C40 Clean Air Cities Declaration

Planned Actions to Deliver Commitments
Within two years, establish base-line levels and set ambitious reduc-tion targets for air pollutants that meet or exceed national commit-tments.

These targets will put us on a path towards meeting World Health Or-ganisation Air Quality Guidelines for particulate matter, nitrogen di-oxide, ozone, and sulphur dioxide.

Before 2025, implement new sub-stantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

The city maintains a fixed-site “continuous” monitoring network of over 100 locations as part of the Local London Air Quality Management Framework (LLAQM). Real-time and historical data is available for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide. We have also re-cently delivered the Breathe London project to augment the fixed-site network with 100 new hyperlocal sensors and new monitoring data from Google Street View cars.

London has committed to an ambi-tious target of meeting the World Health Organization guidelines by 2030, which would exceed, for some pollutants, both European Union and United Kingdom air quality stan-dards.

Around half of London’s air pol-lution is caused by road transport and there is no way to make a massive improvement to London’s air quality without taking the most polluting ve-hicles off the road. New substantive policies and programmes include:

- Implement the Ultra Low Emission Zone (ULEZ) – the world’s strictest standards for vehicular air pollution – in central London, cov-ering an area of 21km², 24 hours, 7 days a week, (launched April 2019) and expand the zone to cover an area of 38km² in October 2021;
- Strengthen the emission standards for the London Low Emission Zone in October 2020 to match the ULEZ, covering the entire city (158km²);
- Upgrade 5,000 older buses and deliver 12 Low Emission Bus Zones outside central London (completed September 2019) to reduce bus NOx emissions by an average of 90 per cent;
- Procure only hybrid or zero emis-sion buses (currently over 200 elec-tric buses in the fleet) with the ob-jective to create a zero emission bus fleet by 2037 at the very latest;
- No longer license new diesel tax-is and ensure all new taxis being li-icensed are zero emission capable (over 2,000 electric taxis now li-icensed in London);
- Ensure all cars in GLA group sup-port fleets (eg the police service) are zero emission capable by 2025;
- Implement a new Electric Vehi-cle Charging Infrastructure Delivery Plan, setting out how London will ex-pand charging points, including the delivery of 300 rapid charge points by the end of 2020 and new rapid charging hubs by 2025;
- Implement a vehicle scrappage scheme to help low-income Lon-doners and small businesses shift to cleaner vehicles (launched in Febru-ary 2019);

<table>
<thead>
<tr>
<th>DECLARATION COMMITMENT</th>
<th>INTENDED ACTION/APPROACH TO MEET COMMITMENT</th>
</tr>
</thead>
</table>

Publicly report annually on our progress in reducing pollution lev-els relative to targets and achiev-ing the commitments in this decla-ration.

• Create a zero emission zone in cen-tral London in 2025 in line with the C40 Green and Healthy Streets Dec-laration
• Operate a London-wide Non-Road Mobile Machinery Low Emission Zone which uses planning conditions or local codes of practice to ensure that machinery used on construction sites has more modern low-emission engines.

• Commit to work with C40 to com-plete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

• Use educational materials, campaigns and the LLAQM to raise awareness about and help improve indoor air quality, as well as use the planning system to reduce exposure through design measures to prevent poor outdoor air quality entering a building.

<table>
<thead>
<tr>
<th>SUPPORTIVE ACTIONS</th>
<th>EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS</th>
</tr>
</thead>
</table>

- Making sure we no longer license new diesel taxis from 2018 and sup-porting the trade to upgrade to much cleaner ‘zero emission capa-bile’ vehicles;
- Introducing 15 Low Emission Neighbourhoods (LENs), involving boroughs and a range of local busi-nesses. The LENs and the other proj-ects supported by the Mayor’s £22 million Air Quality Fund are helping tackle some of the worst pollution hotspots across London;
- A £48 million fund to support scrappage schemes that will help smaller business owners, sole trad-ers, charities and low income Lon-doners make the switch to cleaner vehicles and greener forms of trans-port.

The Mayor is also taking forward a number of initiatives to reduce pol-lutants from other sources, such as construction machinery and gas boilers.

The amount of money committed to tackling the capital’s air quality cri-sis has significantly increased over five years. Transport for London’s Business Plan in 2018, for example, included roughly £800 million to deliver far-reaching programmes to address the threat to health from poor air. Examples of intended ac-tions include:

- Introduced the world’s first ULEZ in April 2019 to help remove older polluting vehicles from central Lon-don. The ULEZ boundaries will be extended in 2021 to the North and South Circulars for all vehicles, and in 2020 tougher emissions standards will be introduced London-wide for lorries, coaches and buses;
- Transforming London’s bus fleet by phasing out of pure diesel bus-es and a commitment to purchase only hybrid or zero-emission double decker buses from 2018, with the entire fleet becoming ‘zero emis-sion’ by 2037 at the latest;
- Introduced twelve Low Emission Bus Zones in areas where London-ers are exposed to some of the high-est levels of nitrogen dioxide (NO2) pollution and working to ensure the entire city is a Low Emission Bus Zone by October 2020;
Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

As part of the Breathe London network, London has begun rolling out a network of 100 fixed monitoring sites, street by street mobile air monitoring, and personal monitoring campaigns with school children. Google’s Street View mobile monitors started collecting baseline data ahead of the ULEZ implementation, and field co-locations of fixed sensors with reference grade equipment – accessible real-time and historical data was made available to the public via the project website in July 2019.

Kings College London delivered the wearable monitoring and citizen engagement portion of the project and is currently evaluating the data. This pilot study will help London assess the benefits of strategies underway, identify new policies and targeted intervention, generate awareness and increase understanding of how new monitoring methods can lower the costs of air quality assessments.

Examples of intended actions and approaches to deliver these actions:

- The Mayor has set some of the most ambitious plans to tackle climate change in the world. Our aim is for a zero-emission London by 2050. This is integral to London’s first integrated Environment Strategy, which was published in 2018 to bring together air quality, climate mitigation and adaptation, waste, green infrastructure, noise and the circular economy.

- The London Environment Strategy was one of the first city plans published to be compliant with the highest ambition of the Paris Agreement and can be found at: https://www.london.gov.uk/what-we-do/environment/london-environment-strategy.

- The new London Plan – our spatial strategy for the city – includes policies that reduce exposure to existing poor air quality through design and mitigation strategies as well as requiring all new major developments (including non-residential) to be zero carbon, including an energy hierarchy and new energy efficiency target. The draft London Plan can be found at: https://www.london.gov.uk/what-we-do/planning/london-plan.

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- The Environment Strategy is also integrated with an ambitious Transport Strategy that aims to ensure 80% of all trips in London are made by either walking, cycling or public transport by 2041. The Transport Strategy can be found at: https://www.london.gov.uk/what-we-do/transport/our-vision-transport/mayors-transport-strategy-2018.

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Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

- The Air Pollution Research in London (APRIL) network was established 20 years ago. It brings together scientists, policy makers and the wider air quality community for regular meetings to discuss research happening in London and the implications of new research on London’s air quality and air quality policies. Meetings are held approximately every two- three months at City Hall, hosted by the Greater London Authority.

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- The GLA and TfL work in partnership to produce a comprehensive set of air quality datasets in order to formulate evidence-based policy and guide boroughs as they improve air quality locally.

- The LAEI (London Atmospheric Emissions Inventory) is the key tool for air quality analysis and policy development in London, including geographically referenced data and maps.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

- The 1.5C Compatible Plan looks at the scenarios London can take, including the relevant top pollution reducing actions, to reach the zero-carbon target. The plan can be found at: https://www.london.gov.uk/what-we-do/environment/london-environment-strategy.

- In 2018, the Mayor and Transport for London delivered a coordinated awareness campaign to ensure as many Londoners as possible are aware of poor air quality and the ULEZ.

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Supportive actions:

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EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- The Mayoral and London transport agency’s budgets include funding that is allocated the delivery of the proposals set out in his Environment and Transport Strategies. Currently around £800 million is available over a five year period. Furthermore, he will work with partners to increase the flow of finance to support the delivery of large-scale projects that address the environmental challenges that London is facing. For example, the Mayor will use the Mayor’s £500 million Energy Efficiency Fund, supported by the European Commission, to support energy efficiency and low carbon energy supply projects, and the Good Growth Fund of £20 million to provide finance to those businesses seeking to scale-up and achieve their growth ambitions, as well as those aiming for long-term sustainability.

The Mayor will also explore the role and use of low-cost financing and bulk purchasing, as well as innovative products, such as green bonds and climate change ISAs, to help attract large scale institutional investment into environmental projects.

SUPPORTIVE ACTIONS

- Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- Working with national government, local boroughs, and the European Union.
- Collaborating with UK government to achieve EU compliance and meet AQ standards, and influence air quality policy and measures e.g. providing fiscal incentives such as vehicle excise duty and tackling non-transport emission sources.

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Amman

DECLARATION COMMITMENT

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

INTENDED ACTION/APPROACH TO MEET COMMITMENT

- Amman is committing to increase air quality monitoring beyond that conducted by the Royal Scientific Society and the Ministry of Environment (6 stations currently within Greater Amman Municipality (GAM) borders) and in cooperation with the Royal Scientific Society and the Ministry of Environment. To supplement monitoring, the Greater Amman Municipality is committing to installing and operating real-time, wireless, “low cost” air quality systems across the 22 districts, complementing the monitoring stations operated by the Ministry of Environment. GAM intends to create a comprehensive data centre which will include this air quality data.

- Amman is committing to using the next two years to set a new target that puts us on the path towards meeting the WHO guidelines.

PUBLICLY REPORT ANNUALLY ON OUR PROGRESS IN REDUCING POLLUTION LEVELS RELATIVE TO TARGETS AND ACHIEVING THE COMMITMENTS IN THIS DECLARATION

- Amman reports annually to C40 on climate data and aims to build on this to compare climate and pollution data against targets based on Amman Climate Action Plan.

- Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

SUPPORTIVE ACTIONS

- Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

- Through the Amman Climate Action Plan, GAM has made great steps in the collection and analysis of climate data, setting Amman on a good path to achieve its carbon reduction aims and building a more sustainable and resilient city. Amman aims to build on this to promote new projects with a solid understanding of their benefits to the city.

- Implementing new measures to reduce methane emissions from meat production and cemeteries.

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- By 2022, Identification of Grey and Brown fields in Amman and developing a database to attract rehabilitation programs. Brown Fields are a major contributor to air pollution, they are contaminated sites, and GAM considers rehabilitating them as a priority.

- Improving the efficiency and reducing emissions from waste management. This includes ensuring landfills are in compliance with relevant national and international standards and upgrading transfer stations with closed systems to eliminate odors and reduce emissions.

- Reducing sprawl and private vehicle use through an intensification strategy for urban corridors along BRT lines, to be completed by 2021.

- Implementing policies that increase green space in exchange for development rights, implemented by 2022.

EXEMPLARY ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- Implementing Capacity Building Programs that targets Urban Planners and Transport Engineers about the importance of emissions and its relation to air quality and pollution every 6 months.

- Adding a new strategic goal in the strategic plan of GAM (2018-2020) that ensures our commitment to reduce air pollution, achieved by different projects, processes, and initiatives at the sector of Districts and Environment of GAM.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- **GAM is on the path increasing sustainable transport through its new BRT network. The aim is to use electric vehicles when vehicles need to be replaced, approximately 10 years.**
- **Amman aims to improve the walkability of areas around the BRT corridors, at strategic areas in the city.**
- **Extra Development Rights in exchange of environmentally sound solutions, by incentivizing and encouraging best practice in passive design and green construction for commercial buildings.**
- **Controlling Urban Sprawl by improving integrated planning for denser, transit-oriented development and green infrastructure and behavior change towards increased public transport use.**
- **Implementing E-Government to reduce traffic, through minimizing daily commutes.**
- **Developing regulations to Natural Heritage Systems (NHS) that increase and preserve green space across the city.**
- **Establish an Archival Data Center to host all the outcomes of municipal works and academia that are directly related to Amman. (It will include air quality datasets)***
- **Data is available from Ministry of Environment on a daily basis. GAM intends to extract and present it, in collaboration with Ministry of Environment, in a more visual way to reach and engage a wider audience.**
- **Amman is committing to expand monitoring of air quality to include PM2.5, which is not currently measured within the city.**
- **The establishment of an advanced - state of the art - data center is aimed to be implemented in the Urban Observatory at (GAM).**
- **By 2022, GAM will begin using real-time observations with Artificial Intelligence (AI) predictions. The comprehensive planning department at GAM is working closely with researchers on developing a tool to aid with predictions from a planning perspective.**
- **The Amman urban observatory (AOU) will establish a website in order to publish the relevant and useful data to planners, decision makers, and those interested in developing the city of Amman.**
- **Increasing the urban green areas within the city of Amman by about 500 donums yearly.**
- **Completion of strategic projects through 2018-2020 and expanding or establishing major parks serving multiple districts.**
- **Improving waste management: Operation of the fifth cell in the Ghabawi landfill to absorb 5 million tons of waste, considered one of the leading environmental projects in the Kingdom and the Arab world, matching international standards for waste treatment.**
- **Expanding public transport alleviating traffic congestion. This includes the introduction of 800 buses by 2020 operating with eco-friendly engines and connected tracking systems. A fast-frequency bus project and the joint link with the Amman-Zaraqa express bus will be ready before the end of the 2019. The unified operation of the fast-paced bus project will be completed the end of 2020, supported by infrastructure investments of 136 million dinars.**
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- **Establish an Archival Data Center to host all the outcomes of municipal works and academia that are directly related to Amman. (It will include air quality datasets)***
- **A smart awareness campaign targeting all social media outlets and popular public locations to inform the public about pollution and how can they contribute directly to improving air quality.**
- **A proposed study in cooperation with Ministry of Health to identify sites with high number cases of respiratory diseases and asthma in order to specify main pollution problems and remedies (unplanned).**
- **Implementing a number of awareness campaigns about the sources of pollution, their health impacts, and how to minimize or eliminate them.**
- **A smart awareness campaign targeting all social media outlets and popular public locations to inform the public about pollution and how can they contribute directly to improving air quality.**
- **Coordinating with official media partners to prepare awareness letters to local communities, schools, and universities. In addition to communicating with private companies to send awareness messages to the public through cell phones.**
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SUPPORTIVE ACTIONS

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- Department of the Environment is coordinating with the Royal Scientific Society and GAM may extend collaboration when inventories are available.

- Enhance the support of both the Ministry of Environment (MoE) and the Ministry of Planning (MoP) to Greater Amman Municipality (GAM) in areas that affect Amman Districts but fall under the jurisdiction of The Ministry of Municipal Affairs (MoMA). A good example for this is Russeifa Lagoon Remediation Project.

- Amman healthy city initiative to prevent non-communicable diseases (NCDs) and injuries, sponsored by Bloomberg Philanthropies.

EXAMPLES OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Many projects are self-financed by GAM, some are sponsored by loans or funds from international organisations such as Afd, the World Bank, EBRD, Bloomberg Philanthropies, the GIZ on behalf of the German Government, and the Swiss Fund.
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Air quality standards for the City of Austin are determined by the National Ambient Air Quality Standard (NAAQS) developed by the Environmental Protection Agency (EPA). As of 2017, the Austin-Round Rock-Georgetown Metropolitan Statistical Area (MSA) air quality level for each pollutant monitored by the Federal Reference Method (FRM) regulatory monitors as a percentage of NAAQS were as follows: 25% for annual NO2, 48% for 1-hr NO2, 99% for 8-hr O3, 80% of annual PM2.5, 57% of daily PM2.5, 43% of daily PM10 and 5% of 1-hr SO2. These values will serve as the baseline values for pollutants from a regulatory perspective, as they represent the values before the 2019-2023 Austin-Round Rock-Georgetown MSA Regional Air Quality Plan was developed in late 2018.

The 8-Hour O3 design value, calculated as the highest 3-year average of the 4th highest daily maximum 8-hour average O3 at a federal reference method (FRM), that determines the standard for attainment is currently set at 70 ppb. Based on air quality monitoring for 2019, the current value is averaged at 68 ppb. These values have led ground-level ozone (O3) values in the Austin area to be considered “near nonattainment” for air quality planning purposes, and therefore the highest area for concern.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

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In order to maintain and improve outdoor air quality, reduce the impacts of emissions and mitigate health, environmental, economic and social impacts of pollution, the 2019-2023 Austin-Round Rock-Georgetown Metropolitan Statistical Area (MSA) Regional Air Quality Plan was developed. http://www.capcog.org/documents/airquality/2019-2023_Regional_Air_Quality_Plan.pdf

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An annual air quality monitoring report is drafted by the Capital Area Council of Governments, with whom the City of Austin has an Interlocal Agreement for monitoring, reporting and outreach. Further, as part of the commitments outlined in the Austin MSA Regional Air Quality Plan, the City of Austin provides CAPCOG with an annual report on its Ozone Action Plan activities. Annual air quality updates on ground-level ozone are also provided as a section in Austin Watershed Protection’s Annual State of the Environment Report.

The City of Austin will work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.
implement new policies, enforce strong regulations, prioritize re- sources, and build necessary ca- pacity and skills to achieve am- bitious reductions in air pollution source sectors that are within our control.

As previously stated, the 2020 re- vision of the Austin Community Cli- mate Plan will incorporate measures that are pivotal in improving air quality. The five sections of the cli- mate plan are as follows: transpor- tation electrification (electric vehi- cles, micro-mobility), transportation and land use (focused on reducing single-occupancy vehicle use), new buildings (new construction net-ze- ro carbon buildings, thermal elec- trification), natural systems (green infrastructure, carbon sequestration etc.) and consumption of goods (in- cluding food, construction materials and other goods/products).

As part of the Austin-Round-Rock-Georgetown Metropolitan Statistical Area (MSA) Regional Air Qual- ity Plan, the city made over thirty measures, including strategies in- volving reducing single-occupancy vehicle use, engaging in outreach to educate city employees and the public, and additional energy con- servation, efficiency and clean ener- gy measures.

As of April 2019, the City of Austin adopted the Austin Strategic Mo- bility Plan. Among outlining various strategies to increase multi-modal- ity in the city, the plan adopted a goal of 50/50 mode share by 2039, where 50% of people walk, bike, take transit or any other non-drive- alone mode to get to work. The current percentage is 24%, so this is an ambitious increase that will help re- duce air pollution by targeting a re- duction in tail-pipe emissions.

The Office of Sustainability released the Austin Community Climate Plan in 2015, which stated the city’s com- mitment to reach net-zero emissions by 2050 and developed intermittent targets for the pathway to reach this target. This document is due for a five-year revision, in which the plan will focus on detailing various targets for transportation electrifi- cation, net-zero new construction buildings and additional measures. As part of its Fuel Conservation Policy, the City of Austin calls for employees to eliminate or reduce idling in City vehicles and has sev- eral policies in place that include no unnecessarily idling while parked and anti-idling decal signage in the passenger cabin of all City vehicles.

The City of Austin has also imple- mented vehicle idling restrictions through a series of city ordinances that prohibits heavy duty vehicles from idling for longer than five min- utes. The ordinance follows state policy and has various exceptions regarding the characteristics of the vehicles impacted.

As part of the 2019-2023 Aus- tin-Round Rock-Georgetown MSA Regional Air Quality Plan, the city will collaborate with CAPCOG to engage in outreach to enhance NOx reductions through programs like Commute Solutions, reduce expo- sure to O3, PM and NO2 by provid- ing air quality forecasting, real-time data and Ozone Action Day alerts.

As part of its Fuel Conservation Policy, the City of Austin calls for employees to eliminate or reduce idling in City vehicles and has sev- eral policies in place that include no unnecessarily idling while parked and anti-idling decal signage in the passenger cabin of all City vehicles.

The City of Austin works with local government under the Clean Air Co- alition and attends regular meetings to both this organization and the local non-profit, Clean Air Force of Central Texas (CAF). CAF is a coali- tion of local professionals, non-prof- its, private companies and univer- sities in the area. Together, this organizations works to ensure that there is an institutional connection across sectors that work to improve air quality across the city. Because of the connection with universities in the area, such as the University of Texas in Austin, there is opportuni- ty to continue a collaboration with their research teams on air pollution, health and equity.

As part of the 2020-2023 Aus- tin Round Rock-Georgetown MSA Regional Air Quality Plan, the city will collaborate with CAPCOG to engage in outreach to enhance NOx reductions through programs like Commute Solutions, reduce expo- sure to O3, PM and NO2 by provid- ing air quality forecasting, real-time data and Ozone Action Day alerts.

There are various air pollution mon- itors across the city and are either maintained by the Texas Com- mission on Environmental Quality (TCEQ) or the Capital Area Coun- cil of Governments (CAPCOG). The TCEQ monitors are used for regula- tory purposes, while the CAPCOG monitors are used for monitoring, information and outreach purposes. The city will continue to work with CAPCOG to maintain monitoring throughout the city and surround- ing counties as needed. Addition- ally, alerts are set up to receive air quality monitoring updates daily. As part of their websites, both TCEQ and CAPCOG provide daily air quality forecasts for anyone who visits their website. The city will aim to expand the availability of this infor- mation by exploring adding this into Conduct, expand, or collaborate with relevant institutions to in- crease research on the health im- pacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely man- ner or as close to real-time as pos- sible and in an accessible format, in coordination with relevant depart- ments and institutions.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

As part of the city’s ongoing resil- ience efforts and a grant received from USDN, the sustainability de- partment has partnered with Austin Fire Dept and the Office of Design and Delivery to create a prototype for a real-time smoke map, and out- reach associated in communities more vulnerable to grassfires, which occur frequently on the eastern crescent of the city.

The city will also continue to work with local government under the Clean Air Co- alition and attend regular meetings to both this organization and the local non-profit, Clean Air Force of Central Texas (CAF). CAF is a coali- tion of local professionals, non-prof- its, private companies and univer- sities in the area. Together, this organizations works to ensure that

Further, the Community Climate Plan revision will focus on ensuring equity is a key piece of the process by recruiting representative community organizes into the planning process. This will be part of an on- going effort to ensure the city is working to engage with vulnerable populations.
SUPPORTIVE ACTIONS

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

The city will continue working with CAPCOG to ensure that it maintains monitoring of air pollution, and tracks changes across time regarding where the biggest sources are coming from, and how these may shift or change. Additionally, the Office of Sustainability (OOS) will continue to engage in GHG emissions monitoring and reporting and will continue to model potential future scenarios based on policies implemented by departments like Austin Energy through its updates on its Resource, Generation and Climate Protection Plan. Through the OOS’s work on climate resilience planning, climate projections models were completed to determine the biggest impacts of climate change, which include heat, drought and wildfire, which have potential implications on air quality. The city will continue to work on monitoring changes and planning to ensure that residents are aware of hazards and have the resources to protect their health and environment.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

Through its Interlocal Agreement with the Capital Area Council of Governments, the City of Austin collaborates on a regional level as part of the Clean Air Coalition and its Advisory Committee to be an advocate for air quality measures along with nearby cities and counties. Additionally, through our city council, the city has passed resolutions in support of state funding for air quality monitoring, reporting and outreach measures.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- The City of Austin will be dedicating an estimated $370,283 in the Austin Transportation Department’s 2020 budget towards air quality initiatives. As needed, there are also potential grant opportunities to address community health, climate mitigation and resilience work.
Barcelona

DECLARATION COMMITMENT

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

INTENDED ACTION/APPROACH TO MEET COMMITMENT

Baseline levels are set through the Atmospheric Pollution Monitoring and Forecasting Network, which has 11 air quality monitoring stations and is co-managed by the Government of Catalonia and the Barcelona Public Health Agency. It measures concentrations of more than 10 pollutants that are harmful to people’s health, including carbon monoxide, benz[a]pyrene and heavy metals. The monitors are located in places that represent diverse street types. Thus, the results can be extrapolated to other areas with similar urban conditions.

Barcelona has set the goal of reducing road traffic emissions by 30% (from 2017 levels) in 15 years, to gradually comply with WHO air quality guidelines. In March 2019, the administration renewed its commitment to reaching this goal, which was originally set in 2017 as part of Barcelona Summit on Air Quality framework.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Barcelona’s LEZ also includes areas of the surrounding municipalities of Sant Adrià del Besòs, L’Hospitalet de Llobregat, Esplugues de Llobregat and Cornellà de Llobregat:

According to Barcelona’s latest emission inventory (2013), up to 60% of the city’s NO2 came from road traffic. Others important contributors to NO2 levels are the port, the airport, and the industrial sector. As a consequence, the City Council is implementing active actions to reduce the fraction of public space dedicated to vehicles. Fewer vehicles, less pollution and more quality of life and health. That’s the objective.

In November 2016, Barcelona presented the government measure, “Programme of measures to combat atmospheric pollution,” gradually meeting WHO air quality guidelines and also the commitment with the European Union (EU) to reduce pollution indices that exceed the European regulatory thresholds, thus protecting people’s health.

The Programme includes 58 actions, such as a Low Emission Zone, prioritising walking or cycling transit areas. Our city is developing actions to raise awareness of air quality across the entire population, especially in vulnerable groups (pregnant parents, babies and children (Escola Respira (School Breathes) Programme), elders, etc.).

A Low Emission Zone (LEZ) will be established by Jan 1 2020, which will cover almost the entire municipality (95 km²) with the objective of banning the most polluting vehicles (Monday to Friday, working days, from 7am to 8pm).
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

The City Council will quantify, for example, the economic and health benefits and impacts associated with introducing the actions described above. The more we can quantify the benefits from implementation of pollution-reducing actions, the more effective implementation of future actions will be.

Our Climate Plan 2018-2030 gives an integrated overview of the measures to tackle climate change, including strategies for achieving the objectives of the new Covenant of Mayors for Climate & Energy, which Barcelona City Council has signed. It includes both short term (2018-2020) and medium-long term (2021-2030) objectives and strategic measures. It has 4 strategic axes: mitigation, adaptation/resilience, climate justice and the promotion of citizen action. In all those axes the top pollution-reducing actions (such as the introduction of Barcelona LEZ) are integrated.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

For example, the financial resources available to implement the Low Emission Zone are about 2M€.

SUPPORTIVE ACTIONS

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Integrate the relevant top pollution-reducing actions – that are within our city and under our control – into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

The Atmospheric Pollution Monitoring and Forecasting Network is co-managed by the Government of Catalonia and the Barcelona Public Health Agency. All the reliable resulting data is publicly available (almost in real-time) in the following link, managed by the Government of Catalonia:

https://analisi.transparenciacatalunya.cat/en/Medi-Ambient/Dades-d-immissi-deipunts-de-mesura-de-la-Xar/1y6lx-2s8r

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

The City Council has its own emissions inventory (last version: 2015). However, we are currently working on a new one (for 2017), which will include data from the municipalities adjacent to Barcelona, in collaboration with AMB (Metropolitan Area of Barcelona). Collaboration with other institutions is essential, to get city-wide relevant data and also data from the city’s boundaries.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

Barcelona City Council is currently working with the regional government (Government of Catalonia), AMB (Barcelona Metropolitan Area) and the Spanish Government in order to implement successful actions to reduce air pollution in urban areas.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

For example, the financial resources available to implement the Low Emission Zone are about 2M€.
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Berlin already meets the WHO guideline level for sulphur dioxide (SO2), since 2011. Additional measures are needed to meet WHO guidelines for particulate matter (PM10 and PM2.5) and NO2 (equal to the EU air quality standard). NO2: Berlin’s new Air Quality Plan (AQP 2019) defines a comprehensive suite of measures to ensure compliance with the EU AQ standard and WHO levels by 2020 (details given below).

Particulate Matter, the AQP 2019 foresees some control measures to secure the current attainment of the EU AQ standards. In addition, Berlin will also develop a long-term strategy to approach WHO guidelines by 2030. In preparation for this strategy, Berlin will update its emission inventory by summer 2021 as an input for subsequent model calculations to estimate PM10/PM2.5 levels in 2030 under baseline assumptions, i.e. taking into account Berlin’s Energy and Climate Protection Programme and its revised Strategic Urban Mobility Plan 2030. In doing that, Berlin will also quantify its share of excess pollution above WHO guidelines. Based on these projections, Berlin will define by the end of 2021 feasible, but ambitious reduction targets with the aim of meeting WHO guideline levels for PM10 and PM2.5 by 2030. Achieving this will require also action beyond Berlin, given that more than two-thirds of the particle pollution stems from outside the city. Berlin will work with the national government, EU institutions and city networks to ensure that the large-scale background pollution is minimised accordingly.

WHO ozone levels are still exceeded but cannot be effectively reduced by local measures alone due to transboundary/large-scale transport of ozone and its precursor substances (VOC and NOx).

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Berlin will implement bold measures focusing on road traffic to meet NO2 WHO guideline levels by 2020/21. Detailed in other sections, some of these measures include:

- Clean Vehicles, including electric bus purchases, expansion of electric vehicle charging infrastructure, and heavy-duty diesel retrofits.
- Changing public procurement to require clean construction and vehicle technology.
- Ban of diesel vehicles below Euro VI in heavily polluted roads.
- Promotion of sustainable transportation, including non-motorized transportation infrastructure investments.

Based on the baseline scenarios and the target setting for 2030, we will develop in 2022/23 an integrated strategy on how to close the residual gap between the baseline scenario and WHO guideline levels for PM10/PM2.5 by 2030. The main pillar of the strategy will consist of Berlin-based measures, closely linked with the planned revision of our Energy & Climate Protection Programme and Berlin’s currently revised Mobility Strategy.

However, Berlin will also evaluate the contribution from the national/EU level to simultaneously curb the elevated regional background concentrations of PM2.5. Berlin will (hopefully coordinated with other European C40 cities) lobby our national government(s) and the EU to strengthen their own efforts and to deliver the needed regulatory and financial boundary conditions for Berlin (and other cities) to start implementing after 2023 the additional local measures identified in the integrated urban AQ strategy.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Berlin will work with C40 to completely request information as part of the declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

The new AQP 2019, adopted in July 2019, sets tangible measures to swiftly curb NOx emissions from diesel vehicles with the aim of reducing city-wide NO2 pollution levels below the EU AQ standard/WHO Guideline of 40 µg/m³ NO2 in the next 2 years.

Beyond this short-term focus on mobility, we will start implementing, beginning in 2024, new integrated measures within the future AQ strategy in order to meet Berlin’s ambitious self-commitments towards a clean, healthy and climate-friendly city.

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Beyond this short-term focus on mobility, we will start implementing, beginning in 2024, new integrated measures within the future AQ strategy in order to meet Berlin’s ambitious self-commitments towards a clean, healthy and climate-friendly city.
**SUPPORTIVE ACTIONS**

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero-emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

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**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

<table>
<thead>
<tr>
<th>Berlin’s new AQP 2019 schedules about 40 measures, mostly set to drastically reduce NOx emissions from road traffic within the next 2 years. Examples include:</th>
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<tr>
<td>- cleaner vehicle technology, for example, the rapid purchase of 100 electric buses by 2020, large investments in city-wide charging infrastructure, funding of the electrification of light commercial vehicles, the operation of 2/3 of the garbage collection vehicle fleet with self-produced renewable gas and retrofit of 400 Diesel-buses and more than 100 heavy municipal vehicles with effective NOx-catalysts</td>
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<tr>
<td>- clean public procurement by e.g. requiring construction machines working on public sites to have an efficient Diesel-soot filter (reducing PM2.5 and climate forcing black carbon) and by setting ambitious requirements for purchasing new vehicles with hybrid-, battery-electric or fuel cell technology</td>
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<tr>
<td>- the promotion of green transport modes stipulated by Berlin’s unique and brand-new Mobility Act, through e.g. 30-40 Mio € investments per year earmarked for improving the bicycle infrastructure (e.g. 100 km cycle highways, 50,000 new bike racks/year up to 2025, dedicated cycle lanes in all main roads), heavy investments in better and more frequent public transport</td>
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</table>

Berlin has the densest network of NO2 and black carbon monitors in Germany, exceeding the legal requirements by a factor of seven. For the past 20 years, Berlin has conducted extra passive sampling of NO2 and active sampling for elemental and organic carbon at more than 20 traffic hot spots. Together with regular, city-wide air quality modelling, down to the street canyon level in all main roads, we have a full and reliable picture of the air quality situation in the city. Berlin is currently testing small combined PM10 and NO2 sensors and will potentially deploy them in pollution hotspots and locations representative of population exposure to assess pollution trends.

The results of the automatic continuous network is being published in real-time every hour and in the form of air quality index values to help sensitive population groups to reduce their personal exposure. An app for mobile phones will be developed to better reach out to younger people and the growing users of social media.

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**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- Around 400,000€/year is earmarked in Berlin’s budget to support air quality planning, including the strategy development. This covers for example updating emission inventories, funding of studies on the air pollution sources, the impact of measures on the air quality, emission projections, scenario calculations and – in the future – also on health impact assessment. An extra budget line exists to finance all the air quality-monitoring activities. About 50 Mio € are dedicated to the implementation of measures of the new AQP 2019, except infrastructure investments in green transport modes, which are underpinned by separate budget lines (like the 30-40 Mio/a for cycling). Almost 100 Mio € is reserved until 2021 for funding the implementation of the Energy and Climate Protection Programme 2030.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO MEET COMMITMENT

In its Clean Mobility Plan (PML in Spanish), the City of Buenos Aires sets the goal of reducing GHG and toxic gases from the transport sector by 2035. This roadmap is an important part of the work being done to improve air quality and quality of life for Buenos Aires' residents, to fight against global warming, as well as to reduce health system expenditures associated with environmental pollution.

The main air quality objective of the PML is 50% reduction in 2015 levels of NOx and PM emissions, by 2035.

Pilot tests are being carried out to better understand how certain technologies and measures can be scaled to fulfill the city's proposed objectives. These tests focus on the technical, economic and environmental effects of electric, biodiesel, and CNG buses; electric and CNG vans; efficient driving for urban logistics and public transport; loading/unloading spaces and lanes. New fixed source and mobile source inventories will be created and will support subsequent modelling and development of the City’s Air Quality Map, to be validated through continuous monitoring. The Map will identify critical and high impact areas, and generate the policies and programs necessary to reduce emissions.

New and updated goals, made with respect to the Carbon Neutral 2050 commitment, are currently in progress and will be announced soon.

Criteria air pollutant limits, established by Law 1356, will be studied and modified accordingly, with the goal of progressive air pollution reduction to first meet WHO interim air quality targets and eventually the WHO air quality guidelines.

Before 2025, implement new substantial policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Buenos Aires will focus on implementing the objectives set in the PML, taking into account its update based on the Carbon Neutral 2050 commitment, which will be essential to achieve the proposed reductions in emissions from the transport sector. This sector currently contributes 28% of CO2 emissions in Buenos Aires.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Measures proposed in the PML include reduction of pollution from private cars (promoting public transport, mobility as a service, and shared trips). For freight transport, city level measures focus on implementing intelligent urban logistics (clean technologies and behaviors, better logistics planning, etc.), while national measures focus on efficiency and reduction of emissions. For public transport, and transport in general, the widespread use of cleaner and more efficient alternative technologies, restrictions on high sulfur fuels, and the adoption of EURO 6/VI regulations will be important.

Other important actions include the following:

- The “Paseo del Bajo” project (a 71-kilometer road corridor that connects the Illia and Buenos Aires-La Plata highways) created 60,000 m2 of new public spaces, of which 35,000 m2 are green spaces. It contributes to the reduction of noise pollution and CO2 emission by reducing traffic congestion in the area.
- Ecobici is the City’s public bicycle system. The service is available 24 hours and is free for the user. In 2018, there were 2,500 bicycles and 200 stations, and in 2019 this will be expanded to 4,000 bicycles in 400 stations, throughout 38 of the 48 neighborhoods of the City. The cycle network extends some 230km. The objectives are to reduce vehicle congestion, CO2 emissions and noise pollution.
- Pedestrian priority areas: This policy aims to rebalance the use of public space, and improve road safety and environmental quality to encourage better quality of life for neighbors. Target areas, chosen for the number of people moving through them daily and available means of transport, were: Once, where more than 250,000 people travel per day; Retiro; Casco Histórico and Microcentro. Also, the famous Avenida Corrientes was optimized for pedestrians, with the construction of flower beds in a median strip, bus-only lanes, and lanes that convert to pedestrian walkways at night, showcasing how the improvement of the environmental quality in a central area of the city is being prioritized.
- The City of Buenos Aires began progressive implementation of vehicle restrictions on weekdays in the Pedestrian Center (formed by Microcentro; Retiro; Casco Histórico and Tribunales), resulting in a 50% reduction in vehicle entry.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

While continuing to monitor criteria pollutants at representative points throughout the city, Buenos Aires is considering expanding air quality monitoring through mobile measurement stations and increasing the number of criteria pollutants to be measured, which was proposed under the 2020-2023 Plan at the city level. National-level initiatives, such as Cambike (low-cost mobile sensors), are also being explored to increase air quality sampling and, specifically, sub-city spatial representation of air quality in the city. A plan will be drawn up to improve the accessibility of the data, which will depend on the resources available.

Following the pilot tests described above, which combine public and private entities to improve air quality and reduce emissions, public reports are being created to describe the technical, economic, and environmental results of the pilot tests. Through the publication of these reports, and the continuation of roundtable discussions with both logistics and public transport operators, the city will work toward implementation and scaling of the measures and technologies being tested; participation from the private sector is key to this outcome. Work will continue, under the framework agreement established between the Environmental Protection Agency and the Ministry of Health of the City, to study correlations between diseases and air pollution.

The choice and implementation of the emission model for the creation of the Mobile Source Inventory, the selection and use of the Dispersion Model and Meteorological Model and creation of the Air Quality Map, and all associated actions, will require technical assistance that is expected to be achieved. Through agreements with both local and foreign academic institutions, and technical assistance, the city will choose and implement the emission model underlying the new mobile source inventory, select and use dispersion and meteorological models, and create an air quality map. Currently, work is being carried out together with C40 to adapt the scenarios, projections and objectives of PML, extending the term to 2050 and adjusting according to the carbon neutral objective.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- The 2020 Budget sent to the Legislature of the City of Buenos Aires included funding to update data acquisition and transmission software for the City’s monitoring stations (EPAs), to ensure real-time accessibility of data. This also includes acquisition of a new monitoring station and funds to update aging equipment.

- A pilot electric bus program achieved the following results:
  - Reduction of import tariffs for buses from 35% to 0%.
  - Fleet extension for operators.
  - Inclusion for the period of one year that the bus test lasts
  - Work to improve cargo infrastructure done by the Government of the Autonomous City of Buenos Aires (GCBA by its acronym in Spanish)

Riachuelo Basin Authority (tripartite entity). For example, the city is currently working to modify the environmental factors do not have geographical boundaries, so the City of Buenos Aires works with the National Government and the Government of the Province of Buenos Aires, including through the roundtables organized by the Matanza Riachuelo Basin Authority (tripartite entity). For example, the city is currently working to modify the air quality regulations of the Basin within this framework. For transport, the national government has been working under the Smartway program to reduce sector emissions and streamline operations, particularly for cargo vehicles.

SUPPORTIVE ACTIONS

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

In 2019 and 2020, the Air Quality Improvement Program (ProAire) for the Metropolitan Area of the Valley of Mexico for 2021-2030 will be developed. This will include 2030 emissions reduction targets and the main measures to be implemented to meet those targets. In addition, photochemical modeling will be carried out to project pollutant concentrations by 2030. Therefore, in less than two years the reference levels and targets for Mexico City will be developed.

Mexico City will begin implementation of the next ProAire 2021-2030. Between 2019 and 2024, some immediate measures will be implemented to reduce emissions from the mobility sector. Some examples include:

- Development of a new “Hoy No Circula” scheme (Can’t Drive Today) to restrict vehicle traffic in the city
- Ban on freight traffic during certain times and implementation of a freight low emissions zone.
- Replacing old buses with electric and high-performance buses
- Expanding clean, integrated public transit, including expansion of Bus Rapid Transit and non-motorized transport

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Work has begun to develop the measures within ProAire 2021-2030, including engagement with various stakeholders. Measures to reduce emissions from the mobility sector in Mexico City by 2024, include:

1. Traffic management, including a new “Hoy No Circula” scheme, development of carpooling online platforms, and other efforts to reduce private vehicle trips.
2. Cargo transport mobility policy – including bans of large freight vehicles during certain periods of the day and implementation of a low emissions zone where heavy-duty vehicles are banned.
3. Expansion and integration of public transport infrastructure
4. Increasing cycling
5. Better emission control technologies for public transport
6. Renewal and replacement of taxis, motorcycle taxis and platform services with vehicles with better environmental performance.

Likewise, immediate measures were defined that will be implemented from this year until 2024 such as:

1. Reduction of emissions in the distribution and use of Liquefied Petroleum Gas
2. Reduction of volatile organic compounds in household products
3. Inspection and strategic monitoring of emission control at gas stations
4. Cleaner gasoline in the Megalopolis by expanding low volatility fuel availability to the wider Mexico City Metropolitan Zone
5. Eradication of practices that cause fires
6. Low emission industry through promotion of cleaner fuels and solar energy
7. Reduction of emissions from urban maintenance activities, including low VOC products and particle emissions control systems
8. Detection and fining of visibly polluting vehicles
9. Vehicle and fuel emission standards
10. Introduction of motorcycles with emission control by coordinating with national governments to set vehicle emissions standards
11. Modify the vehicle emissions inspection program enforced through vehicle ID stickers to either restrict or exempt vehicles based on emissions
12. Initiatives to expand sustainable mobility and reduce private vehicle trips
13. Expand clean, integrated public transport, including expanding bike lanes, BRT lines, and electric vehicle incentives.

Examples of intended actions and approaches to deliver these actions:
integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Mexico City has one of the most robust atmospheric monitoring systems in the country to inform the public of the state of air quality. Monitoring data, as well as the 24-hour air quality forecast, are communicated through the AIRE CDMX application, the website http://www aire.cdmx.gob.mx/, the Twitter account @AireCdmx, by telephone through the AIRETEL 52789931 extension 1 and through the AirNow website (https://www.airnow.gov/index.cfm?action=airnow.local_city&cityid=745). Additionally, a notification system will be added to the AIRE application where registered users can receive messages when certain air quality thresholds are exceeded, depending on the population’s susceptibility (children, older adults, people with diseases preexisting, among others).

The preparation of ProAire 2021-2030 coincides with the preparation of the Climate Action Program of Mexico City 2021-2026 (PACCM) and the Local Climate Change Strategy 2020-2040. Currently, SEDEMA is working transversally across these programs. To date, there have been two collaborative thematic workshops (energy and industry and area sources) in which the representatives of the local governments, the federal government, as well as the industrial, health, research, academic, and non-governmental organizations have participated. Through this joint work, we seek to identify measures that address air quality and climate change through measures that reduce emissions of criteria pollutants and greenhouse gases.

Mexico City will maintain this monitoring network, including measurements of black carbon, and reevaluate the network design every five years to determine whether monitoring should be increased or sites should be re-located.

Additionally, a notification system will be added to the AIRE application where registered users can receive messages when certain air quality thresholds are exceeded, depending on the population’s susceptibility (children, older adults, people with diseases preexisting, among others).

Mexico City will continue working with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Additionally, the next ProAire will include evaluations of the health and economic benefits associated with air quality improvements that will come from the various measures.

Like wise, in collaboration with Health authorities of Mexico City, the State of Mexico and the Federation, as well as with the National Institute of Public Health, an Epidemiological Surveillance System of Health Effects of Air Pollution is being built to provide permanent monitoring system capable of detecting abnormal patterns in health conditions associated with air pollution. This will contribute to timely decision-making that protects the population’s health.

Additionally, the composition of fine particles will be analyzed in collaboration with researchers from UNAM.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

The Secretary of the Environment informs the population on the state of air quality, the associated health risks, and provides sub-population specific recommendations. During high pollution episodes, notices are broadcasted through radio, television, web page, the AIRE application, and social networks explaining the episode, health risks, and recommendations. The Ministry of Health and the Secretariat of the Environment of Mexico City will work closely to educate citizens on air pollution and its risks. In the future, Mexico City may add to the AIRE application notifications when air quality exceeds certain air quality thresholds based on population susceptibility and develop trainings for doctors at different levels of care to raise awareness and disseminate information of the health effects of air pollution and provide recommendations to patients on how to check air quality levels and take action.
Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

The Ministry of the Environment generates inventories of criteria pollutant emissions, air toxic, and greenhouse gas compounds in Mexico City every two years with Tier 3 levels for mobile sources and Tier 2 for other sources. In addition, SEDEMA has its own air quality forecast model that issues information 24 and 48 hours in advance and provides annual air quality reports on City’s air quality. Both have been strengthened through working with research institutions, particularly with the Barcelona Supercomputing Center.

Mexico City plans to strengthen the emissions inventory by automating different processes. This 1x1 km high spatial resolution inventory is integrated into the air quality forecasting model and is capable of simulating scenarios to evaluating alternative air quality improvement measures to help select those that are most impactful. Mexico City continues to improve forecasts of ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, fine particulate matter, as well as weather parameters.

An important source of Mexico City’s air pollution is emissions from outside its borders. Mexico City coordinates policies aimed at improving air quality across the Metropolitan Zone of the Valley of Mexico, which includes the 16 mayors and 59 municipalities of the State of Mexico and Tuzayuca, Hidalgo.

Likewise, Mexico City is part of the Environmental Commission of the Megalopolis (CAMe) formed by six other states of the central region of the country and the Secretariat of Environment and Natural Resources (SEMARNAT) of the Federation. The objective of CAMe is to design and implement common policies to control emission sources that affect the region and be more effective in improving air quality.

ProAire and the immediate measures are metropolitan management instruments, therefore, both will be implemented by the Government of Mexico City, the Government of the State of Mexico and the Federal Government. In addition, they have worked together with CAMe.

Example 1: The Ministry of the Environment of Mexico City generates inventories of criteria pollutant emissions, air toxic, and greenhouse gas compounds in Mexico City every two years with Tier 3 levels for mobile sources and Tier 2 for other sources. In addition, SEDEMA has its own air quality forecast model that issues information 24 and 48 hours in advance and provides annual air quality reports on City’s air quality. Both have been strengthened through working with research institutions, particularly with the Barcelona Supercomputing Center.

Example 2: Mexico City plans to strengthen the emissions inventory by automating different processes. This 1x1 km high spatial resolution inventory is integrated into the air quality forecasting model and is capable of simulating scenarios to evaluating alternative air quality improvement measures to help select those that are most impactful. Mexico City continues to improve forecasts of ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, fine particulate matter, as well as weather parameters.

Example 3: An important source of Mexico City’s air pollution is emissions from outside its borders. Mexico City coordinates policies aimed at improving air quality across the Metropolitan Zone of the Valley of Mexico, which includes the 16 mayors and 59 municipalities of the State of Mexico and Tuzayuca, Hidalgo.

Example 4: Likewise, Mexico City is part of the Environmental Commission of the Megalopolis (CAMe) formed by six other states of the central region of the country and the Secretariat of Environment and Natural Resources (SEMARNAT) of the Federation. The objective of CAMe is to design and implement common policies to control emission sources that affect the region and be more effective in improving air quality.

Example 5: ProAire and the immediate measures are metropolitan management instruments, therefore, both will be implemented by the Government of Mexico City, the Government of the State of Mexico and the Federal Government. In addition, they have worked together with CAMe.

Example of Financial Resources Available to Deliver the Commitments:

- The main financial resource available is the Public Environmental Fund of the Federal District, which is a public trust administered by the Ministry of the Environment of Mexico City whose resources come from the annual budget allocated to Mexico City, donations from the National and international private sector for the realization of projects, citizen contributions collected by some services, sanctions, among others.
- FIDAM 1490 - Managed by the Executive Coordination of the CAMe to support environmental projects of the states that make up the CAMe.
- Occasionally RAMO 16 - Awarded by the Federal Government for projects to improve the Environment and Natural Resources.
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

By 2021 Copenhagen will develop baseline levels and reduction targets for air pollutants.

Before 2025 The City of Copenhagen expects to implement the following policies:

- New LEZ
- 100% zero emissions buses on all bus lines financed by City of Copenhagen
- On-Shore power for cruise vessels

While revision of the City’s clean air plan is expected before 2025 a decision on this has not been made.

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Air Quality data from measurement stations is published every hour on a web page. Air quality data for every address in Copenhagen is calculated by national authority. A prognosis 72 hours ahead is calculated daily.

The city works on additional monitoring by increasing number of measurement stations in different areas in Copenhagen and combining the new monitoring with ‘health warning’ for the citizen of Copenhagen.

Examples of intended actions and approaches to deliver these actions

- New LEZ in 2020. The City will continue to work with the government to exclude more polluting vehicles, machinery and vessels from the LEZ.
- Roadpricing. The City continues dialogue with the government to create a legal basis for introducing road pricing.
- 100% zero emission buses on all current diesel bus lines in 2025
- Promoting alternative fuels in non-road mobile machinery indirectly involved in 40-60% of all building and construction projects in Copenhagen. By 2019 include requirements for alternative fuels in non-road machinery in municipal tenders for construction work.
- Onshore Power for cruise vessels. Working with the port to introduce Onshore Power before 2025
- >90% of city owned passenger cars are Zero Emission
- Improvement and expansion of regional cycling infrastructure
- Opening of new metro line (city ring) in 2019. Expansion in 2020 to Nordhavn and in 2024 to Sydhavn.
- Installation of charging infrastructure for cars
- Promotion of car sharing schemes such as dedicated parking
- Improving bicycle and vehicle accessibility through ITS solutions
- Improve EV parking.
- Potential reduction of traffic in inner city

Examples of intended actions and approaches to meet commitment

By 2021 Copenhagen will develop baseline levels and reduction targets for air pollutants.

Dialogue with the government to create a legal basis so that stricter requirements can be set for the commercial vessels using the port, including canal tour boats in the inner harbour in City.
SUPPORTIVE ACTIONS

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Local air quality data will be made available for academic institutions for further research on health effects of air pollution. Collaboration with academic institutions on new research projects involving health aspects of air pollution in Copenhagen.

Health perspectives on air pollution will be included in public health awareness campaigns and information in the city.

Annual air quality reports.

The city cooperates with a number of researchers and institutions to secure high quality inventories, models e.g.

National framework conditions can help the City of Copenhagen to achieve the targets laid down in different municipal plans and the C40 clean air declaration.

The City of Copenhagen will continue the dialogue with the government for improvements e.g. implement better LEZ and other projects to reduce air pollution.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- In 2019 the City of Copenhagen has allocated funds to a project “creating increased knowledge about the health-damaging effects of air pollution in Copenhagen”. The project has been initiated as a collaboration between the Technology and Environment Administration and the Health and Care Administration. The project contains four sub-projects where one of the projects concerns the setting up three measuring stations to measure the nitrogen content of nitrogen dioxide, particles (PM2.5), and ultrafine particles (UFP). Measurement results must be submitted to a group of experts who will, among other things, contribute to creating increased knowledge such as air pollution and health effects for the citizens of Copenhagen.

The City of Copenhagen has financed investigation in Onshore Power Supply for cruise vessels and for international cooperation to implement Onshore Power in many cities simultaneously.

- The new LEZ implemented by 2020 is financed by City of Copenhagen (80%) and City of Frederiksberg (20%).
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

The present Government of National Capital Territory of Delhi (GNCTD) have come to power in 2015 through a political platform of sustainability, decentralization, anti-corruption, freedom and prosperity. Its actions have been in-line with its vision and every project, program, policy and practice of the Delhi Government has linked back to these principles and the promises that flowed from them.

The National Clean Air Programme (NCAP) of India sets the target of bringing down the PM2.5 and PM10 levels by 20%–30% by 2024, relative to 2017. Delhi is already a model for other Indian cities on fighting pollution by successfully bringing down the average annual PM2.5 levels by 25% over 2016-18, as compared to the baseline of 2012-14. The Government of NCT of Delhi will further endeavour, in a period of 2 years, to set a reduction target that puts them on a path to achieving and exceeding NCAP targets by 2024.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

The GNCTD’s commitments will be actioned and monitored by the “Clean Air Task Force” chaired by the Chief Minister Arvind Kejriwal. Members of this task force will consist of line department heads and external experts working on sustainability, resilience, public health, social activism, energy and mobility. This task force will also create a “Climate Transformation Plan and Budget” that combines best practices emanating from the task force, Delhi Government’s Outcome/ Green Budget and leverages the salient strengths of state, market and society in implementation.

This commitment will be actioned and monitored by the “Delhi Dialogue and Development Commission” chaired by the Chief Minister Arvind Kejriwal. Members of this task force will consist of line department heads and external experts working on sustainability, resilience, public health, social activism, energy and mobility. This task force will also create a “Climate Transformation Plan and Budget” that combines best practices emanating from the task force, Delhi Government’s Outcome/ Green Budget and leverages the salient strengths of state, market and society in implementation.

The GNCTD will take up the implementation of the following ambitious programmes under seven main departments to address the top causes of air pollution, before 2025:

**Transport Department**

1. Large scale transformation of the public bus system is underway that will substantially increase the capacity (from 5,500 buses to 11,000 buses), safety and convenience of travel. The government has already introduced a common mobility card valid across travel in metro and buses, India’s first. Implementation of scientific route rationalisation of bus routes, installation of CCTV’s and panic buttons in buses is under way.

2. GNCTD has released a progressive draft Electric Vehicle policy, expected to be finalized by October 2019. The policy focuses on large scale transition of vehicles in shared/public transport with an aim that Battery Electric Vehicles (BEVs) constitute 25% of all new vehicle registrations by 2024.

3. Complete electrification of Delhi’s bus fleet is planned over two phases. Phase I will include rolling out 1000 fully electric buses (around 20% of the total bus fleet) by 2020 supported by the induction of 905 additional electric feeder vehicles by Delhi Metro. Phase II will build on the experiences of Phase I and will aim at 100% transition to 11,000 electric buses in Delhi by 2030.

4. Strong incentives, programs and academic collaborations to improve and strengthen Pollution Under Control (PUC) programme in Delhi.

**Power Department**

5. Provision of generation-based incentives, streamlining of tripartite agreements and payments by the Delhi Government have bolstered solar installation, with total capacity now at 133 MW.

6. Group Net Metering Policy and Virtual Net Metering Policy to promote installations of solar panels on all buildings in Delhi notified.

7. Agrisolar policy launched and floating solar projects are under process at Rajghat Power Plant.

8. All PWD streetlights to be replaced with efficient LEDs: building code to integrate photovoltaics and innovations in energy efficiency.

9. Provision of subsidy of ₹5,000 per tandoor to restaurants to replace coal-based tandoors with electricity or gas-based tandoors as well as subsidy to various firms and establishments of up to ₹30,000 to switch over from Diesel Generator Sets to Clean Generator Sets.

10. Challans or fines by department officers and revenue enforcement for violators of construction debris, biomedical and municipal solid waste as well as fire-cracker/waste burning.

11. Installation of air pollution abatement devices at traffic intersections with urban heat island effect as well as technical assistance to cremums and gaushtalas to become green.

12. Development of city forests to create green areas with 6 city forests already created increasing Delhi’s green cover from 20.2% to 20.6%.

13. To ensure the participation of the residents of Delhi in the fight against pollution and to stay alert to the risks of air pollution, we will provide a dedicated information system showing current levels of pollution by installing 1000 indoor display panels inside all government buildings that are dealing with the public.

**Environment Department**

- ENvironment DEpartment
PUBLICLY REPORT ANNUALLY ON OUR PROGRESS IN REDUCING POLLUTION LEVELS RELATIVE TO TARGETS AND ACHIEVING THE COMMITMENTS IN THIS DECLARATION.

IMPLEMENT NEW POLICIES, ENFORCE STRONG REGULATIONS, PRIORITIZE RESOURCES, AND BUILD NECESSARY CAPACITY AND SKILLS TO ACHIEVE AMBITIOUS REDUCTIONS IN AIR POLLUTION SOURCE SECTORS THAT ARE WITHIN OUR CONTROL.

POLICIES: The Delhi Government has already notified water policy, solar policy, JJ (Jhuggi Jhopari) cluster and slum rehabilitation as well as municipal solid waste management policies that are sustainable, progressive and green. It will soon notify the Electric Vehicle policy too. Delhi already implements the Graduated Response Action Plan (including the road rationing scheme called Odd-Even) when air pollution peaks in winter, in collaboration with the Central Pollution Control Board and under the supervision of National Green Tribunal.

ENFORCEMENT: Delhi will push for the constitution of the Metropolitan Planning Committee and attempt to operationalize the NCR (National Capital Region) planning board, both of which would help solve Delhi’s problems in a larger context. The DPCC (Delhi Pollution Control Committee) and revenue department officials will penalize acts of pollution, especially in commercial, construction, industrial and institutional areas. The government will conduct local enforcement by allocating 552 environment marshals across Delhi and awareness campaigns with RWAs (Resident Welfare Associations).

RESOURCES: The Delhi Government has invested its political capital, policy timelines as well as financial resources to each and every item mentioned in the budget. There will be no unfunded mandates. Capacity and Skill Building: MoUs with organizations, think-tanks and universities working on sustainability, resilience and public health will be signed. Several research centers on health, mobility, urban development, energy and environment have and will be opened in Delhi state universities. Organizations will go through employability and skill re-training based on the future of the respective industries, especially in state-run companies.

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PUBLICLY REPORT ANNUALLY ON OUR PROGRESS IN REDUCING POLLUTION LEVELS RELATIVE TO TARGETS AND ACHIEVING THE COMMITMENTS IN THIS DECLARATION.

DELHI WILL WORK WITH C40 TO COMPLETE REQUESTED INFORMATION AS PART OF DECLARATION REPORTING PROCESS, AS OUTLINED IN THE C40 CLEAN AIR CITIES TECHNICAL NOTE.

INTEGRATE THE RELEVANT TOP POLLUTION-REDUCING ACTIONS -- THAT ARE WITHIN OUR CITY AND UNDER OUR CONTROL -- INTO OUR CLIMATE ACTION PLANS, SUCH AS: RAPIDLY EXPANDING ZERO EMISSION PUBLIC TRANSPORT, CREATING LOW OR ZERO EMISSION AREAS, SUPPORTING WALKING/CYCLING, IMPLEMENTING VEHICLE RESTRICTIONS OR FINANCIAL INCENTIVES/DISINCENTIVES (E.G. ROAD OR PARKING CHARGING), REDUCING TRUCK, NON-ROAD MACHINERY AND CITY OWNED VEHICLE EMISSIONS, CLEANING UP CONSTRUCTION SITES AND EQUIPMENT, REDUCING INDUSTRIAL EMISSIONS, REDUCING EMISSIONS FROM WOOD BURNING, EXPANDING AFFORDABLE ACCESS TO CLEAN ENERGY FOR COOKING AND HEATING, RESTRICTING POLLUTION FROM SOLID WASTE BURNING AND EXPANDING GREENING.

THE GNCTD COMMITS TO THE POLLUTION-REDUCING ACTIONS, WITH THE GOAL OF NOT JUST REACHING BUT EXCEEDING THE NATIONAL TARGETS FOR REDUCTION IN PARTICULATE MATTER BY 2025. SOME OTHER RELEVANT INITIATIVES THAT ADD TO THE POLICY LIST FROM ABOVE:

- Reduction in open biomass burning, through higher LPG penetration in households and imposing a blanket ban, has the potential of reduction in PM2.5 and PM10 by 6% each by 2025.
- Stricter enforcement of standards in industries through continuous monitoring, along with a 100% switch from solid fuels to gaseous fuels.
- 24x7 electricity supply resulting in 90-95% reduction in usage of DC (diesel generator) sets, which has the potential to reduce by 2% each PM2.5 and PM10. (Source – Source Apportionment Study by TERI, 2018).

Estimate, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

With 40 continuous air quality monitoring stations, Delhi has the most robust city-level air quality monitoring infrastructure in India, and among the best in Asia.

GNCTD will build an open disaggregated stack of air quality monitoring and evaluation that will combine efforts of state, market, civil society and academia. This will include the following:

1. Hyper local monitoring of a select area in the city, based on the London hyperlocal monitoring model, from the EC Fund by 2020 and implement the initiative by 2024 with DPCC and IIT Delhi.
2. Run student programs on low-quality AAQMS and run challenges and competitions in the research, analysis and communication of air quality data, and also, develop a pollution forecasting model for the city and its decision makers.
3. Start a real-time open data initiative around air quality at IIT Delhi with DPCC in Environment, EEREM Cell in Power and DTC in Transport, coordinated by UD Department.

GNCTD will pursue air quality for public health as a theme with sustainability, monitoring and abatement as key action areas to improve city emissions and citizen healthcare outcomes. Some of the strategies outlined in the Green Budget have also been incorporated in the State Action Plan for Climate Change (SAPCC) in Delhi. Once an updated Source Apportionment study is completed and the GHG inventory is in place, data will be used to formulate a Climate Action Plan involving strategies and projects which also address particulate matter emissions.
SUPPORTIVE ACTIONS

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- The City is working with C40 to estimate the benefits of Air Quality actions, collect relevant health and air quality data, and identify the air pollution mitigation actions that need to be further researched. The city also has collaborations and linkages with entities such as CSIR-CRRI, Lungcare Foundation, EPOD Harvard, EPIC UChicago Center, IIT Delhi, IIT Bombay, CSTEP, CSE, Chintan, C40, WRI and Shakti Foundation in Delhi, all of which work on public health or air quality or issues of science, technology, sustainability, governance and policy.

- Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

- Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

The Chief Minister of Delhi has recently announced an air pollution mitigation plan as a means to involve the citizens of Delhi as change agents in the fight against pollution and to prepare the city for the upcoming winter season:

- Odd Even, the road rationing scheme, will be implemented across the city. Past implementation of odd-even policy in winter months have brought down particulate emissions by 14-16% as per a study by Energy Policy Institute at the University of Chicago.

- Community Diwali Laser Show will be organized, open spaces for fire-cracker burning have been identified to prevent residential area pollution, and pollution masks will be distributed at scale.

- In order to control dust on roads, the frequency and area of water sprinkling will be increased. Sweeping the roads will be completely mechanized and will collaborate with Municipal Corporations of Delhi.

- Special plans will be devised to deal with the 12 identified pollution hotspots in the city.

- GNCTD will launch ‘Delhi Tree Challenge’ which encourages individuals to plant saplings in and around their houses. The government plans to home deliver the sapling free of charge to the homes of the residents who intend to participate in the challenge.

The Department of Environment, GNCTD, along with C40 and other organizations, plans to take up the following activities:

1. Building GHG inventory with C40
2. Agreement with World Bank to create air pollution forecasting model and University of Washington on Real-Time Source Apportionment Study.
3. Collaborate with national and international universities and labs of repute to build a full-stack regularly updated emissions inventory and start a centre for sustainability to work on these issues.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

The GNCTD will work with the following bodies to implement the Air Quality initiatives:

2. Government of India for coordination and follow-up.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Financial Support, Budgetary Allocations and Outcomes from Climate Allocations Exemplars from Budgetary Allocations and Projects

Delhi is among the few cities in India with an annual surplus budget. The annual budget has grown sharply from US$ 4.4 billion in 2014-15 to US$ 8.6 billion in 2019-20 and is the major source of funding for all city commitments.

In addition, GNCTD has created two funds based on the “polluter pays principle” and has a mandate to use these to promote sustainable mobility and improve air quality in the NCT.

- Environment Compensation Charge (ECC) is levied on all commercial vehicles entering NCT and the corpus of the fund stands at INR 1100 crore (US$ 157 million) currently. The ECC will be used to exclusively to augment public transport and to create non-motorized transport facilities in the city.

- Air Ambience Fund: A fixed amount is levied on every litre of diesel sold in the city, which accrues to this fund. At present, around INR 40 crores (US$ 6 million) is collected annually.
Dubai Municipality will update the baseline levels and the monitoring network is continuously being assessed and will be updated/expanded when necessary.

The comprehensive Air Quality Management Information System, which includes emission inventory of sources across all sectors, will be updated. PM characterization and source apportionment for air pollution will be undertaken to determine the contribution of each significant source, and determine the contribution ratio of anthropogenic and natural sources. This analysis will help identify additional local measures required to enhance air quality.

Additionally, DMSAT-1 will be launched in January 2020 that will provide PM2.5 and PM10 satellite data which will support studies and policies on PM reduction.

Dubai Air Quality Strategy is annually assessing the impacts of various strategies, programmes and initiatives to the air quality in Dubai. While the air quality strategy will include a range of strategies, some examples of measures intended to be taken by 2025 include:

- Dubai’s Green Mobility Strategy - increasing penetration of electric vehicles in city owned and private fleets.
- Mandatory enforcement of Euro 5 vehicle engines by 2022.
- Enforcement of IMO’s (International Maritime Organization) new 0.5% global sulfur cap on fuel content from 1 January 2020, lowering from the present 3.5% limit.

Dubai Municipal will work with Federal and local authorities in updating, developing and implementing regulations.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

SUPPORTIVE ACTIONS

a. Dubai Demand Side Management Strategy (DSM) - Eight programs to serve the demand reduction targets through engaging key stakeholders with a clear road map targeting 30% reduction of Dubai’s water and electricity consumption by 2030. At the end of 2018, DSM programmes had saved 4.5 TWh of electricity and 6.7 billion imperial gallons of water.

As an example, program 8 (Shams Dubai) consists of an initiative that encourages household and building owners to install PV panels to generate electricity.

b. Dubai Green Mobility Strategy - accelerates the uptake of hybrid and electric vehicles targeting a penetration of 10% of Hybrid and EVs in government fleet by 2021. To attract private owners, a set of incentives has been implemented some of which include:

- Exemption of parking fees in designated spaces for Electric Vehicles by Dubai Roads and Transport Authority.
- Provision of green loans and benefits to the EV/Hybrid purchasers by the Local Banks i.e. Emirates National Bank of Dubai.
- Free-charging on Dubai Electricity and Water Authority’s public electric vehicle infrastructure for private vehicles.

c. Dubai Clean Energy Strategy 2050 sets targets of 25% clean energy by 2030 and 75% by 2050. Dubai operates 413 MW Solar Plant with additional 1,750 MW awarded to be commissioned in 2019, 2020 and 2021.

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### SUPPORTIVE ACTIONS

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

- Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

- Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

- Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

### EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- **SUPPORTIVE ACTIONS**
  - Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

  - **SUPPORTIVE ACTIONS**
    - Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

- **EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**
  - Dubai Municipality will collaborate with the health authority and other relevant entities to address health impacts of air pollution. This is a priority risk requiring detailed assessment and action plan as identified in the Dubai Climate Change Adaptation Strategy.

  - Dubai Municipality is developing an air quality online application which will provide real-time and forecasted air quality data, issue pollution alerts and advise public on health implications. Dubai Municipality will continue to conduct a number of air quality awareness campaigns such as the annual Car-Free Day.

- The online emissions inventory submission platform of the Air Quality Management Information System will be updated to cover all sources across Dubai sectors. Data collected will serve as input to the built-in air dispersion models. Inventory, monitoring, and modeling tools will be available to analyze air pollution in the city.

- Dubai will work with and support the Federal authority in its efforts to control emissions from outside the city.

### EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Actions will get financial support from government budgetary allocations.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Implement new policies, enforce strong regulations, prioritize resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

• Ensure industrial compliance with Minimum Emission Standards by June 2021 by evaluating compliance of all industries annually.
• Use cost benefit analyses to gauge air quality improvements to drive air quality improvements by continuously measuring and calculating benefits annually.
• Build strong compliance monitoring and enforcement capacity in institutional arrangements
• Traffic emissions modelling capacity to be developed within city by 2021.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, minimizing VOC emissions in tank farms and refineries.

• Develop policy for prohibition of coal use in eThekwini metro by 2030.
• Develop low emission zone concept policy by end of 2021 for inner city for implementation in 2030.
• Improve walking and cycling capacity within city during low emission zone introduction.
• Supporting dry harbor project to limit heavy motor vehicles that come to harbor.
• Evaluate compliance with dust control on developments through participation in environmental impact assessment.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

• Ensure all tank farms in South Durban Basin for volatile organics have floating roof tanks with double seals. Continuously evaluate best practice and best available technology to minimize VOC emissions in tank farms and refineries.
• Increase capacity for pollution control officers to deal with open burning and biomass burning in eThekwini through enforcement of bylaws.
• Expansion of electrification so that 100% of homes have access by 2030.
• Introduction of low or zero emission public transport
• Proactively rehabilitate any illegal waste dumping and any abandoned waste and improve in enforcement capacity.
• Actively deal with fugitive emissions through investigating best practice and evaluating best available technology with other international partners.
• Align air quality actions with climate actions plan

SUPPORTIVE ACTIONS

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will be set on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

By 2023, the city intends to focus emission reductions on industrial sources then followed by biomass burning and freight-related emissions. Emission reduction policies, action plans, and prioritization will be based on information from emission inventories and ambient monitoring for source apportionment. The first phase is to deal with industrial, followed by biomass and freight. For industrial emissions the city aims to ensure industries comply with new plant standards which come into place in 2020 which are much stricter than current standards. Vehicle emissions will be tackled by vehicle emission testing. Sugarcane burning emission can be dealt with by initiating a process to discontinue allowing commercial farmers from burning (only 10% currently green harvest).

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Work with C40 to complete request information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Establish by 2022 baseline air quality levels in hotspots, non-industrial areas, traffic congested areas, areas affected by biomass burning, rural areas, as well as background concentrations of pollutants. Develop Quality Management System for Ambient Air Quality Monitoring and procure new instruments for existing air quality monitoring station. Initiate low cost sensor programmes to fill in gaps and ensure adequate spatial and temporal coverage of AQM stations and to allow stakeholders to log participation in environmental improvement.

By 2025, meet the current National Ambient Air Quality Standards of 20µg/m3 annual average city wide.
• By 2030, the country’s NAAQS are met, which means a PM2.5 ambient standard of 15µg/m3 annual average city wide.

While the city aims to meet the WHO guidelines by 2035, the city will periodically revisit these timelines to determine whether these can be met sooner.
SUPPORTIVE ACTIONS

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Examples of Intended Actions and Approaches to Deliver These Actions

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Update a 2004 health study and establish an air quality-related health baseline within the eThekwini metro. Project to begin June 2020 and run until June 2022, subject to adequate funding being made available. Funding being currently sought from Province, national and international sources.

Establish health economics of Durban by end 2023.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Ensure adequate spread of low cost sensors for traffic and other air quality hotspots and for information to be displayed on city air quality website, with National Air Quality Indices and relevant colours by 2023.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Develop by June 2021 bottom-up emission inventories for all sectors (i.e. heavy industry, light industry, commercial, biomass and freight) for the five pollutants. Continuously update emission inventories at least every two years, and model emissions to determine areas of worst impacts.

Model emissions using relevant software.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

Advocate for provincial air quality management forums to take place quarterly and present background air quality results to platform. Attend national working group 2 and Lekgotla and deliberate on impacts of transboundary air pollution.

Examples of Financial Resources Available to Deliver the Commitments

- Human capital expenditure to ensure all functions are adequately staffed
- Capex for replacing instruments and procuring low cost sensors
- Operating expenses for maintenance of network, training of technicians, modelling software, development and maintenance of AQ website and attending the various platforms for information gathering and advocating
- Operating budget to be made available for Health Study.

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Guadalajara

**DECLARATION COMMITMENT**

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Sustainable mobility projects (Guadalajara, metropolitan and state)

Cooperate with the metropolitan institute on a future project around smart traffic lights.

Cooperate with the state environment agency to launch a program that measures car emissions before issuing a permit for use. The type of permit will be predicated on the emissions profile of the vehicle. The Integral Agency for the Regulation of Emissions (AIRE), a Decentralized Public Organization (OPD), will control the automobile verification centers.

Continuous improvement of the atmospheric monitoring network and of planned responses in the case of air quality emergencies.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

State collaboration with the municipalities and the metropolitan area.

**INTENDED ACTION/APPROACH TO MEET COMMITMENT**

Guadalajara intends to set ambitious air pollution reduction targets within two years, to put the city on a path toward meeting World Health Organisation Air Quality Guidelines. Baseline levels will be established as part of "JALISCO RESPIRA," which aims to achieve a healthy environment for all citizens of the state. The program objectives include correct measurement and interpretation of air quality data, contingency plans in case of poor air quality conditions, and work on mitigation and reduction of pollutant emissions.

The "JALISCO RESPIRA" program is being implemented as the first step to improve the current status of air quality. Guadalajara adds to the premise that the cities of the state are those that face the greatest problem of air pollution and related health effects.

**Sustainable Mobility:**
- Sustainable and low emission transport network
- School Transportation Program
- "Mi movilidad"

**Strengthening of the atmospheric monitoring network:**
- Expansion of the atmospheric monitoring network
- Implementation of technologies for dynamic collection of air quality data
- Predictive air quality system for AMG

**Attention to fixed and mobile sources:**
- New vehicle verification program
- Technical changes and reconfiguration of the brick and ceramic manufacturing activity

Cooperation with national and municipal government agencies:
- Development of PROAIRE 2020-2030
- Preparation of State Program for Response to Critical Events of Bad Air Quality
- Healthy living
- Epidemiological Surveillance System implementation
- Metropolitan Forest Agency

In addition, Guadalajara works with "Ciudad Fresca," a reforestation program that seeks to reduce PM and CO concentrations, while lowering the temperature of the city.

Work with C40 to complete request-ed information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.
**Supportive Actions**

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**Examples of Intended Actions and Approaches to Deliver These Actions**

A communication plan is in place to explain the emergency response programs where social networks, parks and sports units are used.

We communicate via social media and in some parks and sport unit. We display some information about the risk of the high pollutant levels.

Guadalajara is working with C40 and with WRI as well as with other government organizations and institutions of different levels (federal, state, metropolitan and municipal) to create a metropolitan inventory of air pollutant emissions.

A new air quality and health measurement index is being developed in order to have more accurate measurements that really show the effect pollutants are having on the health of the city’s population. The initiative focuses on generating a new index that include more health and environmental variables.

Collaborative work is done with all levels of government so that everyone acts within their jurisdiction. Some industrial emissions are generated outside of the city boundaries. Also we generate a lot of vehicle emissions that go to other municipalities.

**Example of Financial Resources Available to Deliver the Commitments**

- 83 million pesos as initial investment for Jalisco Respira Program actions.
DECLARATION COMMITMENT

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

PUBLICLY REPORT ANNUALLY ON OUR PROGRESS IN REDUCING POLLUTION LEVELS RELATIVE TO TARGETS AND ACHIEVING THE COMMITMENTS IN THIS DECLARATION.

Heidelberg aims to reduce annual mean NO2 value by at least 20% by 2025 to ensure sustained compliance with EU limits and WHO guidelines.

The priority indicator for air quality in Heidelberg is nitrogen dioxide. The nitrogen dioxide concentration is measured at a continuously measuring automatic station of the state measuring network (urban background value) as well as at the spot measuring point in the highly polluted road section (passive collector, annual mean value).

Key transportation related efforts to be implemented include:

- Electrification of transport: Conversion of the municipal service vehicle fleet and the public bus fleet to zero-emission vehicles milestone/ progress metrics: 25% zero-emission vehicles by 2025 (municipal fleet); 10% zero-emission buses by 2025.

- Expansion of the public charging infrastructure milestone/ progress metrics: 150 charging points by 2020, 400 charging points by 2025.

- Expansion of Heidelberg’s funding programme “Environmentally Friendly Mobile”: campaign for zero-emission taxis milestone/ progress metrics: 10% share of low-emission/ zero-emission vehicles in the vehicle fleet in Heidelberg by 2025.

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

The Ministry of Transport Baden-Württemberg has the goal to reduce CO2 emissions by 40% by 2030. The targets to achieve this goal are:

- doubling of public transport
- one third of cars carbon neutral with zero emission
- one third of freight transportation carbon neutral with zero emission
- every second journey self-active by Bicycle, E-Scooter or on foot
- car traffic in cities is reduced by one third

To realize the targets in Heidelberg, the Green-City-Masterplan “Sustainable Mobility for the City” (“Nachhaltige Mobilität für die Stadt”) focuses on:

- Digitalization of transport (e.g. Intelligent and environmentally oriented traffic control)

The priority indicator for air quality in Heidelberg is nitrogen dioxide. The nitrogen dioxide concentration is measured at a continuously measuring automatic station of the state measuring network (urban background value) as well as at the spot measuring point in the highly polluted road section (passive collector, annual mean value).

IN ADDITION, AIR QUALITY IMPROVEMENTS WILL COME FROM THE MINISTRY OF TRANSPORT BADEN-WÜRTtemberg has the goal to reduce CO2 emissions by 40% until 2030 and the Green-City-Masterplan “Sustainable Mobility for the City” (“Nachhaltige Mobilität für die Stadt”). These initiatives are described in detail in later sections.

PROJECT “METEOHD”:

- Connected public transport
- Promotion of cycling (better infrastructure e.g. bike freeways, bicycle parking stations, bicycle bridges; provide incentives (e.g. bicycle-map Heidelberg, bicycle-events, free bicycle inspections in municipal-bicycle network “Arbeitsgemeinschaft Fahrradfreundlicher Kommunen” ASFK-BW)
- Electrification of transport: BEV-Buses already in use, FCEV-Buses if possible/available; electrified municipal Vehicles (BEV/ FCEV, whenever possible)
- Urban logistics: Green-City-Logistics concept for inner-city freight traffic and a green last mile
- Master Plan “100% Climate Protection” (“100% Klimaschutz”): Developing plans to reduce CO2 emissions by 95% and energy consumption by 50% until the year 2050

SUPPORTIVE ACTIONS

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

- Decisions underway by the City Council on the procurement of emission-free buses
- Planning of the new Patrick Henry Village district as a local zero-emission, low-traffic district.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.
SUPPORTIVE ACTIONS

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

As part of the MeteoHD project, the city cooperates with several institutes of the University of Heidelberg that work in the fields of air quality and health care.

Project MeteoHD will provide valuable data to road users on selecting more sustainable modes of travel.

Project MeteoHD includes new approaches to integrating meteorological and traffic data into air quality modeling platforms.

In air pollution control planning, the City of Heidelberg works closely with partners in the Rhine-Neckar metropolitan region as well as with the State Environmental Agency and the State Ministry of Transport.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Funding of different projects by the state government and the federal government, especially immediate action program “Clean air 2017-2020” (“Sofortprogramm Saubere Luft 2017-2020”) of the federal government for municipalities with particularly high nitrogen dioxide pollution:
  - Goal: development of sustainable and low-emission mobility
  - Funding of 10 projects in Heidelberg with a subsidy amount of 2,495,976.00 €
**EXAMPLES OF INTENDED ACTIONS AND APPROACHES**

The city plans to implement multiple new strategies to address the top causes of air pollution emissions within our city and under our control. In addition to city policies related to minimizing city-owned emission sources, the city is and will continue to support new substantive policies/legislation that limit pollution (e.g., concrete batch plant siting restrictions) and implement new programs to detect emission events and enforce permit requirements (e.g., roll out of the Rapid Alert Benzene Information: Time Sensitive (RABITS) system; Collective Impact Project with Harris County DA to conduct surveillance outside of city limits/on weekends and during the night to document and take legal action on illegal events; municipal fleet mobile monitoring to continually passively assess permit violations).

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

The city plans to implement multiple new strategies to address the top causes of air pollution emissions within our city and under our control. In addition to city policies related to minimizing city-owned emission sources, the city is and will continue to support new substantive policies/legislation that limit pollution (e.g., concrete batch plant siting restrictions) and implement new programs to detect emission events and enforce permit requirements (e.g., roll out of the Rapid Alert Benzene Information: Time Sensitive (RABITS) system; Collective Impact Project with Harris County DA to conduct surveillance outside of city limits/on weekends and during the night to document and take legal action on illegal events; municipal fleet mobile monitoring to continually passively assess permit violations).

**DECLARATION COMMITMENT**

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

**INTENDED ACTION/APPROACH TO MEET COMMITMENT**

Preliminary baseline level analysis using 2018 data and monitors within 40 miles of Houston, indicate that WHO guidelines have been met for all but ozone and four of five pollutants already exhibit downward annual trends with rates between -0.029 and -0.88. Although ozone is above the WHO limit, the city is dedicated to reducing ozone concentrations and is implementing multiple new strategies to continue to reduce air pollution.

**Supportive Actions**

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

**Examples of Intended Actions and Approaches to Deliver These Actions**

The city plans to implement multiple new strategies to address the top causes of air pollution emissions within our city and under our control. In addition to city policies related to minimizing city-owned emission sources, the city is and will continue to support new substantive policies/legislation that limit pollution (e.g., concrete batch plant siting restrictions) and implement new programs to detect emission events and enforce permit requirements (e.g., roll out of the Rapid Alert Benzene Information: Time Sensitive (RABITS) system; Collective Impact Project with Harris County DA to conduct surveillance outside of city limits/on weekends and during the night to document and take legal action on illegal events; municipal fleet mobile monitoring to continually passively assess permit violations).

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<th>Pollutant</th>
<th>Metric</th>
<th>Value</th>
<th>WHO Guideline</th>
<th>WHO Guideline Met?</th>
<th>Percent Over/Under WHO</th>
<th>Slope</th>
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<td>Annual Mean</td>
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<td>Nitrogen Dioxide (NO2)</td>
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* Clinton air monitor metric
** UH Moody Tower air monitor metric
**SUPPORTIVE ACTIONS**

- Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

- Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

- Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

- Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

- Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

The city will continue to run and manage the six TCEQ air pollution monitors in the city for TCEQ, and will post additional data on the city website, if possible, or through the Rice University Urban Data Platform (e.g., the formaldehyde data for the city’s EPA community air toxic investigation, the mobile monitoring data, the RABITS analysis).

The city will continue to partner with relevant institutions to conduct and publish research on health impacts of air pollution (e.g., the city-specific Asthma Air Aware Alerts partnering with Rice University, the metal recycler air pollution risk partnering with UT Health, the relationship between air pollution and cardiac arrest and costs partnering with Rice).

The city will continue to raise awareness, including continued work with Environmental Defense Fund, Air Alliance Houston and Public Citizen to advocate for clean air, continued leadership on the Regional Air Quality Planning Advisory Committee, promoting the Asthma Air Aware Day Alerts on our new website design and on weather reports, working with METRO to provide a month of free rides for air pollution awareness and emission reductions, promoting the use of 311 to report events.

The city will continue to work with relevant institutions to ensure high quality emission inventories, models and analysis, including EPA, TCEQ and the Regional Air Quality Planning Advisory Committee (e.g., PM Path Forward Annual Report, Rice University Google Street View mobile monitoring data).

The city will continue to work with and advocate for source control outside of our boundaries (e.g., EPA community air toxics formaldehyde grant, the Collective Impact Project with Harris County DA to conduct surveillance outside of city limits).

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

The city of Houston funds portions of the investigations and scientist/engineers with the city general fund budget. Equipment to conduct surveillance is grant funded. The city currently has US Center for Disease Control funding and US EPA Community Air Toxics Funding.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Governor’s Instruction No. 66/2019 on Air Quality Control:
- To implement the congestion pricing policy by 2021
- To implement a policy on age restriction for private vehicles above 10 years by 2025
- To encourage the adoption of green building principles in all buildings in Jakarta

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Governor’s Instruction No. 66/2019 on Regional Strategic Projects also includes measures to increase supervision and law enforcement of industrial sources.

Jakarta will further refine the air quality roadmap to take into account climate mitigation actions.

SUPPORTIVE ACTIONS

- REGIONAL STRATEGIC PROJECTS:
  - To increase parking fees by 2020
  - To implement the congestion pricing policy by 2021
  - To install rooftop solar panels on government-owned buildings by 2022

- LOCAL PROGRAMS:
  - To implement a policy on age restriction for private vehicles above 10 years by 2025
  - To encourage the adoption of green building principles in all buildings in Jakarta

- QUALITY IMPROVEMENT STRATEGIC PROGRAMME:
  - To limit vehicle age to 15 years by the end of 2019
  - To implement a congestion pricing policy by 2021
  - To increase the number of air quality monitoring stations in Jakarta to be measuring PM2.5 by the end of 2019
  - To increase parking fees by 2020
  - To increase the number of air quality monitoring sites so all 5 monitoring stations, so all 5 monitoring sites in Jakarta will be measuring PM2.5 by the end of 2019

ARKA CLEAN AIR CITIES TECHNICAL NOTE:

- To increase enforcement of industrial emissions standards
- To implement a congestion pricing policy by 2021
- To encourage the adoption of green building principles in all buildings in Jakarta

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.
**Supportive Actions**

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**Examples of Intended Actions and Approaches to Deliver These Actions**

Dinas Kesehatan (Public Health Department) will conduct a study on PM2.5 correlation and its impact on human's health in 2019.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**Examples of Financial Resources Available to Deliver the Commitments**

- Financial resources from the city’s budget (APBD DKI Jakarta).
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Prepare and enforce the implementation of a municipal ordinance that regulates chimney emissions generated by restaurants and other food businesses in the Cercado de Lima. Work together with the Ministry of Environment and the Ministry of Energy and Mines to promote the use of cleaner fuels and renewable energy and the regulation of the use of charcoal.

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Currently, the city of Lima is preparing its Climate Action Plan, which will describe the city’s mitigation, adaptation and inclusion activities, programs and projects that will align with the Paris Agreement and local regulations.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Work with C40 to complete request-ed information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

SUPPORTIVE ACTIONS

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Prepare and enforce the implementation of a municipal ordinance that regulates chimney emissions generated by restaurants and other food businesses in the Cercado de Lima. Work together with the Ministry of Environment and the Ministry of Energy and Mines to promote the use of cleaner fuels and renewable energy and the regulation of the use of charcoal.

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Currently, the city of Lima is preparing its Climate Action Plan, which will describe the city’s mitigation, adaptation and inclusion activities, programs and projects that will align with the Paris Agreement and local regulations.
**SUPPORTIVE ACTIONS**

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

A low-cost monitoring network, which will include ten stations around Lima district, will be established in the Cercado de Lima, with the objective of evaluating air quality in real time. Particulate matter, gases, noise and meteorological parameters will be measured. Citizens will have easy access to this information through a web platform. The network will seek to integrate the information currently provided by different entities that have air quality stations. Additional monitoring stations may be added in the future.

We are currently working with National Agrarian University La Molina, National University of Engineering and Pontifical Catholic University of Peru on low cost sensors to monitor air quality.

Continue carrying out awareness campaigns, accompanied by health campaigns with the purpose of making visible the impact of air pollution on health. Disseminate studies on the impact of air pollution on health and its associated economic cost. Disseminate and make visible the state of air quality, through the real-time air quality data of the sensors.

The Ministry of Environment develops an annual greenhouse gas report, which is located on a platform called INFOCARBONO. Information on the emission and mitigation of greenhouse gases is collected and systematized here.

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- Financial resource established annually for the Metropolitan Municipality of Lima.

Most of the programs and projects mentioned in the declaration are part of the municipality’s current budget. Implementation of the low-cost monitoring network is supported by C40’s “Empowering Cities with data” program and the Union of Ibero-American Capital Cities (UCCI).
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

The Lisbon Municipal Air Quality Improvement Plan which will reflect the same air quality goals and indicators as outlined above.

Lisbon is now in the process of developing the Sustainable Urban Mobility Plan, which aims to reduce the number of vehicles entering the city daily by 150,000. Vehicles are one of the main causes of air pollution in the city. The Air Quality Improvement Plan currently in force advocates the following measures to achieve the above goals:

- Increased enforcement of the low emission zone (LEZ) in Lisbon.
- Regulation of Vehicle Movement Affecting tourist entertainment vehicles in the city of Lisbon.

Lisbon is also implementing a network of environmental sensors that will monitor air quality, noise, traffic and weather data, in a total of around 80 spots distributed in road sections and intersections.

Under the Regional Air Quality Improvement Plan, which is currently in force (published recently in February 2019), Lisbon will make the following significant reductions in concentrations starting in 2020:

- PM10 ≈ 14% in annual and daily indicators (base year 2014)
- NO2 ≈ 21% on the annual indicator and ≈ 16% on the hourly indicator. (base year 2014)

During 2019, we also intend to update the Municipal Air Quality Improvement Plan which will reflect the same air quality goals and indicators as outlined above.

The Lisbon Municipal Air Quality Improvement Plan supports fulfilment of the goals set in the National Air Strategy (ENAR 2020), including:

- improvement of air quality, such as the Green Growth Commitment for 2020 and 2030;
- meeting the recommendations of the World Health Organization by 2030
- aligned with the Paris Agreement, the Climate Policy that address both air pollutants and greenhouse gases (GHG) with co-benefit for air quality and climate change

The implementation of this plan will put us on a path towards meeting World Health Organization targets for air pollutants that meet or exceed national commitments.

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Work with C40 to complete request-ed information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

**SUPPORTIVE ACTIONS**

- Awareness campaigns: European Mobility Week, “A Rua é Sua” (on the last Sunday of each month, one of the major avenues in the city centre is close for traffic and opened for pedestrians).
- The municipality welcomes and facilitates the introduction of new sharing systems that will cover the last mile of public transport, making it more attractive and competitive.
- Lisbon Intelligent Traffic Control monitors the traffic in the central area of the city, aiming to improve traffic management and safety, by implementing several subsystems (centralized traffic light systems, TV cameras, radar gauges, traffic lights triggered by speed controllers and message boards). Other objectives of this system are to improve traffic conditions, speed up the maintenance of traffic lights with the activation of alarms in case of failure of equipment, improve environmental conditions and reduce energy consumption.
- The municipality welcomes and facilitates the introduction of new sharing systems that will cover the last mile of public transport, making it more attractive and competitive.
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EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

**Sustainable Energy Climate Action Plan (SECAP2030)** has been approved by local assembly and submitted to the New Covenant of Mayors for Climate and Energy (NCfM).

- Ambitious expansion of green infrastructure with up to 20% increase in 10 years (starting from 2012), 10% of new green parking lots already achieved (255 hectares of new green) resulting in biologically active areas for filtering and removing air pollution,
- Changes in tree planting to encourage air pollution removal in the canopy,
- Development of a cycling network: goal of creating 200 km of cycle lanes by 2021,
- Expansion of Zero Emission Zones: it is not intended to increase the area of restrictions but rather the environmental requirements. The Reduced Emission Zone (ZER) Phase IV implementation proposal provides for tightening the type of EURO emission standards allowed and is expected to be operational by January 2020.

- Work is also underway to monitor the ZER using automatic enforcement.
- Pedestrian accessibility plan, to promote walking, which includes removing obstacles in the city and lowering sidewalks near pedestrian crossings.
- Municipalization of bus operator Carris and improvement of fleet with acquisition of 166 natural gas buses, 15 electric buses and 30 trams. Optimization of brand (one brand for the metropolitan area), ticketing (one ticket for bus, tram, boat and train) and monthly passes (30€/month for Lisbon; 40€/month for metropolitan area).
- City Council light vehicle fleet nearly 100% electrical (>200 EVs) and 10 heavy duty electric vehicles.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

**Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.**

To monitor and evaluate the air quality of Lisbon city and increase the quality of local data, the principal measures ongoing are:

1. Development of the Intelligent Platform for Lisbon City Management, created to share open data, evaluate air quality, monitor environmental parameters and the evolution of air pollution events. This platform combines different models, including one from operational services and other for analytics experts.


   https://vimeo.com/275549986 (Portuguese version)

2. An international tender is currently underway to install a sensor network to complement the existing national air quality monitoring network. A network with 80 sensors is being developed through a data supply project for monitoring Lisbon city environmental parameters. This sensor network will aid:

   - municipality decision makers, managers and politicians, operational force (Civil Protection, Police, Fire Brigade), experts, private and public service
   - general public and volunteers. The strategy for this issue is based on the SDGs 17 goal: Global partnership for sustainable development.

**Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to determine where and how outdoor air pollution is formed in our city, both today and in the future.**

At local, regional and national level, the most relevant entities already involved in this process are: APA, IPMA, CCDR LVT, AML, ANPC, DGS, Instituto Ricardo Jorge, UN-FCT, Universidade Aveiro, LNEC, IST, sectorial services of Lisbon Municipality (Environmental, Energy, Mobility, Civil Protection, Fire Brigade, Innovation, Urban Planning), Parishes, Lisboa E-Nova.

**Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.**

To promote a stronger policy, Lisbon municipality focus is aligning its goals, strategy, indicators and targets with other local, regional, national, EU and other international organizations, stakeholders.

**Example of financial resources available to deliver the commitments.**

- 400.000EUR sub-contracting for sensors implementation
- 33.000EUR/Year for sub-contracting consulting for ZER (Low Emission Zones)
- 55M.EUR in 2019 directly in new bus and tram fleet for CARRIS Municipal transport company in 2019 and more
- 65M.EUR to come in 2020-22
- Municipalization of the BUS Operator ~ 30M/ year (during 10 years)
- Cycling Network 48M (until 2021)
- Bike sharing 17,5M (until 2021)
- Pedestrian Access Plan 2015-2021 ~ 35M

**Lisbon City Council (CML) participates in several consortium projects as a partner or stakeholder, face-to-face meetings, conferences, workshops, and other activities to learn, share knowledge and the work done, ongoing, planned to build back a better city related with air quality and good health and well-being.** The municipality also support research and training related with the health impacts of air pollution and the benefits of air quality improvements.

Another ongoing priority is the improvement of early warning systems related to the air quality, noise, traffic and meteorological parameters relevant to global health risks.

CML has been establishing partnerships with the Portuguese Society of Pulmonology to disseminate information on air quality, sources and effects of pollutants on human health.

Lisbon policy is aligned with SDG Goal 11: Sustainable Cities and Communities and Goal 3: Good health and well-being.

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DECLARATION COMMITMENT

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INTENDED ACTION/APPROACH TO MEET COMMITMENT

As part of L.A's Green New Deal (GND), the City has set a target to reach the U.S. EPA 80 ppb standard by 2025 and to meet all future compliance standards (2031 and beyond). Within two years, further consultation with C40, academic partners, and SCAQMD/CARB will inform:

1. the development of a local, city-wide air pollution inventory, and
2. the potential for more stringent and applicable targets the City may establish that will go further than the federally mandated thresholds. Reviewing analysis of local air quality improvements associated with climate actions can help inform these targets.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Transportation Commitments

1. The largest source of air pollution in Los Angeles comes from the transportation sector. That’s why we’ve set ambitious goals around transportation electrification and sustainable mode share including:
   • Electrifying 100% of Metro and LADOT buses by 2030
   • Implementing the Los Angeles World Airports Sustainability Plan (100% zero-emission buses by 2030 and 100% clean fleets by 2031)
   • Implementing the Port of LA’s Clean Air Action Plan (100% zero emissions cargo-handling equipment by 2030 and 100% zero emission drayage trucks by 2035)
   • Increasing trips made by walking, biking, micro-mobility/matched rides, and transit to 50% by 2035
   • Reducing Vehicle Miles Travelled (VMT) per capita by 45% by 2050
   • Deploying 100% zero emission vehicles by 2050

Over the next five years, key actions that will be developed and implemented include:

• Developing a roadmap for a Fossil Fuel Free Zone by 2021.
• Adopting a citywide Mobility First Policy by 2021.
• Installing 10,000 publicly available EV chargers by 2022.
• Launch new iterations of the Climate Mayors EV Purchasing Collaborative for transitioning city vehicle fleets to electric, including transit and school bus fleets.

Industrial Commitments

2. In addition to taking on our greatest source of pollution - transportation emissions - we have set ambitious goals to reduce industrial emissions, including:

   • Reducing industrial emissions by 82% by 2050
   • Reducing methane leak emissions by 80% by 2050

Over the next five years, we will be developing and implementing policies and programs that meet our targets and will make significant contributions to improving air quality in the city. These actions include:

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Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note and report on GND progress in L.A.’s annual sustainability update report.

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**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

- Light-duty on-road emissions make up the largest portion of transportation pollution in Los Angeles. In order to tackle passenger vehicle emissions, our Green New Deal advances a comprehensive plan for reducing pollution through the electrification of vehicles. A key strategy in advancing our ambitious EV goals centers on prioritizing EV infrastructure across the city, devoting over $2 million in the Mayor’s budget to cover the cost of equipment and installation services. To that end:
  - LADWP – LA’s municipal utility – is expanding its rebate program for residential and commercial chargers for ratepayers.
  - LADWP is increasing its pre-owned EV rebate program, providing $1,500 for each car applicant.

- Additional funding has also been allocated for the purchase of electric buses and charging infrastructure by LADOT and Metro.

- Following its successful launch, the City is expanding the BlueLA EV car-sharing program for low-income residents.

Additionally, the City is currently updating the municipal building code to require installation of EV chargers for new constructions and major re-developments, and is in the process of creating a legal mechanism that enables the installation of EV charging stations in the public right-of-way citywide, prioritizing installations in disadvantaged communities.

L.A.’s Green New Deal has committed LA to a variety of ambitious actions intended to reduce both greenhouse gas emissions and air pollution, with a particular focus on equity. These include the expansion of our public transit system through Measure M investments (a permanent transportation half-cent sales tax), electrifying all on-road vehicles, cleaning up port emissions through an ambitious Clean Air Action Plan, reducing fossil fuel extraction and transitioning to a zero-carbon electricity grid.

Throughout the plan, actions are prioritized in disadvantaged communities and health benefits associated with air quality improvements of key actions are quantified, demonstrating savings in terms of human health, life, and financial costs. In addition to evaluating air quality benefits in the GND, LADWP is in the process of quantifying health benefits associated with getting the city’s grid to run on 100% renewable energy (results will be released in 2020).

**SUPPORTIVE ACTIONS TO DELIVER THESE ACTIONS**

- LADWP – LA’s municipal utility – is introducing $1,500 for each car applicant.
- LADWP is increasing its pre-owned EV rebate program, providing $1,500 for each car applicant.
- LADWP – LA’s municipal utility – is expanding its rebate program for residential and commercial chargers for ratepayers.
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**Health Benefits Analysis**

The City’s own analysis, carried out in collaboration with SCAQMD and published in L.A.’s Green New Deal, looked at the mortality and morbidity benefits of key actions including 100% zero-emission vehicles, 100% building electrification, and an 82% reduction in industrial emissions. In total, achieving these targets will:

- Prevent 1,650 premature deaths
- Prevent 660 respiratory and cardiovascular disease, and
- Will save Angelinos $16 billion in health costs.

**South Coast Air Quality Management District (SCAQMD)** maintains four monitoring stations that track primary and secondary criteria air pollutants within the boundaries of Los Angeles city. Through additional deployments of low and medium-cost stationary monitors and mobile sensing, Los Angeles is expanding its hyperlocal air quality monitoring network, helping better understand exposure at the community levels. Regulations around petroleum extraction and refineries have also launched programs to better track emissions at these toxic point sources.

Monitoring programs in Los Angeles include:

- Four air quality monitoring stations (West Los Angeles, Reseda, Downtown and LAX)
- Stationary and mobile monitoring in Wilmington and Boyle Heights - two low-income communities in Los Angeles, heavily burdened by poor air quality from trucks, railyards, and heavy industry (funded and mandated through state Assembly Bill 617)

**Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.**

**Oil and Gas Health and Safety Report**

The summer of 2019, L.A.’s petroleum administrator released a comprehensive report examining available health literature on impacts of oil and gas emissions on nearby people. The report also includes a summary of disclosed chemicals used in the petroleum extraction process, and outlines a set of recommendations to minimize health impacts and better manage oil and gas drill sites in Los Angeles.

**Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.**

- Ten hyperlocal, low-cost sensors in low-income neighborhoods (Pacoima, South LA, and Boyle Heights)
- Air toxics monitoring program (led by SCAQMD)
- Fence-line air quality monitors at oil refineries in Wilmington
- Air monitoring of toxic air contaminants, volatile organic compounds, particulate matter, metals, and criteria pollutants at South Los Angeles oil and gas extraction facilities to characterize exposure to measured pollutants (led by CARB)

The air quality data from AB 617 will be made public online by early 2020. Before the end of 2019, additional deployments will take place in the community of Watts. The goal of L.A.’s community monitoring program is to promote community awareness and engagement around local air quality, and improve public knowledge and transparency of air quality challenges and improvements.
Supportive Actions

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Examples of Intended Actions and Approaches to Deliver These Actions

L.A. City collaborates with SCAQMD to raise awareness of air quality through monitoring initiatives and engagements with community-based organizations to disseminate resulting data. Engagement in social media campaigns like partnering with the Coalition for Clean Air on Clean Air Day (a statewide campaign to encourage Californians to clean the air) help further push for air quality improvements such as taking alternative transportation options, planting trees and installing air filters. A developing mobility campaign will also encourage residents to take trips by transit, walking, or cycling, and the City is working to build a foundation for the development of a Zero Emissions Area.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

In partnership with SCAQMD, the City provides input into the updated regional emissions inventory through direct collaboration. Through the AB 617 process, the City has also partnered to get emissions inventories for the communities of Wilmington and Boyle Heights, and plans to carry out a citywide pollution inventory for the City of Los Angeles.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

Close collaboration with SCAQMD, the California Air Resources Board, the California Department of Conservation, and the state legislature continues to be a strategy for supporting actions that reduce air pollution from sources outside of the City’s control, specifically by applying for programs that provide funding for zero emission vehicles. The City also looks for opportunities outside of California to further develop its climate and air quality programs.

Recently, for example, Los Angeles received an award from the Bloomberg Philanthropies’ American Climate Cities Challenge. As part of that award, funds were allocated to hire a full-time staff position to carry out the Zero Emission Area pilot in Los Angeles.

Example of Financial Resources Available to Deliver the Commitments

Financial resources devoted to carrying out LA’s commitments include:

- The Mayor’s budget (for EV charging infrastructure, low-income EV car-sharing program expansion and city-fleet EV vehicle purchase)
- Measure M (a permanent sales tax for the expansion of LA’s public transportation system)
- State funding (the California Air Resources Board funds investments in vehicle electrification - HVIP - and community air monitoring programs in Los Angeles - AB 617)
- Funding from grants and foundations such as Bloomberg Philanthropies
Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Madrid’s Plan A for Air Quality and Climate Change defines a 2017-2020 time frame for air quality related policies and a longer term (2030) time frame for the necessary energy transition and creation of a low-emission city. It includes 30 measures focused on reducing pollutant emissions and mitigating and adapting to climate change.

Road traffic is an important source of air pollution in Madrid. Plan A includes 21 measures focused on the design of a new urban mobility trajectory for the city of Madrid with 3 priority objectives:

- Recover public space for citizens by reducing the presence of the private vehicles.
- Promote the use of public transport and alternative, sustainable means of transport (bicycle, personal mobility vehicles, etc.)
- Renovation of private and public vehicles circulating in Madrid (We take into account all typologies of private and public vehicles) primarily with Zero Emissions and ECO labelled vehicles

In the last quarter of 2019, new strategies will be developed to reduce pollutant emissions, including new measures in the mobility and residential sectors. Thus, the city is committed to developing and implementing new policies in the coming years as part of a renewed Plan A program.

In the area of urban regeneration, 7 measures are aimed at minimizing the impact of the residential sector, municipal buildings, and facilities on air quality and greenhouse gas emissions, with a focus on energy efficiency and the expansion of renewable energy.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Every year the “Annual Report of the Air Quality of the City of Madrid” is published, which describes trends in air quality as measured by the city’s monitoring network. In parallel, the Inventory of Pollutant Emissions from the atmosphere of the city of Madrid is also published, providing estimated emissions of pollutants from city activity. The inventory is developed using the European Environment Agency’s EMEP/CORINAIR methodology.

Madrid will also work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

INTENDED ACTION/APPROACH TO MEET COMMITMENT

In September 2017, the Municipality of Madrid published Plan A for Air Quality and Climate Change. The Plan defines a roadmap for the reduction of emissions of the main pollutants and sets targets for mitigation and adaptation to climate change. The air quality targets that Madrid will work towards, include:

- Complying with European and national air quality standards by 2020.
- Achieve World Health Organization (WHO) guidelines for PM10, PM2.5, and NO2 by 2020.
- Reduction of air pollutants from city activity. The Inversion of Pollutant Emissions from the atmosphere of the city of Madrid is also published, providing estimated emissions of pollutants from city activity.

SUPPORTIVE ACTIONS

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Madrid aims to implement a set of policies to improve air quality and reduce emissions from predominant sources to meet its air quality objectives. These are included in different planning documents approved by the Municipal Plenary, such as the Madrid Air Quality and Climate Change Plan (Plan A), the Sustainable Mobility Ordinance, the Protocol for Action against High Pollution Episodes by NO2, the Taxi Ordinance, the Sustainable Urban Mobility Plan and various tax ordinances that encourage the adoption of measures aimed at improving air quality (parking with environmental criteria, tax credits for less polluting vehicles ... etc).

In parallel, the Inventory of Pollutant Emissions from the atmosphere of the city of Madrid is also published, providing estimated emissions of pollutants from city activity. The inventory is developed using the European Environment Agency’s EMEP/CORINAIR methodology.

Measures to improve air quality in Madrid can be found in:

- www.madrid.es/PlanA
- www.madrid.es/movilidad

CONDUCT, EXPAND, OR COLLABORATE WITH RELEVANT INSTITUTIONS TO INCREASE RESEARCH ON THE HEALTH IMPACTS OF AIR POLLUTION, THE BENEFITS OF AIR QUALITY IMPROVEMENTS, AND ASSOCIATED ECONOMIC IMPLICATIONS, AND PUBLISH THE RESULTS.

Madrid participates in different projects with the Higher Spanish National Research Council (CSIC), Polytechnic University of Madrid (UPM), Carlos III Health Institute, and others. Some examples of other projects include the Tecnair Project, the Global Urban Air Pollution Observatory, the LIFE VEG-GAP, European Project H2020 - AVIATOR, and the LiquenCity project.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

The city of Madrid implements various actions to raise public awareness about air pollution and its possible solutions. In particular, the Department of Environmental Education develops awareness programs in schools. Examples of projects include “Educate today for a Madrid more sustainable” (Educar hoy por un Madrid más sostenible) and the “Project 50×50 of energy efficiency in schools” (Proyecto 50×50 de eficiencia energética en la escuela), STARS program aimed at promoting the active mobility of schoolchildren.

The Plan A includes an air quality awareness campaign including announcements in the media, social networks and municipal advertising circuits.

The MADRID SALUD agency has also developed campaigns and action protocols aimed at the most vulnerable groups to reduce their exposure in episodes of high pollution.
integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

SUPPORTIVE ACTIONS

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Through the Air Quality and Climate Change Plan of Madrid, different measures have been put in place to reduce emissions of air pollutants and greenhouse gases. These include:

- The approval of the Sustainable Mobility Ordinance, a legislative key document with the aim of creating a new approach for sustainable mobility.
- Creation of the low emission zone “Madrid Central”, currently under review with the objective of improving its operation.
- Renovation of the municipal bus fleet (Public Transport Company EMT). During the years 2016-2019 the municipal bus company has replaced more than 1,200 existing buses with 1,149 ECO buses and 73 electric buses. In the following years, Madrid expects to incorporate at least 20 new electric buses each year. In addition, Madrid plans to open a new specific Operations Center for specifically designed for charging and repairing electric buses.
- Incentives for the renewal of the taxi fleet. A new taxi service ordinance requires, as of January 1, 2018, that all autotaxi vehicles incorporated into the fleet be of the ZERO or ECO category and as of January 2025 a prohibition of the use of vehicles that are not Zero Emissions or ECO. In parallel, an annual subsidy program for the renewal fleet has been launched.
- Renewal of the Municipal Fleet through the incorporation of low emission vehicles, primarily Zero Emissions. In September 2019, more than 300 electric vehicles have been incorporated to replace combustion vehicles, which cover the different municipal services.
- Promotion of cycling and pedestrian mobility, electric shared vehicles, expansion of bike share and charging infrastructure.
- Increase of photovoltaic solar energy in municipal buildings.
- Actions to improve energy efficiency in municipal buildings.
- Rehabilitation of buildings, including public investments in energy efficiency and equipment improvement as part of property rehabilitations (PLAN MADRE 2016, 2017 and 2018).

The Madrid City Council collaborates with a team of experts from the Polytechnic University of Madrid (UPM) in the methodological review and development of an annual inventory of air pollutants and greenhouse gases in the city of Madrid, including conducting specific studies from sources such as emissions from the circulating fleet or residential air conditioning systems.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

The Madrid City Council encourages collaboration with other administrations and relevant entities through:

- The Madrid City Air Quality Commission, whose main function is to coordinate actions and the exchange of information between relevant administrations.
- Participation in various tables and coordination forums with the Autonomous Community of Madrid, Ministry of Ecological Transition, General Directorate and Ministry of Industry, Tourism and Commerce, among others.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Municipal budgets
- European funds (LIFE Programmes, H2020)
**DECLARATION COMMITMENT**

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

**INTENDED ACTION/APPROACH TO MEET COMMITMENT**

Medellin’s air quality goals are set through its Comprehensive Air Quality Management Plan in the Aburra Valley - PIGECA (Plan Integral de Gestión de la Calidad del Aire del Valle de Aburra), which is part of Metropolitan Agreement No. 16. These goals are established based on measurements from air quality monitoring stations, which set baseline levels for the city. The goals are as follows:

<table>
<thead>
<tr>
<th>Goal</th>
<th>PM$_{2.5}$ Annual</th>
<th>PM$_{10}$ Annual</th>
<th>O$_3$ – 8 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>31 µg/m$^3$</td>
<td>53 µg/m$^3$</td>
<td>85 µg/m$^3$</td>
</tr>
<tr>
<td>2027</td>
<td>26 µg/m$^3$</td>
<td>48 µg/m$^3$</td>
<td>78 µg/m$^3$</td>
</tr>
<tr>
<td>2030</td>
<td>23 µg/m$^3$</td>
<td>45 µg/m$^3$</td>
<td>72 µg/m$^3$</td>
</tr>
</tbody>
</table>

We have set air quality goals that meet or exceed WHO interim target 2, which will set us on a path to meeting WHO air quality guideline levels as soon as possible. Medellin aims, through actions the city is taking, to meet these guidelines by the dates specified, but will also endeavor to meet full WHO guidelines by working with national and subnational agencies and local authorities, as well as the Intersectoral Commission of Air Quality (formed by Law 1972 of 2019), to address sources that are out of direct city control.

**Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.**

- Metropolitan Agreement No. 16 of 2017 – By which the comprehensive air quality management plan in the Aburra Valley - PIGECA is adopted, and other determinations are made.
- CONPES 3934 of 2018 “Green Growth Policy” – Whose objective is to boost the country’s productivity and economic competitiveness by 2030, while ensuring the sustainable use of natural capital and social inclusion remain compatible with climate
- CONPES 3943 of 2018 “Policy for the improvement of air quality” – Whose objective is to reduce the air pollutants concentration that affects the health and environment.
- Law 1972 of 2019 – By which the protection of the rights to health and healthy environment is established, setting up measures aimed at reducing pollutant emissions from mobile sources.
- Municipal Agreement 58 of 2017 - Through which public electric transport is promoted and encouraged in the Municipality of Medellin
- Law 1931 of 2018 – By which guidelines for climate change management are established

**Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.**

**SUPPORTIVE ACTIONS**

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

Currently, the Municipality of Medellin is working on actions such as:

1) Soot-free buses, trucks and passenger vehicles. We have a massive electric transport system, with 64 buses, 12 trams, 80 trains, 5 built cable cars and one in construction; as well as 200 electric taxis and 77 natural gas buses.
2) Import standards for cleaner vehicles.
3) Production standards for, and import of, cleaner fuels. Ecopetrol currently distributes a diesel of 8 ppm of sulfur when the norm establishes that it must be below 50 ppm. For gasoline, we have 95 ppm of sulfur when the standard establishes less than 300 ppm.
4) Improvement in public transit systems, dedicated transit and rapid bus transit. We have converted 36% of the city’s public transport bus fleet to vehicles with clean technologies (1319 vehicles).
6) Creation and expansion of pedestrian and cycling systems. We will deliver an additional 80 km of built bike paths, plus 2000 bicycle parking lots.
7) Creation of urban gardens and green spaces. We have developed 30 green corridors (winner of the 2019 Ashden Award).

All of these actions are based on the following regulations:


**TO DELIVER THESE ACTIONS**

- Work with C40 to complete request-ed information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.
- Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

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All of these actions are based on the following regulations:

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits and associated economic implications, and publish the results.

The city is currently in the formulation of the Climate Action Plan, which will include all pollution reduction actions that are within the city and under our control.

The Mayor’s Office of Medellin and the Metropolitan Area of the Aburra Valley, with support from EPM (Empresas Públicas de Medellín) and ISAGEN, has the SIATA project - Early Warning System of Medellin and the Aburrá Valley, which is a regional strategy for risk management responsible for monitoring the city’s environmental conditions.

Heads by the Secretariat of Health, four projects on the environmental burden of air pollution, its economic costs, its determinants and other related aspects, have been underway since 2017. The projects are financed by Colciencias, and conducted in collaboration with universities and research groups.

Another program, REDAIRE, brings together academic and government entities, to monitor health effects of air pollution.

There is also an environmental health surveillance protocol, focused on the effects of air pollution on human health, which began as a pilot in 2018, and is now being implemented as part of health surveillance efforts in 2019. This protocol aims to “Establish the guidelines for environmental health surveillance of health effects related to air pollution, through the process of collection, notification, analysis and dissemination of data to guide the promotion, prevention, mitigation, correction and adaptation measures for the municipality of Medellin.”

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

The Secretary of Environment of the Mayor’s Office of Medellin, through the Under secretariat of Environmental Management (Decree 0883 of 2015), has as its function: “Establish the guidelines that guide the management of environmental education through joint and coordinat-ed actions with the different actors who have responsibilities and competencies in education and environmental culture”. To achieve this, the Secretary campaigns in educational institutions to promote the care of natural resources and accompanies companies to address the issue of good environmental practices.

The Metropolitan Area of Aburra Valley periodically produces Atmospheric Emissions Inventories, which can be found here: [https://www.metropol.gov.co/siata.gov.co/ambiental/calidad-del-aire/Paginas/Herramientas-de-gestion/Inventario-de-emisiones-atmosfericas.aspx](https://www.metropol.gov.co/siata.gov.co/ambiental/calidad-del-aire/Paginas/Herramientas-de-gestion/Inventario-de-emisiones-atmosfericas.aspx)

Law 1972 of 2019 establishes measures aimed at reducing air pollutant emissions from mobile sources that affect the country as a whole, with the goal of protecting life, health, and the ability to enjoy a healthy environment.

This law creates an Intersectoral Commission of Air Quality, in all municipalities and districts, which must be chaired by the highest local or departmental authority. The commission must be composed of the authorities of transport, environment, health, mines and energy, and planning, or other relevant agencies.

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- Currently, the Municipality of Medellin is in the process of a change in administration. More information about the resources needed to fulfill the commitments of the Clean Air Cities Declaration will be available in 2020.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Approval of the “Air Quality and Climate Plan (AQCP)” as a tool to reduce air pollution, contribute to climate change prevention and define adaptation strategies. The AQCP will be submitted to the approval of the City Council in 2019. The approval process is expected to finish by the end of 2020.

Based on current levels, the Plan will establish reduction targets for the main air pollutants, with reference to the national/EU Limit Values and WHO AQ Guidelines, and of CO2.

The ‘Air Quality’ part of the Plan will set as a deadline the year 2025, in order to meet the national/EU Limit Values in the shortest possible time and put Milan on a path towards meeting WHO Air Quality Guidelines. The AQCP’s vision is to make Milan a carbon neutral city by 2050, but the plan also sets intermediary targets aiming to reduce CO2 emissions of 45% by 2030.

With the approval of the “Air Quality and Climate Plan”, planned actions will continue to be implemented and new actions identified in the Plan for the achievement of ‘Air Quality’ objectives will be realized.

The AQCP will build on existing local and regional regulations and plans, such as the “Sustainable Urban Mobility Plan” and the “Regional Air Quality Plan”, and will establish bans for major local polluting activities with the introduction of the “Air Quality Regulation”. The “Air Quality Regulation”, for instance, will prohibit the use of the most polluting heating fuels in the oldest heating systems by 2023 and will progressively ban the utilization of the most polluting construction machinery in the city.

Examples of other planned actions included in the AQCP are:

• Reduction of 50% of personal motorized mobility by 2030 through the incentivization of active mobility and use of public transport; disincentive of use of private vehicles (reduction of more than 15% of personal motorized mobility by 2025).

• Creation of a pilot Carbon Neutral Area with active personal mobility. At present, the City of Milan is providing financial support to the replacement of high-polluting vehicles, old heating plants and the adoption of renewable energy systems for a total amount of 32 million Euros.

In 2019, the City of Milan has created a Low Emission Zone covering almost the whole city territory and limiting the access of the most polluting vehicles.

The “Air Quality and Climate Plan” will prioritize actions tackling simultaneously the emission sources of both air pollutants and GHG gases. The actions for the achievement of the Plan’s objectives by 2030 will include:

• Halving of personal motorized mobility through the incentivization of active mobility and use of public transport; disincentive of use of private vehicles;

• Creation of a Zero Emission Zone;

• Creation of a pilot Carbon Neutral Area with active personal mobility;

• Reduction of surface of parkings in direct sunlight through the transformation of grey areas into green areas, paying attention to selected vegetal species;

• Introduction of supporting measures for the transformation of private heating systems into renewable energy systems, regulating biomass fuel combustion;

• Introduction of bans for major polluting activities.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

In order to meet the national/EU Limit Values in the shortest possible time and put Milan on a path towards meeting WHO Air Quality Guidelines, the AQCP’s vision is to make Milan a carbon neutral city by 2050, but the plan also sets intermediary targets aiming to reduce CO2 emissions of 45% by 2030.

The City of Milan will work with C40 to complete the requested information as part of the Declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

The Plan will be consistent with all other city planning instruments, especially with regard to the assignment of economic resources for the implementation of the Plan’s actions.

SUPPORTIVE ACTIONS

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

By 2020, the “Air Quality and Climate Plan” will identify strategies and priority actions for the achievement of its objectives, also through the revision of the existing planning tools/regulations/traffic provisions, the issuance of new regulations introducing obligations and bans for polluting activities (“Air Quality Regulation”), and new incentives tools.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

According to national law, the Regional Agency for Environmental Protection (Agenzia Regionale per la Protezione dell’Ambiente – ARPA) is responsible for air quality monitoring through the management of 85 fixed continuous stations in the regional territory (5 inside the City of Milan boundaries). Through automatic analyzers, the stations provide data continuously at regular intervals (usually once an hour). The pollutants monitored on a continuous basis are NO2, SO2, CO, O3, PM10, PM2.5, benzene, benzo(a) pyrene, black carbon.

Every day, the City of Milan publishes on its website a Daily Report on Air Quality, referred to the day before data and produced by the municipal technical agency AMAT processing validated data published by ARPA.

Through the municipal technical agency AMAT and in cooperation with relevant institutions and research institutes, the City of Milan will include in the Plan the possibility to develop other real-time monitoring systems for pollutants to integrate the official network.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

The protection of vulnerable environments, residents and city users groups from air pollution is one of the AQCP’s objectives. Planned actions include: drafting of the Protection Plan of existing vulnerable environments/groups exposed to traffic proximity, introduction of minimum distance of residences from road axis for new buildings.

Additionally, one of the priority areas of the AQCP is the sharing of the plan’s objectives with citizens through an awareness-raising process and wide dissemination.

Create, update, or work with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Through the municipal technical agency AMAT and in cooperation with relevant institutions and research institutes, the City of Milan will develop studies and impact assessments of air pollution on citizens’ health and associated external costs, examining the assessments included in the “Air Quality and Climate Plan” in depth, in order to make them as representative as possible of the local situation. Results will be published.

Conduct, expand, or collaborate with relevant institutions to develop other real-time monitoring systems for pollutants to integrate the official network.

The pollutants monitored on a continuous basis are NO2, SO2, CO, O3, PM10, PM2.5, benzene, benzo(a) pyrene, black carbon.

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In the framework of its main actions and related operational tools, the AQCP includes the negotiation of agreements at a supra-municipal scale with the railways managing authorities and at a metropolitan scale with the local transports companies, to increase public transport services, in line with local strategies, and to implement measures for a low air quality impact agriculture.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

In the framework of its main actions and related operational tools, the AQCP includes the negotiation of agreements at a supra-municipal scale with the railways managing authorities and at a metropolitan scale with the local transports companies, to increase public transport services, in line with local strategies, and to implement measures for a low air quality impact agriculture.

EXAMPLES OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- 30 million Euros have been allocated to calls for bid promoting the elimination of heating fuels with a high impact on air quality and of polluting vehicles.

Through the participation in the initiative Climate-KIC, 370,000 Euros (340,000 € in 2020 and 30,000 € in 2019) have been allocated to the development of an Awareness-Raising Plan on AQCP’s objectives targeting citizens. The City of Milan has recently created an Environmental Transition Department, comprising of the Energy and Climate Office, which includes a specific Air and Climate Unit, currently composed of 3 people (corresponding to a financial commitment of 80,000 Euros), but planned to be enlarged.

The City Administration is supported by the technical and scientific expertise of AMAT, the municipal agency for mobility, environment and urban planning; 252,474 Euros have been allocated in 2019 for works/studies related to air pollution. AMAT is partner, on the behalf of the City of Milan, in the ‘CARES’ H2020 project for which European Commission funds research activities about on-road vehicle emissions and for the development of innovative remote sensing instruments and techniques with 41,874.36 Euros in total (three years project, start May 2019 - end April 2022).

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Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Paris has committed to meeting World Health Organization Guidelines for PM2.5 by 2030, exceeding European Commission Air Quality Standards. Paris also intends to meet European Commission standards for PM10 and NO2 (also WHO guidelines) by 2024.

Paris intends to take actions in transport and buildings sector to improve air quality; some examples include:
- Low Emissions Zone of Paris and Grand Paris Metropolis:
- Allowing only Crit’air 1 & 2 in 2022 (only Euro5 & Euro6 diesel)
- Only Crit’air 1 in 2024 (no diesel)
- Eradication of oil boilers by 2024
- Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Paris is integrating its air quality actions into its climate agenda as part of the Paris Climate, Air, and Energy Plan:

By 2030:
- Reduce energy consumption by 35% (an important part of the decline is related to the improvement of thermal insulation of buildings, which also reduces PM and NO2 emissions from boilers)
- 45% renewable energy
- 0% fossil fuel for mobility (meaning development plans of electric and biogas stations)
- 6 intermodal logistic platforms at Paris entrances, connected to railways or highways and permitting to develop electrical fleets for the last kilometers
- Kilometric pricing for HGV in transit (in favor of river and rail logistics)
- Eradication of oil boilers
- Decarbonized public transport, working to renew the Parisian bus fleet by 2025, replacing all diesel buses with electric or biogas vehicles.

By 2025:
- Eradication of oil boilers
- LEZ Crit’air3 (only Euro4 to 6 diesel vehicles; Euro2 to 6 gasoline vehicles)

In Progress:
- Grants for electric bikes and mopeds
- Electric light commercial vehicles and trucks
- Gas trucks

Paris is part of AIRPARIF, regional air quality observatory, in charge of:
- City wide monitoring (12 stations in Paris) and modeling (city map 12.5 meters pixel renewed every hour; provision for next day)
- Emissions inventory

Information is provided, on demand, in real time.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Supportive Actions
- See sections above and below.
- By 2020:
  - Bike Plan (bicycle paths and parks; to include 100km of new bike paths); “100% cyclable city”
  - 30 km/h across the city (except heaviest traffic roads)
  - Zero diesel vehicle in the city’s fleet
  - 20 ha new gardens; 100 ha new green roofs and walls; 20 000 new trees

- In Progress:
  - LEZ Crit’air3 (only Euro4 to 6 diesel vehicles)
  - Grants for electric bikes and mopeds
  - Electric light commercial vehicles and trucks
  - Gas trucks
**SUPPORTIVE ACTIONS**

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

- Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.
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- Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- Plan vélo – 100 M€, supporting road and utility infrastructure.

**EXHIBITION ACTIONS**

- Studies conducted by ORS (regional health observatory), assessing the Parisian et Metropolitan LEZ.
- Environmental Health Paris Plan:
  - Health Impact Assessments for main urban projects
- Studies on real life vehicle emissions with ICCT: showing the real impact of traffic and propose alternatives
- Studies and communications on wood burning: explaining the impact of fireplaces on health and climate
- Work with Airparif and ORS on LEZ impacts.
- Work with CEREA (modeling research laboratory) for modeling including local and background exchanges and gas and particle chemistry, in order to assess regulation scenarios.
- Legal action, with Madrid and Brussels against European Regulation on vehicle emissions.
- Advocate for regional authority and national operators to take action on air quality in the underground public transport network.
- Advocate for organic agriculture development and control of massive ammonium nitrate spreading on the fields in springtime.
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Reduction targets will be focused on reducing sources and exposures to ozone precursors to meet EPA NAAQS standards and maintain nonattainment status for all criteria pollutants. Portland’s current ozone levels do not meet WHO guidelines. Current levels of NO2, PM2.5, and SO2 are below WHO guidelines and we aim to maintain those goals through continued action to reduce emissions and exposures as Portland’s population continues to increase.

We will use existing and new monitoring technology and research to better understand the sources and locations of high pollution and increased health risk. Targeting local policies and programs to improve and protect Portlanders’ health, especially the most underserved populations will guide our actions.

Conduct health risk and distributional analyses using EPA’s BenMap framework to document health impacts and health inequality metrics of current air quality levels.

Work with Oregon Department of Environmental Quality (DEQ) to report baseline levels from regulatory monitoring networks. Work with DEQ and other partners to understand how low-cost sensors and other research can contribute to improved understanding of within-city variation of air pollution levels.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Non-road and on-road mobile diesel and gasoline emissions are the top causes of air pollution—diesel and ozone—in the City of Portland. These are also emissions that the City can influence.

Modelling findings have shown that to achieve Oregon’s diesel particulate matter (DPM) health-based standard, Portland on average must reduce DPM emissions by 86% to achieve the standard (Portland Air Toxics Solutions Report 2012). Areas near high volume roadways and construction activity and hence higher diesel pollution need even further reductions. Follow-up monitoring by researchers has found sites with DPM levels 20 times above the state’s benchmark.

Regulatory monitoring networks have documented increasing ozone concentrations in Portland for the past three years. The major sources for ozone precursors (NO2 and VOCs) are non-road and on-road diesel and gasoline emissions. These emissions are also not spatially homogenous leading to increased health risk for those in closer proximity to sources.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.
Implement new policies, enforce strong regulations, prioritize resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission road infrastructure, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

**SUPPORTIVE ACTIONS**

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

**Implement new policies, enforce strong regulations, prioritize resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.**

- Reduce diesel PM on City construction sites - Support diverse contractor pool - Mitigate cost and administrative impacts - Foster regional adoption to further reduce diesel PM pollution
- Implement Clean Air Construction Standard amendment to City’s Sustainable Procurement Policy to reduce emissions from off-road construction equipment and on-road cement and dump trucks for construction contracts > $1 million.
- Goals:
  - Develop shared electric vehicle options for people with less access to transit, biking, walking, and ability.
  - Explore opportunities for low or zero emission zones for future development projects and investigate emission free construction possibilities.
  - Explore strategies to reduce impacts from freight and increased exposures in densely populated areas.
  - Implement Clean Air Contracting standard
  - Finish upgrading and retrofitting the City’s own diesel engine vehicles and equipment, prioritizing electric when possible.
  - Prioritize transit and reduction in travel times to reduce exposures and emissions. Work across the City and TriMet to make our public transit systems faster, more convenient, and run on clean fuels or renewable energy.
  - Explore options and strategies for pricing for available mobility including tiered prices on vehicle carbon emissions.

Participate in state’s rulemaking to pilot a program to evaluate and control health risks from air toxics emissions from multiple stationary sources, estimated 2020-2021 to begin.

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- Staff FTE in Bureau of Planning and Sustainability specializing in air quality and climate action and Portland Bureau of Transportation to implement climate and health related actions. Staff FTE in Office of Government Relations and Mayor and Commissioner’s Offices to implement actions, engagement, and partnerships.
- 2019/2020 Budget commitment $458,000 (1 time General Fund) to Office of Management & Finance for implementation of the Clean Air Construction Standard. Funds are to support program administrator and database.
- Future program resources will come from regional partner contributions/commitments as well and registration fees.
- HB 2007 passed in 2019 Oregon state legislative session - This bill included a component to expand use and distribute the remaining VW settlement funds to support grants for cleaning up trucks and equipment on large state contracts, trucks with three years of remaining useful life, and small businesses, disadvantaged businesses, minority-owned businesses, women-owned businesses, and service-disabled owned-businesses. Another component of this bill is new vehicle and equipment requirements for state-funded construction projects in Multnomah, Clackamas and Washington counties.

**CONDUCT, EXPAND, OR COLLABORATE WITH RELEVANT INSTITUTIONS TO INCREASE RESEARCH ON THE HEALTH IMPACTS OF AIR POLLUTION, THE BENEFITS OF AIR QUALITY IMPROVEMENTS, AND ASSOCIATED ECONOMIC IMPLICATIONS, AND PUBLISH THE RESULTS.**

- Conduct health risk and distributional analyses using EPA’s BenMap framework to document health impacts and health inequality metrics of current air quality levels. Share results with regional government and research partners to explore additional analysis steps and how others can use the data.
- Studies modeling health risk are limited in the Portland area. Existing reports have used the Portland Air Toxics Solutions DPM model results to calculate geographic disparity.
- Partner with local university communication researchers to assess air quality engagement strategies with a focus on sensor data usage, public perception and understanding of air quality, and engagement preferences in Portland. Understand how sensors can help increase awareness and foster action while also communicating clearly the limitations of sensors. The goal of this project is to create air quality engagement strategies that are responsive to community perspectives.
- Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.
- Office of Government Relations team will help advocate with other government, State and federal legislative agendas focus on carbon and airborne toxics reductions.
- Participate in quarterly stakeholder meetings with DEQ Air Quality Administrator where next steps on emissions inventories and modeling to allocate and advocate for incorporating photochemical modeling into DEQ’s future steps for use of most recent emissions inventory data and understanding Portland area impacts.
- Help support research when possible by providing access to permit data, spatial data, and letters of support.
- Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.
- Participate in quarterly stakeholder meetings with DEQ Air Quality Administrator where next steps on emissions inventories and modeling to allocate and advocate for incorporating photochemical modeling into DEQ’s future steps for use of most recent emissions inventory data and understanding Portland area impacts.
- Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.
- Partner with local university communication researchers to assess air quality engagement strategies with a focus on sensor data usage, public perception and understanding of air quality, and engagement preferences in Portland. Understand how sensors can help increase awareness and foster action while also communicating clearly the limitations of sensors. The goal of this project is to create air quality engagement strategies that are responsive to community perspectives.
- Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

- Staff FTE in Bureau of Planning and Sustainability specializing in air quality and climate action and Portland Bureau of Transportation to implement climate and health related actions. Staff FTE in Office of Government Relations and Mayor and Commissioner’s Offices to implement actions, engagement, and partnerships.
- 2019/2020 Budget commitment $458,000 (1 time General Fund) to Office of Management & Finance for implementation of the Clean Air Construction Standard. Funds are to support program administrator and database.
- Future program resources will come from regional partner contributions/commitments as well and registration fees.
- HB 2007 passed in 2019 Oregon state legislative session - This bill included a component to expand use and distribute the remaining VW settlement funds to support grants for cleaning up trucks and equipment on large state contracts, trucks with three years of remaining useful life, and small businesses, disadvantaged businesses, minority-owned businesses, women-owned businesses, and service-disabled owned-businesses. Another component of this bill is new vehicle and equipment requirements for state-funded construction projects in Multnomah, Clackamas and Washington counties.
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

PUBLICLY REPORT ANNUALLY ON OUR PROGRESS IN REDUCING POLLUTION LEVELS RELATIVE TO TARGETS AND ACHIEVING THE COMMITMENTS IN THIS DECLARATION.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

SUPPORTIVE ACTIONS

Examples of intended actions and approaches to deliver these actions

- Establish baseline air pollution levels, in part by procuring and installing ten (10) air quality monitoring systems within the City boundary as an addition to the three (3) monitoring stations managed by the national agency Department of Environment and Natural Resources-Environmental Management Bureau (DENR-EMB). Quezon City’s Environmental Protection and Waste Management Department (EPWMD) is currently undertaking efforts to procure Continuous Ambient Air Monitoring Stations as there is a need to establish the City’s own air quality monitoring and management system that will facilitate the setting of objectives and formulate sound, scientific, and accurate programs, projects and activities that will effectively minimize the adverse impact of air pollution through provision of scientific facts and data.

- Improve enforcement of roadside testing by increasing the number of personnel and the Anti-Smoke Belching Unit Teams to accommodate more areas and vehicles to be checked. In addition, the City will review, innovate and improve systems and procedures of environmental enforcement such as by strengthening institutional arrangements specifically among the QCPD Police Clearance, NBI and MTC-DOJ, which shall be pursued in the next two years.

- Create a Resolution or City Ordinance towards meeting National Ambient Air Quality Guideline Values under the Philippine Clean Air Act of 1999 and World Health Organization (WHO) Air Quality Guidelines by 2030 as a mechanism to implement the City’s air quality management framework, set targets to meet the national standards and WHO guidelines, and impose set of regulations contributing to the reduction of air pollutants as well as GHG emissions within City boundary.

- Create strong linkage with relevant stakeholders particularly with policymakers and national government agencies to harmonize and other Local Government Units (LGUs) in Metro Manila to harmonize and develop concrete actions for sustainable air quality management

- Establishing a Monitoring and Information System (MIS) that will allow consistent data inputs on a daily basis as well as real time information for the public alongside with the conduct of the continuous roadside testing

- Create strong linkage with relevant stakeholders particularly with policymakers and national government agencies to harmonize and other Local Government Units (LGUs) in Metro Manila to harmonize and develop concrete actions for sustainable air quality management

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- Strengthen enforcement mechanism for both mobile and stationary sources of air pollution

- Linkages with the National Government and Academe for policy interventions and researches

- Strengthen roadside mobile and ambient sources apprehension

- Expansion and promotion of electric vehicles for tricycles for public transportation in coordination with the Quezon City Department of Public Order and Safety – Green Transport Office as well as expansion and promotion of the City’s green vehicle fleet (e.g. electric jeepneys, vehicles and buses) in line with the City’s Green Procurement Program

- Develop strong partnership with the Academe for the information processing

- Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note

- Information drive on social media platforms such as Facebook and the Quezon City Website

- Technical Capacity development and training for personnel of the City Government particularly the EPWMD who handles mobile and ambient air quality management
**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

- Expansion and promotion of electric vehicles for tricycles for public transportation in coordination with the Quezon City Department of Public Order and Safety - Green Transport Office. Over the last year, the City has procured more than 300 electric tricycles for city government services (e.g. for distribution to barangays).
- Expansion and procurement of city-owned green vehicle fleet (e.g. electric jeepneys and vehicles).
- Expand the City’s existing green bike lanes and linear parks in the development of infrastructure projects. Currently, the City has developed 55-km of bike lanes and is currently working on an additional 60-km of bike lanes.
- Develop a centralized data management system having a day-to-day input of air quality managed by the Environmental Protection and Waste Management Department (EPWMD) and the Information Technology and Development Office (ITDO) in partnership with academe.
- Monitoring the emissions of stationary sources of air pollution.
- Advocate car-less activities and other low-emission initiatives.
- Possible Clean fuel mechanism as an alternative source of energy.
- Improve and establish traffic flow management in partnership with Academe.
- Real-time information dissemination to the public.
- Cooperate with International Partners and Non-Governmental Organizations such as Clean Air Asia and GIZ.
- Partnership and data collaboration/linkage with the academe (University of the Philippines-IIESM and Ateneo de Manila University) for capacity building on air quality monitoring and consider them as consultants for policy formulations on AQM.
- Collaboration with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.
- Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- City’s General Fund
- Joint Ventures or Public-Private Partnership (PPP) through the support of the Philippines’ PPP Center
- Funding sources from the national government (Department of Environment and Natural Resources-Environmental Management Bureau)
- International grants and technical assistance

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**SUPPORTIVE ACTIONS**

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

Develop and expand greening.

- Develop clean fuel mechanisms.
- Advocate walking/cycling.
- Work with and advocate for relevant stakeholders to join and be part of the City’s solution on addressing air pollution.
- Conduct series of seminars to Quezon City’s barangays to encourage citizens to participate.
- Tie-up with an Academy such as the University of the Philippines National Center for Transportation Studies (UP-NCTS) for conducting research and feasibility studies on road networks and Transport management models.

- Possible Clean fuel mechanism as an alternative source of energy.
- Improve and establish traffic flow management in partnership with Academe.
- Real-time information dissemination to the public.
- Conducting seminars to Quezon City’s barangays to encourage citizens to participate.

**EXAMPLES OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS**

- City’s General Fund
- Joint Ventures or Public-Private Partnership (PPP) through the support of the Philippines’ PPP Center
- Funding sources from the national government (Department of Environment and Natural Resources-Environmental Management Bureau)
- International grants and technical assistance

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* Quezon City has 142 barangays, formally defined as the smallest political or administrative unit in the Philippines.
Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

To assess how local actions can improve air quality within Quito beyond national standards and move towards meeting WHO guidelines and interim guidelines for PM2.5 and PM10, Quito will:

- Analyze the effect of the new Metro system and the electrification of buses
- To assess the effect of the remediation actions of the quarry zones in San Antonio de Pichincha, Guayaquil

Additional policies Quito intends to implement include:

- Put in place local regulations that promote the transition from fossil fuel vehicles to clean technologies such as electric vehicles. By 2025, in compliance with the national regulations established in the Energy Efficiency Law, it is proposed that public transport buses and taxis gradually renew both public and private operators fleets with zero emission vehicles. The Municipality aims to create incentives such as parking and technical vehicle review fare costs discounts, tax reduction for charging station installations and is proposed that public transportation operators (taxis, buses) need to submit fleet renewal plans to the Municipality in order to accelerate the transition to cleaner vehicles technologies.
- Carry out a pilot project for the comprehensive remediation of mining environmental liabilities. The proposal includes landscape restoration of abandoned mines through local species that prevent soil erosion and dust storms that increase PM10 and PM2.5 concentrations. This pilot project will estimate costs and the feasibility of planting local species in severe conditions for vegetation growth. This research will help assess the replicability of the project in other degraded areas.

Declaración de Intención: Quito

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Quito currently maintains a network of continuous monitors and passive monitors that are used to assess baseline air quality levels. Quito aims to meet Ecuadorian standards, which are the same as WHO guidelines for ozone, NO2, and CO.

A study is being carried out to identify how local targets for PM10, PM2.5, and SO2 can be adjusted towards meeting WHO guidelines and interim guidelines that are more stringent than national guidelines. This study includes assessment of actions that can be taken to exceed national Ecuadorian limits and put Quito on a path towards meeting these new targets in line with WHO guidelines and interim guidelines.

INTENDED ACTION/APPROACH TO MEET COMMITMENT

Quito Vegetation Recovery Plan 2019-2023 which applies an integral approach comprehending forestation, reforestation, agroforestry, water harvesting, soil recovery, forest fires prevention and natural regeneration management. This plan aims to generate not only a positive impact on the environment by preventing soil degradation that might increase particles being dispersed on the air but also to attend social and economic issues on local population. Moreover, citizen participation is a strong feature of the plan and a key leverage for its success.

Implementation of measures to reduce vehicular traffic, such as the “Hoy no circula” initiative, beginning in September 2019. It will be evaluated over the next eight months, including taking measurement to prioritize exclusive lanes of mass public transport circulation and cycle path maintenance.

Evaluations will be carried out regarding the pedestrianization of various sectors of the Historic Center and the effect of the Quito Metro’s entry into operation.

Strengthen compliance with the active mobility sections of the 2019 Municipal Code.
**Decleration Commitment**

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

**Supportive Actions**

Implement new policies, enforce strong regulations, prioritise resource sources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

**Intended Action/Approach to Meet Commitment**

Work with C40 to complete request for information as part of declaration reporting process, as outlined in 40 Clean Air Cities Technical Note.

**Examples of Intended Actions and Approaches to Deliver These Actions**

- Put in place local regulations that promote the transition from fossil fuel vehicles to clean technologies such as electric vehicles. Strengthen compliance with the active mobility sections of the 2019 Municipal Code.
- Implementation of measures to reduce vehicular traffic, such as the "Hoy no circula" initiative, beginning in September 2019. It will be evaluated over the next eight months, including taking measurements to prioritize exclusive lanes of mass public transport circulation and cycle path maintenance.
- Quito will undertake a process to evaluate and modify the emission standard for fixed combustion sources. Additionally, public and private vehicles are subject to randomized on-road control operations. This on-road operation is complementary for the Technical Vehicle Review mandatory control and aims to reassure that vehicles are legally circulating. In addition, the on-road check includes opacity measurements.
- Quito will continue the current system of Vehicle Technical Review, under which private vehicles are subject to mandatory control once a year and twice per year for public vehicles such as public transport buses (municipal and private owned) and cabs. This control implies car parts check under current local regulations regarding passenger safety and engine emissions (CO, non-combustion hydrocarbons and opacity).
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**Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.**

- Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.
- Using USEPA BenMAP-CE (a health benefits analysis tool), analyze and estimate the health benefits that Quito’s citizens will gain by improving the air quality of the city. Quito aims to run different scenarios with PM2.5 data from REMMAQ stations, health and population data available for the Quito Metropolitan District (DMQ by its acronym in Spanish) and its urban and rural parishes and disseminate the results to authorities and stakeholders.
- Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.
- Using USEPA BenMAP-CE (a health benefits analysis tool), analyze and estimate the health benefits that Quito’s citizens will gain by improving the air quality of the city. Quito aims to run different scenarios with PM2.5 data from REMMAQ stations, health and population data available for the Quito Metropolitan District (DMQ by its acronym in Spanish) and its urban and rural parishes and disseminate the results to authorities and stakeholders.

**Supportive Actions**

- Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.
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**Example of Financial Resources Available to Deliver the Commitments**

- The proposed actions will be carried out with financing from the Municipality of Quito. External financing is available for some mobility projects. However, external financing is required to strengthen and improve the equipment of the Air Quality Monitoring Network.
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**Supportive Actions**

- Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.
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Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulfur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Rotterdam is committed to improving air quality in order to achieve the following ambitions:

1. All streets in Rotterdam will meet European standards in 2020. In 2020 we will have solved all the bottlenecks in the field of air quality; no European standard is exceeded in any street.

2. Improving the average air quality throughout Rotterdam by 2022. Not only the concentration of nitrogen (NO2) must be reduced, but also the concentrated particulate matter (PM10, PM2.5).

3. By 2025 we aim to meet the World Health Organization (WHO) recommended exposure limits for NO2 and PM10. We also want to meet the informal local guideline for soot (based on WHO for PM2.5.)

The clean air exchange rate policy document adopted by the city council in July 2019 describes the approach to achieving the ambitions in the field of air quality.

- Investments in sustainable transport activities
- Reducing emissions from construction equipment
- Exploring implementation of shore power for ocean going vessels.
- Zero emissions zone

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Rotterdam has strong ambitions to further reduce CO2 emissions. Wherever possible, we focus on measures that both improve air quality and reduce CO2 emissions.

Some examples:
- Emission-free public transport in 2030
- Environmental zone for freight traffic
- Zero-emission zone for delivery traffic in the city center

We are also investigating the possibilities of offering shore-based power for sea shipping through a pilot. Shore power facilities have already been realized for inland shipping.

Urban road traffic has a major impact on the air quality in our city. We focus on an integrated approach that focuses on clean transport (sustainable transport) changing (cycling, walking and stimulating public transport) and reducing traffic that drives through the city; this approach is part of the Rotterdam mobility approach.

In addition, we are working on reducing emissions from the construction sector to both reduce the number of vehicle kilometers and reduce emissions.

Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Rotterdam has strong ambitions to further reduce CO2 emissions. Wherever possible, we focus on measures that both improve air quality and reduce CO2 emissions.

Some examples:
- Create connections to district heating networks to replace natural gas combustion
- Expand shore power for ships beyond inland shipping. For inland shipping these provisions are largely present in the port of Rotterdam.
Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

In Rotterdam and the Rijnmond region air quality is monitored with monitoring stations measuring all regulated air pollutants. The information is available via a publicly accessible website. We collaborate with RIVM on this monitoring network.

Improving air quality is necessary for better health. For our approach we will work closely with public health organisations and other parties.

We are involved in a variety of projects in measurement of air quality by citizens. New initiatives will be supported.

Rotterdam is working closely with TNO and other relevant parties in developing emissions inventories and models.

Rotterdam will sign the national Clean Air agreement and thereby endorses the ambitions of the national government.

An amount of approximately €14 million is available for the improvement of air quality in the coming period; these resources have been made available by the municipality and the national government.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO MEET COMMITMENT

Seoul aims to meet the national environmental standard (an annual average level of PM2.5 : 15µg/m³) and put in place various initiatives to reach the target by tackling emissions by each source such as heating, power generation, vehicles, fugitive dust, construction etc.

Meeting WHO’s guidelines for PM2.5 will be challenging, due to the geographical and climate conditions, but Seoul is committed to do our best to reach our targets of cutting PM2.5 to 15µg/m³ by 2022, 13µg/m³ by 2025, and 10µg/m³ by 2030.

We will introduce a particulate matter season to take focused measures during the months (December through March) when the levels of particulate matter routinely increase.

We plan to develop a 2020-2024 action plan on particulate matter reduction and control, and report our progress on the implementation of the action plan to the Seoul Metropolitan Council. The plan will include specific measures by each pollution source, such as deployment of eco-friendly boilers as well as driving ban on old dirty diesel vehicles.

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Seoul publicly provides data collected from the particulate matter monitoring equipment on our website and bus signboards among other places. We are planning to add low-cost censors to expand the existing air quality monitoring network.

Link to Seoul’s Air Environment Information: http://cleanair.seoul.go.kr/main.htm

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Seoul established a research institute dedicated to Seoul’s particulate matter pollution on 20 May 2019. With the particulate matter research institute in the lead, Seoul will work closely with other existing municipal research centers.

The Seoul Research Institute for Public Health and Environment studies health impacts of particulate matter pollution, while the Seoul Institute studies emissions sources by using data collected from air quality monitoring networks among others. The Seoul Institute of Technology researches the feasibility of cutting particulate matter in the subway stations using air ventilating and heating systems.

Our goal is to enforce the particulate matter season measures every April to continuously improve the policy.

Seoul’s pilot enforcement of driving ban on grade-five vehicles (petrol cars: manufactured before 1987, diesel cars: manufactured before 2002) in the city center (Green Transport Area), which began on 1 July 2019, will officially come into effect from December 2019, meaning non-compliant cars will face a fine of 250,000 KRW(206 USD).

Seoul will integrate our air quality policies in the 1.5 compliant climate action plan by 2020.

- Integrate the relevant top pollution-reducing actions -- that are within our city and under our control -- into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

- Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

- Our goal is to enforce the particulate matter season starting this year to overcome the limitations of the existing short-term emergency fine dust reduction measures and increase the impacts of our air quality control initiatives. We are going to evaluate the effects of the particulate matter season measures every April to continuously improve the policy.

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SUPPORTIVE ACTIONS

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

We will include in the “action plan on fine dust reduction and control” how we are going to help vulnerable citizens reduce their exposure to raise public awareness on air pollution.

We are going to improve the accuracy of air quality models by complementing the national inventory (emissions statistics by the Ministry of Environment) through cooperation with research institutes. We will decide whether we will publicly open the modeling data after verification.

We are working with neighboring local governments for policy consultation and cooperation. We also cooperate with Northeast Asian cities to share best practices and conduct joint research.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- The 2019 budget allocated for Seoul’s air quality control initiatives is $51.9 billion KRW (456 million USD).
Stockholm

**DECLARATION COMMITMENT**

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines.

**INTENDED ACTION/APPROACH TO MEET COMMITMENT**

Stockholm aims to fully meet the EU Air Quality Directive (2008/50/EC). We already meet the Directive’s limit values for PM2.5, PM10, SO2 and NO2. We also meet the WHO-guidelines for NO2 and PM2.5.

Stockholm aims to meet our additional national limit value for NO2 which is stricter than the EU Air quality directive.

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Currently there is a broad spectrum of actions in place in Stockholm to increase air quality, such as: an environmental zone for heavy-duty vehicles, a congestion tax, dust-binding efforts, a studded tire ban on 3 streets, and speed regulations.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Currently 70% of all trips in Stockholm are made by public transport. To increase this number even further, the city-together with the Stockholm region—is expanding its metro. New lines will enter into service between 2025-2028.

**SUPPORTIVE ACTIONS**

- Currently 70% of all trips in Stockholm are made by public transport. To increase this number even further, the city-together with the Stockholm region—is expanding its metro. New lines will enter into service between 2025-2028.
- Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.
- Stockholm has adopted a pedestrian plan, the first of its kind in the city, aiming and planning for a more pedestrian-friendly city. By 2030, at least 60% of local journeys should be made on foot in the inner city and 50% in the outer districts.
- Continued development of facilities for charging electric vehicles
- Stockholm will reach the EU Air Quality directive and national goals through concerted actions to be fully outlined in the new, not yet finished, environment programme for Stockholm.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

- Stockholm has adopted a pedestrian plan, the first of its kind in the city, aiming and planning for a more pedestrian-friendly city. By 2030, at least 60% of local journeys should be made on foot in the inner city and 50% in the outer districts.

During the current political mandate, the city will spend 1 billion SEK on developing biking infrastructure. The city’s bike plan commits to development and investments with the goal of having 15% of all rush hour trips in the city be made by bike.

There will continue to be a road tax on all major roads leading into Stockholm.

To reduce particles (PM10) Stockholm shall continue dust-binding streets during winter-spring when studded winter tires are allowed, will decrease the amount of traction sand applied to traffic roads, and will conduct early street cleaning to decrease the amount of road dust on streets. There will continue to be a ban on studded winter tires on three major inner city streets of Stockholm. https://www.lansstyrelsen.se/download/18.2e0f9fe16.36e844027 02d0/5275e456631/Rapport% 2012-14%20%C3%A4gd%20 sprogram%20f%C3%BCr%20 k%C3%A4vedioxid%20och%20par ticlar.pdf
SUPPORTIVE ACTIONS

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Stockholm have several other action plans and strategies with actions and goals that are relevant to top pollution reducing actions. For example:

- Continuous improving waste management, focusing on climate smart choices and efficient logistics. This needs to be integrated and shared with other activities where new housing, business premises, schools and roads are being built and reuse and recovery must be encouraged. Stockholm waste management plan

Air pollution and meteorology measurements in the city are carried out by SLB-analys, a department of the city’s Environment and Health Administration; all data are available online.

The air quality management is carried out in collaboration with other municipalities of the Eastern Sweden air quality association. This association has 60 member organizations, of which 50 are municipalities. Other members are the Swedish Transport Administration, two county councils, energy production companies and two academic departments (Department of Environmental Science and Analytical Chemistry at Stockholm’s university and the Institute of Environmental Medicine at Karolinska Institute, Stockholm).

This collaboration has made it possible to effectively supervise the region’s air quality. The system includes air quality monitoring, modelling and maintaining detailed emissions information. SLB analys is contracted for day-to-day operation of the various systems involved in the association. If new, reliable, validated low cost sensors become available, there are plans to expand the network in order to achieve better spatial-temporal resolution in air pollution monitoring.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

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Apart from the continuous publication of air pollution concentrations on the web and in annual reports, Stockholm is now developing a multipollutant Air Quality Health Risk Index (AQHI) to be used especially by sensitive groups of the population, like people with asthma or other respiratory problems. The AQHI is based on prognoses of the health risks associated with exposure to PM10, NO2, ozone and pollen for Stockholm. European-wide dispersion calculations for non-local sources are taken from CAMS (Copernicus Atmosphere Monitoring Service). Local pollution sources are based on high-resolution air quality dispersion modelling using local emission inventories. Maps for the upcoming 4 days will be presented on the web for public use. The work will be done in close cooperation with health experts at Umeå university. Citizens can easily access information via smart phones or the web.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Very detailed emission inventories have been developed and maintained in collaboration with the framework of the Eastern Sweden Air Quality Association (described above). The emission inventories are used to assess the impact of different source sectors on concentrations, population exposures and health impacts.

On a regional level Stockholm collaborates closely with local and regional authorities as part of the Eastern Sweden air quality association.

As president of Eurocities, Stockholm has made strengthening the organization’s climate work one of the three priorities for the president.

We are working actively to ensure a more vocal role on these issue at EU-level as well as to encourage more ambitious commitments among the members. On a more technical level, Stockholm is actively taking part in the Eurocities working group for Air Quality, sharing experiences and best practice.

EXAMPLE OF INTEOEN ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

Stockholm have several other action plans and strategies with actions and goals that are relevant to top pollution reducing actions. For example:

- Continuous improving waste management, focusing on climate smart choices and efficient logistics. This needs to be integrated and shared with other activities where new housing, business premises, schools and roads are being built and reuse and recovery must be encouraged. Stockholm waste management plan

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

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Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future. The concentrations are calculated using a meteorological wind model and air quality dispersion models. The system has been used in Stockholm for more than 20 years and has provided exposure estimates for several epidemiological studies and health impact assessments.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

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EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Forecasting projects are mainly financed via the the city’s main budget (existing Stockholm citizen’s taxes). In addition, there is also the congestion tax, tickets, national funding etc. (LEZ, subways, bypass Stockholm).
Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programs to address the top causes of air pollution emissions within our city and under our control.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

Monitoring
- New ambient regulatory stations (currently zero) and multiple low cost sensors installed and operated by NSW Government.
- Google AirView street level mapping.
- Continuation/expansion low cost sensors (currently 9) installed by the City in partnership with the University of Technology Sydney.

Targets
- City is presently updating its strategic vision, Sustainable Sydney 2050, which will meet C40 Climate Action Plan requirements and should make reference to WHO guidelines.

Transport is major source of air pollution for our area. By 2025 the City may expand upon and implement new policies and programs such as:
- Continued focus on active and public transport programs.
- Continued expansion of urban greening and canopy.
- Advocacy for low emissions vehicles and better fuel and vehicle emissions standards.

Work with C40 to complete requested information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

As the third tier of Government in Australia the City has limited direct control to reduce air pollution from transport. As outlined by the declaration commitment, the City will focus on active and public transport; urban greening, appropriate land use planning, communications and advocacy.

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible in an accessible format, in coordination with relevant departments and institutions.

The City recently installed nine low cost sensors and is working with the NSW Government to identify sites for one or more regulatory standard ambient stations in our area.
**Supportive Actions**

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

**Examples of intended actions and approaches to deliver these actions**

The City recently installed nine low cost sensors and is working with the NSW Government to identify sites for one or more regulatory standard ambient stations in our area.

In August 2019 a Mayoral Minute was endorsed to develop options (including staffing and equipment costs) associated with implementing an integrated, publicly accessible ‘Breathable Sydney’ air quality monitoring network, that displays data in an intuitive way and which has enough sensors to enable the City to:

- Monitor high traffic areas in all of the City’s villages.
- Have a number of portable units, so that the City can respond to community concern about air pollution sources in an ongoing way.
- Monitor city assets that cater to vulnerable members of the community, such as child care centres.

Sydney may contribute to and access information on the health impacts of air pollution generated through the work of the C40 Air Quality Network.

The City has well established channels and resources for communications once access to reliable information becomes available.

Further studies, inventories and segmentation into the transport emissions (the major pollution source) will be valuable to inform specific actions and priorities. It may identify that the major source of transport emissions is due to through traffic, or diesel busses for example. Once monitoring systems are in place the City would look to partner will local universities to develop these inventories and models.

Advocacy will continue to be a major priority for the City, strengthened by local data once available, and precedent actions by other C40 cities.

**Example of financial resources available to deliver the commitments**

- City will determine funding and resource applications over the 2019/20 financial year which will be used to inform future budgets.
EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO MEET COMMITMENT

Aiming to achieve environmental standards for photochemical oxidants, through the establishment of the “Conference on Fine Particulate Matter in the Atmosphere” in 2017 and 2018, TMG has furthered understanding of the generation process from a technical perspective, and examined reduction policies.

• Tokyo Metropolitan Government (TMG) currently has PM2.5 concentrations below the national environmental standards, according to ambient air monitoring stations. Heading towards the Olympics, Tokyo is aiming for further improvements in PM2.5 levels.

• TMG has achieved the national standards for Nitrogen Dioxide (NO2) and Sulfur Dioxide (SO2), and is also fulfilling the WHO air quality guidelines.

• Based on this research, TMG will continue to work on measures aiming to reduce PM2.5 and photochemical oxidants.

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

• Working towards goals in reductions of PM2.5 and photochemical oxidants, through the establishment of the “Conference on Fine Particulate Matter in the Atmosphere” in 2017 and 2018, TMG has furthered understanding of the generation process from a technical perspective, and examined reduction policies.

• Based on the results of these examinations, TMG will continue to work on measures aiming for reduction of PM2.5 and photochemical oxidants.

In addition to posting measurement data on the city’s homepage, hourly mean data from each monitoring station is uploaded in real time.

• TMG plans to incorporate related policies into a new environmental strategy, scheduled to be established in December 2019.

To measure particulate matter air pollution, TMG has established 47 ambient air monitoring stations in residential areas, and 35 roadside air pollution monitoring stations. Tokyo is continuously observing air pollution levels.

• Based on this research, TMG will continue to work on measures aiming to reduce PM2.5 and photochemical oxidants.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

• Working towards the goal of reducing PM2.5 and ozone, through the establishment of the “Conference on Fine Particulate Matter in the Atmosphere” in 2017 and 2018, TMG has furthered understanding of the generation process from a technical perspective, and examined reduction policies.

• While cooperating with environmental research institutions and local governments, TMG will continue surveys and research aimed towards improvement of air quality.

SUPPORTIVE ACTIONS

Work with C40 to complete request-ed information as part of declaration reporting process, as outlined in the C40 Clean Air Cities Technical Note.

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Publicly report annually on our progress in reducing pollution levels relative to targets and achieving the commitments in this declaration.

TMG has furthered understanding of the generation process from a technical perspective, and examined reduction policies.

• TMG is continuously observing air pollution levels.

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Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

• TMG has furthered understanding of the generation process from a technical perspective, and examined reduction policies.

There are 131 examples of intended actions and approaches to meet commitment.

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organisation Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.
SUPPORTIVE ACTIONS

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS

- Aiming for further improvement in air quality, TMG will improve public awareness and the supply of information about air quality.

- While working with related institutions, TMG will continue to update the emissions inventory, while considering further improvements to the inventory’s accuracy.

- Aiming for further reductions in PM2.5 and ozone, TMG, cooperating with a conference between 9 prefectures and cities, will examine and promote cross-jurisdictional reduction policies. Additionally, TMG will request that the national government implement comprehensive policies that transcend administrative district boundaries.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Measures are being enforced using TMG’s budget.
**DECLARATION COMMITMENT**

Within two years, establish baseline levels and set ambitious reduction targets for air pollutants that meet or exceed national commitments. These targets will put us on a path towards meeting World Health Organization Air Quality Guidelines for particulate matter, nitrogen dioxide, ozone, and sulphur dioxide.

Before 2025, implement new substantive policies and programmes to address the top causes of air pollution emissions within our city and under our control.

**INTENDED ACTION/APPROACH TO MEET COMMITMENT**

Air quality in Washington, DC (DC) is in compliance with the United States (US) National Ambient Air Quality Standards (NAAQS) for five of the six criteria air pollutants. DC has various control programs in place to maintain and sustain the air quality improvements made for those five criteria air pollutants—carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), lead (Pb), and particulate matter (PM2.5 and PM10).

The sixth pollutant—ground-level ozone (ozone, O3)—continues to be a concern. It is a regional pollutant with significant contributions coming from outside DC through transported air pollution emissions. DC cannot impose pollution controls on the sources that contribute to the transported emissions. Hence, DC has to largely depend on the federal national and regional control programs for mitigating the transport of ozone precursor pollutants. While pursuing additional local controls on sources within the jurisdictional boundary, DC will continue to work with the federal and regional partners to improve ambient ozone air quality.

DC’s current ambient air quality also complies with the World Health Organization guidelines for SO2, NO2, and particulate matter PM2.5.

DC will report annual emission inventories to keep track of emissions and establish a baseline following the standards required by the US National Emissions Inventory (NEI) program.

**PUBLICLY REPORT ANNUALLY ON OUR PROGRESS IN REDUCING POLLUTION LEVELS RELATIVE TO TARGETS AND ACHIEVING THE COMMITMENTS IN THIS DECLARATION.**

**SUPPORTIVE ACTIONS**

Implement new policies, enforce strong regulations, prioritise resources, and build necessary capacity and skills to achieve ambitious reductions in air pollution source sectors that are within our control.

Integrate the relevant top pollution-reducing actions — that are within our city and under our control — into our Climate Action Plans, such as: rapidly expanding zero emission public transport, creating low or zero emission areas, supporting walking/cycling, implementing vehicle restrictions or financial incentives/disincentives (e.g. road or parking charging), reducing truck, non-road machinery and city owned vehicle emissions, cleaning up construction sites and equipment, reducing industrial emissions, reducing emissions from wood burning, expanding affordable access to clean energy for cooking and heating, restricting pollution from solid waste burning and expanding greening.

**EXAMPLES OF INTENDED ACTIONS AND APPROACHES TO DELIVER THESE ACTIONS**

As required under the US Clean Air Act, DC must adhere to its SIP to demonstrate its plan and goals for achieving NAAQS. DC’s SIP outlines emission inventories, modelling, and regulations, and control programs to reduce pollution. DC is also implementing new regulations such as the Carbon Intensity Rule, the Demand Response Generating Sources Rule, California Low Emissions Vehicle (LEV) III adoption, and Reasonably Available Control Technologies (RACT) for the 2008 Ozone NAAQS.

DC is examining other measures needed to meet requirements for the 2015 Ozone NAAQS, including updated RACT requirements. DC is also implementing strong enforcement protocols, in particular towards the enforcement of existing anti-idling regulations.

DC is currently developing a Carbon Neutrality Strategy to achieve its goal to become carbon neutral and climate resilient by 2050. The plan will include a number of air pollution-reducing actions, including requirements from the Clean Energy DC Omnibus Amendment Act of 2018 around vehicle electrification, which requires all public buses, private fleets with a capacity of 50+, and taxis to be zero-emission vehicles by 2045. The plan will also include DC’s overarching transport mode shift goals, to reduce the number of commuter trips made by car to 25% by 2032, with 75% of trips made using active and public transportation options by that date.

To deliver these actions, DC must demonstrate its plan and goals for achieving air quality standards and its commitment to reducing pollution. DC is working with local and national partners to implement strong regulations, control programs, and support infrastructure changes to achieve these goals.
Establish, maintain, increase, or contribute to reliable city-wide air quality monitoring, making data publicly available in a timely manner or as close to real-time as possible and in an accessible format, in coordination with relevant departments and institutions.

Conduct, expand, or collaborate with relevant institutions to increase research on the health impacts of air pollution, the benefits of air quality improvements, and associated economic implications, and publish the results.

Raise awareness of air quality to help vulnerable citizens reduce their exposure, and to reduce the causes of air pollution, such as traffic.

Create, update, or work with relevant institutions to ensure high quality emissions inventories, models, and analysis are available to describe where and how outdoor air pollution is formed in our city, both today and in the future.


DC’s air program collaborates with local universities such as The George Washington University on research about air quality health impacts. George Washington University’s NASA-funded research project “Using remote sensing and Earth system models to improve air quality and public health in megacities” will involve working with the Department of Energy and Environment (DOEE) on DC air monitoring data and improving air quality in areas disproportionately affected by air pollution.

As part of the Volkswagen Settlement, DC will replace a number of public transit diesel buses to fully electric vehicles. The new electric buses will have signage displaying health benefits of the vehicle and will raise awareness on air pollution in the city. This will benefit the public transport routes in disadvantaged Environmental Justice communities.

DOEE collaborates with various regional and national organizations to help reduce regional pollution. These include the Ozone Transport Commission, the Mid-Atlantic/Northeast Visibility Union, the National Association of Clean Air Agencies, the Mid-Atlantic Air Regional Air Management Association, Metropolitan Washington Air Quality Committee, and state agency coordination. DC is involved with these entities in developing emission inventories, modelling, air quality improvement strategies and policy work.

In addition to DC’s work on regional air quality and transportation planning, DC is participating in the Transportation Climate Initiative (TCI) with 12 Mid-Atlantic and Northeastern states to design a regional low-carbon transportation policy proposal that would cap and reduce carbon emissions from the combustion of transportation fuels and allow DC to invest proceeds into low-carbon and more resilient transportation infrastructure.

- Federal Air Pollution Control Grant and DC’s required Local match, Federal grants for ambient monitoring programs, National Volkswagen Settlement Funds, Federal Diesel Emissions Reduction Act (DERA) Funds.

Work with and advocate for regional, state, supranational, and national government to take action on sources outside our boundaries or our control.

EXAMPLE OF FINANCIAL RESOURCES AVAILABLE TO DELIVER THE COMMITMENTS

- Federal Air Pollution Control Grant and DC’s required Local match, Federal grants for ambient monitoring programs, National Volkswagen Settlement Funds, Federal Diesel Emissions Reduction Act (DERA) Funds.