the cycling network	1	
84	OT54	**Spatial Planning and Public Space**	Public Space	Improve rainwater drainage and runoff		
85	OT55	**Spatial Planning and Public Space**	Public Space	Introduce rainwater infiltration solutions into the soil and in situ retention	0.5	
86	OT56	**Spatial Planning and Public Space**	Public Space	Increase pedestrian areas		
87	OT57	**Spatial Planning and Public Space**	Public Space	Adapt the lighting system, traffic lights, urban furniture, and urban equipment	5	

88	OT58	**Spatial Planning and Public Space**	Public Space	Keep pursuing the "Cooling the City" Programme	1	
89	OT59	**Spatial Planning and Public Space**	Public Space	Reinforce Pest Control and Monitoring		
90	OT61	**Spatial Planning and Public Space**	Riverfront	Reconvert uses in existing public spaces		
91	OT62	**Spatial Planning and Public Space**	Riverfront	Regulate minimum sill levels in public buildings and public spaces		
92	OT63	**Spatial Planning and Public Space**	Riverfront	Implement defence, protection and adaptation works on the drainage system and buildings	5	
93	OT71	**Spatial Planning and Public Space**	Municipal Cemetery	Implement the concept of Sustainable Cemeteries	0.5	
94	SP11	**Security of People and Goods**	Emergency Action	Ensure the safety of people and goods	1	1

No. of Actions 44
No. of Subsectors 16
No. of Sectors 4
Investment | Estimated amount under review (M€) 824.738

Programmes by pillar

Green Infrastructure	B1. A Sustainable City — Protecting the Environment Day by Day
Water	B1. A Sustainable City — Protecting the Environment Day by Day
Spatial Planning and Public Space	B2. A Sustainable City — Proximity Urbanism B4. A Sustainable City — A Renovated Public Space
Security of People and Goods	F. A Safe, Resilient City

Table 12 — Transversal Actions, Measures and Projects

No.	ID	Sector	Subsector	Measures	Investment (Million €)	Investment by Sector (Million €)
95	CS11	**Capacity Building and Information Systems**	Studies, Strategies and Plans	Prepare and apply technical and scientific studies to support the Municipality activities and monitor innovative pilot solutions	20	51.9
96	CS12	**Capacity Building and Information Systems**	Studies, Strategies and Plans	Participate in projects, and in technical and scientific studies, and propose pilot solutions with partners external to the Municipality	7	
97	CS13	**Capacity Building and**	Studies, Strategies and Plans	Update and develop municipal planning		

		Information Systems		instruments in compliance with legal requirements		
98	CS14	**Capacity Building and Information Systems**	Studies, Strategies and Plans	Develop the Citizen Circular Profile	2	
99	CS15	**Capacity Building and Information Systems**	Studies, Strategies and Plans	Prepare manuals, standards, best practices, internal procedures and/or regulations to support municipal activity		
100	CS16	**Capacity Building and Information Systems**	Studies, Strategies and Plans	Prepare, participate in and apply studies, pilot projects or others on an international scale		
101	CS21	**Capacity Building and Information Systems**	Collaborative Knowledge	Create, appoint and continue the interdepartmental working groups at Municipal level		
102	CS22	**Capacity Building and Information Systems**	Collaborative Knowledge	Foster municipal participation in regional, national and international networks to share best practices		
103	CS23	**Capacity Building and Information Systems**	Collaborative Knowledge	Promote knowledge sharing in scientific research and leadership projects as well as citizen science projects		
104	CS31	**Capacity Building and Information Systems**	Smart Information Management	Monitor ecosystem services	0.9	
105	CS32	**Capacity Building and Information Systems**	Smart Information Management	Monitor interventions carried out		
106	CS33	**Capacity Building and Information Systems**	Smart Information Management	Strengthen the municipal monitoring, warning and alert network	5	
107	CS34	**Capacity Building and Information Systems**	Smart Information Management	Strengthen the integration of digital platforms at the service of the Municipality	2	
108	CS35	**Capacity Building and Information Systems**	Smart Information Management	Keep pursuing the implementation of interactive reporting and communication Apps with citizens	15	
109	CS36	**Capacity Building and Information Systems**	Smart Information Management	Keep pursuing the policies for producing and integrating georeferenced information and KPI monitoring		

110	GC11	**Governance and Citizenship**	Commitments	Ensure leadership on a local, regional, national or international scale (Local Green Deal)		39.5
111	GC12	**Governance and Citizenship**	Commitments	Monitor the Municipality's commitments	0.5	
112	GC21	**Governance and Citizenship**	Empowering Municipal Departments	Implement measures in the field of HR / Green jobs	5	
113	GC22	**Governance and Citizenship**	Empowering Municipal Departments	Implement sustainability measures in Municipal buildings, Parish Councils or in shared management departments (internal commitment)		
114	GC23	**Governance and Citizenship**	Empowering Municipal Departments	Promote environmental monitoring campaigns	8	
115	GC24	**Governance and Citizenship**	Empowering Municipal Departments	Apply environmental sustainability criteria to events organized and promoted by the Municipality	0.5	
116	GC25	**Governance and Citizenship**	Empowering Municipal Departments	Apply environmental sustainability criteria to public contracts		
117	GC31	**Governance and Citizenship**	Financing	Participate in applications for financing programmes, European funds and others		
118	GC32	**Governance and Citizenship**	Financing	Develop tax instruments and other incentives		
119	GC33	**Governance and Citizenship**	Financing	Create the CML Sustainable Energy Cooperative	1	
120	GC34	**Governance and Citizenship**	Financing	Establish incentives for attracting projects within the scope of climate change	6	
121	GC41	**Governance and Citizenship**	Civic Participation	Promote and raise awareness among public and private entities and the academia to join the Lisbon CCC2030 commitment		
122	GC42	**Governance and Citizenship**	Civic Participation	Strengthen participatory processes at the scale of neighbourhoods, parishes or the city itself, contributing to the Participating City pillar	0.5	
123	GC51	**Governance and Citizenship**	Environmental Education	Produce and implement programmes, campaigns, visits, training, and information and awareness raising initiatives, aimed at various target audiences	3	

124	GC52	**Governance and Citizenship**	Environmental Education	Strengthen the Lisbon CCC2030 Communication Strategy, integrated into the Sustainable City pillar	1	
125	GC53	**Governance and Citizenship**	Environmental Education	Create and make available a communication portal offering initiatives and educational resources devoted to environmental awareness and literacy	2	
126	GC54	**Governance and Citizenship**	Environmental Education	Stimulate the Lisbon Energy Store	2	
127	GC55	**Governance and Citizenship**	Environmental Education	Value local resources/facilities as proximity ecosystem points	5	
128	GC56	**Governance and Citizenship**	Environmental Education	Promote the creation of community initiatives	2	
129	GC57	**Governance and Citizenship**	Environmental Education	Take part in and promote initiatives with partners external to the Municipality		
130	GC58	**Governance and Citizenship**	Environmental Education	Promote actions, training, courses and other initiatives aimed at Municipal departments	3	

No. of Actions	**36**
No. of Subsectors	**8**
No. of Sectors	**2**
Investment | Estimated amount under review (M€)	**91.4**

Programmes by pillar

Capacity Building and Information Systems	A1. A Participating City — Encouraging Participation A3. A Participating City — Smart City
Governance and Citizenship	A1. A Participating City — Encouraging Participation A2. A Participating City — Greater Transparency and Efficiency

B-2.2: Individual Action Outlines

The portfolio of actions, measures and projects is shown in Annex 2A_LXactionplan, section B-2, in response to the proposals made in template B2.2. In total, 130 actions are described distributed across 37 subsectors and 10 sectors representing the mitigation, adaptation, and transversality components.

Next, the importance given to systemic levers by intervention sector is highlighted. The direct and indirect impacts associated with the various sectors are also presented, highlighting the co-benefits and the contributions to the 2030 SDGs Agenda, in compliance with the goals undertaken by Lisbon in this Climate City Contract.

B-2.3: Summary Strategy for Residual Emissions

Climate neutrality implies net emissions equal to zero by 2030, which will require — in addition a substantial drop in emissions — the development of strategies for managing residual emissions, estimated at 747 $ktCO_2e$ in 2030. The city of Lisbon identifies three possible strategies for residual emissions management:

Emission Removals

Implementing sequestration, storage, and use projects (CCS/CCU) makes it possible to account for negative emissions (removals). Since these technologies are still under development, with little technological maturity and very high costs, we feel that this type of projects are difficult to implement in the city's territory — even when considering pilots.

Carbon sinks

The Municipality of Lisbon, within the scope of the Lisbon Local Biodiversity Action Plan (PALBL), developed an integrated multidisciplinary work, which helped identify a set of indicators for Lisbon, according to the City Biodiversity Index (CBI). Within the scope of ecosystem service indicators, Lisbon is developing — in partnership with universities and research centres — different developments to quantify carbon sinks in the city (Trees / Grasslands / The Monsanto Forest Park / Green Areas / The Tagus Estuary).

On the city's green structure

The city's current green area covers 2,900 ha (see Figure 14). Between 2019 and 2023, about 242 ha of green areas were densified, corresponding to the planting of 68 thousand trees and shrubs. By 2030, the city's goal is to plant 250,000 trees and shrubs, densifying its green areas and planting alignment trees.

Carbon off-setting

Carbon off-setting is not a risk-free strategy, and if the city moves towards an off-setting policy it must necessarily ensure guiding principles in terms of Effectiveness, Measurability, Additionality, Permanence and Absence of double counting. Taking into account the importance of forests in Portugal, and the planned creation of the Portuguese Voluntary Carbon Market, carbon off-setting will be a strategy to be considered. One must assess whether the city will be a buyer of credits, an investor, or whether it will develop its own projects (depending on factors such as time horizon, geographic origin of projects, associated costs).

In future updates of the Lisbon Climate City Contract 2030 , a more detailed strategy will be presented, based on: i) assessing the city's carbon sinks and, ii) studying the off-setting scenarios in the national/European context.

Lisbon also advocates, within the context of the “Mission 100 cities,” the need for developing additional guidance on climate neutrality and emissions management from the perspective of cities.

Figure 14—Lisbon Green Structure (Source: CML, 2023)

AP4 B-3 Monitoring, Evaluation, and Learning Indicators

The periodic monitoring system under development in the Municipality of Lisbon will help to evaluate the execution of its Climate City Contract, both in physical and financial terms, disclosing the percentage of execution compared to the proposed programming, and allowing new policies to be aligned with the current strategy, thus avoiding deviations from the drafted plan.

Each time the Climate City Contract is reviewed, a status assessment will be carried out, accompanied by the preparation and dissemination of midterm progress reports. Thus, these monitoring moments are important occasions for highlighting possible constraints or new opportunities in the field of climate action, as well as occasions to review the proposed schedule, if necessary.
When reviewing and monitoring the plan, it is expected that follow-up and adjustment will be carried out on:

- the implementation of measures and respective actions;

- mitigation (GHG reduction), climate adaptation and sectoral targets (directly applicable), including reviewing the respective monitoring indicators and their deviations from what was defined;
- the costs of co-benefits associated with the various measures, namely in terms of reducing emissions, direct impact on climate adaptation, in terms of environment and public health (of humans and animals), of social, cultural, and economic inclusion, of resource efficiency, biodiversity and ecosystems;
- the involvement and commitments made;
- investment execution.

In terms of monitoring climate action, Lisbon periodically reports data related to climate mitigation and adaptation through the *Sustainable Energy Action Plans* (SECAP) reports, within the scope of the Covenant of Mayors and of the *Carbon Disclosure Project* (CDP *Cities*) platform, with special emphasis on the latter. Through this common reporting system, involving more than 850 cities, recorded information is shared between different international networks: *Carbon Disclosure Project*, ICLEI — *Local Governments for Sustainability*, C40 *Cities*, *Global Covenant of Mayors* and, more recently, the NetZeroCities.

By joining the Municipal Platform for Sustainable Development Goals (local SDG Platform), Lisbon monitors best innovative, sustainable practices implemented by municipalities, and assesses their evolution compared to the various targets under the 17 goals of the 2030 Agenda.

As far as adaptation is concerned, monitoring variables in climate change scenarios, with special emphasis on extreme meteorological events with impacts on the city, will continue to be ensured by the current system, which must be articulated, systematized and automated, as well as integrated with warnings /alerts associated with these phenomena.

The following climate monitoring tools are worth highlighting:

- The Lisbon Smart Management Platform (PGIL), developed under the Sharing Cities project, to monitor environmental parameters in real time, in the city of Lisbon, relating to meteorology, air quality, noise and traffic counts, based on a network of 80 environmental stations and more than 650 sensors, mostly installed on public lighting posts. This monitoring began in 2020;
- Cataloguing flood data caused by precipitation and by direct tidal effects, a real-time monitoring platform for the city of Lisbon, with meteorological and tidal parameters, with the potential to model the city by using the capabilities offered by Geographic Information Systems (GISs);
- AML Climate, a meteorological monitoring and warning network developed across the Lisbon Metropolitan Area;
- Lisbon Observatories | Know to Reduce.

Monitoring the city's climate action also includes the involvement and monitoring of effective mobilization by the main agents and key actors in society. Within the scope of the Lisbon 2030 Commitment, a follow-up and monitoring programme is being developed for initiatives

subscribed by various entities, namely Businesses, institutions, public bodies, schools, in different sectors, as previously described.

Although the monitoring system for the Lisbon Climate City Contract 2030 is still under development in order to then be integrated into the Municipality's existing tools, some of the execution and impact indicators by sector are presented in the following table, broken-down by subsector and type of action, including the definition of goals to be achieved in each year. In the next iteration, a general table will be presented listing the selected indicators by outcome and impact, including goals and assessment points (B-3.1); and a table of metadata for each selected indicator, as specified in the Comprehensive Indicator Sets (B-3.2).

The actions will be monitored and evaluated with the use and support of geographic information systems, analytics, and modelling of georeferenced data, with special emphasis on the areas of the Environment, Green Spaces, Climate and Energy, Information Systems, Urban Planning, Sanitation, Economy and Innovation, Relationship with Citizens and Participation, the Lisbon Urban Management and Smart Centre, the Lisbon General Drainage Plan.

The monitoring process in Lisbon is developed and followed-up with the support of ICT Businesses, of the scientific community, and of public departments with competence in the area, namely the Portuguese Sea and Atmosphere Institute, the Hydrographic Institute, the Portuguese Environmental Agency, the Regional Development and Coordination Committee of Lisbon and the Tagus Valley, and the Lisbon Metropolitan Area.

Table 13 — Indicators Proposed by Sector:

Sectors	*Subsectors*	*Indicator No.*	Execution Indicator	Impact Indicator
Transport & Mobility	Discourage Individual Motorized Transports		- GHG emissions (tCO_2 equivalent) (GHG *emission from transport*) - Air quality (atmospheric pollutants PM10; PM2.5, SO2, NOx,O3) - Noise (greater calmness)	- Number of people with respiratory pathologies
	Modal Transfer			
	Shared Mobility			
	Electrification of Vehicles			
	Electrification of Public Transport			
	Electrification of Commercial Vehicles			
	Optimization of Freight Transport Logistics			
Buildings	Renovation		By sector (services/residential): - No. / % New Energy Certificates (renovated buildings) - No. / % Renovated Buildings/Houses - No. of Buildings/Houses (new construction) Public Lighting (IP): - Commissioning of smart management systems - No. / % of luminaires replaced - No. of entities that joined the Lisbon Commitment - No. of entities that joined the Lisbon Commitment monitoring system - No. of energy efficiency measures implemented - No. of energy certificates - Lisbon Climate Fund implementation rate - No. of beneficiaries of urban management	By sector (services/residential): - Consumption electrification rate (%) - Consumption variation (MWh / %) - Specific indicators (per m2 / occupant) - No. / % People in a situation of energy poverty Public Lighting (IP): - Consumption variation (MWh / %) - Consumption electrification rate (%)
	Efficiency			
	Efficient Lighting and Appliances			
	Heating/Cooling Systems			

			instruments - No. of Businesses served at the Lisbon Energy Store - No. of awareness raising/information initiatives (Energy) - No. of people served at the Lisbon Municipal Energy Store	- Consumption variation (MWh / %) - Specific indicators (per m2 / occupant) - Consumption electrification rate (%) - Consumption variation (MWh / %) - Specific indicators (per m2 / occupant) - No. / % People in a situation of energy poverty
Local Energy & Production	Renewable Energy Production		- Installed PV capacity (MW) - No. of entities that joined the Lisbon Commitment - No. of entities that joined the Lisbon Commitment monitoring system - No. of energy efficiency measures implemented - No. of energy certificates - Lisbon Climate Fund implementation rate - No. of beneficiaries of urban management instruments - No. of entities served at the Lisbon Energy Store - No. of awareness raising/information initiatives - No. of training initiatives for architects/urban planners - CML contract for the acquisition of clean electricity - Guarantees of Origin (GoO) acquired by CML	- Energy production (MWh) - % Renewable electricity consumed in the CML universe, Parish Councils, and by Municipal Businesses
Urban Waste	Recycling Rate		- GHG *emission from waste* GHG emissions (tCO_2 equivalent) - Waste production (total and per capita) - Selective collection rate (%) per sector (incl. bio waste) - Recycling rate (%)	Direct GHG emissions associated with processing systems: - Organic Recovery (Anaerobic digestion systems) - Ground deposition (Landfills) - Energy Recovery (WtE)
	Green Areas		- Carbon sequestration rate (*Carbon Capture*)	

Green Infrastructure	Green Corridor		- Hectares of new green spaces - No. of trees and shrubs planted annually - No. of green corridors completed - Hectares planted with biodiverse meadows	- Additional shading area - Reduction in physiological temperature around trees - Water saving - Quantification of ecosystem services - Connectivity at canopy and soil level
	Agro-ecological territory			
	Natural Ecosystem			
Water	Water Efficiency		- No. of devices placed (water beeps, sensors, flowmeters) to monitor consumption - Volume / % of treated wastewater reused - Volume / % of non-drinkable water used, from other sources - PGDL execution rate - No. of sustainable drainage solutions implemented - No. of drinking fountains installed - No. of renovated fountains	- Reduction of water consumption (% / Volume) - Volume / % of drinking water saved - Flood risk (re) assessment in the city (risk reduction) - Flood risk (re) assessment in the city (risk reduction) - Increased resilience to heat waves (intangible)
	Non Potable Water			
	Drinking Water			
	Drainage System			
	Natural Base Basin			
Spatial Planning and Public Space	National Policy		- Qualitative: state of play, including the main developments and progress in integrating adaptation into planning - Level of implementation of the intervention programme for the adaptation of the riverfront (pre-indicator) - Execution rate of municipal programmes (e.g., “A Square in each Neighbourhood”) - Number of specific applications based on the ICU study - Project execution rate in the AML adaptation agenda	- Number of occurrences, caused by inundations and floods, on the riverfront - Number of occurrences caused by extreme weather events in public spaces Indicators foreseen in the 2019 PMAAC
	Local Policies			
	Blue Economy			
	Public Space			
	Riverfront			
	Municipal Cemetery			
Security of People and Goods	Emergency Action		- Number of updates and new plans within the scope of Civil Protection	- Capacity to respond to emergencies caused by climate events

			- Qualitative: state of play, including the main actions undertaken by public transport operators	- Capacity to respond to emergencies caused by weather events in public transports
Capacity Building and Information Systems	Studies, Strategies and Plans		- No. of plans, studies, strategies executed - No. of research projects in which we are involved	- Ability to communicate and provide information
	Collaborative Knowledge			
	Smart Information Management			
Governance and Citizenship	Commitments		- No. of commitments signed - No. of measures considered - Date of presentation of the internal commitment agenda - No. of entities that joined the Lisbon Commitment - No. of entities that joined the Lisbon Commitment monitoring system - No. of contractual procedures that include environmental sustainability criteria - No. of proposals presented by citizens in the field of environment and sustainability - No. of environmental awareness and education initiatives	Lisbon Commitment monitoring indicators (DMEI / DRMP)
	Empowering Municipal Departments			
	Financing			
	Civic Participation			
	Environmental Education			

AP5 Part C — Promote Climate Neutrality by 2030

The aim of this item is to highlight the importance of interventions that support, influence, and help implement the portfolio of inventoried actions to achieve the co-benefits outlined in this Lisbon Climate City Contract 2030. The collaborative governance initiatives that contribute to the objectives of climate adaptation, underway in the Municipality of Lisbon, deserve especial emphasis.

AP5 C-1 Organizational Innovation and Governance Interventions

C.1.1: Enabling Organisational and Governance Interventions					
Intervention name	***Description***	***Responsible entity/ dept./ person***	***Involved stakeholder***	***Enabling impact***	***Co-benefits***
Participatory budget 2021	Projects dedicated to the topics of energy and environmental sustainability, responses to climate change, as well as to engaging in physical activity,	CML	Lisbon population Stakeholders in project execution	Local projects in execution stage: Climate change adaptation and mitigation; Clean, renewable energy; Circular economy; Efficient revitalization of buildings; Reduction of pollution and preservation/recovery of ecosystems and biodiversity; Fair food system; Smart, sustainable mobility; Sports, and promotion of physical and mental health.	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
Lisbon Agenda Commitment Climate Action 2030	A collaborative, participated process, created to involve all Units of the Municipality	CML	Public servants and local authority	238 Commitments in the fields of adaptation, mitigation, and transversal	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
Lisbon Sustainable Businesses	Commitments of the city with Businesses and organizations on energy and climate change,	CML	Businesses and organizations	260 Commitments	Public health and environment; social inclusion; culture and

	mobility, green structure, water and waste				democracy, economy, Resource Efficiency, Biodiversity
Lisbon Air Quality	A project aimed at collecting and reviewing citizens' opinions on air quality in the city of Lisbon.	CML and partners of the pilot project *"Co-Deciding Europe: Civic Tech for Good Governance and Active Citizenship!*	Experts and general population	Citizens are called to get involved in the formulation of public policies through participation and digital democracy	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
In my street	Portal of occurrences for reporting problems in public spaces requiring the intervention of the Lisbon City Council or of Parish Councils	CML	General population	Understand the problems of the city and respond in a coordinated, timely manner	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
City Council Meetings	Public, Decentralized Meetings	CML	General population and their representatives, Businesses and organizations	Submission of proposals	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
Open Lisbon	Lisbon open data portal	CML	General population, researchers, students and Businesses	Area dedicated to the environment	Public health and environment; social inclusion; culture and democracy,

					economy, Resource Efficiency, Biodiversity
Municipal Assembly	Public meetings	CML	General population and their representatives	Discussion on various topics, to take decisions on interventions and on definition of priorities	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
BIP ZIP Programme	Local partnership programme for Neighbourhoods and Priority Intervention Areas	CML	Investors, partners, Lisbon population (vulnerable groups)	Local interventions (various editions)	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
A Square in Every Neighbourhood	Intervention project in the field of urban planning	CML	Population	Interventions in Lisbon neighbourhoods (public space)	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
Citizen's Council	Civic participation initiative of the City of Lisbon, promoted by the City Council, with the aim of involving citizens in decision-making on the city's major challenges	CML	Population	Initiative aimed at citizens “An opportunity to change the city”	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity

Local SDGs	Local SDGs Platform		Municipality of Lisbon	Comprehensive, intense mobilization of decision-makers and municipal technical staff, and of local agents and citizens on the SDGs of the 2030 Agenda	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity
Lisbon Observatories	Monitoring platform	LEN	General population	Provision of quantified data on energy consumption, greenhouse gas (GHG) emissions, waste, water and wastewater	Public health and environment; social inclusion; culture and democracy, economy, Resource Efficiency, Biodiversity

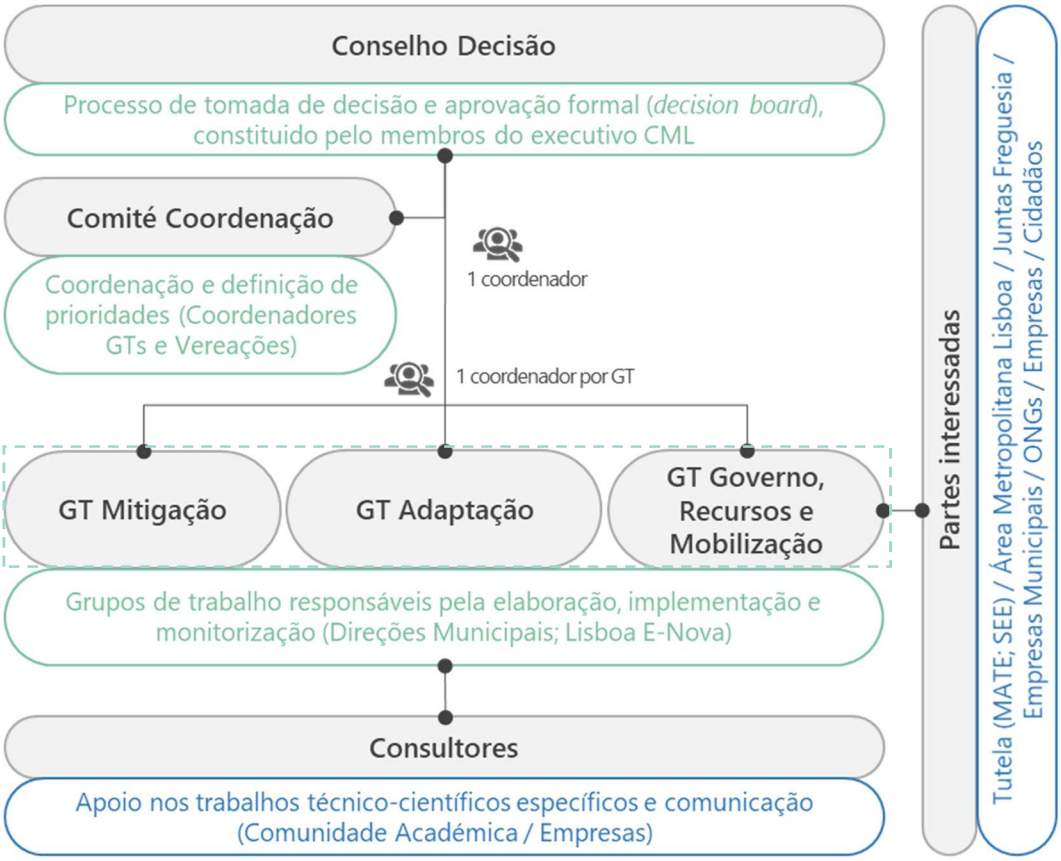
C-1.2: Description of organization and governance interventions — textual and visual elements

As described in previous items, the main interventions proposed in this Lisbon Climate City Contract 2030 are associated with the city's programme, as described in the current GOP, broken down into programmes by pillar. The interventions described align political guidelines with ongoing strategies, making planning and physical and financial execution compatible.

The effective implementation of the action plan implies a commitment from the executive and the entire municipal universe, as well as a concerted and articulated coordination effort.

To respond to this challenge, an adaptation of the general governance structure defined in PAC2030 is being evaluated, which considered three levels of management — the Decision-Making Council (DC), the Coordination Committee (CC), and the Working Groups (WGs) —, which work in coordination with a Consultants and Stakeholders base (including Ambassadors of the Citizens' Council), in a logic of participatory, collaborative action.

Figure 15 — Governance Structure (adapted from PAC2030)



At this stage, the DC is composed of the executive body, which performs decision-making functions and formally approves the initiatives to be implemented, the means to be allocated, while also defining and reviewing the lines of strategic action, and continuously assessing the priority actions, coordinating its resolutions directly with the CC.

As for the WGs, they jointly integrate the mitigation, adaptation, and transversal scope. Each WG establishes a Project Team for each priority action (or set of related actions), led by the most appropriate organic unit plus other units, namely the most relevant in terms of skills in the field of intervention at stake, as well as other entities that depend on the Lisbon City Council, involved, or with influence, in the implementation of the priority actions.

The coordinator of each project team reports to the WG coordinator, and must periodically report the implementation status of the action lead by him/her, as well as identify barriers and constraints to its execution. This Project Team coordinator must continue to act a first-line leader.

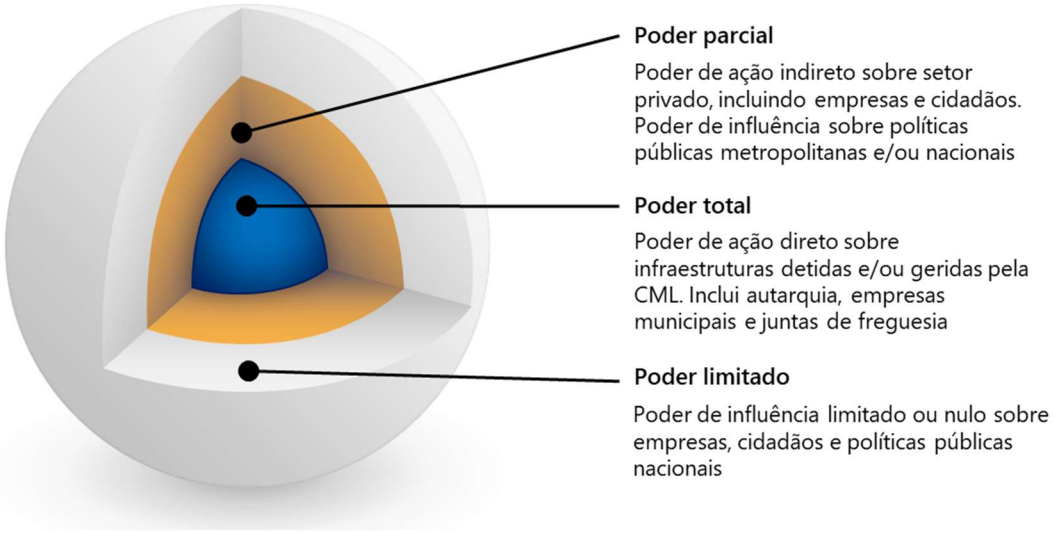
Fulfilment of the duties and responsibilities of first-line participants in such WGs is formalized through the Assessment and Accountability Table, which reflects the appropriate criteria in the Integrated Performance Assessment System for Public Administration (SIADAP), thus involving all public servants involved in the implementation of the plan.

Spheres of Action and Power

In pursuing what has been defined in the PAC2030, the capability of the Municipality of Lisbon to implement this Lisbon Climate City Contract 2030 requires an assessment of its spheres of power, in order to facilitate the implementation of additional measures required to meet the goals of reducing emissions, which require investment, involvement, and shared responsibilities. Three levels have

thus been identified as described in the following figure: Total Power, Partial Power, and Limited Power.

Figure 16 — Spheres of Powers Associated With the Implementation of Measures



According to the governance model, all City Councillors with assigned responsibilities in the executive are part of the DC, which is led by the Mayor.

For each measure, the leaders of the Project Teams will be identified, as well as the remaining participants in the Municipal Directorates (DMs), Municipal Businesses (EMs), and in other municipal entities. The participation of DMs, EMs and of other entities in Project Teams will include second and third line managers, as well as other public servants considered relevant to the successful implementation of the measure at stake, and of its sub-measures, actions and projects.

The new proposal for the governance model of the Lisbon Climate City Contract 2030 is being reviewed, and the team has been reinforced with external consultants. This point will be reviewed in future iterations of the contract.

AP5 C-2 Social Interventions and Other Innovations

The city's involvement, in the field of sustainability, climate resilience, economy and innovation, energy and environment, in various projects and programmes, has made it possible to make the research component compatible with various local interventions in the city of Lisbon.

There are several examples of case studies, living laboratories, pilots and lessons learned that have contributed to pursuing the strategy underway in the city of Lisbon, defined herein in this Climate Contract.

In addition to the participation of the Municipality of Lisbon, as institutional partner in local, regional, national and international projects, there are other benefits that follow from the city and its experts joining networks, technical exchanges and advice bodies. Thinking globally and acting locally. Such participation involves knowledge, ideas, innovation, data, information, communication, and prominence.

As previously described, Lisbon has received a number of awards that distinguish it for its active work in the field of climate adaptation and mitigation, interconnecting areas as diverse as health, the

environment, education, the economy, civil protection and emergency action, meteorology and metrology, culture, politics and finance.

The Environment Forum is also worth being highlighted. It is an initiative in project stage aimed at involving the areas of innovation and technology in the challenges imposed upon and chosen by the city of Lisbon.

The presentation of this structured information, as requested in table C.2.1, will be developed at a later stage.

C-2.2: Description of Social Innovation Interventions

This item is framed under several areas of this Lisbon Climate City Contract 2030.

AP5 C-3 Financing the Portfolio of Actions

Based on what has been described in the Investment Plan, the estimated budget for this Lisbon Climate City Contract 2030 amounts to about €5,055M (minimum amount). This amount corresponds to the investment required to carry out the execution of projects, initiatives and measures directly related to this challenge, leaving out other programmes that are equally relevant to the Municipality but that respond to other priorities and needs, and also the inflation rate to be considered until 2030.

The absence of desegregated information, as per the proposal presented by NZC, will be duly reviewed and integrated at a later stage, thus showing the importance of this instrument's flexibility within the context of the Lisbon Climate City Contract 2030.

AP6 Perspectives and Next Steps

Plans for next LISBON CCC2030 and Action Plan iteration

After a careful and consistent reflection on the Lisbon Climate City Contract 2030 Action Plan now being presented, it is important to conclude by stating that the challenge launched by the European Commission through the “EU Mission for climate-neutral and smart cities by 2030” (“Cities Mission”) helped strengthen the cooperation between Lisbon and other cities, the Region, the Country and general citizens, and ensured the position of climate leadership taken up at international level.

This Plan foresees the execution of a set of additional measures, actions and projects, defined for new temporal goals, duly considered in time and space, which will contribute to bringing forward the city's climate neutrality by 2030.

The basic criteria defined to select the measures to be implemented were the level of effectiveness in reducing GHG emissions and in responding to the reduction of climate risks, their urgency and importance on the political agenda, their degree of maturity, the associated benefits, and the opportunities for improvement demonstrated in light of the current situation.

The strategy presented herein will help position Lisbon among the main experimentation and innovation centres for climate action at international level.

The importance given to the close articulation between the commitments taken up by the Municipality of Lisbon and other public environmental, climate and energy policies at a local, regional, national and international level is also considered and prioritized.

Promoting participation, shared responsibility, commitment to joint action, information sharing and awareness raising for the adoption of new global and individual behaviours and for the involvement of key partners (local, regional, national and private public entities, research centres, NGOs, the

Media, citizens and others) in the response to this challenge of climate neutrality, is also highlighted in this Lisbon Climate City Contract 2030.

Finally, it is also worth highlighting the importance of defining investment estimates until 2030, financing possibilities, execution deadlines, measures to be implemented, priorities to be established, and partners and services to be involved.

It is by pursuing this joint effort that Lisbon aims to exceed its emissions reduction targets by 2030 and keep responding to Climate Change — a current challenge with worsening scenarios in the future, if nothing is done.

Regarding future developments, it is important to highlight that by assuming that the Lisbon Climate City Contract 2030 constitutes a continuous, dynamic, flexible, scalable, replicable, adaptive process, it is required that the monitoring be reinforced and ensures alignment with the other existing strategies, to allow for its full timely execution. As this is an interactive, dynamic process, periodic reviews and updates are expected over the next few years, leading to alignment between climate adaptation instruments, policies and strategies.

Updating the Action Plan also involves adjusting the Economic Model, in terms of additional actions, measures and projects (mitigation, adaptation, and transversal); reviewing the 2024-2030 emissions reduction estimates (based on the updated Emissions Inventory); estimating the cost of capital investment, the sources of financing involved, the commitments made, and the costs in terms of benefits.

The definition of a periodic or extraordinary review strategy, if there are significant deviations from the main indicators and expected targets or if there is a need for structural changes to the plan, will be defined in due course. The need for extraordinary reformulation may be caused by force majeure, such as fundamental changes to the city's political and governance guidelines, substantial legal or regulatory changes, either in the national or international context, or other situations classified as disasters and emergency.

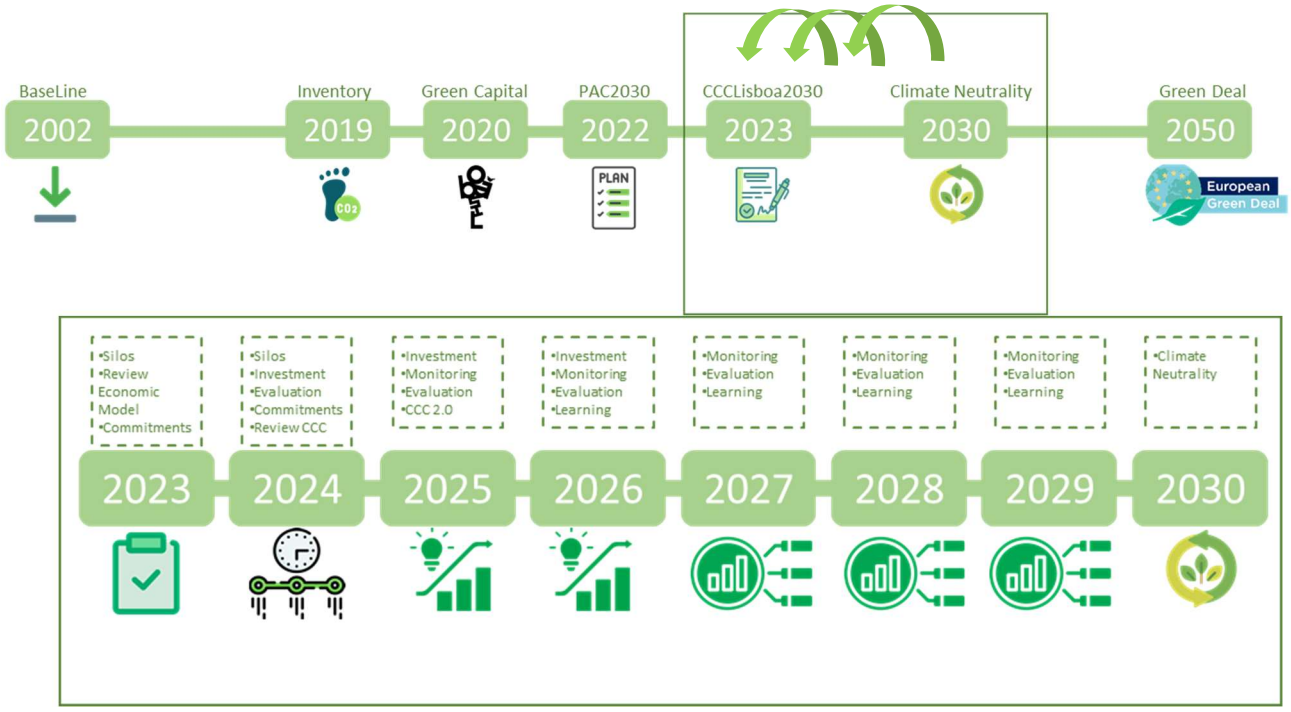
The need for compatibility between information sources, platforms and indicators is also a point to be defined in the next stage.

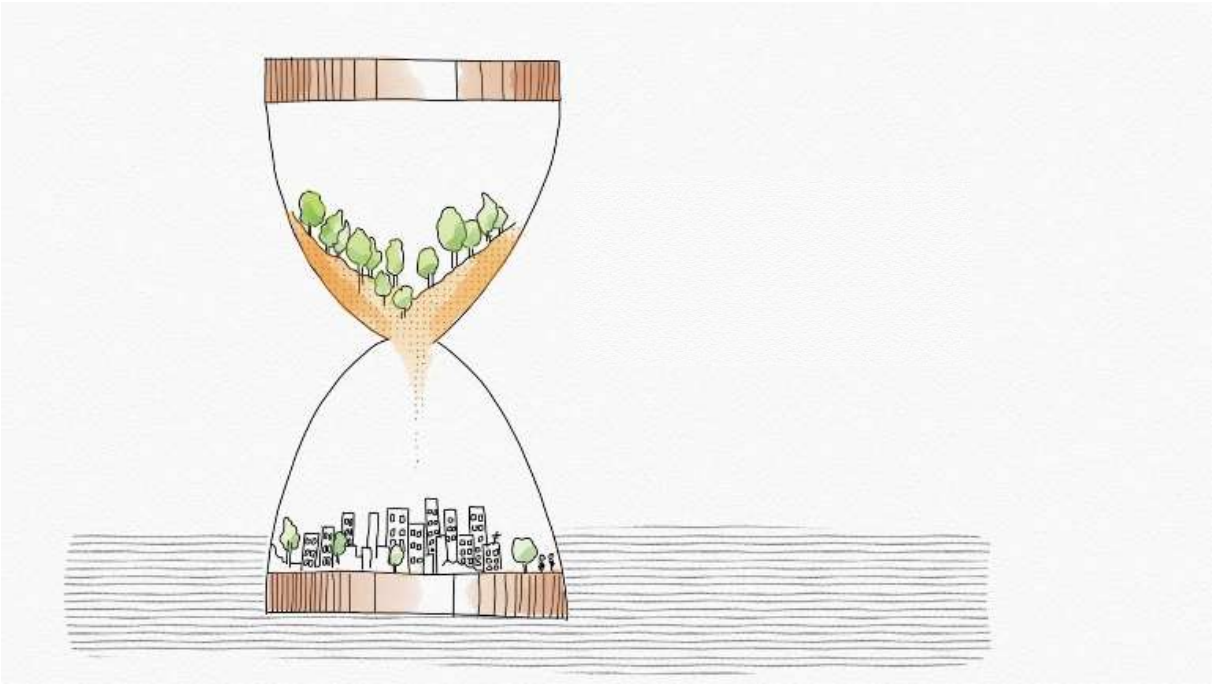
The next steps also envisage:

- Reinforcing the project team, representative of the Lisbon City Council universe, with the participation of key players from the city's different areas of intervention;
- reinforcing the commitments signed with and for the city, both internal and external to the municipality, based on what has been proposed in this Lisbon Climate City Contract 2030 . Such reinforcement requires reviewing goals, measures, investment, as well as the partners involved;
- promoting participation with the development of a robust communication plan focused on the Climate Contract;
- monitoring the Lisbon Climate City Contract 2030 with evaluation and performance indicators.

As an experimentation and innovation centre for global climate action, Lisbon will continue the integrated, coordinated and timely implementation of various structural measures and actions throughout the city, and will reinforce investment (both own and external) in the city's adaptation to

climate change and decarbonization, and will keep prioritizing the involvement and commitment of everyone, for everyone.



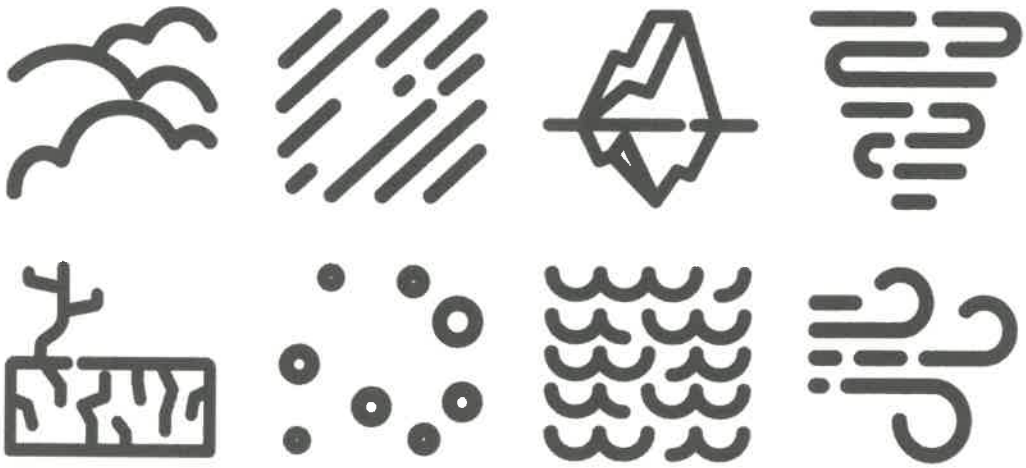


Contrato Climático LISBOA 2030

Lisbon Climate City Contract 2030

Minuta

Carta de compromisso



Uma cidade sustentável, resiliente e inclusiva que antecipa a neutralidade climática até 2023

Missão Europeia "100 Cidades inteligentes e com impacto neutro no clima"

Lisboa, Setembro 2023

Contrato Climático da Cidade

Lisboa 2030

Uma cidade sustentável, resiliente e inclusiva, que antecipa a neutralidade climática até 2030

Os Compromissos e Metas da Cidade

Lisboa tem a visão e ambição de se transformar numa cidade sustentável, resiliente, inclusiva e climaticamente neutra até 2030, reforçando a sua posição de liderança climática a nível europeu e mundial.

Depois da adesão ao Pacto dos Autarcas em 2009, Lisboa trilhou um caminho em que subscreveu vários compromissos e metas para o Clima e Energia, incluindo os objetivos do Acordo Climático de Paris, a adesão à Rede de Liderança Climática *C40 Cities* e a aprovação do Plano de Ação para as Energias Sustentáveis e o Clima (PAESC), o qual evoluiu posteriormente para o Plano de Ação Climática 2030 (PAC 2030) e agora para o Contracto Climático da Cidade (CCC Lisboa).

Em 2020, Lisboa foi Capital Verde Europeia, galardão que reconheceu a transformação da cidade para melhorar o seu ambiente urbano e a sua resiliência climática. No seguimento da atribuição desta distinção, Lisboa criou o "Compromisso Verde Lisboa", lançando o desafio à sociedade, empresas, organizações, associações e instituições, públicas e privadas, para se associarem à agenda climática da cidade para a década.

O Plano de Ação Climática Lisboa 2030 (PAC 2030), aprovado em 2022, constituiu um instrumento estratégico de planeamento da ação climática local, que tinha como meta a redução em 70% das emissões de Gases com Efeito Estufa (GEE) até 2030, face ao ano de referência 2002, e o objetivo de atingir a neutralidade climática em 2050.

Hoje, Lisboa continua empenhada na transição energética, na adaptação climática e na sua valorização ambiental, dando o seu contributo local para a convergência das metas do Acordo Climático de Paris e do Pacto Ecológico Europeu.

O Desafio da Missão Cidades

A Comissão Europeia lançou oficialmente cinco "Missões Europeias", iniciativas inovadoras para enfrentar os desafios globais nas áreas da saúde, clima e ambiente, onde se inclui a Missão

"Cidades inteligentes e com impacto neutro no clima", reconhecendo assim que as cidades constituem as entidades territoriais e administrativas mais bem posicionadas para concretizar políticas que permitem alcançar a neutralidade climática.

Nesse contexto, em novembro de 2021 convidou todas as cidades europeias para aderirem à "Missão Europeia para as Cidades Inteligentes e Climaticamente Neutras em 2030" ("Missão Cidades").

Lisboa aceitou o desafio e foi selecionada como uma das "100 cidades climaticamente neutras e inteligentes até 2030" (100 Climate-Neutral and Smart Cities). Para tal, deverá concretizar políticas e medidas que antecipem a neutralidade climática, em articulação com as demais políticas públicas ambientais de âmbito regional, nacional e internacional, e constituir-se como um centro de experimentação e inovação no domínio da ação climática.

Este enorme desafio compromete Lisboa, a Câmara Municipal, os cidadãos e seus representantes, as empresas e instituições, os centros de investigação, a comunicação social e comunidade como um todo, a ir mais além no desenvolvimento, concretização e monitorização de um Contrato Climático da Cidade (Climate City Contract), que define o caminho a trilhar para antecipar a neutralidade climática da cidade até 2030.

Para alcançar a neutralidade climática é necessário igualar o total de emissões de GEE geradas nas atividades da cidade, com a sua capacidade de sequestro de carbono (emissões líquidas iguais a zero), o que exigirá reduções substanciais nas emissões em, pelo menos, 80%, o aumento das áreas de sumidouro e da capacidade de sequestro de carbono, e na aposta em programas de compensação (das emissões residuais).

A visão para transição climática de Lisboa, assenta nas seguintes metas e objetivos:

- Reduzir as emissões de GEE em 80%, face a 2002, antecipando a neutralidade climática até 2030;
- Adaptar a cidade a eventos climáticos extremos, aumentando a sua resiliência aos riscos climáticos (atuais e futuros) e a sua capacidade de resposta;
- Garantir uma transição justa e inclusiva, combatendo as desigualdades e atenuando a pobreza energética;
- Valorizar a participação na "Missão 100 cidades com impacto neutro no clima até 2030", como estratégia potenciadora de atração de novos investimentos e talentos.

Para alcançar este desígnio, Lisboa deverá fomentar parcerias facilitadoras de compromissos e da responsabilidade partilhada para a transição climática, envolvendo ativamente entidades públicas e privadas, centros de investigação, ONG´s, os cidadãos e toda a comunidade. E é neste contexto que a Plataforma Lisboa Sustentável (Compromisso Verde Lisboa) tem um papel fundamental.

Lisboa precisa de todos

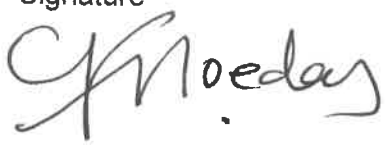
O impacto de cada cidadão, de cada organização *per si*, no total das emissões da cidade pode ser limitado, mas no seu todo pode ter consequências e limitar ou acelerar a transformação climática de Lisboa.

Por isso, para alcançar os objetivos da Missão, é necessário comprometer todos numa ação climática conjunta e abrangente, envolvendo parceiros, entidades públicas e privadas, universidades, centros de investigação, organizações não governamentais e os cidadãos.

A ação climática de Lisboa assentará assim na participação ativa e informada da comunidade local, das empresas, das instituições, das associações e da sociedade civil, no debate, cocriação e concretização de medidas e projetos que acelerem a transição energética, a expansão sustentável das energias renováveis, desde logo apostando no enorme potencial solar de Lisboa, a adaptação climática, a proteção ambiental, a salvaguarda do capital natural e dos serviços dos ecossistemas, e a circularidade dos materiais.

É também necessário afirmar ação climática de Lisboa a nível global, para que a cidade tenha um papel relevante no desenvolvimento de políticas públicas e compromissos empresariais, e, principalmente, para valorizar Lisboa e com ela todas as organizações que dela fazem parte, fazendo ouvir a sua voz, encorajando e inspirando outras cidades na sua transição climática.

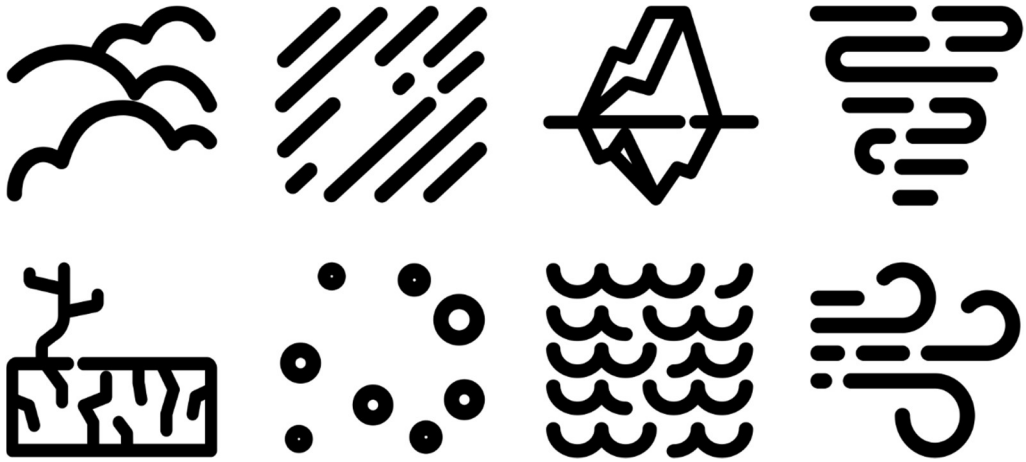
Para tal, Lisboa continua a contar com as organizações subscritoras da Plataforma Lisboa Sustentável Empresas, para um trabalho conjunto no âmbito do Contrato Climático Lisboa 2030, e do seu principal objetivo, antecipar a neutralidade climática até 2030.

Date of signature	Name	Signature
15.09.2023		
Mayor of Lisbon	Carlos Moedas	September, the 14th

Contrato Climático LISBOA 2030

Lisbon Climate City Contract 2030

Commitment letter



A sustainable, resilient and inclusive city that anticipates climate neutrality by 2023

European Mission "100 Smart and Climate-Neutral Cities"

City Climate Contract

Lisbon 2030

A sustainable, resilient and inclusive city that anticipates climate neutrality by 2030

The City's Commitments and Goals

Lisbon has the vision and ambition to transform itself into a sustainable, resilient, inclusive and climate-neutral city by 2030, reinforcing its climate leadership position at European and global level.

After joining the Covenant of Mayors in 2009, Lisbon followed a path in which it signed several commitments and goals for Climate and Energy, including the objectives of the Paris Climate Agreement, membership of the C40 Cities Climate Leadership Network and the approval *of the* Plan of Action for Sustainable Energy and Climate (PAESC), which later evolved into the 2030 Climate Action Plan (PAC 2030) and now into the City Climate Contract (CCC Lisbon).

In 2020, Lisbon was European Green Capital, an award that recognized the city's transformation to improve its urban environment and climate resilience. Following the award of this distinction, Lisbon created the "Lisbon Green Commitment", launching the challenge to society, companies, organizations, associations and institutions, public and private, to join the city's climate agenda for the decade .

The Lisbon 2030 Climate Action Plan (PAC 2030), approved in 2022, constituted a strategic instrument for planning local climate action, which had as its target a 70% reduction in Greenhouse Gas (GHG) emissions by 2030, given reference year 2002, and the objective of achieving climate neutrality by 2050.

Today, Lisbon remains committed to the energy transition, climate adaptation and environmental enhancement, making its local contribution to the convergence of the goals of the Paris Climate Agreement and the European Ecological Pact.

The Cities Mission Challenge

The European Commission has officially launched five "European Missions", innovative initiatives to face global challenges in the areas of health, climate and environment, including the Mission "Smart and climate-neutral cities", thus recognizing that cities constitute the territorial and administrative entities best positioned to implement policies that allow climate neutrality to be achieved.

In this context, in November 2021 it invited all European cities to join the “European Mission Climate Neutral and Smart Cities in 2030” (“Mission Cities”).

Lisbon accepted the challenge and was selected as one of the “100 climate-neutral and smart cities by 2030” (100 Climate-Neutral and Smart Cities). To this end, it must implement policies and measures that anticipate climate neutrality, in conjunction with other public environmental policies at a regional, national and international level, and establish itself as a center for experimentation and innovation in the field of climate action.

This enormous challenge commits Lisbon, the City Council, citizens and their representatives, companies and institutions, research centers, the media and the community as a whole, to go further in the development, implementation and monitoring of a Climate City Contract, which defines the pathways towards climate neutrality by 2030.

To achieve neutrality climate change it is necessary to equalize the total GHG emissions generated by the city's activities, with its carbon sequestration capacity (net emissions equal to zero), which will require substantial reductions in emissions by at least 80%, an increase in sink areas and carbon sequestration capacity, and investment in compensation programs (for residual emissions).

Lisbon’s climate transition vision is based on the following goals and objectives:

- Reduce GHG emissions by 80%, compared to 2002, bringing forward climate neutrality by 2030;
- Adapt the city to extreme climate events, increasing its resilience to climate risks (current and future) and its capacity to respond;
- Ensure a fair and inclusive transition, combating inequalities and alleviating energy poverty;
- Value participation in the “Mission 100 cities with a neutral impact on the climate by 2030”, as a strategy to attract new investments and talents.

To achieve this goal, Lisbon must foster partnerships that facilitate commitments and shared responsibility for the climate transition, actively involving public and private entities, research centers, NGOs , citizens and the entire community. And it is in this context that the Sustainable Lisbon Platform (Lisbon Green Commitment) plays a fundamental role.

Lisbon needs everyone

The impact of each citizen, of each organization *per se* , on the city's total emissions may be limited, but as a whole it can have consequences and limit or accelerate Lisbon's climate transformation.

Therefore, to achieve the Mission's objectives, it is necessary to commit everyone to joint and comprehensive climate action, involving partners, public and private entities, universities, research centers, non-governmental organizations and citizens.

Lisbon's climate action will therefore be based on the active and informed participation of the local community, companies, institutions, associations and civil society, in the debate, co-creation and implementation of measures and projects that accelerate the energy transition, the sustainable expansion of energy renewable sources, starting from the outset by investing in Lisbon's enormous solar potential, climate adaptation, environmental protection, safeguarding natural capital and ecosystem services, and the circularity of materials.

It is also necessary to affirm Lisbon's climate action at a global level, so that the city has a relevant role in the development of public policies and business commitments, and, mainly, to value Lisbon and with it all the organizations that are part of it, making the voice heard your voice, encouraging and inspiring other cities in their climate transition.

To this end, Lisbon continues to count on the subscribing organizations of the Lisbon Sustainable Companies Platform, to work together within the scope of the Lisbon 2030 Climate Contract, and its main objective, to bring forward climate neutrality by 2030.

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Mayor of Lisbon		
Other , X		