Declaration of Climate Emergency of the Barcelona Metropolitan Area (AMB)

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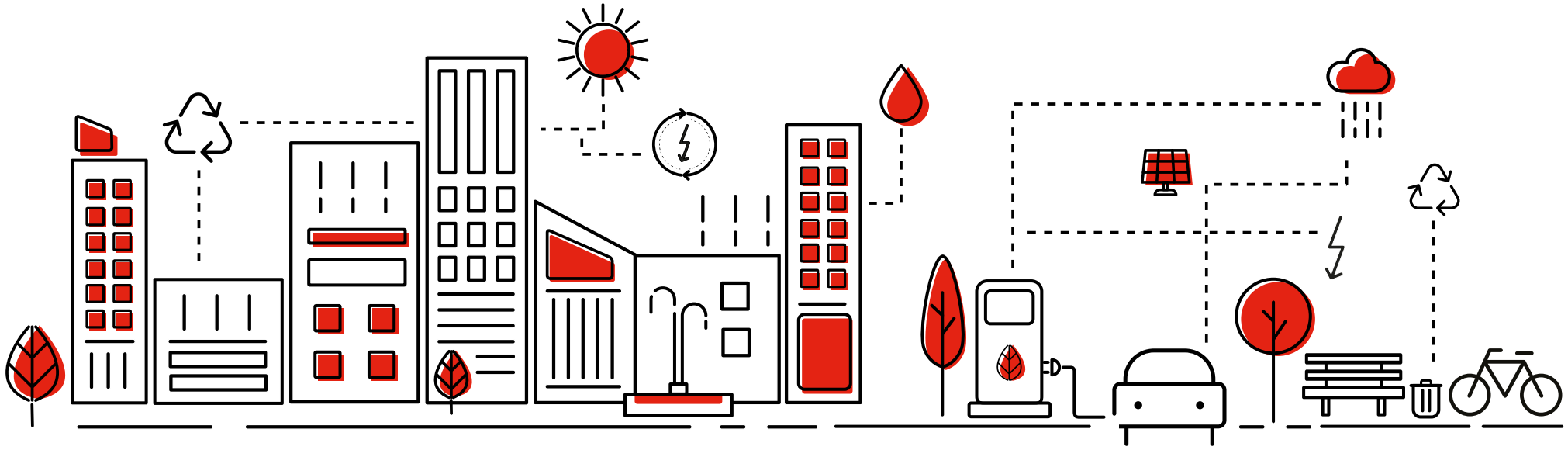

Why do we have to act now?

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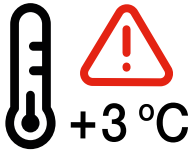

As a result of human activity, **the increase in the amount of CO_2 in the atmosphere has caused the planet's average temperature to rise by 1 °C**. With the Paris Agreement (2015), the governments established a series of measures to **limit global warming to under 2 °C** (avoiding the figure of 1.5 °C). More specifically, the European countries want to **lower greenhouse gas emissions 55 %** by 2030 and be neutral by 2050.

In spite of this, the world is heading for a **catastrophic global temperature increase of more than 3 °C** by the end of this century.

According to the United Nations, countries need to aim for an economic, social and environmental recovery that includes **energy decarbonisation.** Only a post-COVID-19 **green recovery** can bring us closer to the path of not **exceeding a 2 °C increase this century**.

Why do we have to act now?

The scientific community has been warning for decades of the risks of this global warming, while **climate justice movements** are asking public administrations to act and act now. However, governments, administrations, companies and citizens are not accepting the seriousness of the situation with the determination and speed needed.

Declarations of climate emergency emerge from the recognition that we are unlikely to reach the objectives set in the Paris Agreement and that **climate impacts** are going to be increasingly large if we don't act now as quickly as possible.

Countries and entities that have already signed an emergency declaration

Many countries, regions and cities around the world have declared a climate emergency (the European Union, Sydney, the United Kingdom, Canada and Catalonia, among others). Twenty-six municipalities in the AMB, including Barcelona, have also committed to acting by drafting and signing a declaration of climate emergency.

What can we do to deal with the emergency?

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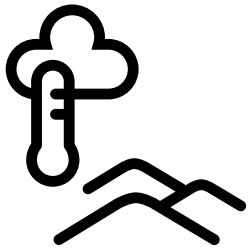
The consequences of this temperature increase are very worrying

For some years now, the metropolitan area has been witnessing an increase in what are considered **extreme weather phenomena** (heat waves, torrential downpours, droughts, etc.), and we know that by the end of the 21st century the **average annual temperature could increase by 1.9 °C** in a moderate scenario and by **up to 4 °C in the most pessimistic scenario**. We are a territory that is particularly vulnerable to climate change.

What can we do to deal with the emergency?



The AMB is working to reduce greenhouse gas emissions by abandoning fossil fuels in favour of 100 % renewable energy

To facilitate this transformation towards collective action, joint work with local town halls is key.

We are in a **critical situation** in which a gradual transition towards more sustainable models is no longer enough; we have to stop going about business as usual and undertake large-scale actions. **Urgent, forceful and effective measures are needed** to fight against climate change.

Key role of the AMB's Climate and Energy Panel

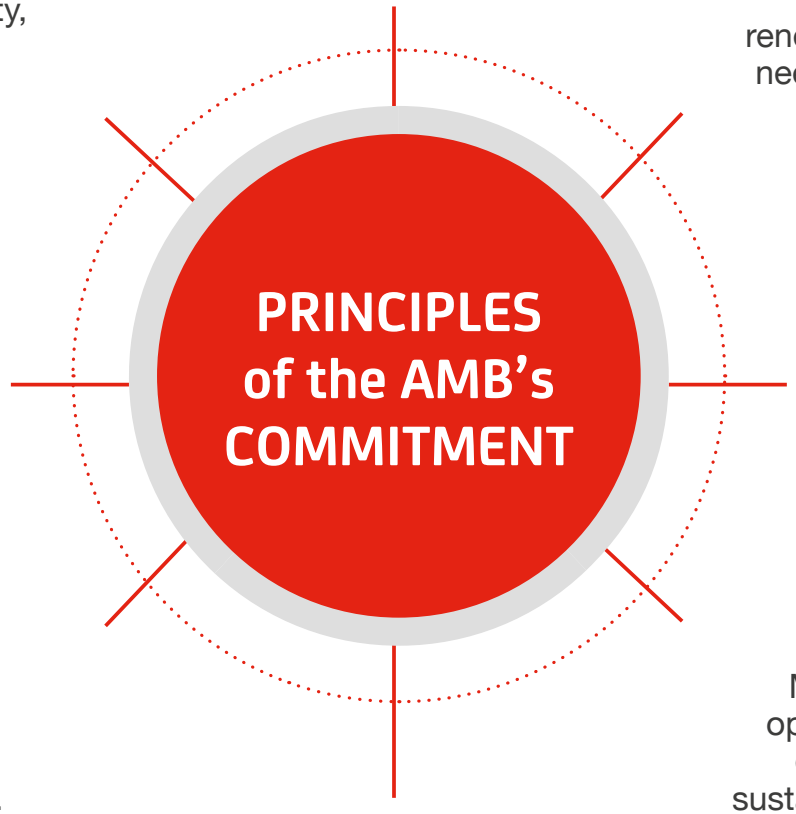
The Climate and Energy Panel is a participatory internal monitoring body developed with the support of the AMB's technical staff who are part of the **AMB's Climate Emergency Technical Committee**. The panel receives expert advice from an **advisory council on ecology** which includes scientists working on climate change in different fields (environmental sciences, sociology, economics, geography, etc.).

Transversal management of the emergency

Transversal management of the emergency

The climate pandemic, like the coronavirus, is profoundly unequal. The challenge of dealing with the climate crisis requires urgent, in-depth action. The next few years will be decisive. We have to reverse the effects of decades of excess in no time.

The climate emergency has to be dealt with by many fields simultaneously and with transversal plans and programmes that consider the following principles:



Sustainable mobility

More public transport, better connections among municipalities and improvements in the logistics system of goods.

Culture of sustainability

Transformative action that empowers us to act as a society in the context of climate emergency with responsibility, critical analysis and creativity to go beyond the limited impact of individual action.

Energy transition

Transformation towards a sustainable economy by abandoning fossil fuels, lowering consumption and using renewable and local energy. A change is needed in the way energy is produced, managed and consumed.

Health preservation

Health encompasses physical, mental and social well-being. Therefore, mitigating the climate crisis and adapting to its impacts (such as heat waves or droughts) are inseparable from citizens' health and well-being.

Climate justice

Fair treatment for all people with the aim of avoiding discrimination that could lead to inequalities in certain decisions and projects linked to the fight against climate change.

Circular food transition

Healthy food based on the consumption of seasonal, local and sustainably produced food.

Green economy and jobs

More jobs, more employment opportunities linked to the green economy (renewable energy, sustainable forest management, etc.) and better distribution of work.

Circular economy

Promotion of a circular model that respects the planet's ecological limits and guarantees a decent life for everyone.

A leap forward in the 2030 Climate and Energy Plan

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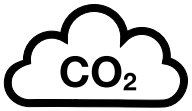
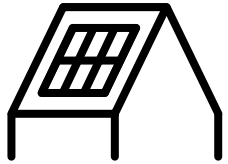
The Climate and Energy Plan 2030 (PCE30), the metropolitan strategy on the energy transition and climate change with a view to 2030, was approved on 25 September 2018. In the context of the climate emergency, in November 2020 the AMB approved the PMEC (Framework Energy and Climate Programme), an instrument linked to this Declaration of Emergency that defines the specific actions to be carried out and the need to accelerate those that were planned 3 years ago.

What is the purpose of this Plan?



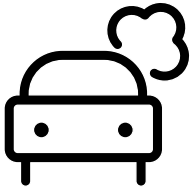
1
Carbon neutrality of the metropolitan area

2
Integration of energy sovereignty goals



3
Boosting renewable energies

4
Energy efficiency and conservation



5
Reduction of greenhouse gases

6
Adaptation to climate change

Coordination and immediacy

Coordination and immediacy

The AMB pledges to **accept the EU goals of lowering greenhouse gas emissions 55 % by 2030 and to achieve carbon neutrality by 2050**. With regard to its energy efficiency and renewable energy goals, the AMB will accept the EU's future commitments, slated for June 2021 (Climate and Energy Framework 2030, EC; European Green Deal, EC).

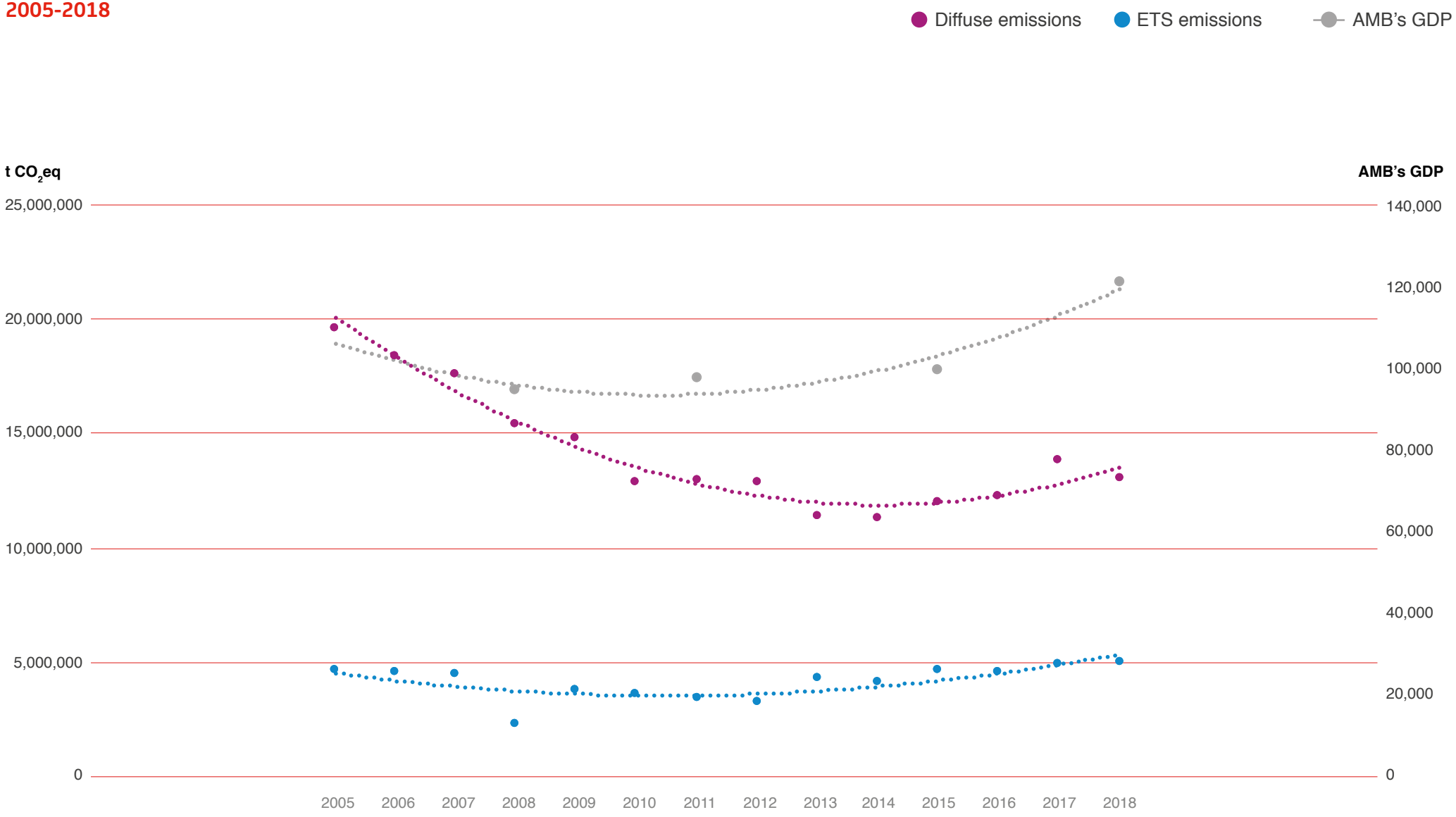
The emissions of the metropolitan area of Barcelona continue to be linked to economic growth. Consequently, the **reduction in the energy demand** and **more efficient resource use** are essential goals in order to break this link.

-55 %

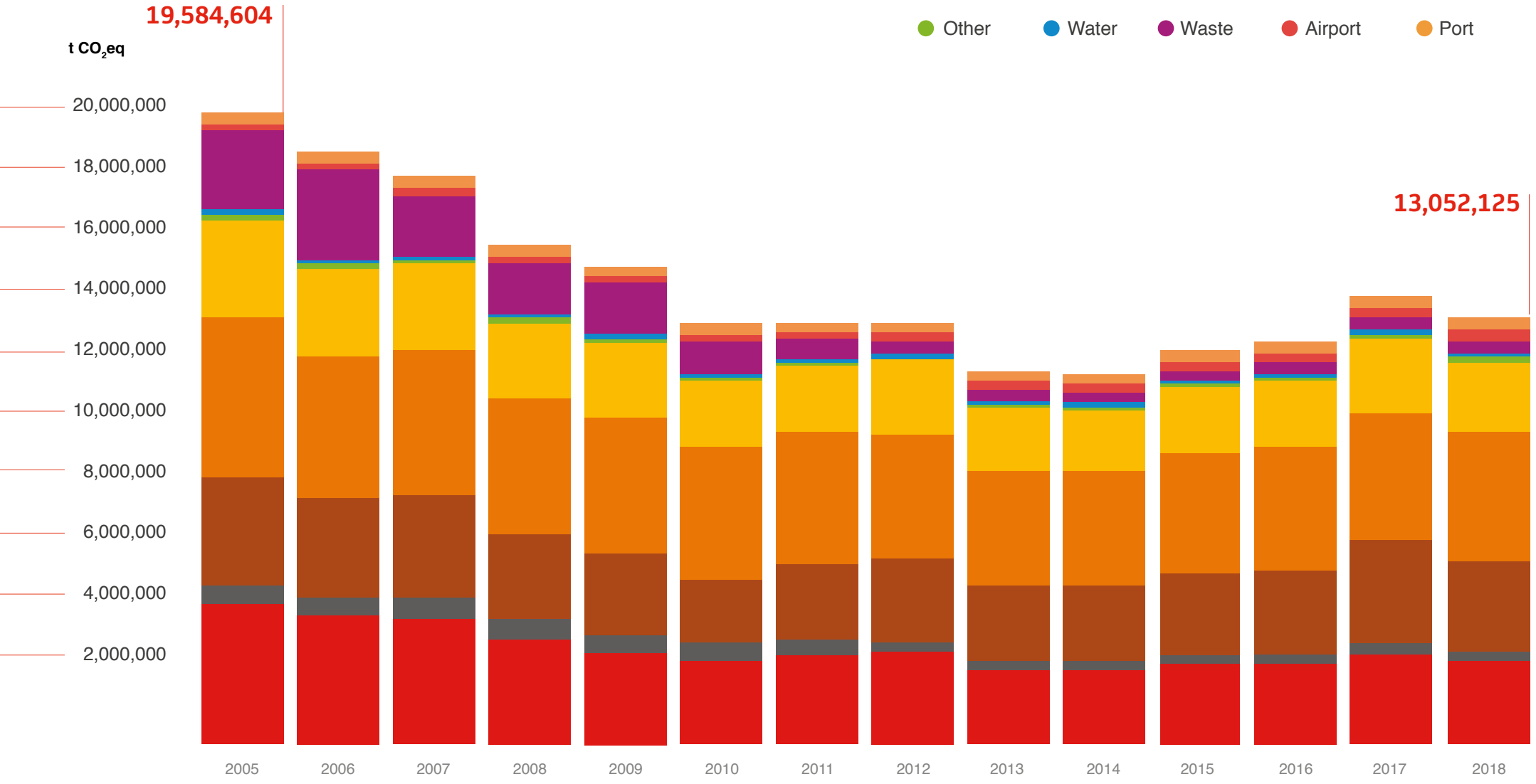
EU objective to lower greenhouse gas emissions 55 % by 2030

Diffuse emissions and emissions from the EU Emissions Trading Scheme (EU-ETS) trends, and their relationship with the AMB's GDP 2005-2018

Evolution of diffuse emissions and ETS in relation to GDP



Diffuse emissions by sector 2005-2018



Coordination and immediacy

The reduction in emissions has to occur in all sectors, but the AMB's role is particularly important to lower emissions from waste and water management, and from mobility, through both its direct action in these areas and the possibility of indirectly influencing metropolitan policies, plans and programmes.

Priority actions

Energy

To promote the energy transition (decarbonisation and commitment to renewable energies).

Transport

To facilitate the connection of intermunicipal flows and optimise urban goods distribution.

Efficiency

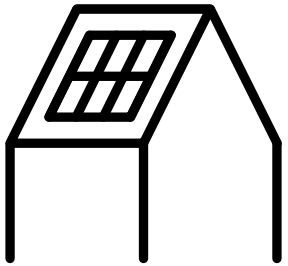
To promote the refurbishment of residential and tertiary buildings using energy efficiency criteria.

In addition to working to lower emissions, the metropolitan territory has to adapt to the present and future impacts of climate change and even take advantage of the opportunities that they may bring. As stated by the EU, a focus on what is called *preventive adaptation* is necessary to lower the health impacts and economic costs.

For all these reasons, the AMB has set 5 climate emergency goals

Goal 1:

Energy transition



Changing the way we produce and consume energy, abandoning fossil fuels, lowering energy consumption and promoting renewable energy.

Citizens can play a major role in this change and get involved in producing the energy they consume, thus becoming prosumers. Choosing renewable sources and local generation will reduce energy dependence and the impacts on other territories.

Key actions

To lower consumption (energy efficiency).

To promote the production of renewable energy and to encourage the “surplus” energy to be stored.

To adjust the energy supply and demand to allow energy to be exchanged between homeowners’ associations, public facilities and industry via the digitalisation of the network.

To introduce energy criteria in metropolitan subsidy programmes (housing, industrial policies, etc.) to reduce energy poverty and facilitate fair access to energy.

The PMEC (contains 20 actions, of which the following are highlighted)

To promote the installation and management of renewable energy in the municipalities so that they will be “100 % renewable” by 2030 and able cover the consumption of their facilities, lighting, fleets, etc. with their own energy systems.

To support the creation of 300 energy communities: groups of individuals who generate and consume energy and organise themselves to share it under fair conditions (homes, industries and local administrations).

Goal 2:

Efficient use and management of water resources

Water is a vital resource for human well-being, the functioning of ecosystems and economic growth and development. In the metropolitan area, the climate crisis will only exacerbate the scarcity of water resources.

One of AMB's priorities is to ensure that water is used and managed as efficiently as possible.

Key actions
To promote the use of alternative water resources (reclaimed water, groundwater, etc.).
To continue to encourage a reduction in domestic water consumption.
To reserve drinking water for activities that require high-quality water and to use lower-quality water for cleaning, watering, etc.
To identify situations of water poverty and work to minimise their impact on the population.

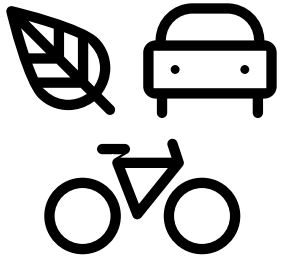
The PDECIA (Comprehensive Water Cycle Strategic Master Plan)

The PDECIA will establish measures needed to work towards integrated water management that respects its natural cycle.

This is why the efficient use of water will be encouraged by fostering the reuse or reclamation of this resource, given that the future need for water in the public space is expected to rise as heat waves become more frequent and longer.

Goal 3:

Sustainable mobility



One of the most important goals in the climate emergency is to lower the emissions caused by the transport sector, the main emitter of pollutants into the atmosphere.

A drastic reduction in private vehicles depends largely on promoting electric vehicles, yet also on shifting towards healthier and even more active mobility, as public transport and bicycles are associated with boosting the low emissions zones. But large infrastructures such as the port and the airport also play an important role in modernising and rationalising the transit of goods and people in order to reduce emissions and protect our health.

Key actions

El PMMU (Metropolitan Urban Mobility Plan) and other metropolitan plans propose:
Improving public transport among the metropolitan municipalities without having to go through Barcelona by increasing the availability of interurban buses, facilitating intermodality, etc.
Reforming the railway network with new lines and better interconnections (promoting a less radial system) and completing the streetcar network.
Avoiding unnecessary commutes, balancing the supply of jobs - places of residence and promoting remote work and other tools such as teleconferencing.
Improving the logistics system for transporting goods.

Goal 3:

Sustainable mobility

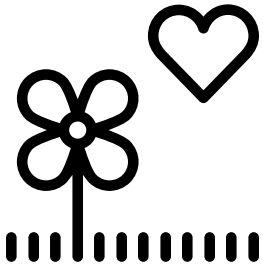
To lower the impact of the port and the airport

The port and the airport emit four times more CO_2 than the entire city of Barcelona. The actions that will be promoted include lowering emissions and promoting renewable energy generation systems in these two areas, speeding up the construction of rail access to the port, promoting the use of rail modes to the airport, studying the elimination of short flights that have an alternative train route and gradually electrifying both infrastructures.

Goal 4:

To plan cities and their environs

considering the city that is already built, the diversity of spaces and the environmental and social requirements



The metropolitan territory of Barcelona, with an area of 636 km^2 and more than 3.2 million people, is one of the largest metropolitan areas in Europe and plays an important role in the Mediterranean. Metropolitan cities tend to have a series of features (high residential density, aged housing, lack of green spaces, etc.) that negatively affect their environmental conditions.

Planning more sustainable and environmentally respectful cities and urban environments means giving special consideration to the most vulnerable areas and groups, as the inequalities they already experience also make them more vulnerable to climate change.

Key actions

To protect and promote the benefits provided by ecosystems to make cities healthier and more pleasant (greener and quieter cities, maintenance and management of agricultural and forest areas, presence of water, etc.).
To ensure that renovation or rehabilitation projects and other types of interventions are opportunities to improve cities —both public spaces and homes— so they become cooler and less vulnerable to longer and hotter summers; in short, so they become healthier cities.
To move towards more adapted metropolitan cities: more naturalised, with cool spaces and a building rehabilitation strategy that integrates energy criteria.

Goal 4:

To plan cities and their environs

considering the city that is already built, the diversity of spaces and the environmental and social requirements

An adaptable and safe territory

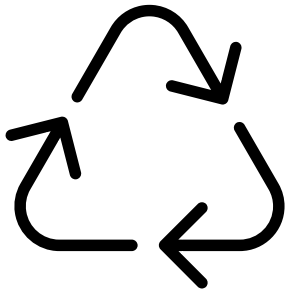
The Metropolitan Urban Master Plan outlines what the metropolitan area will be like today and in the future:

- It will define the organisation of the water system comprised of rivers, creeks, streams, etc.
- It will delimit the optimal areas for generating renewable energies and thus facilitate a more decentralised metropolitan energy model through urban planning.
- It will improve inhabitability, environmental quality, rational water use and use of renewable energies, and it will encourage building rehabilitation and urban renewal.

However, the climate emergency requires us to begin to act now with urgent measures. Therefore, the AMB and the metropolitan councils have begun to develop a network of “climate shelters” to manage heat and cold episodes and cope with extreme temperatures, which lead to an increase in mortality, especially among the most vulnerable people. Climatic shelters allow existing multipurpose spaces such as culture centres, libraries and parks to provide the most vulnerable population with comfort, water and rest areas.

Goal 5:

Circular economy and resources

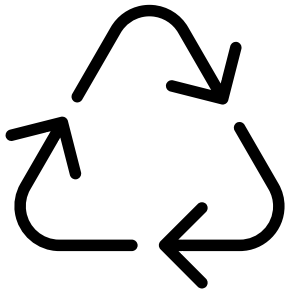


The current linear economic model, based on the consumption of single-use products, is condemning the planet's material and energy resources to a swift disappearance. The climate emergency is pushing us towards a circular economic development model that reduces the extraction of raw materials and minimises the amount of waste generated, while promoting reduction and reuse whenever possible.

Key actions
To promote a circular economy strategy and company clusters in the renewable energy sector.
To require companies that provide metropolitan services to lower emissions while providing their services.
To provide economic incentives to the most sustainable activities and apply a CO_2 tax to those that generate the most emissions.
To encourage the decarbonisation of large industries in the emissions rights trading system.
To encourage large companies to join the Voluntary Agreement Programme for the Reduction of GHG Emissions.

Goal 5:

Circular economy and resources



PREMET, from waste to resource

The Metropolitan Municipal Resource and Waste Prevention and Management Programme 2019-2025 (PREMET25) plans to:

Promote a new model of resource consumption and waste management that prioritises prevention (zero waste trend) and improves metropolitan waste collection and treatment systems.

Lower greenhouse gas emissions and achieve carbon neutrality in the metropolitan waste management system.

Achieve 55 % selective collection by 2025 and 60 % by 2030, as established in the European waste and resource management objectives, such as by using door-to-door collection systems or smart bins.

Glossary

Glossary of terms related to the climate emergency

Adaptation to climate change

The adjustment of human or natural systems to the inevitable effects of climate change. The capacity to adapt to climate change, together with climate risk and climate sensitivity, are some of the factors that determine vulnerability. Climate change adaptation measures, along with climate change mitigation measures, are two of the cornerstones of the climate transition.

Carbon footprint

The total amount of GHG emissions associated with the lifecycle of a person, a product, an industrial process, etc. It is the environmental impact used to measure the lifecycle of a product or service to gauge its contribution to the potential for global warming.

Carbon neutrality or climate neutrality

A situation in which there is a zero balance between greenhouse gas emissions and their absorption through carbon sinks.

Circular economy

An economic model based on the reuse, repair, remanufacture and recycling of materials and products which minimises the use of raw materials as an alternative to a linear model based on production, use and disposal.

Climate action

A set of policies aimed at avoiding a global average temperature increase of more than 2 °C compared to pre-industrial times.

Climate change

The natural changes in the planetary climate system, the interglacial cycles that occur every tens of thousands of years. It is not a useful term to refer to the current phenomenon, since *change* is *a* neutral-positive concept which does not reflect the direness and magnitude of the climate forcing caused by humans.

Glossary of terms related to the climate emergency

Climate crisis

The dire environmental and economic impact of global warming. This is our current situation as a consequence of decades of increases in greenhouse gas emissions. It describes the current instability, and just like all crises (economic, political or social), if it isn't solved it can worsen.

Climate emergency

This indicates the seriousness of the current climate situation and the need for immediate action, with exceptional measures by public authorities (just as in health, security or humanitarian emergencies). The concept of *climate emergency has* been trivialised because it is used without linking it to urgent and exceptional measures.

Climate justice

A set of principles that defend fair treatment for all people and all countries with the aim of avoiding any discrimination that may result from certain decisions and projects linked to the fight against climate change.

Climate migrant

An environmental migrant who is forced to leave their usual place of residence due to the environmental degradation caused by climate change. Currently, the concept of *climate migrant* is not covered in any international law.

Climate scenario

A future climate system forecast taking into account the different variables involved. There can be moderate or extreme scenarios according to the different analyses.

CO_2 equivalent

A magnitude that allows us to determine the potential global warming from greenhouse gases based on their carbon dioxide equivalence by applying the warming potentials for each gas.

Glossary of terms related to the climate emergency

Decarbonisation
The elimination of carbon from the atmosphere to stop global warming. It can refer to the decarbonisation of either human activities or economic processes. It consists in making a process or activity area lower its dependence on fossil fuels and greenhouse gas emissions, usually gradually.

Deforestation
The act and effect of clearing an extensive area of forest. Much deforestation is caused by the expansion of intensive agriculture, urbanisation and forest fires. Deforestation causes forests to stop functioning as reservoirs and therefore to stop absorbing carbon dioxide.

Desertification
The process whereby a desert is formed due to anthropogenic activity and the lack of precipitation. Desertification alters the water cycle, threatens the soil's potential to produce food and biomass, prompts a loss in biodiversity and activates climate feedback mechanisms that affect important climate parameters.

Diffuse emissions
The emissions corresponding to the activities not included in the EU Emissions Trading Scheme (non-EU ETS emissions) such as transport, waste, agriculture, services, energy and unregulated industry.

Drought
A water deficit in which peoples', animals' and plants' water needs cannot be met. Drought can be broken into meteorological droughts, agricultural droughts and hydrological droughts.

Glossary of terms related to the climate emergency

Ecosystem services

The benefits that an ecosystem brings to society which improve people's health, economy and quality of life. An ecosystem service comes from the functions inherent to an ecosystem. There are four types of ecosystem services, according to their benefits: provisioning, regulating, cultural and supporting services.

Emissions from the EU Emissions Trading Scheme (EU-ETS)

The EU Emissions Trading Scheme (EU-ETS) was implemented in the 25 EU member states on 1 January 2005. It focuses on the major industrial emitters responsible for almost half the EU's CO_2 emissions. The core of the regime is the common currency of exchange: emissions rights. A right authorises the holder to emit one tonne of CO_2.

Energy communities

These are groups of individuals, organisations, companies and public administrations that organise themselves to collectively solve different challenges posed by the energy transition based on local projects and the creation of social value as their main objective.

Energy transition

The gradual abandonment of energy from fossil fuels in favour of energy from renewable sources. The energy transition is one of the Sustainable Development Goals of the United Nations' 2030 Agenda. The energy transition is part of the climate transition as well as the ecological transition.

Extreme weather phenomenon

An uncommon weather phenomenon or one that is unusual for that season in a given place. It is an extremely damaging weather event that occurs in a brief period of time and causes economic, social and environmental damage and harm. Examples include torrential downpours, floods, droughts, heatwaves, wind storms, storms at sea, etc.

Glossary of terms related to the climate emergency

Flood
The submergence of an area usually not covered by water due to river overflow, reservoir flooding, extreme melting or a storm at sea.

Global warming
The gradual increase in the Earth's average temperature due to the intensification of the greenhouse effect.
There is scientific information (collected in the IPCC reports and elsewhere) showing that today's global warming is being forced by the massive emission of greenhouse gases caused by human activity, especially since the Industrial Revolution.

Greenhouse gases (GHG)
Greenhouse gases trap the Sun's energy in the Earth's atmosphere, which causes the overall temperature to increase (the way the transparent roof and walls of a greenhouse increase the temperature inside). The massive burning of fossil fuels (coal, oil and gas) causes large GHG emissions that are leading to rapid global warming. The main GHGs are carbon dioxide (CO_2), methane (CH_4) and nitrogen oxide (N_2O).

Green and blue infrastructure
A network of natural and semi-natural spaces and other strategically planned environmental elements designed and managed to offer a wide variety of ecosystem services. It includes green spaces (terrestrial ecosystems) and blue spaces (aquatic ecosystems) and other physical terrestrial elements (natural, rural and urban) and marine areas.

Heat wave
A phenomenon in which the air temperature increases considerably during the day due to the invasion of a hot air mass. At present, heat waves are becoming more frequent, longer and more intense due to the effects of global warming.

Glossary of terms related to the climate emergency

IPCC
Intergovernmental Panel On Climate Change. The United Nations' group of climate change experts.

Mitigation
Human intervention to reduce greenhouse gas emissions or to increase the capacity of sinks.

Ocean acidification
The continuous decrease in ocean pH by the addition of hydrogen ions due to the increased carbon dioxide in the atmosphere. This process runs parallel to other changes taking place in the oceans, such as the reduction in oxygen concentrations and changes in salinity.

Tipping points
The turning points in climate change, the critical limits which will prompt natural processes with their own dynamics if exceeded, regardless of what we humans do.
One of these tipping points is the temperature of global warming compared to the pre-industrial period 1880-1900. In general, it was believed that 2 °C of warming was a tipping point for the planetary climate system, but a 2018 IPCC report implicitly places this tipping point at 1.5 °C.

Torrential downpour
This is an extremely strong, violent downpour usually associated with a storm and accompanied by lightning or hail, which can cause overflows, floods, torrential rain and sudden flooding.

Urban goods distribution (DUM)
The increase in the demand for urban goods transport is due to the concentration of the majority of the population in urban areas and the distribution of much of the production in these densely populated areas. Efficient DUM is needed because the relative distances of this type of activity have increased considerably over the past few years.

Glossary of terms related to the climate emergency

Urban heat island

An urban area with a higher ambient temperature than the surrounding areas, mainly due to the greater absorption of solar radiation by the materials of the buildings, roads and other infrastructures. The effect caused in urban heat islands is intensifying due to global warming and climate change.

Urban metabolism

The flow of materials and energy on which urban centres depend. Urban metabolism includes the organisation of technical services, energy rehabilitation, green and blue infrastructure, sustainability strategies in existing urban fabrics, the adaptation of planning to the risks and vulnerabilities of climate change and the urban integration of the energy generation model. The energy, material and information flows that define a city, as well as the impacts caused by waste, are all associated with the urban metabolism.

Urban resilience (to climate change)

The capacity of a socio-ecological system (humanised environments, both urban and rural) to withstand and regain stability in view of the effects of climate change.

Vulnerability

This is a condition resulting from physical, social, economic and environmental factors or processes that predispose the elements exposed to a natural phenomenon to experience harmful effects.

Glossary of terms related to the climate emergency

SOURCES

Date consulted: January-February 2021

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