# Climate Action Plan 2050 City of Buenos Aires



# Authorities and Coordinating Team

#### AUTHORITIES Government of the City of Buenos

Head of Government Horacio Rodríguez Larreta

**Subhead of Government** Diego Santilli

**Chief of the Cabinet of Ministers** Felipe Miguel

Secretary of the Environment Eduardo Macchiavelli

President of the Department for Environmental Protection Renzo Morosi

**General Director of Environmental Policies and Strategies** Federico García

#### **C40**

**Regional Director for Latin America** Manuel Olivera

**Regional Vice Director for Latin America** Ilan Cuperstein

**CAP Leader for Latin America** Tanya Müller García

**Technical Assistant for Latin America** Omar Saracho Aguilar

**CAP Project Manager** Fernanda Barbosa

#### COORDINATING TEAM Government of the City of Buenos

Ayelén Arrascaete Elena Palacios Federico García Mauricio Fernández Nahuel Pugliese Natalí Biasoli Patricia Himschoot Valeria Massy Lijerón

#### **C40**

Inés Lockhart *City Assessor (January 2019 to March 2020)* Martina Ferrarino *City Assessor (as of April 2020)* 

**Design** Estudio Pulpa

**Contact** www.buenosaires.gob.ar/jefedegobierno/ambiente cambioclimatico@buenosaires.gob.ar

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Department for Business, Energy & Industrial Strategy

Climate Action Plan for 2050 City of Buenos Aires

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From the start of our administration, our Government has considered Climate Change an issue of top priority. According to the United Nations, tackling Climate Change has become one of the principal challenges of today. This fight requires immediate action and the worldwide commitment of all governments in order to reach the goal of curbing climate change.

By taking a look at the impact of climate change on the environment, we realize it is time to take action: floods, droughts and heatwaves are ever-increasing, taking place simultaneously.

Sea levels are rising at an alarming rate, ice is melting, and millions of people across the globe are being forced to emigrate in order to survive.

The situation mainly affects those living in cities because although we account for only 3% of the planet's surface, we are responsible for 70% of the greenhouse gas emissions.

For that reason, since the very beginning of our administration, we have considered tackling climate change a top priority in our agenda.

Some of the first measures our administration took were: setting up a big hydraulic work plan and installing LED streetlights in the City. We fostered garbage segregation and promoted sustainable mobility, among many other measures.

Furthermore, in 2016 we joined the Goals for Sustainable Development, and in 2017 we committed to becoming one of the 25 first cities to be carbon-neutral, resilient, and inclusive by 2050.

These are steps we are taking in our commitment to make Buenos Aires a more resilient city, with a growing ability to adapt to climate change and become more sustainable; a city that produces and consumes consciously, looking forward to a transition into a carbon neutral, circular economy, where we can all take part in inclusive climate actions, hoping for a future that leaves no one behind.

I want to reaffirm our commitment towards taking inclusive and transformative actions as well as our commitment towards achieving the goals set by the Climate Action Plan, in accordance with the Paris Agreement. We reassert this commitment in the belief that this is the only way to create a more sustainable world with growing opportunities for everyone.



HORACIO RODRÍGUEZ LARRETA Head of Government We want to be an innovative city based on our climate policies, and a role model for other cities in the country, and the region The global climate current situation calls for immediate and specific actions. The speed at which extreme events occur leaves the most vulnerable people at risk. This demands a call to action to find creative and accessible solutions that can make up for lost time.

In this third Climate Action Plan, we establish the actions the City of Buenos Aires needs to take if we want to stop the effects of climate change while protecting its citizens. It is worth mentioning that this program is a follow-up of previous plans. However, this plan is more ambitious, focusing on an increased ambition to adapt to climate change and reduce emissions.

The answer lies in the design of a human-scale city where daily life activities can be carried out around our home area. This allows us to rediscover nearby resources, reuse our spaces in new and better ways, and enjoy public spaces.

These cities have a widespread impact on quality of life because they allow us to reduce the time we spend on public transport or far-away places. This way we can gain more family and friends time, and increase leisure or resting hours.

The impact on the environment is beyond doubt since greenhouse gas emissions are highly reduced.

We are determined to follow this path: to create new environmental areas, more bus corridors, bike paths, public spaces, and trees.

We consider nature an inherent part of the solution. We can only find the answer in nature, even if it was left behind for a long time. Moreover, we want to include the citizens of Buenos Aires because we can only design a fair future by working together.

We want to become an innovative city and a model for other cities in our country and the region. We want to show that it is possible to become a large, modern metropolis, in harmony with the environment.

Adapting to climate change implies a shared agreement in which all of us get involved with the aim to improve our present life and build an environmentally safe future for everyone.



EDUARDO MACCHIAVELLI Secretary of Environment



RENZO MOROSI President of the Agency for Environmental Protection



# Executive Summary

The City of Buenos Aires is determined to become carbon-neutral, resilient, and inclusive by 2050. In this context, we elaborated this Climate Action Plan (CAP), as part of a revision and updating process of prior action plans.

This third CAP is based on existing city actions in climate change matters but with more ambitious goals. As stated in the provisions of the Paris Agreement, we need global solutions to speed up climate action.

Since 2003 we have developed annual reports on greenhouse gases. These reports constitute a solid basis for building strategies based on evidence to reduce gas emissions.

Climate change is already present in Buenos Aires, with more heavy rains and more prolonged and recurrent heatwaves.

Based on our analysis of future climate risk, we conclude that these negative effects will only continue to increase in the coming decades. These findings were the stepping stone to determine our adaptation strategy.

We believe inclusion is a fundamental pillar in the development of this Plan. In this sense, we prioritize actions that protect the most vulnerable social groups from the effects of climate change. We aim at providing a fair and equitable distribution of improvements. The idea of inclusion also prompted us to create spaces for the promotion and active participation of different social groups; their voices are represented in our Action Plan.

Climate Action plays a central role in our Administration. It stands as a solid basis for integrating all areas involved in the design of processes and identifying and selecting climate actions. These actions seek to reduce present and future climate change risks. They will also help us reach a fair distribution of environmental, social, and economic benefits and achieve a 53% reduction of our emissions by 2030 and a reduction of over 84% by 2050.

In addition, and upon demand of the social sectors involved, we added 5 more transversally significant.

The guidelines for this CAP provide a clear roadmap with short, medium, and long-term goals, allowing us to reach the ambitious objectives we have committed to do.

# Scope of Action

#### A Well-Prepared City

To reduce climate change risks by building and maintaining public works, taking advantage of natural ecosystemic resources, and working to increase the number of trees and green public spaces.

#### An Easy-to-Access City

To plan a city with multiple city-centers to cater to pedestrians, promote nonmotorized vehicles, and an increasingly efficient public transport system.

#### An Innovative, Low-Carbon City

To reduce our carbon emissions by transitioning our public transport to more energy-efficient options, to foster a circular economy, to push for garbage segregation and to strive for a more rational and efficient use and generation of energy.

#### **An Inclusive City**

To guarantee an even distribution of climate action benefits while encouraging environmental education, improvement in health and air quality, a more sustainable diet, and integrated neighborhoods.





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# A New Climate Action Plan



The news is disappointing. Despite scientific warnings about the urgency to stop increasing global temperatures, the average temperature of our planet has increased 1.1 °C compared to pre-industrial levels.

This increase in temperatures speeds up changes in climate we can easily see: changes in precipitation patterns, a rise in sea levels, and an accelerated frequency of extreme weather disasters (heatwaves, cold waves, droughts, floods, etc.). In Buenos Aires, we are already experiencing those changes, and those who suffer the consequences are always the most vulnerable social sectors. The urgent need to adapt and think about future climate scenarios is a big challenge for our administration to guarantee basic public services.

Cities that are most affected by climate change are responsible for 70% of greenhouse gas emissions. This situation turns cities into a key variable when tackling climate change: social inclusion, resilience, "green" jobs, migration towards a circular economy, and responsible consumption are our tools to reinforce the quality of life of all citizens.

In 2017, Buenos Aires became part of the large metropolis committing to the C40 to achieve carbon-neutral, resilient, and inclusive cities by 2050, under the provisions of the Paris Agreement. In this context, we developed this third Climate Action Plan (CAP) as part of a revised and updated process of previous plans. This plan is different because it has a more ambitious goal: to increase adaptation ability and reduce emissions. We are determined to make our biggest effort to limit the increasing average temperatures on our planet by 1.5 °C by 2100.

We decided to design this Plan from an integral perspective, with nature as an inherent part of the solution. We focus on information and formal/ informal education as essential tools to make a change. We want to guarantee the participation of all actors and a fair distribution of environmental, economic, and social benefits. We aim to reach all the people working and living in the city and to pay special attention to those social sectors that have become more vulnerable to climate change effects.

As a City, we are making a strong commitment. We hope to increase climate actions and to enlighten other cities in our country to adhere to this effort for a more sustainable, equitable, and inclusive place to live. We look to the future, but we take actions today.



Pollution causes climate change, which in turn provokes heavier floods, and permanent heatwaves. We need to get ready, participate and act.

MARTINA URIBE PARODI

Oceano 0 km Organization, member of the Climate Alliance, and member of the Counseling Department for the Environment and Sustainable Development.

#### VISION

To become a more resilient city that can adapt to the impact of climate change and transform itself to become more sustainable. We aim at becoming a City that can produce and consume consciously, looking towards a carbon-neutral, circular economy; a City where we can all be part of inclusive climate actions that look towards the future and leave nobody behind.

# 



# The Road to 2050

# 2.1 Buenos Aires, Queen of the Plata

Buenos Aires has been considered the "Little Paris" for a long time now. Its architectural beauty, inspired by the European Style, streets full of trees, and a cosmopolitan atmosphere have made this city a desirable spot for millions of people to visit, study, or start a new life. This ever-changing city is the economic and political capital of the Argentine Republic. It is the largest city in Argentina and the 7th most populated city in Latin America.

Buenos Aires is located in the central-east part of the country, on the western coast of La Plata river, in the Pampas Plain. A vast region with 40 municipalities surrounds the Metropolitan Area of Buenos Aires (AMBA, for its name in Spanish); these areas are in permanent contact with transportation of goods and services and constant commuting from one area to another.

Three million people live in Buenos Aires, but an additional 3 million enter the City daily to work, do their shopping, or study. This is a characteristic that only a few cities in the world have, and it's another important feature of Buenos Aires City.

Quality-education, full services, health systems, hectic economic activities, and cultural prominence make this an attractive city for people to visit, just as they did a century ago.

The productive profile of the City is aimed at a service economy, accounting for 83% of the Gross Regional Product (GRP). At the national level, over 50% of export services are based in the City of Buenos Aires.

Although the population growth has been stable for the last 50 years, its demographic structure has changed, and homes have become smaller (oneperson dwellings have increased 25% in relation to the total homes since the 1980s).

Furthermore, the cohort of 65 year-olds, which accounted for 5.3% in 1947 has grown to represent nearly 16% of the population in 2016, and it is estimated to reach 20.3% by 2040. The average population age is 38, and life expectancy is 82 years for women and 75 years old for men.

One of the biggest challenges we are facing today is to narrow down the socio-economic inequalities. These inequalities place the most vulnerable groups in a disadvantaged position when experiencing the consequences of climate change.

These populations are often settled in shanty towns, generally located in fiscal lands with scarce access to essential services. If we continue to strengthen our policies towards social-urban integration and access to homes, we will improve the quality of life of all inhabitants.



### **Buenos Aires** in Numbers



of population with access to fresh water of the country's GDP



02 • The Road to 2050

# 2.2 A Plan that Speeds Up Our Actions

The City of Buenos Aires has a long history in matters of climate action. We engaged in specific activities, commitments, and participation in national and international networks. The most visible aspect of this can be seen in the leading role of climate action in our Government plans.

In 2018 we incorporated a management model oriented towards building a human-scale city, more integrated, and with more and better services, where innovation, sustainability, and inclusion stand as guiding axes. We keep thinking about the future with these aims in mind.

The Climate Action Plans elaborated in 2009 and 2015 are a summary of our actions.

To develop a human-scale city, which allowed us to achieve the goals set in the previous action plans, we designed strategies and projects that allowed us to be part of the latest climate decisions at the world level.

Among these actions, we highlight policies related to clean mobility. This allowed us to have 70% of journeys by sustainable means of transport, extending the City's bike paths and allowing the free public bike system. Other actions included incorporating exclusive lanes for public transport, the elevation of public trains, and the incorporation of pedestrianonly areas.

In terms of energy consumption, we can proudly

say that we are the first Latin American city to have 100% LED streetlights and that we have delivered over a million LED lamps.

On the other hand, we built the city's Recycling Center, the first in our country to have five recycling plants and an educational center. With this Recycling Center, we avoid 3.000 tons of garbage burial. Moreover, the promotion area is working hard to get the necessary information to join this paradigm change concerning consumption and garbage.

We are aware that now is our time to take action. We need to tackle the effects of climate change. For that reason, we decided to be very strict in the implementation of these strategies. Today, we can say that not only have we achieved our initial objectives by reducing greenhouse gas emissions, but we have also highly surpassed our goals. This is clear evidence of our strong commitment in terms of climate change. We could break the tendency of increasing emissions and bring the highest 2013 emissions under control.

We are aware that environmental actions are only effective if society gets involved as a whole. There is no environmental solution if the improvements in the quality of life does not reach all citizens. In this sense, people living in the most vulnerable areas are the main focus of our solutions. Some examples can be seen in the integration policies applied in the poorest neighborhoods, including the construction and improvement of homes, the extension of public services, street openings, and better access to public transport. In addition, our Management Program for Hydric Risks and the succeeding Hydraulic Plan have focused on infrastructural actions that highly reduced the risk of floods. The Storm Alert System can also foresee those areas affected by heavy rains to organize all operations needed for such situations.

Access to public health has also been another key focus of our policies, and we have committedly made significant progress towards it. In 2009 we completed the Health Center Network. With these centers, we opened up the possibility for citizens to reach the local Health Center in less than 15 minutes from their location. We also guaranteed 100% online access to medical histories.

We know the key to tackle climate change lies in taking action based on nature itself. In this sense, the development of urban green spaces in the city becomes fundamental within the strategies developed for the City of Buenos Aires. In the last four years, we created 110 hectares of green spaces, and we added the third ecological natural reserve in our city, with a total of 400 hectares protected.

We are proud of the work we've done. We adopted actions that enabled us to reach our goals based on scientific criteria and a strong sense of commitment. Our goals were based on realistic short, medium, and long-term actions, guided by aligning our Climate Action Plan with the provisions of the Paris Agreement. WE COULD BREAK THE TENDENCY TO INCREASE EMISSIONS AND BRING THE HIGHEST 2013 EMISSIONS UNDER CONTROL WHILE PROJECTING A CONSTANT DECREASE.

#### **International Relationships**

Environmental and climate issues worldwide have triggered our active strategy of developing and keeping international relationships.

In 2009, we became part of C40 Cities, assuming an active role in 12 networks. Likewise, in 2015, we hosted the First Latin American Forum for C40 Mayors to address climate change as an urban challenge.

Since 2020 the Head of Government of Buenos Aires has been a part of the C40's Steering Committee, acting as Vice-president, who together with the Municipality of Bogota, Colombia, they represent Latin America together.

At the same time, since the year 2011, the City reports, uninterruptedly, the inventory of Greenhouse gases, to the Carbon Disclosure Project (CDP), as well. During the last two years, we have been awarded the highest grades by this organization.

Last but not least, within the framework of 100 Resilient Cities, we developed our integrated strategy for urban resilience in 2018.







The biggest challenge our administration faces today is to provide real solutions to climate change. As in many other big cities around the world, the effects of climate change can be felt in Buenos Aires-increasing temperatures and heatwaves, as well as frequent heavy precipitation are just a few examples.

Scientific evidence shows that climate variables will continue to change, and climate change threats will continue to grow. Controlling these effects will largely depend on our commitment to act worldwide, mainly to reduce greenhouse gas emissions in the atmosphere.

To assess the risks of climate change in our City, we based our actions on the probabilities of future scenarios that the IPPC (International Plant Protection Convention) has developed. These maps of possible future gas concentrations are elaborated according to the level of commitment. In order to have a representative sample, Buenos Aires chose two of these trajectories and with them, developed the analysis for future climate risks. On the one hand, future climate changes were analyzed under an intermediate level of commitment (RCP4.5), and on the other, under a drastically increasing emissions scenario (RCP 8.5).

#### WHAT ARE RPC?

These are scenarios that forecast the temporary emissions and concentration of greenhouse gases in the atmosphere by the year 2100. There are 4 main scenarios: an optimistic scenario with decreased emissions (RCP2.6), two intermediate-level scenarios with stabilization of emissions (RCP4.5 and RCP 6.0), and a pessimistic scenario of continuously increasing emissions (RCP 8.5).





#### **The Climate Today**

Buenos Aires has a wet and warm climate typical of the Pampas, which is influenced mainly by the La Plata River. Usually, there are no wide thermal daily ranges, although there are some variations between seasons, with warm summers and cold winters. Precipitations take place mainly during the summer.



I remember when I was a child, I would wear a new sweater on my cousin's birthday, during the first days of April, and my aunt would prepare hot chocolate. Today, we celebrate her birthday wearing blouses and having cold drinks.

> SUSANA GUTIÉRREZ

Retired Teacher, coach for Senior Citizens

#### **Rising Temperatures and More Intense, Longer Lasting Heatwaves**

During the past years, there has been a rise in the average temperatures in Buenos Aires. From 1960 to 2018, the average and maximum annual temperature has increased by 1 °C, while the minimum average temperature has increased by 1.7 °C.



WHAT IS CLIMATE RISK?

Interaction between exposure (sensitive receptors in areas that might be affected) and vulnerability (level of susceptibility or incapacity of a sensitive receptor) when facing climate hazards or threats.

Based on the annual average reports, the analysis of minimum and maximum temperatures shows that the increase in temperatures of the last decades will continue to rise in the long run (2100) and it will fall under the drastic emissions scenario (RCP 8.5).



IN THE PAST 60 YEARS, THE AVERAGE MINIMUM TEMPERATURE HAS INCREASED BY 1.7 °C

<u>1989</u>

<u>1999</u>

<u>2009</u>

<u>2019</u>

10.0 °C

<u>1959</u>

<u>1969</u>

<u>1979</u>

In the next 20 years, the City of Buenos Aires will witness an increase in the number of days in a single heatwave; precipitations will also increase not only in terms of extreme weather events but also in intensity.

INÉS CAMILLONI PhD in Atmospheric Sciences, researcher at UBA/CONICET

Sciences, researcher at UBA/CONICET and member of the Climate Change External Advisory Board

#### Heatwaves

When hot days come, we usually say we are witnessing a "heatwave." It is important to know that the National Weather Service states that there is a summer "heatwave" when the minimum temperatures rise over 22°C, and the maximum temperatures exceed 32°C for at least 3 consecutive days. This phenomenon usually takes place between October and March.

Since the decade 1990-99, these types of phenomena have increased. At the same time, between 2010 and 2018, we witnessed double the number of heatwaves than those occurring during the 90s. This tendency is expected to increase in the coming years.



Even more important is to examine the increased duration of heat waves rather than the number of heatwaves taking place in a year.

Everything seems to point to the fact that heatwaves will last longer in the future, affecting the health of vulnerable people directly.



REFERENCES

- Current max. duration
- Max. duration for intermediate dangerous scenario

Max. duration for increased drastic scenario



#### **Urban Heat Island**

In Buenos Aires, as in many other cities around the world, we experience the Urban Heat Island effect. So, the city tends to be warmer than nearby suburban areas, particularly on nights with no wind or sparse clouds. This phenomenon is caused by the large concentration of buildings, pavement, air conditioning systems, transport, and decreased heat loss due to lower wind speeds in urban areas.

The southern part of the City has a higher concentration of urban island areas. The area includes the port, the airport, rail networks, highways, avenues, and open areas with scant vegetation or hydric deficit.

#### **More Rain**

High temperatures (phenomena such as heatwaves or Urban Heat Islands) are combined with this important data: historical records report a constant increase in the annual volume of precipitation in the past decades. On average, from 1960 onwards, there has been a 47mm increase per decade.

Precipitation Forecast for 2050 and 2100 under both emissions scenarios mentioned show this increasing tendency of the past decades, although in this case, the models utilized show a high standard deviation.



Eleven different hydric watersheds crisscross Buenos Aires. During the first half of the 20th Century, most natural streams running along the city lost their natural features by rectification and intubations. This decision led to the disintegration of the natural drain network, causing a rise in floodprone areas. The City's topographic features have a slight slope and a low level of natural water evacuation. In addition to this, Buenos Aires has a high level of impermeabilization of the ground. All these features make floods the main natural risk for the City.





With the implementation of the Hydraulic Management Master Plan, the Hydric Risk Management Plan, and the current Hydraulic Plan, we were able to reduce floods and the number of flood-prone areas thanks to major infrastructural hydraulic works.

Today the highest levels of hydraulic risks remain in the urban habitat that lies over the Cuenca Matanza Riachuelo (river basin), towards the southern and central areas of the City.

#### "Sudestada" Effects and Rising Sea Levels

"Sudestada" (Southeast wind) is a phenomenon that affects the La Plata River. It is associated with bad weather conditions, and it usually takes place in mild seasons (spring and fall). It consists of regular to strong winds coming from the southeast, with speeds over 35km/h, constant weak or moderate rain, and relatively low temperatures.

The effect of the wind on the coast causes a rise in the water levels, reducing the drainage capacity of rivers and streams that cross the City and end in the La Plata River, which can cause coastal floods. The impact of the "Sudestada" is intensified by the rising level of La Plata River due to the rising sea levels. During the 20th Century, the level of the La Plata River in the City of Buenos Aires increased by about 17 cm.

According to the Climate Risk Analysis Results, it has been identified that the risk of coastal floods, even if certain, is very low for the different temporary emissions scenarios and receptors analyzed.

# 2.4 Towards A Carbon Neutral City

In 2017 we committed to becoming a carbon neutral city by 2050. Now, we decided to double the down: we will speed up our climate actions in the short and medium term, in order to reach by 2030 a reduction of over 50% of emissions in relation to those in 2015. This mid-term objective places our city among the most ambitious cities in the world in terms of emission reductions by 2030.

To meet this goal, we have worked hard to collect climate data that would allow us to make deep, comprehensive, and precise analyses; this is our stepping stone for developing well-planned climate actions.

In 2003, when climate change was not so evident, we decided to make annual reports on greenhouse gas emissions (GE). This information allowed us to analyze long-term tendencies, as well as the efficiency and impact of climate actions taken to this date. As of 2015, we adopted the Global Methodology Protocol for greenhouse gas reports on a Communitarian Scale (GPC), adapting all prior reports.

With this information, we can know which sectors or activities are causing the GE, and we can set up mitigation strategies.

These detailed reports enabled us to analyze the historical series of reports, and we noted that the highest peak of emissions was registered in 2013; 13.5 M of tons of  $CO_2$ eq. In 2015 (the base year for the strategy design), we reached 13 M tons. This decrease

WE ARE GOING TO SPEED UP OUR CLIMATE ACTIONS IN THE SHORT AND MEDIUM TERM TO REACH +50% EMISSIONS REDUCTION BY 2050.

was maintained during the years that followed: in 2017, the result was 11.9 tons of  $CO_2$ eq.

We also observed that the sectors and/or activities causing the GE were the same throughout the historical series. Mainly, the use of stationary power, followed by transport services, and thirdly, the final disposal of garbage. The following graph shows the distribution of emissions in the year 2017.


If we analyze the sources of these emissions for 2017, independently from each sector, we can see that electricity causes 31% of emissions. This is due to the dependency of Buenos Aires to the interconnected system of national electric energy, whose generation matrix is strongly based on fossil fuels. On the other hand, liquid fuels such as petrol and diesel account for 26% of emissions due to the lack of electric vehicles. The use of natural gas is extended, not only in Buenos Aires but all across the country, mainly for heating purposes to heat water or cook in households. A smaller amount is used to fuel taxis and private automobiles, accounting for 24% of emissions. The final disposal of solid waste accounts for 14% of emissions. Finally, other fuels such as liquid petroleum gas and water sewage account for the remaining 5%.



The use of electricity accounts for 31% of our emissions. It is essential to foster the energy transition of our country and our City.

#### **FUTURE SCENARIOS**

As part of a revision process of previous plans, and the development of the new Climate Action Plan, we created 3 possible scenarios for future emission maps: I) the BAU scenario, II) the initial scenario, and III) the ambitious scenario.

#### BAU Scenario (Business As Usual)

We refer to this kind of scenario hypothetically, considering that no mitigation actions are taken. For the development of this scenario, variables of economic, demographic, and energy consumption growth were included. If we took no action, emissions would grow by 2% a year, from 13.0 m tons of CO<sub>2</sub>eq in 2015 to 16.5m tons by 2030, and 21.6 m by 2050.

#### **Initial Scenario**

Under this scenario, we analyze the projection of emissions considering only those actions that were already under execution or those already planned in the previous climate action plans. If we followed that path, we could meet and even surpass the goals established in past years.

#### **Ambitious Scenario**

We developed this scenario based on our 2017 commitment to becoming a carbon-neutral city by 2050. We set up more ambitious goals and strategies covering all sectors and activities that cause GE emissions.

This commitment towards 2050 was reinforced by the need for urgent and ambitious climate actions. For that reason, the City of Buenos Aires has committed to a considerable reduction of emissions by the year 2030.

Based on this decision, we developed a GE gases projection per the provisions of the Paris Agreement, which aims at a decrease of 52.9% of emissions by 2030, and 84% by 2050, compared to emissions for the base-year 2015.



### GE GASES TOTAL



#### OUR WASTE EMISSIONS

Our mitigation strategy to reduce emissions in Buenos Aires is ambitious. It enables us to achieve and even surpass the goals set by 2030. However, even if we applied the most effective strategies and technology available, by 2050, we will still need 15.6% to be carbon-neutral. This percentage is called waste emissions.

These emissions can be explained partly due to the dependency on the national interconnected electric power system, which is not expected to reach a 100% clean generation of electric power by 2050 and which is responsible for 10% of these emissions. This situation is similar to the emissions caused by water sewage, whose competence exceeds the City's capacity. Additionally, the use of stationary energy for homes, mainly the use of gas for heating purposes, to heat water or cook, as well as the use of fossil fuels for industries, impact the rest of the waste emissions by 2050.

Part of these waste emissions will be compensated by forestation programs in or out of the city's area or by agreements for the clean electricity generation for public buildings.

We know technology will make giant steps in the next few years, and we will have more available solutions. In Buenos Aires, we commit to periodically reviewing our strategies to reduce waste emissions to reach complete carbon neutrality.



#### The City's Structural Organization

The biggest challenge in our Administration is to set up a climate action strategy that can be sustained over time. To achieve this, we need an integrated strategy due to its complexity and environmental, economic, and social consequences. This adds to other government agenda issues such as air quality, urban development, public health, and citizen participation—among other variables.

In this sense, interaction and collaboration from different governmental areas and agencies within and beyond the City of Buenos Aires' administration become fundamental. Likewise, a solid and clear articulation of key sectors of society is necessary.

As part of our concern for climate issues, and knowing how challenging the articulation of public works can be, in 2009, we created the Interministerial Team for Climate Change, chaired by the Agency for Environmental Protection. Its main goal was the development and implementation of the first Climate Action Plan for the City.

In 2011, we took a leading role in the country when passing the Mitigation and Adaptation to Climate Change law. This ensures the mandatory character of the Interministerial Team for Climate Change, represented by all those Ministries and Departments concerning climate issues. The Interministerial Team is called the Climate Change Cabinet and is overseen by the Environmental Agency. This Cabinet is an essential tool to design, define, implement, and assess the strategy to fight climate change in the City. It includes the participation of the highest authorities and the development of effective work teams. This stands as another example of articulated administration among all involved areas.

The climate crisis has proven to be a transversal issue for any government administration. We can't think of public policies without bearing in mind actions to fight climate change. Thus, all areas concerning the City of Buenos Aires Government have committed to coordinated efforts to implement climate strategies.

#### Inter-jurisdictional Articulation

It's erroneous to think that plans to tackle climate change begin and end in Buenos Aires, neither in administrative terms nor in terms of our capacities. Governmental mechanisms are necessary to join these actions, mainly from the National Government and other jurisdictions and neighboring municipalities.

The main body for articulation and consolidation of national and inter-jurisdictional policies is the Federal Council for the Environment (COFEMA, for its name in Spanish). We have participated in this Council uninterruptedly since its creation in 1990. Under different working commissions, the Climate Change Commission worked on implementing, coordinating, and assessing public policies, plans, and environmental plans that impact various country jurisdictions. Today, we participate in the Climate Change Commission with an active role in promoting and articulating climate public policies.

As part of the Metropolitan Area in Buenos Aires, we also articulate climate policies with the rest of the Province of Buenos Aires and the 40 municipalities that the province of Buenos Aires encompasses. In terms of public transport, we coordinate our actions through the Metropolitan Transport Agency. This agency is also part of the National Government because many city bus lines make inter-jurisdictional journeys.

In terms of solid waste management, the final disposal is executed on the outskirts of the City. The state-run company CEAMSE was created in 1977, with equal participation of the National Government and the Government of the Province of Buenos Aires. This long history of articulated management enables, for example, that the Biological Mechanical Treatment plant (MBT) can work at the CEAMSE facilities.

Some hydraulic watersheds in the city, such as the Maldonado, Medrano, and Cildañez watershed, start in Buenos Aires, requiring integrated management strategies for extensive hydraulic works. One of the most important strategies is the sanitation of Cuenca Matanza Riachuelo, which has an officer in charge since the 2006 law was passed, and is presided by the National Government, with the participation of Buenos Aires and the municipalities surrounding the watershed.

Over the years, we achieved a high articulation level in inter-jurisdictional administration, handled shared issues, and strengthened internal governmental bases.

Our next big challenge is to articulate and promote a metropolitan climate agenda that can boost those strategies and lines designed in this Plan and achieve an integrated approach in the National climate agenda, the City of Buenos Aires, and the 40 municipalities the AMBA (for its name in Spanish) encompasses. The complexity of environmental systems and the climate dynamics, require, in terms of management, the opening of favorable spaces for an open, transversal, and diverse dialogue.

> RENZO MOROSI

President of the Agency for Environmental Protection of the City of Buenos Aires, since December 2019.





## Climate Action

# **3.1** The Approach to Climate Change

Through climate action, we were determined to design a clear roadmap to achieve a +50% reduction in emissions by 2030 and become carbon neutral by 2050. At the same time, we look forward to an increased ability for adaptation and guaranteeing an equitable distribution of benefits.

To define these climate actions, we considered several principles that stood as the conceptual and strategic basis:



**Objective, Quality Data** as the principle to establish ambitious and attainable goals, to design transforming actions and strategies based on evidence, and to facilitate a clear process for identification and prioritization of actions.



Considering Climate Action as an integral strategy, identifying the **interdependence between adaptation and mitigation** in order to maximize benefits.



**Considering everyone involved**, especially those living in vulnerable areas where the effects of climate change impact the most. We look forward to a fair distribution of climate action benefits.



The need to integrate climate action with policies for clean air, considering these issues co-actively, to speed up improvements in the air quality of Buenos Aires' air, enhancing public health and enjoyment for all of its inhabitants



**Considering other governmental action plans** to achieve a coordinated agenda, in line with the Governmental strategic framework, and to activate climate action acceleration and synergy.



Taking nature as part of our climate solutions, our ultimate goal is to achieve low-cost, efficient, and transformative actions in urban areas, reactivating the benefits of ecosystems and biodiversity.



#### Climate Action in the 2030 Agenda

In 2016, the City of Buenos Aires formally joined the Goals for Sustainable Development (GSD), and in 2019 started handing in voluntary reports to the UN High-Level Political Forum, including the yearly governmental progress in terms of the GSD.

Climate Action is the focus of GSD 13 and is interlinked with the other 16 Goals of the 2030 agenda. This has been the basis that the City has taken for the development of this Plan.

A perspective based on the 2030 Agenda for Sustainable Development has enabled us to both set goals and objectives that took into account the global benefits of climate action, as well as work towards an integrated Government agenda.

#### **Identification and Selection of Actions**

Based on this framework, we started a process to identify climate actions that could fulfill the global and sector-wide goals. This process was carried out together with all areas of government involved, particularly those that take part in the Climate Change Cabinet. This was a 6-month process of data-gathering, which allowed us to make a list of over 290 actions.

We were determined to make a clear analysis of all climate actions. Thus, after initially identifying climate actions, we detected those that worked to

#### WHAT IS AN ACTION?

An action is defined as a policy, program, or project that is specific enough to be qualitatively assessed in terms of emissions reduction, reduction of climate risks, co-benefits, and feasibility.

maximize the primary benefits of emissions reduction (mitigation) and climate risk reduction (adaptation). In addition, we analyzed the potential negative effects of developing each action, prioritizing those with absolutely no risk. Upon finishing the revision process, we selected and re-grouped the proposals. The final outcome resulted in 111 environmental actions.

#### **Prioritizing Actions**

To achieve our goals, all identified and selected actions are necessary. The next step is to focus on those actions that can cause a significant impact to develop an ambitious and feasible Action Plan. This is the way to speed up Climate Action.



To determine the importance of the actions, an analysis was carried out in accordance with 3 independent categories: primary benefits, cobenefits, and feasibility.

Primary benefits measure the potential for emissions reduction (mitigation) and climate risks (adaptation). We particularly considered those actions contributing to both mitigation and adaptation. Co-benefits are contributions generated by climate actions that go beyond primary benefits. Evaluation of these actions becomes necessary to boost those strategies that can also bring along global benefits.

Actions were assessed according to the following co-benefits:



**Air-Quality and Health:** reduction of exposure to atmospheric contaminants, health improvements, increase of life-expectancy, reduction of diseases linked to air pollution.



**Employment, Income, and Poverty:** increase in employment rates, access to quality jobs, increase in incomes and social mobility, reduction in poverty levels.



**Green Areas:** expansion, preservation, or restoration of the natural environment, increasing green urban areas.

Waste Management: waste management coverage, reduction in the generation of waste, reduction of final waste disposal.



Mobility and New Spatiality: increase in population living near public transport services, increase in sustainable journeys, transport cost reduction, development of a multi-center city to foster walking habits.



**Energy:** increase in population with access to clean energy, reduction in the electricity outages, put an end to energy poverty.



**Everyone's Involvement:** participation and articulation with public and private entities beyond the local government, civil society, and our citizens.



Implementation feasibility enables us to know how complex the execution of actions can be. In this case, we evaluated the feasibility of implementing measures in the City, political acceptance, and identification of financing sources.

By the end of this process, we selected 19 key actions that will have a more significant impact while promoting global benefits and facilitating the implementation of the Climate Action Plan to achieve our goals.

When we established such ambitious goals, we were aware that the process would have its difficulties. We analyzed the potential technological, financial, and institutional barriers to determine potential risks in its execution, and to carry out a follow-up process. This exercise will allow us to foresee potential risks that are are of considerable weight so as to minimize them and, thus, meet our goals.

We believe that awareness of climate issues and access to quality information will improve decisionmaking and are key to speeding up climate action. We consider that each of these points traverses all actions taken, and we include activities to promote climate awareness and quality information.





When we started developing this Climate Action Plan, we were determined to include the most vulnerable sectors since they suffer the most significant impacts of climate change. We wanted to generate an equitable distribution of the co-benefits. On the other hand, we decided to include different participants in the design and elaboration process of the Plan; this enabled us to create a document that represents many voices and sectors who contribute and have a direct affect on climate action in Buenos Aires.

At the same time, participation situations were accompanied by promotion and communication actions to inform about the goals, strategies, and advancements of the different stages of the Plan. These actions were carried out in various sectors and places, and included different actors beyond those in the local area. With this, we could achieve a better understanding of our climate actions and more effective participation.

Many participation instances are already institutionalized and have a long history promoting valuable exchanges. These spaces have been formalized and could be preserved over time; additionally, they are beneficial and vital and can be supported by the public policies we carry out.

During the months preceding the presentation of this Plan, and after establishing the key actions, we started a broad consultation and debate process in each of the following spaces. This way, we could receive as well as incorporate other perspectives and opinions of the actions

**External Advisory Board for Climate Change:** created by decree in 2009 and later incorporated into the local Mitigation and Adaptation to Climate Change Act in 2011, this Council is formed by scientists, academics, and experts in climate change issues. The primary purpose of this Council is to assist the Government in creating climate change public policies.



#### Forum for Fighting Climate Change:

created by Law in 2009, this is an open forum for everyone living in the City. It is held annually and called upon the Executive Power, different legislative branches, and the External Advisory Board for Climate Change.

#### INSTANCES FOR COMMUNICATION AND PARTICIPATION





#### Consultive Council for the Environment and Sustainable Development: created by a ministerial resolution in 2020, this body is formed

by Civil Society Organizations led by young people. Its primary function is to assist and provide counseling to the Secretary for the Environment regarding planning, development, and promoting environmental public policies.



**Private Sector:** both individually and collectively, different workshops were held to articulate and generate actions through collaborative work involving different chambers and business councils. This led to the creation of spaces for exchange, learning, and appropriation of public policies.

Senior Citizens: because the elderly stand as one of the most vulnerable sectors affected by the effects of climate change, we designed programs and projects to reduce their vulnerability. We opened up spaces to listen to their needs and receive their proposals for inclusive climate action policies.





03 • Climate Action



To combine the 19 selected actions to the goals we want to establish for Buenos Aires, we decided to group these actions into 4 scopes of activities; those spheres over which we want to generate an impact and generate value.

On the other hand, we added 5 climate actions to the initial group. Some actions affect the whole Plan (environmental education, prevention, access to quality public health services with an environmental perspective, and air quality). Other actions are related to the social agenda (sustainable nutrition) or to the need to incorporate new habits (urban logistic modernization).



### A Well-Prepared City

A city that constantly adapts to changes, constantly improves its responsive skills, and comes out stronger to face new challenges.

MAJOR PUBLIC WORKS TO REDUCE RISKS

NATURE AS A SOLUTION

READY IN CASE OF STORMS

MORE AND BETTER TREES

MORE AND BETTER GREEN SPACES

A City that includes the most vulnerable groups and acts leaving no one behind.

INTEGRATED NEIGHBORHOODS

BETTER PREPARED NEIGHBORS

PUBLIC HEALTH NETWORK

CLEAN BUENOS AIRES

SUSTAINABLE NUTRITION GREEN SCHOOLS



## An Innovative, Low-Carbon City

A city that learns and looks into the future, incorporating technology and more sustainable habits.

LOW-EMISSIONS PUBLIC TRANSPORT

EFFICIENT URBAN LOGISTICS

ENHANCED HOMES

NEW AND MORE EFFICIENT BUILDINGS

INDOOR EFFICIENCY

TOWARDS CLEANER ENERGY

TOWARDS A CIRCULAR ECONOMY

INCREASED AND IMPROVED WASTE

WASTE SEPARATION AT SOURCE

WASTE TREATMENT

### An Easy-to-Access City

A City built for its people, a City that prioritizes quality of life and fosters proximity.

PEDESTRIAN PRIORITY

MEETING-PLACE STREETS

MORE BIKES, LESS EMISSIONS

EFFICIENT PUBLIC TRANSPORT

03 • Climate Action





#### **TEMPORARY** IORIZON

AFFECTED SECTOR















### **Major Public Works Facilities To Reduce Risks**

Buenos Aires is located in the plains, making the natural drainage process more difficult due to its low slope. Moreover, the main watersheds extend beyond our geographical borders-this adds to the increase of rains, both in frequency and intensity. Therefore, the likelihood of floods becomes one of the significant risks created by climate change.

To reduce such risk, we executed an ambitious plan to build public works, which improved our ability to adapt. This plan is still being executed in areas such as the enlargement of hydraulic systems in the main watershed of Buenos Aires. In this way, we can strengthen our response in case of extreme precipitation.

To achieve an integral hydraulic plan, with the ability to respond to the climate change challenges, this "grey" type of infrastructure will be complemented with "green" and "blue" infrastructure (see Action 2) to increase the retention capacity of hydraulic excess.

Availability and Maintenance of tools needed for the hydraulic remodeling becomes a key element to ease the hydraulic plan considering the effects of climate change in terms of floods. This will add to the information gathered by the Storm Warning System (see Action 3).

Many of the watersheds that cross Buenos Aires are born in areas beyond geographical borders. The Cuenca Matanza del Riachuelo and the Cuenca Medrano watersheds are under a combination of inter-jurisdictional authorities. In this sense, our next challenge will be to link the Metropolitan area with the Cuenca de Maldonado watershed, which accounts for over 50% of the upstream water surface in the province of Buenos Aires.

#### **INTERESTED PARTIES**





FORUM FOR CLIMATE CHANGE

FOR SENIOR



#### Hydric Risk Education

During the first half of the 20th Century, the stream pipes of Buenos Aires were built. This decision made the inhabitants unaware of hydric risks. To add to the strategy of developing grey, green, and blue types of infrastructure, we worked towards territorial and virtual communication solutions that allow us to show our streams and raise public awareness on hydric risk.

In line with this strategy, the The Experiential Water Center (in Spanish, Centro Vivencial del

Agua) invites us to take a walk around the City of Buenos Aires, learn about the history of its streams and its watersheds, learn about the water cycle and the rain, and raise awareness about the challenges posed by climate change. Moreover, information is provided about the Hydraulic Plan and its ability to respond in case of floods. Likewise, information about the City's resources in case of hydric emergencies is given.

#### **SUB ACTIONS**

- Enlargement of the Red Pluvial Secundaria I y II (Secondary Rainwater Network I and II) and the Arroyo Maldonado, Vega and Cildañez watersheds.
- Hydraulic Works Cuenca Cildañez (Cildañez II).
- Water relief tunnel and secondary branches Cuenca Arroyo Medrano.
- Complementary Public Works Cuenca Arroyo Medrano.
- Enlargement of Red Pluvial (Rainwater Network) for several watersheds and additional studies on Riachuelo.
- Master Plan, executive projects and public works in Radio Antiguo and Cuenca Arroyo Ugarteche, in coordination with AySA (Argentine Water and Sanitation).
- Automatization and control of pump stations
- Interjurisdictional coordination for metropolitan watersheds.

#### ASSOCIATED CO-BENEFITS

COMPLEMENTARY ACTIONS

- Maintenance of tools for Hydraulic works.
- Articulation with the Storm Warning System.
- Hydric Risk workshops with gender perspective.
- Training and kit delivery to first respondents.
- Water Interpellation Center.
- Online Platform for the Hydraulic Plan.
- Signage on streams and hydraulic infrastructure.





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## target **100%**

watersheds with ARTEH by 2050.

#### TEMPORARY HORIZON

#### AFFECTED SECTOR



ENERGY













#### ACTION

## Nature as a Solution

The impacts of climate change require us to make use of effective and innovative tools. Part of these tools are nature-based solutions that rely on ecosystems and on the services they provide, generating responses to environmental problems and various other solutions.

As part of the strategy to reduce water risk, these types of solutions constitute a structural complement to the gray infrastructure of the hydraulic system (see Action 1).

Within this framework, we are planning the expansion and enhancement of public works and the use of new Temporary Water Surplus Retention Areas (ARTEH for its name in Spanish). Also, the readjustment of streets, prioritizing green and blue spaces (for the creation of retention and infiltration areas), and the incorporation of rain gardens with retention beds in boulevards, to favor better water conduction in case of heavy rainfall.

We often notice that people who live and work in the city have no relationship with the watercourses, partly because many are piped. For this reason, we want the inhabitants to recognize the water that runs across the city. To achieve this, we will promote the opening of sections of piped streams in each watershed, which will also help the interaction of groundwater with the watercourses.

On the other hand, the adoption of green roofs and walls into buildings increases the capacity for water retention. It also substantially helps in reducing urban heat islands (contributing to the regulation of housing temperatures and the reduction in energy demand) and increasing biodiversity. This proposal has been considered in the new Building Code of the City, which proposes the implementation of roofs, vertical gardens, walls, and green curtains.

#### INTERESTED PARTIES





#### Sustainable Urban Drainage Systems

Within the context of the Hydraulic Plan of Buenos Aires, there are other nature-based strategies that are contemplated, such as the Urban Sustainable Drainage Systems (SUDS for its name in Spanish). SUDS are designed to filter, accumulate, recycle, drain, and delay the direct flow of rainwater and greywater into the city's drainage system.

capacity to reduce flooding due to waterlogging or saturation of the system in circumstances of extreme rainfall. They are part of our city's Urban Design Manual, which combines criteria and guidelines for designing and executing urbanscale projects.

These actions complement and enhance the

#### **SUB ACTIONS**

- Expansion of ARTEH Medrano Watershed (Sarmiento Park).
- Enhancement of ARTEH Cildáñez Watershed (Indoamerican Park).
- Creation of new ARTEH in other Watersheds.
- Implementation of green and blue streets for retention/slowing down of water surpluses.
- Adoption of rain gardens in boulevards.
- Incorporation of sustainable design measures considered in the Building Code.
- Gradual increase of measures in the Building Code that require the incorporation of terraces and green walls.
- Green roofs on school buildings.
- Environmental sanitation: opening sections of piped streams and enhancement of river mouths.

#### **COMPLEMENTING ACTIONS**

- Increase in the amount of blue areas used for pleasure.
- Creation of recreational and educational spaces in ARTEH areas.
- Training on the implementation of terraces and green walls.

#### ASSOCIATED CO-BENEFITS





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people injured by storms\* by 2050 \* of up to 10-year recurrence

#### TEMPORARY HORIZON

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AFFECTED SECTOR



ENERGY













#### ACTION

## Ready for Storms

Every time it rains, water is collected by the rainwater system and then discharged into the City's hydraulic system; this way, neither the inhabitants nor the infrastructure is affected.

Water flowing down the slope enters the hydraulic system (see Action 1) through the City's more than 29.000 drains. To assure its proper functioning, it is necessary to provide suitable and preventive maintenance to ensure that all the rainwater system elements are free of obstructions. Therefore, it is essential to prolong and strengthen the cleaning performance, mainly in the drains, to guarantee the correct evacuation of water during storms.

The system's operation is complemented by a series of hydrometeorological sensors that send information to a control center. This center, in turn, provides information on the main problems of the City's watersheds, such as the flow contained within the conduits and information about the water levels inside these conduits. This way, we have an accurate, real-time assessment of the condition of the rainwater system. We plan to expand this network of sensors to have more information and improve our capacity to prevent and respond to potential flooding.

The Storm Warning System (SAT for its name in Spanish) is another element that allows us to analyze and evaluate storm forecasts over the City. This system gives information about probable flooding and improves the handling of emergency situations. It is equipped with a network of 34 automatic meteorological and hydrological stations and is connected to the Single Coordination and Control Center (CUCC for its name in Spanish). To strengthen this network and allow for more accurate results, we will start integrating the SAT with the hydrometeorological sensors of the rainwater system.

#### INTERESTED PARTIES











FORUM FOR FIGHTING CLIMATE CHANGE

PRIVATE SECTOR BOARDS

CONSULTIVE COUNCIL

WORKSHOPS





#### The Single Coordination and Control Center

The Single Coordination and Control Center (CUCC for its name in Spanish) is a multi-agency emergency coordination area unique in Latin America. In the same physical space, it gathers all of the agencies that are competent to assist in a crisis, allowing us to provide fast and integrated responses to an emergency.

CUCC has a modern software platform and a communication system for the exclusive use of security and emergency forces. The following agencies work in a coordinated manner: The Civil Defense Directorates, Rescue and Emergency Guard, Logistics, Firefighters, City Police, SAME, Traffic and Transport Control Agents Body, and line 108 for Immediate Social Assistance. The so-called "Non-Integrated Organisms" (Energy Distributors, Direction of Tree Planting, Public Space, Rainwater system-among others) do not have a physical presence. Still, it is possible to communicate and operate with them from the CUCC.

#### **SUB ACTIONS**

- Strengthening of the hydro-meteorological monitoring and warning system.
- Increased frequency of maintenance of the rainwater system.
- Integration of the rainwater system network and the Storm Warning System.
- Extension and maintenance on the fine sediment catchment network.
- Increase and maintenance of pumping stations.
- Emergency operating plan.

#### COMPLEMENTARY ACTIONS

- Increase in the number of sensors and phreatic water level meters in the hydrometeorological network.
- Waste prevention campaigns on public roads.
- Storm warnings available for the population.
- Increase in the intensity of sweeping and cleaning of public roads in the event of storms.

#### ASSOCIATED CO-BENEFITS





INCOME AND









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#### TEMPORARY HORIZON

AFFECTED SECTOR



ENERGY













#### ACTION

## More and Better Trees

The tree-lined streets characterize many neighborhoods in the City. Walking along them is always a pleasure. Urban trees are a vital element of the city and also of urban planning. Trees are great helpers for people: they absorb carbon dioxide, produce oxygen, connect us with nature, and positively impact health. They are also attractive recreational spaces. At a climate level, they contribute to temperature regulation and generate surfaces that can absorb heavy rains.

To enhance these benefits, we will increase the number of trees in the City by more than 20% (there are currently 430.000 specimens). This action will force the already urban afforestation work that is being carried out, in most cases, with the help of neighbors, civil society organizations, students, and teachers.

Along this same line, we are updating the Linear Tree Planting Master Plan and preparing the incorporation of native trees into the different Communes, both for new planting spaces and for the recovery of degraded areas.

The City has 3 nurseries for the production of native species, shrubs, herbaceous, and ornamental plants. Our aim is to achieve self-sufficiency for the new plantings and for the replacement of trees. We also expect to produce herbaceous and ornamental plants for our green spaces. The nursery in the Environmental Information and Training Center (CIFA for its name in Spanish) has a seed bank that guarantees the genetic material for producing different specimens. Some of these specimens are needed for the conservation of biodiversity and the strengthening and restoration of ecosystems.

The conservation and improvement of our trees are fundamental. For this reason, we carry out a thorough maintenance plan and a compensation system for those trees that need to be removed.

#### INTERESTED PARTIES





#### **Botanical Garden**

The Botanical Garden was inaugurated in 1898. It covers an area of more than 70,000 m<sup>2</sup> and houses some 6,000 plant species, as well as a botanical library, 3 style gardens, an herbarium, and 5 greenhouses. It is part of the International Alliance of Botanic Gardens for Climate Change, and its forest is one of the City's carbon sinks. In a comprehensive evaluation, we calculated the absorption of more than 7,300 tons of CO<sub>2</sub> per year.

This space helps to preserve biodiversity and, at the same time, is a beneficial place where people who live, work, or visit Buenos Aires can connect with nature.

#### **SUB ACTIONS**

- Incorporation of 100,000 new trees.
- Compensation system for removed trees.
- Plantations in recovered spaces.
- Urban tree maintenance plan.
- CIFA nursery and seed bank project.
- Creation of nurseries at schools.
- Creation of urban forests of native flora.
- Promotion of citizen participation in tree planting and care (Tree Ambassadors Program, Welcome Program, Community Sponsorship, Community Planting Project).

#### **COMPLEMENTARY ACTIONS**

- Creation of platform, with C40's support, to manage information about the urban green insfrastructure in order to adapt and mitigate climate change.
- Update of Urban Tree Master Plan.
- Update of the tree census.

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#### **ASSOCIATED CO-BENEFITS**





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## **400**m

maximum average proximity to a green space by 2025

#### TEMPORARY HORIZON

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#### AFFECTED SECTOR



ENERGY













#### ACTION

## More and Better Green Areas

Public green spaces have multiple functions and benefits, and are a crucial element in counteracting the impacts of climate change and promoting biodiversity. At the same time, they foster recreation and improve the health of those who live and work in the City.

In Buenos Aires, there are 1.139 green spaces and 3 urban reserves, which means more than 1.800 ha. Between 2016 and 2019, in response to our inhabitants' needs, we incorporated 110 new hectares of public green spaces, a policy that we will continue to pursue in the coming years.

The reshaping of the existing Municipal Golf Course and its merging with "Parque 3 de Febrero" will add 17 hectares of green space for people's enjoyment. Similarly, with the project "Parque Costero del Riachuelo," we intend to benefit from the recovery of the space and the connection with the towpath.

The Palermo Railway Park project is also on the move. The aim is to create a linear park in the spaces generated by the elevation of the FF.CC. San Martín. The "Parque Playa Ferroviaria Caballito" project is also in process and will provide public green spaces in Commune 6 and add new recreational and cultural spaces.

The wetlands on which our City is built continue to be one of our greatest treasures. It is there where we find the natural reserves that make the strategic management of biodiversity easier. Their environmental role is so crucial that the "Costanera Sur Reserve" has been declared a Ramsar Site by the Convention on Wetlands of International Importance. We are planning the development and execution of new conservation areas to maintain and increase biodiversity.

With the introduction of bio-corridors, we will connect large green nodes and incorporate vegetation that will promote biodiversity and reduce the impacts of heatwaves and heavy rains.

#### INTERESTED PARTIES





#### Land Cover Mapping

In 2019, we finished the Land Cover Mapping of Buenos Aires to create a fundamental tool for urban planning. This report was carried out by mapping aerial photos of the entire vegetation surface of the City, including public and private green spaces, reserves, trees, and flowerbeds.

With this map, we can identify the absorbing surface of the City, calculate the coverage, and understand the relationship between free,

restricted, and private green spaces. The map also lets us observe the relationship between green spaces and population density, the morphology of each area, and the land uses. Moreover, we can identify the places with a green deficit in the public space and study the conformation of the green lung spaces.

#### SUB ACTIONS

- Transformation of the Municipal Golf Course.
- Linear Park of the Riachuelo's Riverside-Integration of the Towpath.
- Incorporation of public green space in Palermo and Caballito Railway Beaches.
- Incorporation of new conservation areas.
- Integral management of the City's reserves.
- Implementation of mini-forests to mitigate climate change.
- Planning of bio-corridors.
- Incorporation of automatic and intelligent irrigation systems.
- Integral maintenance plan for green spaces.

#### **COMPLEMENTARY ACTIONS**

- Census of trees in the "Costanera Sur Reserve" by means of satellite images.
- Development of a management plan for the "Costanera Norte Reserve" in connection with the Faculty of Exact and Natural Sciences of the University of Buenos Aires (UBA).
- Development of awareness strategies on the importance of urban green infrastructure for climate change.
- Update of the NDVI.

#### **ASSOCIATED CO-BENEFITS**









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WASTE





by 2030

#### TEMPORARY HORIZON

LONG MID-TERM SHORT

#### AFFECTED SECTOR



ENERGY













#### ACTION

## Pedestrian Priority

For several years, we have been working on a human-scale city model to improve coexistence in more comfortable, accessible, safer, and enjoyable public space. It is a human-centered project which aims at improving quality of life.

In recent years, we have incorporated 5 pedestrian priority areas: Tribunales, Retiro, Historic Center, Once neighborhood and Downtown (Microcentro)

To continue this transformation, we want to create new Pedestrian Areas in different city neighborhoods to promote sustainable mobility, recreation, and health.

These areas benefit social integration in particularly dense places and improve environmental quality efficiently and sustainably in the short term. The objective is to consolidate neighborhood centers and therefore contribute to decentralization. As a result, we reduce the need to commute, prioritize pedestrians, and reduce our carbon footprint. In addition, we enhance the cultural heritage and the urban landscape of the area.

These interventions are an opportunity to include vegetation and reduce air and noise pollution levels. To put them into action, we must delimit the areas where vehicle speed can be reduced. This is done through green expansions and surface leveling that will favor walkability. To succeed, it is also important to promote and incorporate new reasons why people should stay and enjoy public space.

#### INTERESTED PARTIES











FORUM FOR FIGHTING CLIMATE CHANGE PRIVATE SECTOR BOARDS

CONSULTIVE COUNCIL

WORKSHOPS FOR SENIOR CITIZENS



#### **Pedestrian Corrientes Avenue**

Corrientes Avenue is known as the "street that never sleeps" because of its outstanding nightlife and because it concentrates the largest number of bookstores, theaters, pizzerias, and bars in Buenos Aires. In addition, Corrientes witnessed the golden age of tango since the great musicians of the first half of the 20th century met and played in its bars, theaters, and cabarets.

In 2019, the section between Carlos Pellegrini and Florida Street was enhanced by reducing vehicular

lanes, leveling the crossroads, and widening the sidewalks to create more pedestrian space. From Callao to Cerrito, a central flower bed was created to divide the avenue into 2 parts: on the left side, two lanes were adapted to become a pedestrian area at night and, on the right side, two other lanes are exclusively used 24 hours a day for public transport.

#### SUB ACTIONS

- Data collection and creation of indicators to evaluate and select the streets to be intervened at urban scale.
- Participatory processes with neighbors, neighborhood organizations, merchants associations, and local institutions.
- Implementation of Pedestrian Areas.
- Ongoing maintenance of Pedestrian Areas.

#### **COMPLEMENTARY ACTIONS**

 Recording and monitoring of environmental indicators.

#### ASSOCIATED CO-BENEFITS







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03 • Climate Action

GEMENT

PARTICIPATION





#### TEMPORARY HORIZON

LONG MID-TERM SHORT

AFFECTED SECTOR



ENERGY













#### ACTION

## Meeting Streets

For a long time, people living in the City ran errands, worked, and looked for recreational activities far from their neighborhoods. Almost everything was solved in the "City Center." In recent years, we started establishing Buenos Aires as a polycentric city where people can carry out their daily tasks and leisure activities within their neighborhoods without traveling long distances.

"Meeting Streets" is a project that consists of the transformation of one street in each of the City's 48 neighborhoods into pedestrian and recreational spaces. We want to offer quality public space where people can walk, rest, enjoy, and coexist.

The selection of each street to be intervened is the result of a detailed study. We pay attention to the amount of public green space available per capita in the area, the concentration of people, and the areas associated with childhood (among other parameters).

This initiative, which includes the restriction of vehicular use, will transform the street into a meeting place with new uses so that more people can enjoy the public space. There are 2 types of streets: Emblematic Streets and Green Streets.

Emblematic streets are those recognized for their architectural, historical, cultural, or scenic attributes that make up the identity of Buenos Aire's neighborhoods. They will provide new recreation and leisure areas, and will work as junctions that bring together consolidated green spaces. Also, by fostering neighborhood entrepreneurship, local social relations will be strengthened, creating a resilient economy with closer contact between the producer and consumers.

Green streets are created through construction work: a road becomes the main material to include absorbent and biologically active surfaces in areas of the City where access to public green space is more restricted.

#### INTERESTED PARTIES











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RY PRIVATE SECTOR BOARDS

CONSULTIVE COUNCIL

FOR SENIOR CITIZENS



#### **Green Streets**

Green streets can generate islands that, in the future, can offer biodiversity corridors that will connect the large green spaces of the City.

Incorporating the correct vegetation and prioritizing the use of native species over exotic species will generate better opportunities for the survival of birds and other pollinators whose habitat is threatened by landscape fragmentation.

The re-permeation of the soil is another way to reduce the negative impact of climate change on

the City. Vegetation helps the soil fix atmospheric carbon; at the same time, it slows down and retains surface rainwater runoff while reducing the flow of water going down the drainage network. Together with creating Sustainable Urban Drainage Systems (SUDS for its name in Spanish), these actions constitute nature-based solutions.

#### SUB ACTIONS

- Data collection and creation of indicators for the evaluation and selection of streets to be intervened at urban scale.
- Participatory processes with neighbors, neighborhood organizations, merchant associations, and local institutions.
- Study and design of typologies to run the project.
- Development of the model's pilot implementation test for its evaluation and adjustments.
- Streets and intervention execution.
- Ongoing maintenance of meeting streets.

#### **COMPLEMENTARY ACTIONS**

 Recording and Monitoring of Environmental Indicators.



ENERG)





03 • Climate Action





#### TEMPORARY HORIZON

MID-TERM

#### AFFECTED SECTOR















#### ACTION

## More Bikes, Less Emissions

The adoption of bicycles as a means of transportation has been one of our management pillars. Among its multiple benefits, the environmental benefit stands out. Before the arrival of the COVID-19 pandemic, the City had already stood out for its use of bicycles. After the arrival of COVID-19, the need to abandon mass transportation has only increased the use of bicycles.

The extension of the cycling lane network, which is now 267 km, is one of the key elements that will encourage people who live and work in the City gradually adopt this means of transport. For this reason, we set out to connect different strategic points in the City as transfer points, like hospitals, universities, and schools. This network's development also has the objective to reach low-density areas and popular neighborhoods so that everyone is connected. To preserve security, we will develop more protected and adequately signposted cycling lanes that guarantee road safety and encourage their use.

In 2010, we created Eco-bikes: the City's public bicycle system. This service is free, and it is available to use 24 hours a day, every day of the year. From the beginning, we set out to expand the system, encouraging its use as an alternative means of transportation. This policy made Eco-bikes grow exponentially: in 2015, we registered 161.000 users; and in 2019, we reached 600.000 users; and more than 3.500.000 trips were made.

We want people who live and work in the City to use the Eco-bike system, and to have their own bicycle as well. For this reason, we will continue to offer, through Banco Ciudad, interest-free installment loans for a bicycle purchase. The expansion of the parking network and safe storage places will also encourage the use of bicycles by those who already have their own.

#### **INTERESTED PARTIES**







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FOR SENIOR



#### **Bicycle Lanes on Avenues**

Because of the COVID-19 pandemic, we expanded the network of bicycle lanes by adding 17 new kilometers on avenues. These exclusive, singlelane routes are intended to facilitate direct trips to the most frequent destinations.

The chosen routes (Córdoba and Corrientes Avenues) conform with the demand of the inhabitants. In the first month, trips along Córdoba and Corrientes Avenues increased 186% and 113%, respectively. Female trips were also tripled along these corridors.

#### SUB ACTIONS

- Expansion of bicycle lanes.
- Bicycle lanes in popular neighborhoods.
- Metropolitan bicycle lanes.
- Expansion of the Eco-bikes System to reach every neighborhood.
- Expansion of the bicycle parking network.
- Implementation of pedal-assisted bicycles.
- Interest-free financing for the purchase of bicycles.
- Improved intermodality between bicycles and public transport.
- Promotion of sustainable mobility plans in companies.

#### COMPLEMENTARY ACTIONS

- Installation of a sensor system to collect cyclist data.
- Updated map of bicycle lanes with route estimate.
- Eco-bike App.
- Cyclist 's manual.
- "Safe Cycling" web portal.
- "Leave Your Wheels" bike teaching meetings for children.
- Course dictated for teachers on "Road Safety Education for Sustainable Mobility".

#### **ASSOCIATED CO-BENEFITS**









WASTE MANAGEMENT



03 • Climate Action





#### TEMPORARY HORIZON

MID-TERM

#### AFFECTED SECTOR















#### ACTION

## **Efficient Public** Transport

We need to reduce the use of cars in large cities. The priority should be to encourage public transportation, along with other healthy means such as walking and cycling, which are the pillars of sustainable mobility.

The use of sustainable means of transport in the City has seen strong growth in recent years. People who walk, use bicycles, urban buses, subways, and trains account for 70% of all trips taken. Still, it is necessary to improve buses' efficiency by making journey times shorter and offering greater accessibility, predictability, and comfort. The more efficient, comfortable, and practical, the public transportation becomes, the more attractive it will be to the public when deciding how to travel.

One of our core projects is the redesign of urban bus routes. By doing so, we will be able to improve both traffic order and flow while reducing journey times. This will also mean a decrease in traffic congestion and will improve road safety.

In this sense, the "Metrobus" network (BRT) has proven to be a practical and cost-efficient solution while reducing journey times and providing better organization and quality of public space. It also offers better accessibility, comfort, and predictability for users. The expansion of the current route and the addition of new lanes in other neighborhoods will further reduce journey times and improve transport quality for more and more people.

We intend to add corridors and exclusive lanes as a complement to these proposals. The Bus Stop Management Plan will improve the circulation of urban buses in those streets or avenues that do not operate with "Metrobus" and where its implementation is not feasible.

#### **INTERESTED PARTIES**











ADVISORY BOARD

PRIVATE SECTOR BOARDS 

FOR SENIOR



#### "Metrobus" Network

After introducing the Juan B. Justo "Metrobus" in 2011, we implemented 8 other routes with an extension of more than 60 km. As a result, journey times were reduced by more than 40% in these corridors, and there was a decrease of more than 20% in fuel use.

"Metrobus" improved the arrangement of public space, accessibility, and safety. At the same time, the "bus-level" waiting platforms help reduce vehicle boarding and disembarking times and allow the vehicle to approach the curb easily, reducing waiting time at bus stops.

Moreover, there are already 2 corridors that continue working in the Metropolitan Area of Buenos Aires (AMBA for its name in Spanish): "Metrobus Norte." which connects the City with the Municipality of Vicente López; and "Metrobus San Martín," which connects it with the Municipalities of San Martín and Tres de Febrero.

#### **SUB ACTIONS**

- Analysis, redesign, and restructuring of bus routes.
- Coordination with the National Government on interjurisdictional bus lines.
- Expansion of "Metrobus del Bajo" Phase II, "Metrobus Alberdi," and "Metrobus Directorio."
- Incorporation of exclusive corridors and lanes for buses.
- Arrangement of bus stops on avenues that will not suffer infrastructure interventions.

#### **COMPLEMENTARY ACTIONS**

- Bus arrival information system.
- Intelligent stations with a system that can predict arrival time.
- App "BA, How Do I Get There?"
- Transport open data platform.
- Unified signaling system.

#### ASSOCIATED CO-BENEFITS





## target **100%**

by 2050

#### TEMPORARY HORIZON

AFFECTED SECTOR



ENERGY









FLOODS





#### ACTION

## Low-Emission Public Transport

Buenos Aires has 9,700 buses that transport, on average, 4,500,000 passengers per day. Almost 100% of these buses use diesel fuel, which generates a large amount of greenhouse gases (GHG), emits other pollutants that affect air quality, and causes disturbing noise.

We must conduct technological changes within our urban buses to achieve emission-free public transportation. As an intermediate step, and only for some units, we propose the transition into the use of biodiesel. We propose this as the first transition because the implementation of biodiesel is more straightforward and does not require major infrastructure changes. This transition will prioritize the use of sustainable sources such as used vegetable oil for generating energy.

The joint action of several organizations will be required to make this project real. On the one hand, due to the inter-jurisdictional nature of the bus lines, the National State is needed to manage the subsidy programs for the companies in the purchase of diesel fuel and the capital amortization costs.

Companies are also needed to join the National State in these efforts. Companies are responsible for the implementation and migration of technology, while the electric power distributors must guarantee the supply to charge all the units.

The first step will be to strengthen scalability testing studies, which will help us to determine feasibility. These studies also serve as a valuable information base to break down technical and economic barriers and accelerate migration to clean fuels. Finally, we will be able to identify the units that can make a quick transition into biodiesel and set up a clear and gradual plan for the adoption of 100% electric fleets.

#### INTERESTED PARTIES







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CONSULTIVE COUNCIL

WORKSHOPS FOR SENIOR CITIZENS


### **Testing New Technologies**

In 2019, after a joint announcement with the National State, we launched the first pilot test of technological replacement in 4 units. To carry out this project, we had the financial support of the Development Bank of Latin America (CAF for its name in Spanish).

The project's main objective was to evaluate the technical feasibility of new mobility technologies and their operational, economic, and environmental

viability. This project has allowed us to get accurate results taken from our units, which represents a key element for adopting a more thorough scale plan.

The comparison of results between different technologies was also an important issue. For this reason, we implemented 2 electric units, both of them slow-charging, and 2, 100% biodiesel units.

### SUB ACTIONS

- Further analyzes of pilot tests to introduce more electric units.
- Collaboration with the National State.
- Collaboration and design of charging stations with electric power distribution companies.
- Clear roadmap of those lines which will be electrified.
- Development of charging infrastructure at stations.

#### **COMPLEMENTARY ACTIONS**

- Driver training on how to operate the new units.
- Evaluation of the improvement in air quality as a result of the technological change.

### ASSOCIATED CO-BENEFITS







### TARGET



ultra - low emission zones by 2030.

### TEMPORARY HORIZON

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AFFECTED SECTOR



ENERGY









FLOODS





### ACTION

### Efficient Urban Logistics

In recent years, e-commerce and rapid delivery have become increasingly popular. This trend expanded as a result of the COVID-19 pandemic when distance purchasing increased. This caused an increase in the number of delivery systems, leading to a growth in the involvement of urban logistics in the transit network, which also led to greater congestion and emissions. New consumption trends are also turning each home into a potential delivery point.

To face this new reality, we must carry out measures that generate greater efficiency in urban logistics, mainly in "last mile" logistics, to reduce the number of kilometers traveled for each shipment.

To make this real, we have teamed up with the private e-commerce and urban logistics sector to implement efficiency plans for their shipments. At the same time, we will have to move forward in the regulation and audit of loading and unloading spaces and schedules.

To save time, improve the use of public space, and promote road safety, we aim to develop the necessary infrastructure to increase the number of ordered loading and unloading spaces, both for cars and motorcycles, along with their proper signage.

The addition of fleets that use clean fuels is another strategy that will drastically reduce harmful greenhouse gas emissions and environmental noise. We will also contribute to climate help by fostering the use of bicycles, motorcycles, and electric tricycles for the distribution of "last mile" shipments.

### INTERESTED PARTIES











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WORKSHOPS FOR SENIOR CITIZENS



### **Electric Vehicles**

In 2018 we carried out a pilot test of the use of electric vehicles in conjunction with Andreani, a logistics company. The objective was to analyze, in real operating conditions, the technical, and operational, economic, environmental performance of this technology to understand its potential for large-scale implementation.

This pilot test was an important step in the use of zero-emission vehicles since it provided us with empirical information on the vehicles' performance in actual driving conditions. This is an essential tool to find the market niches for each available technology and to achieve an efficient process towards sustainable transportation.

### **SUB ACTIONS**

- Regulation of loading and unloading in commercial areas.
- Incorporation of delivery storage.
- Use of garages in environmental zones for transshipment or storage points.
- Improvement of "blue boxes" in the roadway to indicate loading and unloading.
- Implementation of nighttime loading and unloading.
- Waiting spaces for food delivery drivers.
- "Last mile" deliveries on bicycles, motorcycles, or electric tricycles.
- Incorporation of electric logistics fleets.
- Promotion of sustainable logistics plans in the private sector.

### **COMPLEMENTARY ACTIONS**

- Creation of a Registry of Urban Couriers and/or Food Delivery Providers
- Calculation of carbon footprint for shipments in e-commerce platforms.
- Noise impact assessment for nighttime loading and unloading.





**ASSOCIATED CO-BENEFITS** 



INCOME AND



ENERG)





## target **80%**

retrofitted by 2050.

### TEMPORARY HORIZON

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### AFFECTED SECTOR



ENERGY









FLOODS





ACTION

### Improving Our Homes

Energy is one of the foundations of our comfort. We use it to aircondition and light our rooms, prepare our food, and operate the appliances and electronic equipment that make up our daily lives.

This demand makes the residential sector one of the largest generators of greenhouse gas emissions in the City. Improving energy performance at home through rational and efficient use measures will generate multiple benefits in terms of health, employment, and economic savings.

It is important to keep in mind that if something is not measured, it cannot be improved. For this reason, we consider it necessary to implement the Energy Efficiency Label for houses, which will allow us to determine the Energy Performance Index. We have already conducted a first pilot test in 150 homes in collaboration with the National Energy Secretariat. The information provided by the labeling will be helpful for people who want to buy or rent a new home. It is also a good starting point to be acquainted with the basic data and encourage an effective reconditioning program for existing households, thus reducing energy consumption.

These measures will go hand in hand with incentive programs to replace inefficient equipment, which represents most of the energy consumed in the City's homes. We will also encourage the shift from natural gas to electric systems for heating and hot water.

### INTERESTED PARTIES



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ADVISORY

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PRIVATE SECTOR BOARDS

R CONSULTIVE COUNCIL

WORKSHOPS FOR SENIOR CITIZENS



### Strategy Towards Efficiency

The modification of residential buildings is one of the most challenging programs to carry out. For this reason, through financial and technical support from C40, we are developing a strategy to approach this project.

This study will allow us to establish the guidelines,

co-benefits, impacts, barriers, and costs for the main actions and technologies available. It will also help design a clear roadmap for introducing a retrofitting program in the short term (2025) and a long-term strategy (2050) that allows for scalability.

### **SUB ACTIONS**

- Joint work with the National State to develop scales for household labels.
- Promotion of the National Law on household labeling.
- Program and strategy for the retrofitting of residential buildings.
- Inclusion of existing homes in the building code regulations.
- Incentive programs for the acquisition of more efficient appliances and devices.
- Incentives for existing buildings envelope improvement. Incentives to improve the envelope of older buildings.

### COMPLEMENTARY ACTIONS

- Energy Multipliers Program.
- Virtual energy school for high-school students.
- Energy for kids: webinars for children from 3 to 9 years.
- Technical guide on energy management for the residential sector.
- Web portal for building modifications.
- Energy talks open to the community and awareness-raising in popular neighborhoods.

### ASSOCIATED CO-BENEFITS















WASTE MANAGEMENT



### TARGET

Reduction of

3.5M

of annual t CO<sub>2</sub>eq by 2050

### TEMPORARY HORIZON

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AFFECTED SECTOR



ENERGY









FLOODS





ACTION

### More Efficient New Buildings

Becoming a carbon-neutral city is our primary objective. To achieve this, we must base the construction of new buildings on standards that allow them to be energy efficient. This will reduce energy consumption during their use and even lead to self-sustainability.

The joint work between the public and private sectors is the key to success. Every actor is of importance: real estate and construction associations, developers, professional councils, academies and citizens-among others.

As of 2019, a new Building Code is in authority, which considers new technologies and sustainable designs in Buenos Aires. It establishes the main guidelines for the adoption of sustainable criteria when designing new buildings, which include: solar gain and protection, natural ventilation, envelope thermal insulation, green roofs and walls (see Action 2), efficient use of water and rainwater use, efficient use of energy, and incorporation of solar photovoltaic and thermal renewable energy.

These guidelines go through different stages of regulation. The requirements are gradually increased to reach, more efficient buildings, which aim at self-sustainability as a means to achieve carbon-neutral buildings.

In the City, we intend to work on the entire life cycle of new buildings. For this reason, the Building Code includes the environmental management of the construction process. The adoption of new materials, technologies, and working methods will reduce greenhouse gas emissions and other environmental impacts associated with raw material procurement and construction.

### **INTERESTED PARTIES**









CONSULTIVE



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WORKSHOPS FOR SENIOR CITIZENS



### **Environmental Information and Training Center**

The Environmental Information and Training Center (CIFA for its name in Spanish) is one of the City's Environmental Protection Agency venues. Its design was based on the guidelines of sustainable architecture and the environmental performance of its useful life. The building's orientation was given special attention to take advantage of sunlight and achieve efficient conditioning, adequate envelopes, and energy-efficient lighting systems.

It is also the first public building to inject

renewable energy into the power grid. This is done by generating solar photovoltaic energy with traditional and flexible panels, and wind energy utilizing wind turbines.

CIFA is also home to "Southern Environmental Walk," a space designed to promote environmental education not only among students during school visits but also among the City's residents.

### **SUB ACTIONS**

- Establishment of requirements for passive design and improvement of buildings' thermal envelope.
- Incorporation of automation and lighting control systems.
- Regulation of high efficiency equipment.
- Incorporation of solar thermal water heating equipment.
- Incorporation of efficient electric conditioning systems.
- Analysis of the life cycle of a construction.
- Reduction of emissions through the use of new materials and construction methods.

### **ACOMPLEMENTARY ACTIONS**

- Registration of new constructions.
- Life cycle analysis tools.
- Web portal with information on methodologies, materials, and low carbon buildings.
- Energy labeling for new housing.

#### ASSOCIATED CO-BENEFITS













MANAGEMENT





## target **100%**

efficiency plans by 2025.

### TEMPORARY HORIZON

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AFFECTED SECTOR











HEATWAVES



FLOODS





### ACTION

### Indoor Efficiency

We believe that we all have to play a role to become a carbonneutral city. To achieve our ambitious emission reduction targets, we need to lead by example so that this transformation is multiplied.

In recent years, we have worked hard to improve the energy performance of public spaces and buildings. In 2019, we were the first City in Latin America to have 100% LED street lighting. In addition, we improved the lighting of more than 400 public buildings and delivered more than 1 million LED lamps to people living in the City-focusing on working-class neighborhoods.

In the coming years, we will strengthen our energy policy to reach all public buildings. The regulation of the Energy Efficiency Law in public buildings will be the general framework that will allow us to define gradual goals for energy performance improvement and establish energy saving criteria.

Proper monitoring is the best tool to understand the reduction potentials of each building and also to define the objectives and goals to be achieved effectively. For this reason, we will improve and expand our monitoring system to achieve real-time measurement of consumption in all our buildings.

In the short term, we will also establish energy efficiency plans for each building, defining a strategy and the necessary actions to achieve better consumption performance. This includes the replacement of lighting fixtures, the improvement in air conditioning and thermal insulation, and the use of solar thermal energy.

On the other hand, each building will be appointed an energy manager. They will be responsible for monitoring the energy efficiency actions to be taken and will assure compliance with the measures to use energy rationally.

### **INTERESTED PARTIES**









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ADVISOR BOARD

IVATE SECTOR BOARDS

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FOR SENIOR CITIZENS



### **Collaborative Work With Copenhagen**

This initiative known as "Strategic Sector Cooperation," we signed an agreement with Copenhagen, the capital city of Denmark. It aims to facilitate the exchange of energy-efficient practices to implement in the City's public buildings.

The objectives are to study the best costeffective measures, implement pilot tests to gather evidence, and build business cases to estimate potential savings when the measures are replicated. The agreement considers technical exchange and support needed for implementing Energy Management Systems and Building Management Systems (EMS and BMS). It also involves improving energy performance through retrofitting the measures of active, passive, and building envelope systems. The project promotes linkages between national, local, and international actors to exchange experiences and promote synergy between the public and private sectors.

### **SUB ACTIONS**

- Regulation of the Law on Energy Efficiency in Public Buildings.
- Establishing of goals for the reduction of energy consumption.
- Expanding and updating of the monitoring of energy consumption in public buildings.
- Programs to replace lighting fixtures in public buildings.
- Implementing of energy efficiency plans for buildings.
- Designation of energy manager per building.

### **COMPLEMENTARY ACTIONS**

- Training workshops for energy managers.
- Training workshops on rational and efficient use of energy for all personnel.
- Creation of best practice guides on energy use.
- Energy efficiency labeling in public buildings.
- Energy Talks Series.
- Program for Sustainable Government Purchases.
- Energy Efficiency Model School Lab.

#### ASSOCIATED CO-BENEFITS













WASTE MANAGEMENI 03 • Climate Action

PARTICIPATION





### TEMPORARY ORIZON

AFFECTED SECTOR

















### Towards **Clean Energy**

To achieve a significant reduction of emissions, the City needs to implement the transition towards renewable energy sources. This premise is oriented to national electricity generation and to achieve a more significant share of local power generation through the use of solar energy.

Using renewable energy sources has multiple co-benefits. Among them are the generation of green jobs, a reduction in energy poverty, and improvement of air quality.

Buenos Aires has significant solar potential, with more than 150,000 rooftop areas suitable for photovoltaic generation. There also exists the possibility of injecting generation surpluses into the grid. This is possible thanks to the approval of the National Law on Distributed Generation at the end of 2018, to which the City adhered to in 2019.

Over the last few years, technological progress has made it possible to lower initial costs. However, AMBA's national tariff scheme has made the economic equation unattractive, which discourages investment. Nevertheless, we believe that this significant challenge needs to be addressed by promoting incentives and removing technical and information barriers. This will increase the number of people who implement this technology.

The conjointment between different sectors and the encouragement of community-type systems will give access to renewable energy to those who could not install it on their rooftops because they live in residential buildings or because they do not own their home. This will also result in the reduction of unit costs due to widespread installations.

Our premise is to lead by example. For this reason, several buildings and public spaces are equipped with photovoltaic installations, which will also result in the reduction of unit costs due to widespread installations.

#### **INTERESTED PARTIES**





### **Generating of Green Jobs**

Solar use offers enormous possibilities for creating jobs with low technical skills or training, which makes them more accessible to the most economically vulnerable population.

A study carried out by C40 for the City revealed that the objectives set for 2030 regarding distributed generation could generate 38,000 new jobs. Of these jobs, 11,000 would be directly employed in the construction of photovoltaic installations; 12,000 would be indirect jobs created in the adjacent industries that supply the necessary goods and services. Finally, 15,000 of these positions would be induced jobs, caused by the increase in profits of direct and indirect jobs regenerated locally.

### **SUB ACTIONS**

- Development of the Solar Map of the City to provide concrete information on the potential generation in each parcel of land.
- Gradual incorporation of solar photovoltaic use in the regulations of the Building Code.
- Development of a joint purchasing platform.
- Utilization of public spaces and rooftops of public buildings for community installations.
- Regulation of Law 6.165 for local adhesion to the National Law on Distributed Generation and implementation of incentives.
- Management and advice on the process of User Generator.
- Technical training workshops for renewable energy technicians.
- Photovoltaic generation in public buildings.

### **COMPLEMENTARY ACTIONS**

- Permanent survey for the renewable energy sector: registration and communication with industry agents.
- Map of smart roofs and register of photovoltaic installations.
- Monitoring platform of renewable energy.
- Rounds of energy talks.
- Introductory workshops on renewable energies.
- Energy Efficiency Model School Lab.
- Testing space for innovative technology.

#### ASSOCIATED CO-BENEFITS













WASTE MANAGEMENI



CLIMATE ACTION PLAN 2050 • City of Buenos Aires



## TARGET

### TEMPORARY IORIZON

### AFFECTED SECTOR















### **Towards a Circular** Economy

Transforming the paradigm from a linear economy into a circular economy is necessary to become a carbon-neutral, resilient, and inclusive city. All actors involved (both in the production and consumption sectors) must adopt the necessary changes in their habits for this transformation to take place.

Implementing the principles of the circular economy contributes to the achievement of our climate goals, and it encourages sustainable and responsible consumption habits. This way, we propose a new paradigm that is environmentally sustainable, efficient and inclusive, and which impacts the main economic guidelines.

In this context, Buenos Aires has an important dry waste management system based on incorporating the Waste Recycling Cooperatives with the Urban Hygiene Service. This joint work has helped us recover and valorize a greater amount of recyclable materials, promote their reinsertion in the market, and formalize the employment of Green Jobs.

The application of circular economic policies requires interaction between government, citizens, and the private sector in charge of manufacturing products and services. To make this change in paradigm even more substantial, we need to bring important waste generators on board, which will allow us to increase our scale and accelerate our proposed changes.

One of our objectives is to develop new strategies, alliances, and initiatives to reduce waste generation and promote awareness, communication, and promotion of circular economy systems. In doing so, we aim to ensure that more and more products are made from recovered materials, which can be reinserted into the industry.

### **INTERESTED PARTIES**









FORUM FOR CLIMATE CHANGE ADVISOR

PRIVATE SECTOR BOARDS

FOR SENIOR



### Management of Electrical and Electronic Equipment Waste

Technological progress and new consumption habits have led, in recent years, to a considerable increase in Waste of Electrical and Electronic Equipment (WEEE). This trend has led the City to implement a strategy for recovering and reusing this waste. This applies to waste generated by both government activities and citizens, which can be taken to the different Green Points.

In the first stage, the aim is to recover and reuse those devices with potential use. If this is not possible, the components are separated for recycling. The plastic components from casings are shredded and turned into supplies for the manufacture of tiles that will later be used in various public works.

### **SUB ACTIONS**

- Regulatory measures to control the chains of production and consumption.
- Implementation of regulations for the progressive elimination of single-use plastics.
- Increased management and control of bulk waste generators.
- Development of new markets for the treatment of potentially recyclable waste.
- Promotion of initiatives and ventures related to eco-design.
- Promotion of green job creation in the recycling and composting industry.
- "Ecosellos"/Eco-stamps program for the private sector.

### **COMPLEMENTARY ACTIONS**

- Awareness and promotion of waste separation.
- Agreements and alliances with productive sectors.
- Communication campaigns and cultural transformation.
- Promotion of circular economy at schools.

### **ASSOCIATED CO-BENEFITS**

















## TARGET 100%

treatment by 2050.

### TEMPORARY HORIZON

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### AFFECTED SECTOR



ENERGY







HEATWAVES



FLOODS





### ACTION

### Increased and Improved Separation at Source

To achieve a successful integrated management system of solid urban waste, proper separation at the source is essential.

The City handles a system for the gathering and differentiated collection of dry waste. Its main advantage is the recovery of the recyclable materials that citizens separate at home. This way, we prevent these materials from being buried in a landfill and, as a result, they have a new useful life. This can be done through a treatment process that allows us to reinsert these items as raw materials for different branches of the recycling industry. However, there are large amounts of recyclable or reusable materials currently being dumped into the wet waste stream and end up in the landfill.

In turn, a large part of the waste produced in our homes is organic waste. This waste is generated from food processing or because it has reached its expiration date. In both cases, they usually end up buried. When this waste is decomposed in an anaerobic environment, as it happens in a landfill, it generates methane gas, which is a powerful greenhouse gas contributing to climate change.

To reduce the amount of waste going into landfills, we plan to address the actors that are part of the waste management system through environmental awareness and promotion. To this end, we will launch both virtual and territorial mass communication campaigns to inform about the effective way to separate waste at the source and the importance of reusing and composting at home. The ultimate goal is to increase the recovery of potentially recyclable, reusable, and compostable waste to minimize the amount of waste that ends up in landfills.

### INTERESTED PARTIES



ADVISORY

BOARD



PRIVATE SECTOR

BOARDS





CITIZENS



### The Green Points

More than 70 Green Points are distributed along the City's parks and squares within the 15 communes. They are reception places where you can drop off dry recyclable materials, used vegetable oils (UVO), waste from electrical and electronic equipment (WEEE), batteries, and organic waste—among other things. All the collected material is then removed and recovered at treatment plants. These fixed points are complemented by 5 Mobile Green Points that travel around the City and are located in places with a high concentration of people, such as Neighborhood Supply Fairs, events, schools, etc.

Green Points represent a contact channel with the citizen and they are the place where successful management begins. Through them, we can promote recycling practices, composting, responsible consumption, and segregation at the source.

### SUB ACTIONS

- Obligatory training on waste management to horizontal property managers.
- Awareness, control, and monitoring of bulk waste generators.
- Promotion of habits that encourage increased separation at source and less waste generation.
- Communication and awareness campaigns on recycling and composting.
- Benefit and incentive programs for home composting.
- Promotion of community composting.

### **COMPLEMENTARY ACTIONS**

- Recycling Ambassadors Program.
- Joint actions with Green Schools.

### ASSOCIATED CO-BENEFITS

















## target **80%**

of organic waste treatment (from food) by 2040.

### TEMPORARY HORIZON

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### AFFECTED SECTOR



ENERGY







HEATWAVES



FLOODS





### ACTION

### Handling Our Waste

As it happens in all big cities across the globe, Buenos Aires is facing one of the greatest challenges: achieving effective and comprehensive management of urban solid waste. Our primary strategy is based on reducing waste generation through the application of circular economy principles (see Action 16) and sustainable habits. However, it is necessary to work on the treatment of the generated waste to avoid its final disposal in sanitary landfills.

To face this situation, we have worked hard on waste management and on developing a complex treatment system. The system includes a Recycling Center, a Biological-Mechanical Treatment Plant, 3 green waste composting centers, and 16 Green Centers to process recyclable materials.

However, it is necessary to continue working on incorporating and implementing new technologies that will make the valorization of the different waste fractions possible and prevent them from being disposed of in the landfill.

We intend to add new urban solid waste treatment plants that promote on-site recovery and give greater environmental autonomy to the City. In this sense, it is necessary to prioritize principles such as sufficiency, proximity to generation sites, efficiency, and complementarity.

The addition of new technologies for waste recovery will help neutralize environmental costs. These costs are associated with the consumption of new raw materials and natural resources, as well as transportation and landfill disposal. Combining on-site treatment at generation sites and new technologies will allow for the valorization of the different waste fractions, helping to promote a circular economy.

### INTERESTED PARTIES

### TERESTED PART









FORUM FOR FIGHTING CLIMATE CHANGE ADVISORY PRIVAT BOARD BC

PRIVATE SECTOR BOARDS CONSULTIVE COUNCIL





### **Recycling Center**

The City's Recycling Center was created to concentrate the treatment of various types of waste at a single site, thus promoting synergy. In addition, it also aims to inform and make citizens aware of the importance of separation at source, recycling, and composting-among other environmental issues.

It has 5 waste treatment plants (construction and demolition, organic, forestry, PET bottles, and other recyclables) and a Circular Economy Center-all connected through walkways.

The Recycling Center, where we process 40% of the waste generated by the City, is one of the most critical environmental sites in the nation.

### **SUB ACTIONS**

- Green waste composting center.
- Debris waste treatment plant.
- Anaerobic digestion plant.
- Organic waste treatment plant.
- Paper, cardboard, and plastic recovery plant.
- Forestry waste treatment.

### **COMPLEMENTARY ACTIONS**

- "Let's Take Care Of Food" program.
- Promotion of home composting.
- Composting in gastronomic poles.
- On-site composting for bulk waste generators.
- Promotion of responsible consumption.

#### **ASSOCIATED CO-BENEFITS**









VEW SPATIALIT













### TARGET access to <u>basic services</u> for

the population affected by

### **TEMPORARY** HORIZON

MID-TERM

LONG

SHORT

### AFFECTED **SECTOR**













### ACTION

### Integrating Neighborhoods

The quality of life of those who live in the City's shantytowns is one of the main concerns of our administration. They are exposed to more significant climatic risks due to the high density of the neighborhoods and the lack of ventilation and basic infrastructure.

Furthermore, the absence of green spaces leads to an increase in temperature and the urban heat island effect. The characteristics of these areas also favor flooding in the event of major rainfall events.

Buenos Aires will continue to work on the integration of these neighborhoods. This process is based on 3 main axes: I) urban integration (public services, urban criteria, transportation); II) housing integration (decent housing, legal security of tenure), and III) socioeconomic integration (health, environment, education, security, work).

The decision-making concerning these axes is carried out through consensus with the participatory management of the neighbors, the Ombudsman's Office, and legislature representatives-among others. The primary interventions proposed are based on the construction of new housing and the refurbishment of existing ones, the regularization of property ownership, the extension of public services, the opening of streets, access to public transport, the incorporation of green spaces, and access to emergency services.

The adoption of sustainability criteria is one of the premises for the construction and refurbishment of housing. In addition, we encourage the inhabitants of these neighborhoods to take the jobs generated by the construction work.

We also design housing policies and programs outside the shantytown neighborhoods to facilitate residence access to lowincome sectors through soft mortgage loans.

### **INTERESTED PARTIES**











PRIVATE SECTOR

CONSULTIVE COUNCIL

FOR SENIOR



### Sustainable Housing

The adoption of environmental criteria in housing developments is a frequent demand that arises in participatory management processes. With this in mind, we built new housing units in Barrio 31, Playón de Chacarita, and Rodrigo Bueno, taking into account sustainability standards that allowed us to achieve, in some cases, certifications for efficiency in the use of energy and water.

These projects included environmental features

such as thermal insulation, efficient lighting, rainwater harvesting systems, photovoltaic solar power generation, water heating systems, and solar water pumping. The previous characteristics are complemented with measures to promote sustainable mobility by implementing bicycle lanes, Eco-bike stations, and access to public transportation.

### **SUB ACTIONS**

- Active and participatory neighbor management.
- Land use planning and redevelopment of shantytown neighborhoods.
- Extension and improvement of access to basic services.
- Access to sustainable public transportation.
- Incorporation of green spaces and public space.
- Creation of commercial premises.
- Habitat policies for access to housing.

### COMPLEMENTARY ACTIONS

- One-stop shop for access to information and customer service.
- Housing censuses.
- Community strengthening: orchards and nurseries, gastronomic poles.
- Trades school programs.

### ASSOCIATED CO-BENEFITS





## target **100%**

of Day Care and Retirement Centers reached by the program by 2025.

### TEMPORARY HORIZON

LONG
MID-TERM
SHORT

### AFFECTED SECTOR



ENERGY













### ACTION

### Better Prepared Neighbors

High temperatures mainly affect, older adults. The dehydration and heat sensation symptoms are subdued, which makes them more prone to suffer from heatstroke. In response to this reality, we have created the Adaptation to Extreme Climate Events Program, which raises awareness among older adults about climate change and provides them with tools to reduce the risk of its impact and increase their response capacity.

This program is developed through the organization of prevention and personal care workshops to deal with heatwaves. These workshops are given in places where older adults congregate. At the same time, we also complement this action with mass messaging campaigns through emails, phone calls, and messages.

With these messages, we alert adults about the occurrence of heatwaves and provide them with information on health care and preventive measures for the elderly and children (who represent another group at risk). At the Healthy Stations, located in squares and parks, we also project videos with indications on how to act in cases of high temperatures.

Many older adults and workshop instructors are trained as awareness-raising agents through the "Elderly Promoters" and "Seniors in the Street" programs. This way, they become multipliers in the different Day Care Centers and squares of the City. In addition, we train agents from various government areas who work with vulnerable populations to carry this message.

We will expand the scope of this program to reach all the Day Care and Retirement Centers and strengthen the training system so that more seniors can become promoters. At the same time, we will project videos on heatwave prevention in all those places that are frequently accessed by seniors, such as Community Centers and Health Centers.

### INTERESTED PARTIES





### Caring for our Elders

The Adaptation to Extreme Weather Events Program was launched in the summer of 2017 and, since then, has directly involved more than 3,800 neighbors through 169 face-to-face workshops. These workshops trained participants in climate change and gave them heatwave prevention tools.

Mass communications were used to make 202,115 effective telephone calls and to send 116,256 emails and 123,293 text messages to warn about the arrival

of high temperatures. In addition, during 2020, we issued WhatsApp alerts to more than 11,200 people at Day Care Centers, Retirement Centers, and to members of "Seniors in the Street" that use this application on their phones.

### SUB ACTIONS

- Climate change workshops in Day Care Centers, Retirement Centers, and public spaces.
- Training on climate change and heatwaves for older adult promoters and government staff working with the elderly and children.
- Mass messaging campaigns on high temperatures and heatwaves.
- Circulation of videos on how to deal with heatwaves in places frequented by older adults.

### COMPLEMENTARY ACTIONS

- Massive graphic communication on public roads to inform heatwave alerts.
- Records of the scope of mass communication campaigns.
- Activities and free health check-ups for senior citizens in charge of "Seniors in the Street" program.
- "Active Aging" program for older adults.
- Introduction of "Simpler," a program for the inclusion of older adults in digital life.

### **CO-BENEFICIOS ASOCIADOS**

### **F**













WASTE MANAGEMENT





## target **100%**

of neighbors without private health coverage assisted by the public system by 2030.

### TEMPORARY HORIZON

LONG MID-TERM SHORT

### AFFECTED SECTOR



ENERGY













### ACTION

### Public Health Network

Buenos Aires has a public, free, and valuable health care system that reaches all people who live, work, or pass through our City. For more than a decade, we have worked to strengthen the public health network, which is based on primary care and organized in progressive and continuous care. We have also focused on technological improvement and the computerization of clinical and support processes.

The COVID-19 pandemic forced us to accelerate the consolidation process of the health system in order to increase health care capacity. We also reinforced our emergency response and action systems. We will continue working on this policy to strengthen and expand public health coverage for the most vulnerable people.

The Environmental Health Department was created in 2006 to respond to health issues generated by environmental conditions such as air quality, noise pollution, and adverse weather conditions worsened by climate change. Environmental Primary Health Care is also based on the intersectional management and social participation in the different neighborhoods.

Older adults are one of the most vulnerable groups to the impact of heatwaves. For this reason, the Health Program for Older Adults seeks to make accessibility easier for the elderly. These actions are complemented by massive heatwave prevention campaigns and the establishment of Healthy Stations in parks and squares.

The increase in temperatures also brings more disease-transmitting mosquitoes. In response, we have launched our strategic plan for the prevention, control, and surveillance of mosquito-borne diseases. This is done through a systemic approach, seeking to minimize morbidity and mortality, reduce the risk and spread of outbreaks, and prevent the dengue-endemic in the City.

### ESPACIOS INTERESADOS











FORUM FOR FIGHTING CLIMATE CHANGE ADVISORY PRIVATE SECTOR BOARD BOARDS

CONSULTIVE COUNCIL

WORKSHOPS FOR SENIOR CITIZENS



### A Health Center Every 15 Minutes

In 2019, we achieved our promise to provide everyone living in the City with access to a Health Center in less than 15 minutes by public transportation. This was achieved thanks to the expansion and improvement of the Health and Community Action Centers (CeSAC for its name in Spanish). We started by focusing on the south of the City, where we fulfilled this commitment in

2017.

In 2019, we achieved full coverage of the Electronic Clinical History in all CeSACs. This way, health professionals can comprehensively evaluate the patient, taking into account their family and medical history.

### **SUB ACTIONS**

- Strengthening of the Emergency Medical Care System (SAME for its name in Spanish).
- Environmental risks and health care program.
- Preventive plan for mosquito-borne diseases.
- Summer health care program.
- "Buenos Aires Health Coverage" Program.
- Teleconsultation for remote care.
- Children's Environmental Health Program.
- Healthy Stations in parks and squares.

### **COMPLEMENTARY ACTIONS**

- Health professionals and population awareness of environmental risks and health effects.
- Environmental health information system.
- Intersectoral management and social participation for prevention of environmental risks.

03 • Climate Action

#### **ASSOCIATED CO-BENEFITS**

















WASTE

MANAGEMENT



### TARGET 100% compliance with WHO

air quality standards by 2050.

### TEMPORARY HORIZON

LONG

MID-TERM

SHORT

### AFFECTED SECTOR



ENERGY









FLOODS





### ACTION

### Clean Buenos Aires

One of the most recurrent co-benefits of climate action is improved air quality. To enhance this coaction, we have initiated an integration process of the 2 strategies. This will also help us achieve a sustainable city that favors the quality of life and health of its inhabitants.

As a symbol of the importance of air quality, in 2019, we adhered to the Clean Air Declaration promoted by C40. It is in this context that we are launching our "Clean Air Plan."

This Plan has several stages. The first stage begins with a clear diagnosis through models to evaluate the concentration of different atmospheric pollutants. This is done based on consolidated emission inventories and supported by continuous measurements through the existing monitoring stations. Also, in this first stage, we will carry out the adjustment of regulations to improve the required air quality guideline levels, establishing a clear roadmap to speed up those concrete actions that will lead to a reduction in pollutants. This first regulatory adjustment is currently in process. It has been developed in conjunction with various civil society organizations in the context of the Advisory Council on Environment and Sustainable Development.

As a result, we will gradually obtain the necessary tools for developing measures to control emissions that will gradually reduce atmospheric pollution in the City. At the same time, these measures will help us generate the necessary contact with other jurisdictions to work together in the area of influence.

The previous actions, combined with education and awarenessraising campaigns to achieve healthier habits, will pave a clear path to achieve air quality guideline levels in line with WHO recommendations.

### INTERESTED PARTIES











FORUM FOR FIGHTING CLIMATE CHANGE

ADVISORY BOARD SE

PRIVATE SECTOR BOARDS WORKSHOPS FOR SENIOR CITIZENS



### **Scenario Modeling**

Buenos Aires has been chosen, along with 6 other cities, to be part of the pilot test for implementing the Air Quality Pathways tool in the C40 "Climate Action Plan-Air Quality" program framework. This program is aimed at studying air quality and the public health implications of climate policies.

This fast and accessible tool combines public health, air quality, and greenhouse gas scenario models to quantify and integrate air quality and public health implications into cities' Climate Action Plans.

The main results of the application of this tool are presented in detail in Appendix I.

### **SUB ACTIONS**

- Dialogue instances with CSO to design the project to update regulations on air quality guideline levels.
- Enactment of a new regulation of air quality guideline levels.
- Implementation of air quality assessment models.
- Maintenance and improvement of fixed air monitoring stations.
- Incorporation of PM<sub>25</sub> measurement.
- Data integration with the Ministry of Health.
- Interjurisdictional articulation in the area of interest.

### COMPLEMENTARY ACTIONS

- Awareness-raising on sustainable habits that improve air quality.
- Sensitizing the most vulnerable areas for air pollution.
- Open data on air quality measurements.
- Annual publication of the progress of pollution reduction.

### ASSOCIATED CO-BENEFITS





INCOME AND









03 • Climate Action

WASTE MANAGEMENT



### TARGET of popular neighborhoods

with vegetable gardens by 2025

### **TEMPORARY** HORIZON

MID-TERM

LONG

SHORT

### AFFECTED **SECTOR**















### ACTION

### **Sustainable** Eating

People who live and work in Buenos Aires have been promoting, for some time now, sustainable food and urban agriculture. This entails a change of habits that promotes a virtuous circle for sustainability and multiple co-benefits.

To support the drive for a healthier life, we have developed multiple awareness-raising activities in "Healthy Stations" and markets. We have also added special fairs to the more than 39 neighborhood supply fairs that operate in 179 locations in the 15 Communes.

These special markets are: The Organic Fair, where only certified organic products are sold directly from the producer to the consumer; the Sabe la Tierra Fair, where organic, natural, and agroecological production is integrated with fair trade and responsible consumption; BA Market, an itinerant fair dedicated to healthy food for the whole family; the Vegan Fair, which provides access to a wide range of quality plant-based foods at an affordable price; and the Gluten-Free Fair, which offers celiac-friendly products to take away or eat on site.

We intend to scale up these supply fairs to all the City's neighborhoods to offer healthier products and connect producers with consumers. In this way, we will be able to shift towards a more local food model.

Buenos Aires wants to change how cities are viewed primarily as food consumers. We will increase local food production through a greater number of private or collective urban gardens, while moving towards other forms of consumption, getting closer to nature, and promoting organic, local production with a smaller carbon footprint.

### **INTERESTED PARTIES**







FORUM FOR CLIMATE CHANGE ADVISORY BOARD

PRIVATE SECTOR BOARD FOR SENIOR



### "La Vivera Orgánica"

Urban gardens are also an opportunity to improve the quality of food for the poor while at the same time providing a source of employment and empowerment.

In 2018, as part of the socio-urban integration process of the Rodrigo Bueno Neighborhood, we worked with a group of women in a community garden project called "La Vivera Orgánica." It was born as an initiative of a group of 15 neighbors and

became a means of preserving the knowledge and cultural practices of their original lands. At the beginning of 2020, they obtained the first harvest of 100% organic products. Today it is a self-managed workspace where organic food and plants are grown and marketed, allowing them to have a sustainable income.

### SUB ACTIONS

- Urban Agriculture Program, vegetable gardens and hydroponic crops at CIFA.
- Vegetable garden projects in popular neighborhoods.
- Urban agriculture in public spaces and law promotion for its full implementation.
- Creation of the "Healthy Life Strategic Plan."
- "My Healthy School" Program.
- Vegetable gardens and nurseries in public school buildings.
- Expansion of organic and vegan fairs.
- Sale of agro-ecological bags of fruits and vegetables in Healthy Stations.

#### **COMPLEMENTARY ACTIONS**

- Sustainable Food Commission within the framework of the Environment and Sustainable Development Advisory Council.
- Workshops on vegetable gardens in small spaces.
- Workshops on hydroponic crops.
- Workshops on biological pest control.

### **ASSOCIATED CO-BENEFITS**









## TARGET

recognized as Green Schools for 2030.

### **TEMPORARY** HORIZON

MID-TERM

LONG

SHORT

### AFFECTED **SECTOR**















### ACTION

### Green **Schools**

The creation of the Green Schools Program in 2010 is one of the management actions we are most proud of. The objective is to move towards building a sustainable, equitable, fair, and diverse future. To achieve this, we promote sustainability through environmental education and management in Elementary, Primary, and Secondary schools.

Based on a holistic approach to educating sustainability, we promote quality education with a critical and transformative view of reality. We want education to build learning networks and foster the development of knowledge, values, and fundamental skills to face the challenges of the 21st century.

This initiative is intended for the entire educational community: supervisors, management teams, teachers, non-teaching staff, and students. Learners are considered potential agents for change, capable of taking the knowledge they have acquired on environmental care to their families and, in this way, contributing to cultural change.

In addition, this proposal promotes the implementation of environmental projects aimed at deepening eco-friendly education. It also supports environmental management actions in schools, using them as a pedagogical tool, basing its approach on the knowdo-be. Its aim is to achieve a conducive environment for learning, which is in line with the concepts taught..

The consolidation of environmental education in schools and the transformation of the institutional culture requires sustained work and effort, capable of overcoming the difficulties and contingencies that may occur at the institutional level. With this challenge in mind, in 2014, we introduced the "Green Schools Award" as an invitation to develop environmental education initiatives at schools. This is done by implementing a gradual action plan that adapts to the institutional reality of each establishment for the construction of a "Green School."

### **INTERESTED PARTIES**











FORUM FOR CLIMATE CHANGE ADVISORY BOARD

PRIVATE SECTOR BOARDS



### Ten Years of Work

The Green Schools program has celebrated its first 10 years of existence. We trained more than 170,000 students during this time, recovered more than 2,200 tons of recyclable material, and delivered more than 100,000 baskets and containers. Moreover, we planted 2,527 native trees, created organic vegetable gardens in more than 715 schools, and trained more than 22,100 teachers on environmental issues.

Currently, 85 schools are already equipped with LED lighting systems. Additionally, students have created more than 100 renewable energy projects, and 7 state-run schools generate the energy they consume with solar photovoltaic systems. One of them, the Elementary School N°15 "Antonio Devoto," injects surplus energy into the grid.

### SUB ACTIONS

- Development of pedagogical resources for teachers and students.
- Training to promote the access and consolidation of environmental education.
- Environmental management actions for the efficient use of resources and for the development of sustainable practices.
- Development of environmental projects for the promotion of science, innovation, and technology.
- Incorporation of composting in schools which have kitchens and produce organic waste.
- Recycling station in each school.
- Water risk education program.

### COMPLEMENTARY ACTIONS

- Student environmental forum.
- Monitoring and tracking system for the measurement of main variables.
- Mandatory environmental day.
- Federal Network of Green Schools.



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# What's Next?

### 4.1 Implementation Schedule

### ACTION

1	Major Works Facilities to Reduce Risk	SECTOP
2	Nature as a Solution	SDU · SECA · SECTOP
3	Ready for Storms	MEPHU·MJYS
4	More and Better Trees	SECA · SECACGC
5	More and Better Green Areas	MEPHU · SDU · SECA · SECACGC
6	Pedestrian Priority	MEPHU
7	Meeting Streets	MEPHU
8	More Bikes, Less Emissions	SECTOP
9	Efficient Public Transport	SECTOP
10	Low-Emission Public Transport	SECTOP
11	Efficient Urban Logistics	SECTOP
12	Improving Our Homes	SDU·SECA
13	More Efficient New Buildings	SDU·SECA
13 14	More Efficient New Buildings Indoor Efficiency	SDU · SECA SECA
13 14 15	More Efficient New Buildings Indoor Efficiency Towards Clean Energy	SDU·SECA SECA SECA
13 14 15 16	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy	SDU·SECA SECA SECA MEPHU·SECA
13 14 15 16 17	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source	SDU · SECA SECA SECA MEPHU · SECA MEPHU · SECA
13 14 15 16 17 18	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source Handling Our Waste	SDU · SECA SECA SECA MEPHU · SECA MEPHU · SECA MEPHU
13 14 15 16 17 18 19	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source Handling Our Waste Integrating Neighborhoods	SDU·SECA SECA SECA MEPHU·SECA MEPHU·SECA MEPHU MDHYH
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> </ol>	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source Handling Our Waste Integrating Neighborhoods Better Prepared Neighbors	SDU·SECA SECA SECA MEPHU·SECA MEPHU SECA MDHYH SECA
13 14 15 16 17 18 19 20 21	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source Handling Our Waste Integrating Neighborhoods Better Prepared Neighbors Public Health Network	SDU·SECA SECA SECA MEPHU·SECA MEPHU SECA MDHYH SECA MOH
13 14 15 16 17 18 19 20 21 22	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source Handling Our Waste Integrating Neighborhoods Better Prepared Neighbors Public Health Network Clean Buenos Aires	SDU·SECA SECA SECA MEPHU·SECA MEPHU MDHYH SECA MOH SECA
13 14 15 16 17 18 19 20 21 22 23	More Efficient New Buildings Indoor Efficiency Towards Clean Energy Towards a Circular Economy Increased and Improved Separation at Source Handling Our Waste Integrating Neighborhoods Better Prepared Neighbors Public Health Network Clean Buenos Aires Sustainable Eating	SDU·SECA SECA SECA MEPHU·SECA MEPHU SECA MDHYH SECA MOH SECA MDHYH·MEPHU·SECA

**RESPONSIBLE AREA** 

2025	2030	2035	2040	2045	2050
		0	0	0	0
	0	0	0	0	0
		•••••			
		•••••			•••••
					•••••

Execution of the main components of the action.

Active maintenance

Articulations with third parties / Pilot Tests / Scalability Plan

## 4.2 Monitoring, Review, and Update

### **MONITORING AND EVALUATION**

Moving towards a carbon-neutral, resilient, and inclusive city is one of the central objectives of our management. This Climate Action Plan (CAP) 2050 includes many actions and sub-actions aimed at meeting the ambitious goals planned to achieve it. This diversity of actions entails a large number of actors and Government areas responsible for their implementation.

A fundamental pillar in the implementation of the CAP is the monitoring of the execution progress, both comprehensively and for each of its actions. The measurement of the impact of these actions is also highly important; it will allow us to analyze whether we are achieving the expected results or not.

In this regard, we have decided to use our strong monitoring and evaluation structures along with our open data policy to create a specialized dashboard for the CAP. All climate actions will have associated follow-up and impact indicators and, in particular, indicators that ensure the specific monitoring of its inclusion in the implementation. At the same time, general monitoring indicators are established for the Plan, which are associated with the global goals of mitigation, adaptation, and inclusion.

In addition, since the beginning of 2020, we have been holding monthly follow-up meetings on the climate change strategy. These meetings are attended by the Head of Government, the Deputy Head of Government and/or the Head of the Cabinet of Ministers, in conjunction with the City's Climate Change Cabinet and the management follow-up team-which belongs to the Secretariat of Management Evaluation and Coordination (SECPECG for its name in Spanish). Primarily, these meetings allow us to analyze the general dashboard for the CAP implementation (progress and impact) and are an opportunity to make validations and/or definitions by the government's highest authorities.

Regardless of this follow-up meeting, on a monthly basis, all the responsible areas for climate actions will monitor and report the results of the connected monitoring, impact, and inclusion indicators to the SECPECG, thus feeding the CAP dashboard.

On an annual basis, we will compile all indicators and their results to comprehensively assess the Plan's implementation progress and impact. This will allow us to monitor the achievement of the main mitigation, adaptation, and inclusion goals.

### REPORTING AND ACCESS TO INFORMATION

This monitoring process will be complemented by the generation of reports for decision-making at the highest levels of government. The reports will also communicate the results to the involved actors and the public ensuring access to information and data.

#### **Reports to the Head of Government**

Beyond his participation in the follow-up meetings, the Head of Government receives a monthly report highlighting the overall progress and results of the Plan's implementation, as well as the main decisions taken.

These monthly reports are complemented with a biannual management evaluation. The Head of Government is informed of the main indicators of priority climate actions and the consolidation of the Plan's progress in the previous 6 months.

#### **Report to the Legislative Branch**

Each year we prepare and submit a report detailing the results of the actions implemented within the Plan's framework to the Legislature. The report includes the main advances and an evaluation of their impact. This annual presentation is established as a requirement in the Climate Change Adaptation and Mitigation Law of Buenos Aires.

#### **Reports in International Networks**

Buenos Aires annually reports the progress of its climate action and the results of its inventories on the CDP platform.

#### **Data Open to Citizens**

The information we generate from the government belongs to all the people who live and work in Buenos Aires. Open data entails that any citizen can have access to use and share it freely.

The BA Data portal, created in 2012, contains more than 31 open datasets that correspond specifically to environmental issues, in addition to those related to mobility, health, urban planning, and human development—among others.

We are aware of the importance of this new Climate Action Plan for the City and the constant need the public has to be informed about the progress made. In response, we have developed an Open Government portal explicitly focused on climate change. In this section, you can visualize the efforts made by the government, the non-state actors, and individuals to reduce greenhouse gas emissions; reduce climate risks; improve our City's adaptive capacity; and ensure an equitable sharing of the social, economic, and environmental benefits of climate action.

The information contained in this portal results from an analysis that is based on the need for access to "BA CLIMATE CHANGE, " THE OPEN GOVERNMENT PORTAL, WAS CO-CREATED WITH MORE THAN 600 CITIZENS, EXPERTS, AND CIVIL SOCIETY ORGANIZATIONS.

information from the government of Buenos Aires and multiple experts. The data is gathered through interviews, meetings open to the general public, and is based on the Environment and Sustainable Development Advisory Council's framework.

### **REVIEW AND UPDATE**

The review of this Plan is carried out in accordance with the provisions of the Climate Change Adaptation and Mitigation Law of Buenos Aires. Every 5 years, we will carry out an exhaustive survey of the results and achievements of this CAP's goals. This will provide a fundamental contribution for its actualization.

**BA Climate Change Portal available at:** buenosaires.gob.ar/cambioclimatico

### Appendix Air Quality

Along with other cities that are also part of the C40 "Climate Action Plan-Air Quality" program, Buenos Aires has started the pilot test to implement the Pathways AQ model. This model is a quick and accessible tool that combines public health, air pollution, and greenhouse gas (GHG) scenario modules to quantify and integrate air quality and the implications these climate action plans have on public health.

The program's methodology is based on the GHG scenario modeling tool for climate action planning. It uses Buenos Aires' GHG inventory and modeling scenarios (BAU, initial, and ambitious) as inputs. It models direct emissions of PM<sub>2.5</sub> along with 4 other pollutants that are combined in the atmosphere and produce: nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), ammonia (NH<sub>3</sub>), and volatile organic compounds (VOCs).

We know that climate change and air quality have some common emission sources: transport, industry, and electric power generation. Because of this, developing integrated agenda can enhance the positive impacts and associated co-benefits.

90% of carbon monoxide (CO) emission in Buenos Aires is caused by light-duty vehicles that run on gasoline. Some scientific studies reveal a strong correlation between  $PM_{25}$  and CO concentrations, which indicates that both come mainly from vehicular traffic. On the other hand, the correlation between  $PM_{10}$  and CO is lower, so it can be inferred that  $PM_{10}$  concentrations do not come only from vehicular

GIVEN THESE PROJECTIONS, AND THROUGH THE IMPLEMENTATION OF AMBITIOUS CLIMATE MEASURES, THE CITY OF BUENOS AIRES CAN MEET THE WHO'S RECOMMENDATIONS BY 2030.

emissions. Hence, there could be an important contribution from other sources, such as material resuspended by the wind (from pollen to material from anthropogenic activities).

50% of the atmospheric NO<sub>x</sub> emissions are attributable to diesel and CNG-fueled light-duty vehicles.

#### **Results**

The following figure shows the reduction of  $PM_{2.5}$  concentrations under an ambitious scenario for 2023, 2030, and 2050. It is important to mention that this graph only considers  $PM_{2.5}$  reductions that can occur within Buenos Aires, whereas  $PM_{2.5}$  concentrations from areas outside the City are not modeled.

In an ambitious scenario, the most significant reductions in  $PM_{25}$  concentrations and precursor


pollutant concentrations are expected to come from the power generation sector, reducing  $PM_{2.5}$  concentrations of  $1.9 \,\mu\text{g/m}^3$  by 2030 and  $2.7 \,\mu\text{g/m}^3$  by 2050. This is followed by actions in the transportation sector through a change in the fuel used, which results in reductions in  $PM_{2.5}$  concentrations of 0.5  $\mu\text{g/m}^3$  by 2030 and of  $1.1 \,\mu\text{g/m}^3$  by 2050.

## **Main conclusions**

Buenos Aires' CAP provides a solid framework for implementing ambitious climate actions that will improve air quality (specifically, in annual average PM<sub>2.5</sub>). This improvement will, in turn, increase quality of life and reduce premature deaths due to reduced exposure to these pollutants.

Implementing the ambitious scenario will improve air quality by reducing emissions modeled by GHG inventories by 35% by 2050. This means reducing  $PM_{2.5}$  concentrations of 4.2 µg/m<sup>3</sup>. Actions in the power generation sector (specifically through the inclusion of decentralized renewable energies) and in the transportation sector, with fuel switching, have the greatest potential to reduce air pollution in this scenario. Integrating the strategies used to deal with air pollution with those used in climate change mitigation (and adaptation), offers more significant opportunities to improve air quality and health simultaneously and contribute to the global effort to reduce climate change.

Given these projections, along with the implementation of ambitious climate measures, Buenos Aires can meet the WHO recommendations for  $PM_{2.5}$  of 10 µg/m<sup>3</sup> as of 2030.



Appendix Air Quality

## List of Acronyms

AMBA ARTEH	Metropolitan Area of Buenos Aires Temporary Water Surplus Retention
	Areas
	Argonting Water and Sanitation
DAU	Dusiness As Usual Dialogical Machanical Treatment Diant
	Biological Mechanical Treatment Plant
	Autonomous City of Buonos Airos
	Autonomous City of Buenos Aires
	Climate Action Dian
CDP	Disclosure Insight Action
CEAMSE	Ecological Coordination Motropolitan
CEAMSE	Area Society of the State
CESAC	Health and Community Action Centers
CIFA	Environmental Information and
	Training Center
CO,EQ	Carbon dioxide equivalent
COFEMA	Federal Environment Council
CONICET	Argentine National Council of Scientific
	and Technical Research
CSO	Civil Society Organization
CUCC	Single Coordination and Control Center
FF.CC.	Train line
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GPC	Global Protocol for Community-Scale
	Greenhouse Gas Emission Inventories
IPCC	Intergovernmental Panel on
	Climate Change
IVC	City Housing Institute
MDHYH	Ministry of Human Development
	and Habitat
MED	Ministry of Education
MEPHU	Ministry of Public Space and
	Urban Hygiene

MJYS	Ministry of Justice and Security
МОН	Ministry of Health
NDVI	Normalized Difference Vegetation Index
PET	Polyethylene Terephthalate
PM <sub>25</sub>	Particulate Matter less than 2.5
2.0	microns in diameter
PM <sub>10</sub>	Particulate Matter of 10 Microns in
10	diameter or smaller.
PV	Photovoltaic
RCP	Representative Concentration Pathway
SAME	Emergency Medical Care System
SAT	Storm Warning System
SDGS	Sustainable Development Goals
SDU	Secretary of Urban Development
SECA	Secretary of Environment
SECACGC	Secretariat of Citizen Attention and
	Community Management
SECPECG	Secretariat of Management
	Evaluation and Coordination
SECTOP	Secretary of Transportation and
	Public Works
SUDS	Sustainable Urban Drainage Systems
TACC	Gluten-Free - Wheat, Oat, Barley,
	and Rye
UBA	University of Buenos Aires
WEEE	Waste Electrical and Electronic
	Equipment
WHO	World Health Organization

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## **Buenos Aires Ciudad**

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