



# Environment quick guide 2020

# A strategy and its results

Organised along five key axes, the medium- and long-term **Municipal Strategy for the Environment** seeks to meet the most pressing challenges of the three pillars of sustainability (environmental, economic and social).

**Porto, an aware city committed to a sustainable future** (Axis 1). Porto intends to continue to be a restless city committed to its inhabitants and to the wider region in which it is located, which recognises it as a beacon for ideas and solutions. This is why Porto continues to focus on non-material programmes for behavioural change, which it is hoped will have long-lasting effects. The city wants to deepen and disseminate understanding of its biodiversity, to ensure this is preserved and can live in harmony with its urban setting. At the same time it acts on recovery of environmental assets.

**Porto, green city, undefeated and resilient** (Axis 2) Porto wants to be ready to fight and adapt to climate change, thus complementing the commitments already made with a view to reducing CO2 emissions. Porto intends to continue to design itself “green”, within a perspective increasingly oriented by

transverse criteria and concerns, designed in such a way as to minimise the impact of climate change.

**Porto, a city plotting an energy revolution** (Axis 3). Porto aims to be Portugal's benchmark setter for electric mobility. Its institutional commitment in the field of energy includes making municipal parks and buildings energy-efficient, studying them and reworking rundown spaces into sustainable districts that will inspiringly drive the retention of both people and businesses.

**Porto, analytical and transparent city** (Axis 4) Porto wants to be an ever more analytical city, by encouraging research to characterise and evaluate management performance and support municipal choices.

**Porto, laboratory-city** (Axis 5). Porto wants to become a living laboratory at the service of a whole ecosystem of entrepreneurialism that enables the city to be “used” to create sustainable products that solve real problems and that result in an improvement in quality of life, striving for repeatability so that solutions for other cities can emerge from Porto's experience.

**99.6%**

of analyses classify Porto's water as excellent

**52**

active measures to adapt to climate change

**780**

hotels, restaurants, canteens and cafés separate their organic waste for composting

**1%**

of waste is sent to landfill, the rest being recycled or recovered

**68.8 kg**

of waste is selectively collected (glass, packaging and paper) per resident (2019)

**35,170 m<sup>2</sup>**

of rehabilitated streams

**4,550,000 m<sup>2</sup>**

of green space open to the public

**1,160**

street recycling bins

**70%**

of the municipal light vehicle fleet (passenger and goods) is electric or hybrid

**50 km**

of city cycle paths by the end of 2020

**22 m<sup>2</sup>**

of green area per inhabitant (municipal management and private with public access)

**36.2%**

reduction in carbon emissions (in 2018 and compared to 2004)

**100%**

of the energy bought by the city comes from renewable sources

**65,000**

public trees in the city

**13**

urban produce gardens in the city, covering a total area of four hectares

**240**

trees classified as being of "Public Interest"

**50,000**

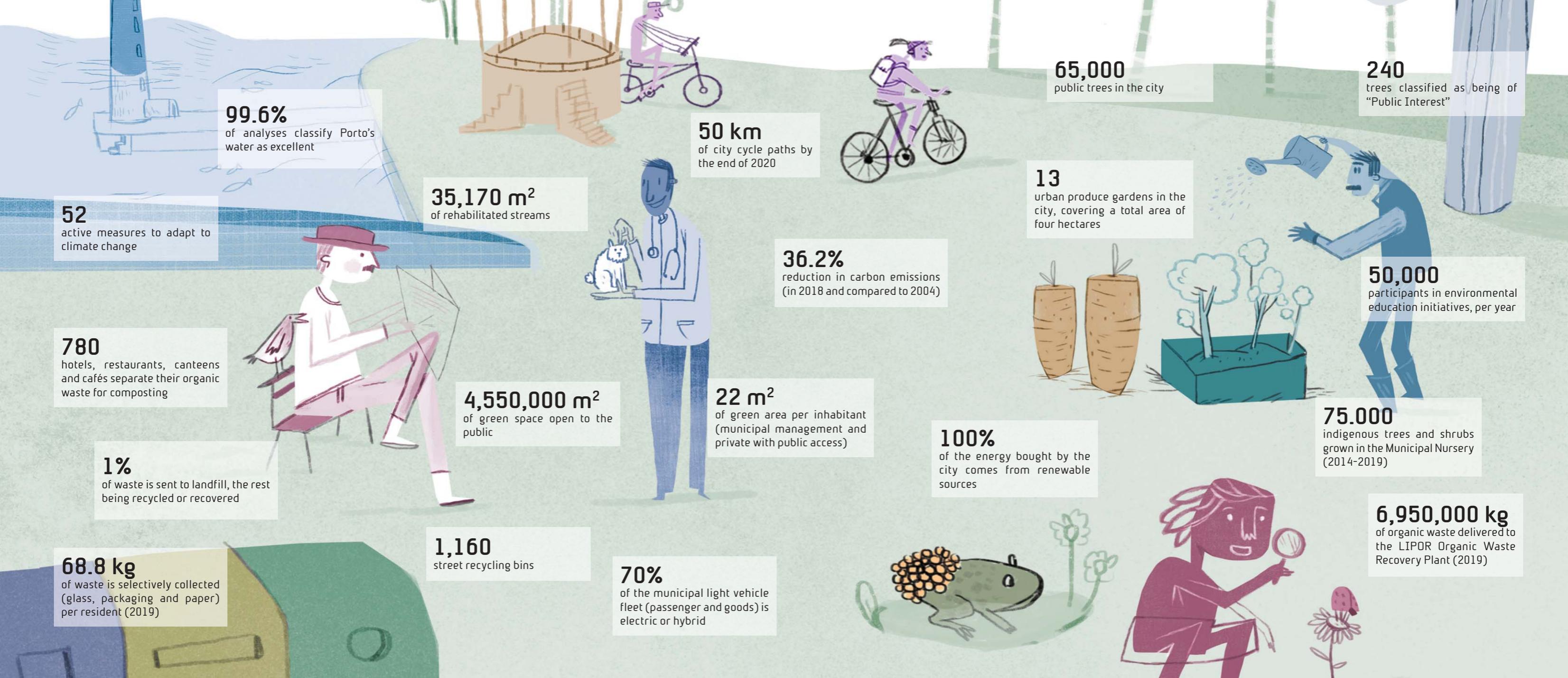
participants in environmental education initiatives, per year

**75,000**

indigenous trees and shrubs grown in the Municipal Nursery (2014-2019)

**6,950,000 kg**

of organic waste delivered to the LIPOR Organic Waste Recovery Plant (2019)



# Climate change

Porto has an ambitious goal

**In 2019, Porto voluntarily raised its target for cutting carbon dioxide emissions to 50% by 2030 (compared to 2004 levels) and is currently aiming to achieve carbon neutrality by 2050. It has already reduced these emissions by 36%.**

There is consensus that climate change is one of the great challenges currently facing humanity. High emissions of greenhouse gases (mostly as a result of human activities like cattle rearing and combustion of petrol and diesel in the majority of transport vehicles, among others) have contributed to a change in the overall composition of the atmosphere. This change affects the normal working of the planet (for example, the ocean currents), which, in turn, has serious implications for the climate and affects different regions of the world in different ways. It is worth keeping in mind in this context that climate (a pattern in a region) is distinct from weather.

Porto Municipality has been active in local, national and international efforts to understand the effects of climate change, define targets and implement mitigation and adaptation measures. In 2019, Porto signed the European Commission sponsored Covenant of Mayors for Climate and Energy. In doing so, the city voluntarily raised its target for cutting carbon dioxide emissions to 50% by 2030 (compared to 2004 levels).

Following the implementation of a range of measures, the most recent figures (Annual Report on Energy and Emissions for the Municipality of Porto 2020, prepared by the Porto Energy Agency), show that the city has already cut emissions by 36.2%. These measures include the decarbonisation of power production and a number of local initiatives, such as 100% LED street lighting and a municipal vehicle fleet that is 70% electric.

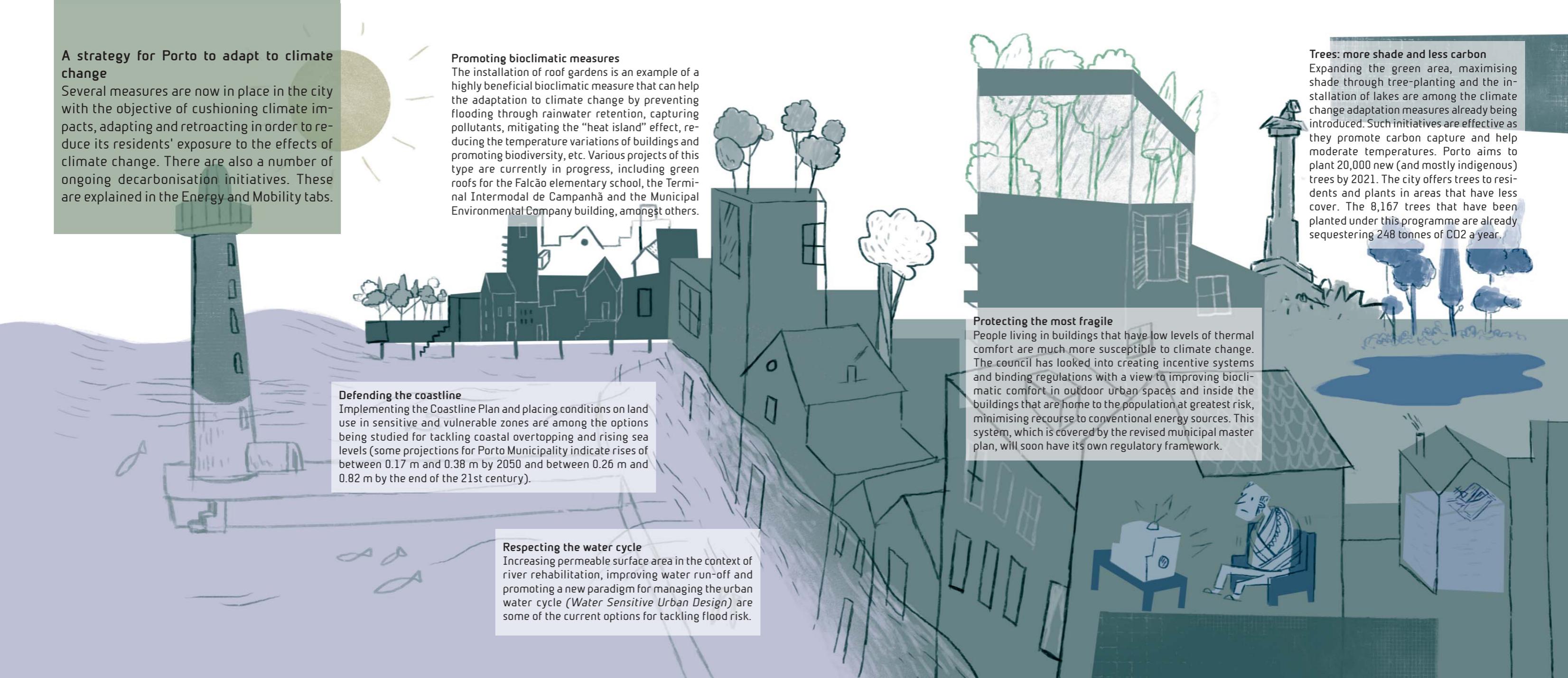
The municipality aims to reach carbon neutrality by 2050 and is currently studying different ways of meeting this target.

In 2016, Porto presented its Municipal Strategy for Adaptation to Climate Change (Portuguese abbreviation: EMAAC). This study identified the following climate risks that are expected to worsen in the coming decades:

heavy swells and wave overtopping along the coast due to the rising sea level; excessive rainfall with urban flooding and landslides; extreme temperatures (heatwaves/cold spells). In light of this picture, 52 strategic options have been identified with the aim of gradually preparing the city to absorb climate impacts, to adapt and act retroactively to reduce its residents' exposure to the effects of climate change. Many of these measures are already in place.

Porto Municipality has been working with the Carbon Disclosure Project (CDP) for cities since 2014. The city is a member of the C40 group (40 cities around the world who are leading the fight against climate change). This project provides companies and cities with the world's largest information system for measuring, disseminating and managing the environmental impacts and strategies ensuing from their climate change mitigation and adaptation initiatives.

As part of its development of new paradigms for dealing with the climate crisis, Porto Municipality has been a member of this movement since its inception. In 2019, the city signed the protocol that established the legal framework for the international Common Home of Humanity project. The objective of this project is to create a new system that offers legal protection and a framework capable of representing, protecting and safeguarding the conditions required for life on earth, which form an intangible and natural heritage of humankind (a stable climate and clear evidence of a functional system for the planet).

An illustration of a coastal city. On the left, a tall lighthouse stands on a rocky outcrop. The city buildings are rendered in a sketchy, hand-drawn style. A large sun is in the upper left, and a body of water with fish is at the bottom left. The overall color palette is muted, with greens, blues, and greys.

## A strategy for Porto to adapt to climate change

Several measures are now in place in the city with the objective of cushioning climate impacts, adapting and retroacting in order to reduce its residents' exposure to the effects of climate change. There are also a number of ongoing decarbonisation initiatives. These are explained in the Energy and Mobility tabs.

### Promoting bioclimatic measures

The installation of roof gardens is an example of a highly beneficial bioclimatic measure that can help the adaptation to climate change by preventing flooding through rainwater retention, capturing pollutants, mitigating the "heat island" effect, reducing the temperature variations of buildings and promoting biodiversity, etc. Various projects of this type are currently in progress, including green roofs for the Falcão elementary school, the Terminal Intermodal de Campanhã and the Municipal Environmental Company building, amongst others.

### Defending the coastline

Implementing the Coastline Plan and placing conditions on land use in sensitive and vulnerable zones are among the options being studied for tackling coastal overtopping and rising sea levels (some projections for Porto Municipality indicate rises of between 0.17 m and 0.38 m by 2050 and between 0.26 m and 0.82 m by the end of the 21st century).

### Respecting the water cycle

Increasing permeable surface area in the context of river rehabilitation, improving water run-off and promoting a new paradigm for managing the urban water cycle (*Water Sensitive Urban Design*) are some of the current options for tackling flood risk.

### Protecting the most fragile

People living in buildings that have low levels of thermal comfort are much more susceptible to climate change. The council has looked into creating incentive systems and binding regulations with a view to improving bioclimatic comfort in outdoor urban spaces and inside the buildings that are home to the population at greatest risk, minimising recourse to conventional energy sources. This system, which is covered by the revised municipal master plan, will soon have its own regulatory framework.

### Trees: more shade and less carbon

Expanding the green area, maximising shade through tree-planting and the installation of lakes are among the climate change adaptation measures already being introduced. Such initiatives are effective as they promote carbon capture and help moderate temperatures. Porto aims to plant 20,000 new (and mostly indigenous) trees by 2021. The city offers trees to residents and plants in areas that have less cover. The 8,167 trees that have been planted under this programme are already sequestering 248 tonnes of CO<sub>2</sub> a year.

# Circular City in 2030

## Strategies and projects for Porto

The currently predominant economic model is based on a false idea of the linearity of natural resources. The linear economy is based on continuous exploitation of resources (for example, minerals, oil and land, amongst others), which are transformed into products that are then consumed. The waste created by these processes (of transformation and use) is discarded. This model contradicts the circularity of nature, by which everything is transformed and regenerates.

The circular economy is seen as the best means of introducing nature's way of doing things into the human ecosystem of production and consumption. This means, for example, creating optimally designed products and services that allow for adaptation, recovery, lower consumption of materials and a long life; less rubbish and waste; and the sharing of resources, products and services, amongst other things. In short, the circular economy is based on the importance of reducing, reusing, sharing.

The circular economy is one of the key strands of Porto's medium- and long-term municipal strategy for the environment. The municipality has invested

**The municipality has invested a substantial part of its efforts in the concrete actions found in the Roadmap for a Circular Porto by 2030.**

a substantial part of its efforts in concrete actions, some of which are to be found in the Roadmap for a Circular Porto by 2030, drawn up in 2017. This document, produced by a multidisciplinary team of individuals and organisations, highlights the main practices and projects in place in Porto, offers a long-term vision, identifies opportunities and sets out a programme of specific actions that will transform Porto into a circular city by 2030.

Porto Municipality believes that "leading by example" and encouraging best practices are good ways of influencing and inspiring change. This is why it has sought to align its goods and services procurement and its work on the ground with the guiding principles of circularity. It aims to motivate and empower companies to turn environmental and social challenges into circular business opportunities, bring together key players to co-create responses to the challenges and raise awareness among institutions and individual citizens, so that they can make more informed, conscious and sustainable choices.

## Projects that will build a more circular Porto by 2030

The city is currently taking various steps to reduce waste, extend the useful life of resources and extract maximum value from them, in accordance with the principles of the circular economy and inspired by nature.

### Circular construction

Construction is a sector that consumes large quantities of raw materials and produces an equal amount of construction and demolition waste (CDW). Porto Municipality plans to introduce circularity into public works, by promoting, for example, the reuse of CDW in new works projects. It is also part of the Circular Construction project ([www.construcaocircular.pt](http://www.construcaocircular.pt)).

### Less plastic, more Porto

The municipality is running a project through its services to remove around 4.5 tonnes of plastic from the waste cycle every year.

### Industrial symbiosis

Networks of companies agree to exchange materials, water and energy. For example, the waste from one industry is used as the raw material in another's production chain, which adds value to the materials in question. In the Porto Metropolitan Area is already up and running the project [www.symbiopoorto.org](http://www.symbiopoorto.org).

### Servitisation

In this scenario, consumers pay for the use of a product rather than actually buying it. The company is responsible for maintenance. The scooters that can be seen all round the city are just one example of this. The electric cars in the municipal fleet are not council property either as the municipality has only bought the right to use them.

### Food waste reduction projects.

Since 2016, Porto Municipality and Lipor have been running a food waste reduction project aimed at restaurants and their clients - *Embrulha* (wrap it up). The project involves distributing free sustainable packaging to restaurants for them to give to their customers so that they can safely take their leftovers home. In just 4 months, 3.24 tonnes of food have been saved.

### Encouraging local food production

Every Saturday, an Organic Produce Fair is held at the Rural Centre in the Parque da Cidade (City Park). The fair is organised by Porto Municipality in partnership with a group of organic food producers. This initiative for sustainable production and consumption has been running for 16 years and involves around a dozen producers. All the produce sold is certified organic.

### Salvaging and reusing features of Porto's architecture

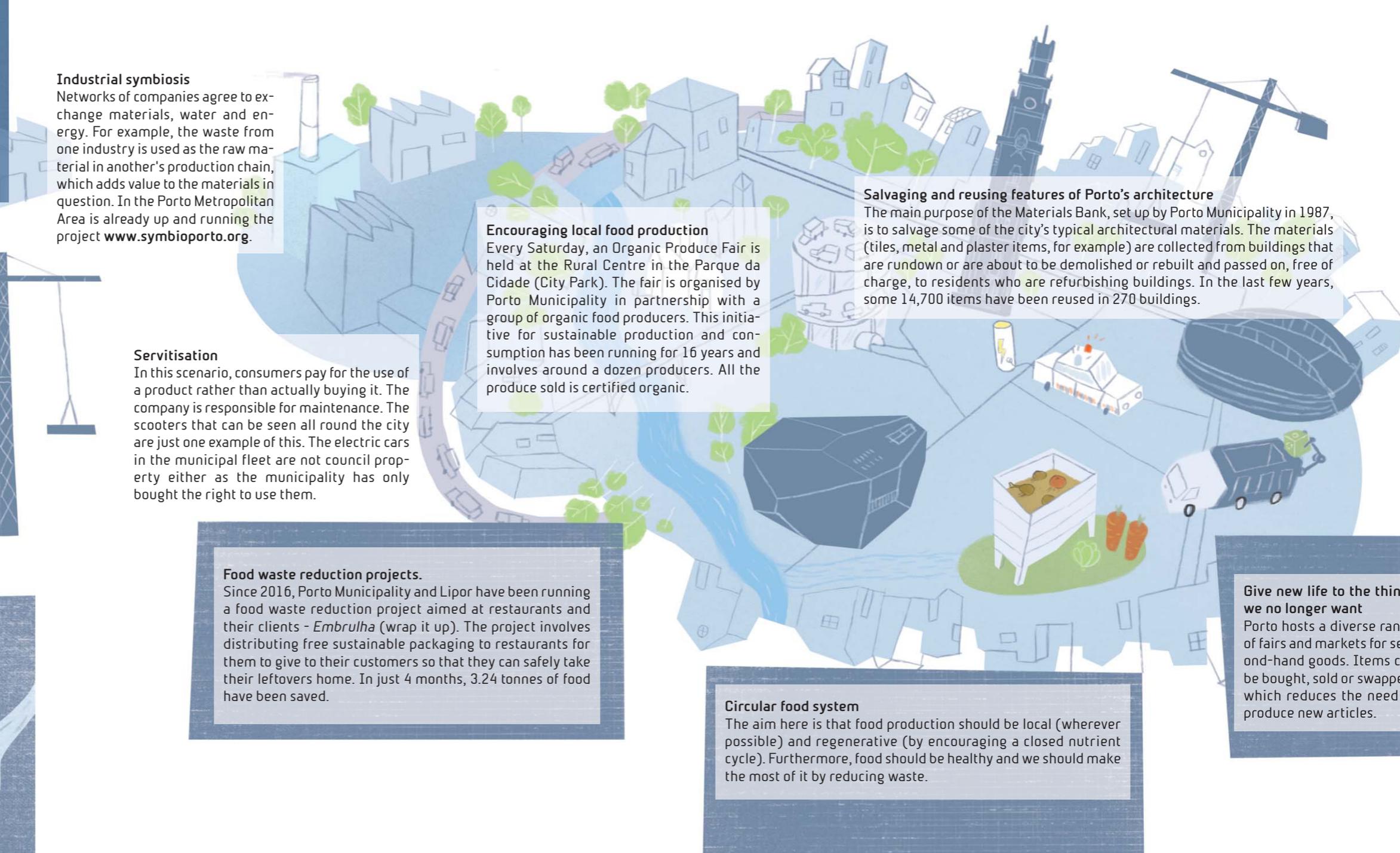
The main purpose of the Materials Bank, set up by Porto Municipality in 1987, is to salvage some of the city's typical architectural materials. The materials (tiles, metal and plaster items, for example) are collected from buildings that are rundown or are about to be demolished or rebuilt and passed on, free of charge, to residents who are refurbishing buildings. In the last few years, some 14,700 items have been reused in 270 buildings.

### Circular food system

The aim here is that food production should be local (wherever possible) and regenerative (by encouraging a closed nutrient cycle). Furthermore, food should be healthy and we should make the most of it by reducing waste.

### Give new life to the things we no longer want

Porto hosts a diverse range of fairs and markets for second-hand goods. Items can be bought, sold or swapped, which reduces the need to produce new articles.



# Nature Based Solutions

Nature-inspired recovery

In an ever more urbanised world, some of nature's properties and intelligence have been lost in the way that spaces are managed. Many green (vegetation) and blue (water) surfaces have been transformed over time into grey (impermeable) surfaces. This has serious implications for the quality of life and increases environmental risks. Attempts are currently being made to bring some of that natural engineering back to cities, so as to ensure sustainable, economical, multi-purpose and flexible solutions to a range of environmental challenges. This movement recognises that it is more advantageous - ecologically and economically - to work with nature than against it.

With a view to improving the land, Porto Municipality has been developing and supporting a number of projects that implement nature-based solutions designed to promote biodiversity, respect the city's natural water cycle, increase the carbon storage capacity, make the best use of the soils, reduce energy consumption, and generally make the city a more pleasant and comfortable place for both residents and visitors.

**Porto is developing nature-based solutions that promote biodiversity, respect the natural water cycle, store carbon, make the best use of the soils, reduce energy consumption and make the city a better place for everyone.**

Nature-based solutions employed in Porto include planting more native or local species of trees; expanding the network of municipal produce gardens with the introduction of aquaponic techniques and self-watering beds; studying the potential for green roofs in the city (through the Projeto Quinto Alçado do Porto - Porto Fifth Façade Project) and installing them in municipal buildings; re-naturalising water courses and integrating the management of the whole water cycle; and conducting research into cleaning up bodies of water using phytoremediation.

The municipality is currently working on two jointly funded projects (H2020 and LIFE) for nature-based solutions: the creation of a health corridor in the eastern part of the city and the improvement of the bioclimatic comfort of the pupils at a primary school.

## Using nature's intelligence in urban management

The use of nature-based solutions in city planning helps to improve the quality of life, ameliorate some of the effects of climate change and manage natural resources in a sustainable fashion. Porto is implementing a range of solutions.

### Better public space

In Campanhã, the city is running a participatory project to create a network of healthy corridors between residential areas. Residents are involved in identifying their habitual routes and the routes they would like to see implemented. The interventions to be carried out will employ nature-based solutions. The project, called URBiNAT, is funded by H2020 and involves dozens of partners.

### Green and blue solutions that serve the people

The six hectare Parque Central da Asprela (Asprela Central Park) is going to be built on the university campus. The park will help with managing the Asprela Stream and harmonising it with the surrounding green space. Good drainage (which reduces the frequency of flooding) will be ensured by stabilising river beds and banks and making the ground more permeable. Work will be completed in 2021.

### Porto's native trees are FUN

The FUN Porto (Native Urban Woodlands in Porto) project promotes a wider engagement with the expansion of Porto's urban woodlands. Because trees are good for the land, people and the city's economy. This native tree propagation and planting project is run by Porto Municipality and contributes to FUTURO - the project for planting 100,000 trees in the Porto Metropolitan Area.

### Nature laboratory

The Porto BioLAB (Quinta de Salgueiros) is a pilot area for optimising ecosystem services, whether environmental, cultural, social or economic. Preparatory work is under way and an ideas competition for the area will be launched soon. This will respect the ecological and social premises that the municipality wants to see embedded in the area.

### Roofs in bloom

The Porto Fifth Façade Project (PGAP) is a partnership between the municipality and the National Green Roofs Association (ANCV). The project's objective is to ensure green roofs remain part of the city's strategy. Green roofs are natural roofs, with plants, that improve the thermal insulation of buildings, retain water during peak rainfall, store carbon, promote biodiversity and improve the urban landscape.

### More comfortable buildings

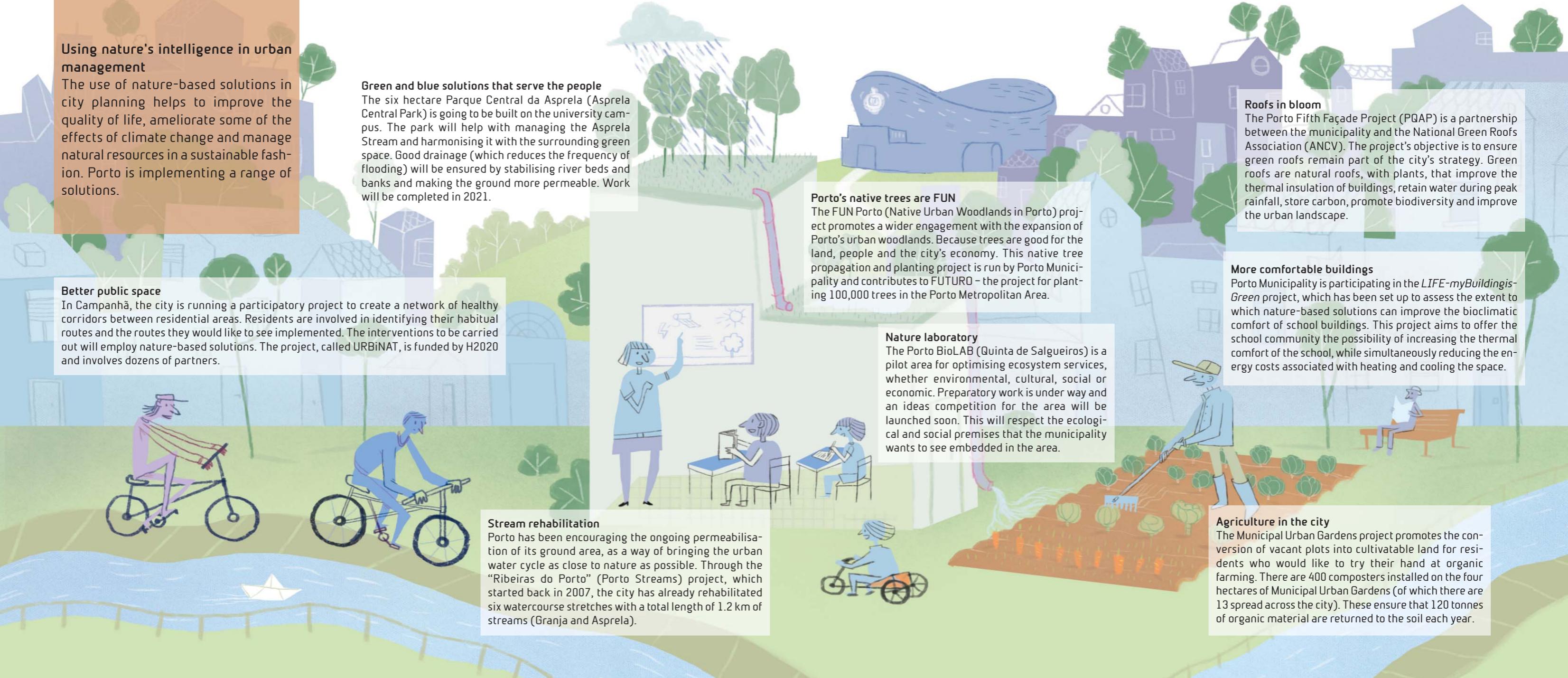
Porto Municipality is participating in the *LIFE-myBuildingis-Green* project, which has been set up to assess the extent to which nature-based solutions can improve the bioclimatic comfort of school buildings. This project aims to offer the school community the possibility of increasing the thermal comfort of the school, while simultaneously reducing the energy costs associated with heating and cooling the space.

### Stream rehabilitation

Porto has been encouraging the ongoing permeabilisation of its ground area, as a way of bringing the urban water cycle as close to nature as possible. Through the "Ribeiras do Porto" (Porto Streams) project, which started back in 2007, the city has already rehabilitated six watercourse stretches with a total length of 1.2 km of streams (Granja and Asprela).

### Agriculture in the city

The Municipal Urban Gardens project promotes the conversion of vacant plots into cultivatable land for residents who would like to try their hand at organic farming. There are 400 composters installed on the four hectares of Municipal Urban Gardens (of which there are 13 spread across the city). These ensure that 120 tonnes of organic material are returned to the soil each year.



# Biodiversity

There's a lot of life in the city

Biodiversity refers to the variability of genes, species and natural habitats. It forms the underlying support structure for life on Earth and most human needs: food, raw materials, water, among other things, all depend on biodiversity.

The greater the biological diversity, the more solid the planet's capacity to adapt to environmental change and the greater the scope for discoveries in areas like medicine, food and economic development.

Although its territory is entirely consolidated, the city of Porto nevertheless provides a number of natural habitats that are of great importance and less evident in an urban context. This is the case of the River Douro and its estuary, the ocean front, the network of streams, ponds and escarpment areas, and also the various parks and green spaces and some pockets of agriculture.

**Porto is endowed with important natural habitats, such as the River Douro and its estuary, the ocean front, the network of streams, ponds and escarpment areas, and also the various parks and green spaces and some pockets of agriculture.**

More than a series of fragmented spaces, the municipality is striving to interconnect these habitats located in permeable areas of the urban fabric, paradigmatic examples of which are parks, gardens and family-run farms, which have great potential for fixing native species of fauna and flora, and to consolidate a degree of environmental variety consistent with a healthy, biodiverse ecosystem.

Porto is committed to enhancing the biodiversity of its territory with a series of projects and initiatives to enlarge and improve naturalised areas. One of the most prominent of these is the "Native Urban Woodlands of Porto" project ("Florestas Urbanas Nativas do Porto" - FUN Porto), which project's main objective is to expand the city's green structure using indigenous species and to promote the connection between residents and the naturalised spaces essential to the city's sustainability.

### Promoting biodiversity

The projects that the municipality has established with a view to promoting biodiversity are focused above all on creating and improving habitats and combatting exotic species. Here are some of them.

### Where indigenous trees and shrubs grow

The FUTURO Indigenous Trees and Shrubs Nursery project, which is based in the Porto Municipal Nursery, produces the indigenous trees and shrubs that are used in biodiversity projects across Porto and in ecological rehabilitation initiatives that are part of the FUTURO project for planting 100,000 trees in the Porto Metropolitan Area. Between 2014 and 2019 were grown 75,000 indigenous trees and shrubs.

### Biodiversity in the River Tinto

The project to clean up and requalify the banks of the River Tinto has doubled the area of *Parque Oriental* (the East Park) from 9 to 20 hectares and permitted the creation of new habitats for vertebrates: fish and amphibians have already been spotted. Regular monitoring of the fauna of the River Tinto is one of the municipality's ambitions for the next few years.

### An unwanted exotic species

Porto Municipality has a programme in place to monitor and destroy nests of the Asian hornet (*Vespa velutina*), an exotic species that is a predator on the European bee, as such it constitutes a threat to biodiversity and to sectors of honey and fruit production.

### Ending the use of chemical pesticides

In 2015, Porto Municipality, aware of the risk glyphosate poses to the health of both ecosystems and humans, banned the use of this chemical pesticide in the control of (unfairly named) "weeds".

### Unlikely fauna

Although the land is entirely consolidated, Porto nevertheless provides natural habitats for several species of bat, for the Iberian emerald lizard, the midwife toad, the newt, the gecko, the peregrine falcon, the kingfisher and the genet.

### Urban woodlands network

With the goal of promoting biodiversity, ecosystem benefits, adaptation to climate change and landscape improvements, the Biospots Network programme aims to plant native and regional species on vacant plots of land that can't be built on or are close to major traffic routes (junctions, slopes, etc.).



# Green areas

A vast and growing asset

Porto aspires to be a green city. Strategic concerns regarding the planning of the city's green areas currently include ensuring a connection between new spaces and recovering existing spaces in the form of green corridors - the *continuum naturale* - as well as creating local gardens close to where people live and work.

Porto currently has over 455 hectares of green areas open to the public. These will shortly be joined by a further 160 hectares. This ambitious expansion, already underway, includes the requalification of the Tinto River and the expansion of Parque Oriental, Parque Central da Asprela, Terminal Intermodal de Campanhã, Escarpa das Fontainhas, Parque da Lapa and Parque de S. Roque, amongst others. Porto currently boasts some 22 m<sup>2</sup> of open-access green areas per inhabitant.

The municipality has implemented a series of initiatives to restore and improve the city's parks and gardens. It has also taken steps to conserve and

**Porto's new Municipal Master Plan includes a target of doubling the number of public green areas in the city over the next decade.**

protect trees: more than 65,000 trees in municipal parks and streets have already been inventoried. One of the municipality's main concerns has been to ensure its arboreal asset base is properly maintained, while also safeguarding people and property from the risk of falling trees through risk mitigation policies.

Private spaces are also part of the city's green infrastructure. They have an important role in the benefits they provide the city, and Porto Municipality counts on the collaboration of residents to enhance their gardens, terraces and patios by planting indigenous trees and shrubs, to promote better quality of life for all citizens and for the city. Approximately 6,000 indigenous trees and shrubs have already been given away to Porto residents to plant in their gardens.

## Growing green areas

With a view to improving the quality of life of its residents, Porto Municipality is working hard to maintain existing green spaces and to create new spaces wherever possible.

### Xylella, a truly nasty plant bacterium

Porto Municipality is working with the Ministry of Agriculture, Forests and Rural Development to eradicate *Xylella fastidiosa*. This is a dangerous plant bacteria that causes a range of diseases in plants, although it is not harmful to people or animals.

### Controlling a beetle to protect palm trees

The municipality has implemented a programme to prevent and control the palm weevil (*Rhynchophorus ferrugineus*) infestation, particularly in the city's iconic *Jardim do Passeio Alegre*. This programme is carried out using natural, organic, biodegradable products that are non-toxic and non-contaminating.

### Get to know Porto's trees

Following the initial survey, which identified 65,000 public trees in the city, the Municipality is now committed to assess in detail all these specimens located in tree-lined streets, schools, cemeteries and squares and gardens. This inventory taking is a dynamic process.

### Plan where to plant

The Municipal Tree-Planting Plan is in development and, when completed, will set out a planting and replacement programme for the short-, medium- and long-term, that will help the ecosystem functions and services generated by the trees (support, provision, regulation and cultural), and to actively contribute to the process of adapting the city to climate change.

### If you have a garden, we have a tree for you

This programme supports organisations and residents in planting trees and expanding the city's green structure in private spaces. These plants are grown in Porto's municipal nursery, with the collaboration of municipal employees, specialists and countless volunteers. Approximately 6,000 plants have already been given away in the context of this initiative.

### Green area per city resident

The area of available green space per inhabitant in Porto is 22 m<sup>2</sup>. This indicator was recently updated and incorporating privately managed spaces with public access in the calculation.

### Protecting trees and people

One of the municipality's main concerns has been to safeguard the city's trees while keeping people and property safe. Information about pruning and felling is published in advance on the municipality's website ([www.cm-porto.pt/podas-e-abates](http://www.cm-porto.pt/podas-e-abates)).

### The city's trees are part of its heritage

In Porto there 240 trees of "public interest", classified across three major types (single tree, stand and avenue). Trees of public interest are examples of trees that stand out for their particular characteristics and so warrant similar status to the classified built heritage.



# Water

## Circular and integrated management

Contrary to appearances, water does not spring anew. Water flows across the planet in various physical states (gaseous, liquid, solid) to form an efficient natural cycle. The clouds, the rain, the snow and the ice, the rivers and streams and the oceans are some of the moving parts of this giant cycle.

The urban environment has added an extra layer of complexity to the water cycle (pipes for potable water, wastewater sewage pipes, wastewater treatment plants, rainwater networks, impermeable areas, amongst others). However, the key importance of this resource to the very survival of all living things reinforces the need for a responsible management model for the urban water cycle.

To this end, Porto Municipality has decided to place the management of the entire urban water cycle (water supply, wastewater drainage and treatment, rainwater drainage, streams and rivers) in the hands of Águas do Porto. This municipal company is applying a new paradigm, known as Water Sensitive Urban Design (WSUD), which involves integrating the management of the water cycle with urban design and planning. This makes it possible to support rich ecosystems, healthy living styles and sustainable livelihoods.

Porto's water supply network offers 100% coverage and the city confidently carries a great deal of responsibility for the quality of the water it distributes to its residents. This level of confidence ensues from the Water Safety Plan and from tight quality control. Together, these ensure the water that

**Porto has taken full responsibility for the urban water cycle in the city. It has set up Águas do Porto to sustainably manage the water supply network, the wastewater drainage and treatment systems, the rainwater network, the streams and the beaches.**

comes out of the taps is as good as it can possibly be. Each year, more than 25,063 tests are carried out and 99.6% of these show that the water is of excellent quality.

The rainwater drainage system, which is separate from the domestic wastewater network, has a total length of some 600 km. This network harks back to 1896 and was truly innovative at the time. Currently, it increases the efficiency of the waste treatment, by fostering greater regularity in the flows sent to the WWTP. It reduces the impact of peak flows in the waste network caused by intense rainfall and obviates the need for complex rainwater treatments, thus reducing costs and keeping the water in its natural cycle.

Porto has four rivers and 12 streams that have a total length of 66 km, of which 25% is open air. Porto has been working steadily on various permeabilisation projects and (since 2006) has invested in three priority areas: depollution, removal of pipes and rehabilitation. Wherever possible, streams have been brought back to the surface.

The urban water cycle also includes beach management. All of Porto's beaches are currently Blue Flag holders.

Find out more at [www.cm-porto.pt](http://www.cm-porto.pt) | [www.aguasdoporto.pt](http://www.aguasdoporto.pt)

### Integrated management of the city's water

The municipal company Águas do Porto does an integrated and sustainable management of all the water that enters and falls in Porto (water supply, drainage and treatment of wastewater, rainwater drainage, streams and beaches).

### High quality water for consumption

Water for public supply in Porto is supplied to the municipality upstream by the company Águas do Douro e Paiva, through 11 delivery points installed along two main pipelines. Downstream delivery is the responsibility of Águas do Porto. The city's water distribution system extends over 818 km and the exacting Water Safety Plan ensures that Porto's water is of an excellent quality.

### Porto's water management is inspired by nature

The Porto Streams Project establishes the commitment to ensure that the strongly urban nature of the city is compatible with its water resources. It seeks to improve water quality by eliminating the main pollution hotspots (depollution), rehabilitating open-air streams (rehabilitation) and, wherever possible, converting piped watercourses into green areas (removal of pipes).

### A city that manages its water intelligently

Porto is well on its way towards becoming a "Water Wise City", having adhered to the 15 principles set out by the IWA (International Water Association). In essence, these principles underpin the sustainable management of the urban water cycle in resilient cities, in the context of climate change, whilst also delivering quality of life and a competitive economy.

### 100% Blue Flag beaches

Porto has three km of coastline, divided into four bathing areas and 9 beaches, all of which have a Blue Flag. These flags have been awarded in recognition of the municipality's investment in improving the quality of the water in the streams and rivers. This has been achieved by enhancing and innovating the wastewater drainage and treatment systems and rainwater drainage system, by investing in stream rehabilitation and the widening of permeable areas to allow rainwater to enter the ground more easily.

### More efficient watering

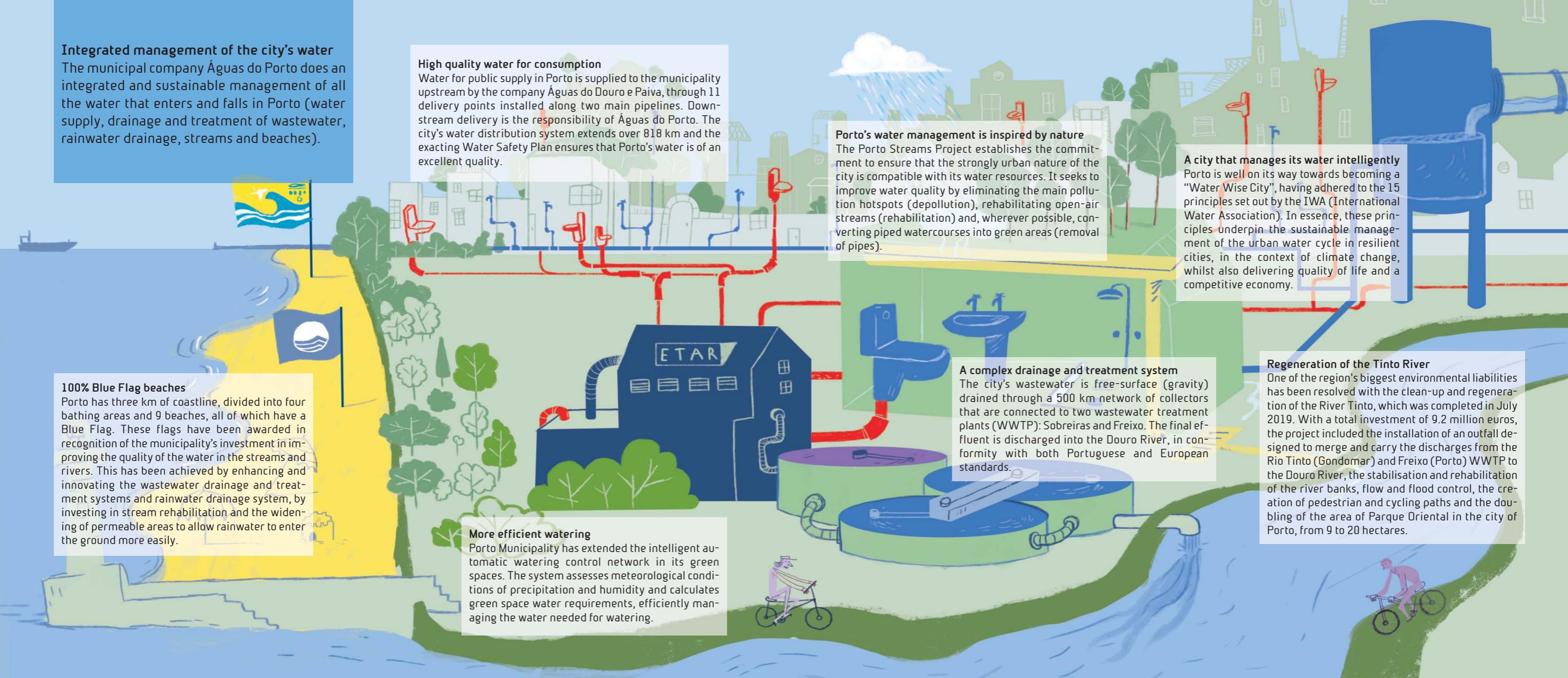
Porto Municipality has extended the intelligent automatic watering control network in its green spaces. The system assesses meteorological conditions of precipitation and humidity and calculates green space water requirements, efficiently managing the water needed for watering.

### A complex drainage and treatment system

The city's wastewater is free-surface (gravity) drained through a 500 km network of collectors that are connected to two wastewater treatment plants (WWTP): Sobreiras and Freixo. The final effluent is discharged into the Douro River, in conformity with both Portuguese and European standards.

### Regeneration of the Tinto River

One of the region's biggest environmental liabilities has been resolved with the clean-up and regeneration of the River Tinto, which was completed in July 2019. With a total investment of 9.2 million euros, the project included the installation of an outfall designed to merge and carry the discharges from the Rio Tinto (Gondomar) and Freixo (Porto) WWTP to the Douro River, the stabilisation and rehabilitation of the river banks, flow and flood control, the creation of pedestrian and cycling paths and the doubling of the area of Parque Oriental in the city of Porto, from 9 to 20 hectares.



# Energy

Greater efficiency, lower consumption and less carbon

**Since the first quarter of 2020, the electricity purchased by the municipality for its buildings has been 100% renewably generated.**

There is a general consensus that climate change is one of today's great challenges. The scientific community is unanimous in its determination that this change results from human activity, from the emission of greenhouse gases (GHG) generated through the burning of fossil fuels (coal and oil derivatives) to obtain energy for transportation and housing, among other uses.

The best way of reducing GHG emissions is to use energy rationally, increase energy efficiency and promote the use of alternative (renewable) energies whilst avoiding the use of fossil fuels.

Porto intends to be an energy efficiency benchmark for Portuguese cities and plans to be carbon neutral by 2050. In 2019, Porto signed the Covenant of Mayors for Climate and Energy and voluntarily took on a commitment to reduce GHG emissions by 50% by 2030 (compared to 2004).

In order to help realise its transition to more efficient and sustainable energy systems, Porto set up the AdEPorto (Porto Energy Agency) in 2007. Both public and private entities are members of this private non-profit association, which currently covers the metropolitan area.

AdEPorto has developed several studies, plans and projects and as a result of this work and the increasing contribution of renewable energy sources to electricity generation, Porto managed to reduce its GHG emissions by 36.2% in 2018. This figure continues to trend upwards.

Most of the GHG emissions in the municipality are generated by the transport sector and service buildings, which together account for 90% of all emissions.

The reduction seen in transport emissions between 2004 and 2017 is attributable to the entry into operation of Metro do Porto and the renewal of the fleet of public buses.

The reduction in building emissions is related to the decarbonisation of electricity production, complemented by self-consumption measures involving the installation of photovoltaic parks in public buildings, as is the case of the Porto Solar Project.

The more rational and efficient the use of energy in buildings is, the more effective these measures will be. Measures that have been implemented in this regard include changing equipment (e.g. LED lighting and heat pumps) and reducing air-conditioning energy needs through an appropriate treatment of the surroundings.

### One commitment, many projects

Porto has signed the Covenant of Mayors for Climate and Energy and committed to reducing GHG emissions by 50% by 2030. According to the Porto Energy Agency's 2020 report, the city has already achieved a reduction of 36.2%. The municipality is confident that it will hit its target, thanks to the various energy efficiency projects under way.

### Electricity from 100% renewable sources

Since 2020, all the electricity purchased by Porto Municipality for its municipal buildings has been fully produced from renewable sources (certified).

### Porto solar sees the light of day

The "Porto Solar" project benefits 29 public service buildings, generates electricity cost savings of 149,000 euros per year and reduces GHG atmospheric emissions by 505 tonnes per year. The project, which will also cover the charging of electric vehicles (EV) and pilot schemes for local energy storage.

### More comfort for residential buildings

Domus Social, the municipal company that manages public housing, is committed to increasing the thermal comfort of municipal tenants, allowing families to reduce their energy bills and ecological footprints. The improvement has been achieved through passive measures (such as the application of thermal insulation and the replacement of existing glazing) and active measures such as the installation of solar photovoltaic panels for common areas in buildings and solar thermal panels for heating hot water.

### Saving energy when treating water

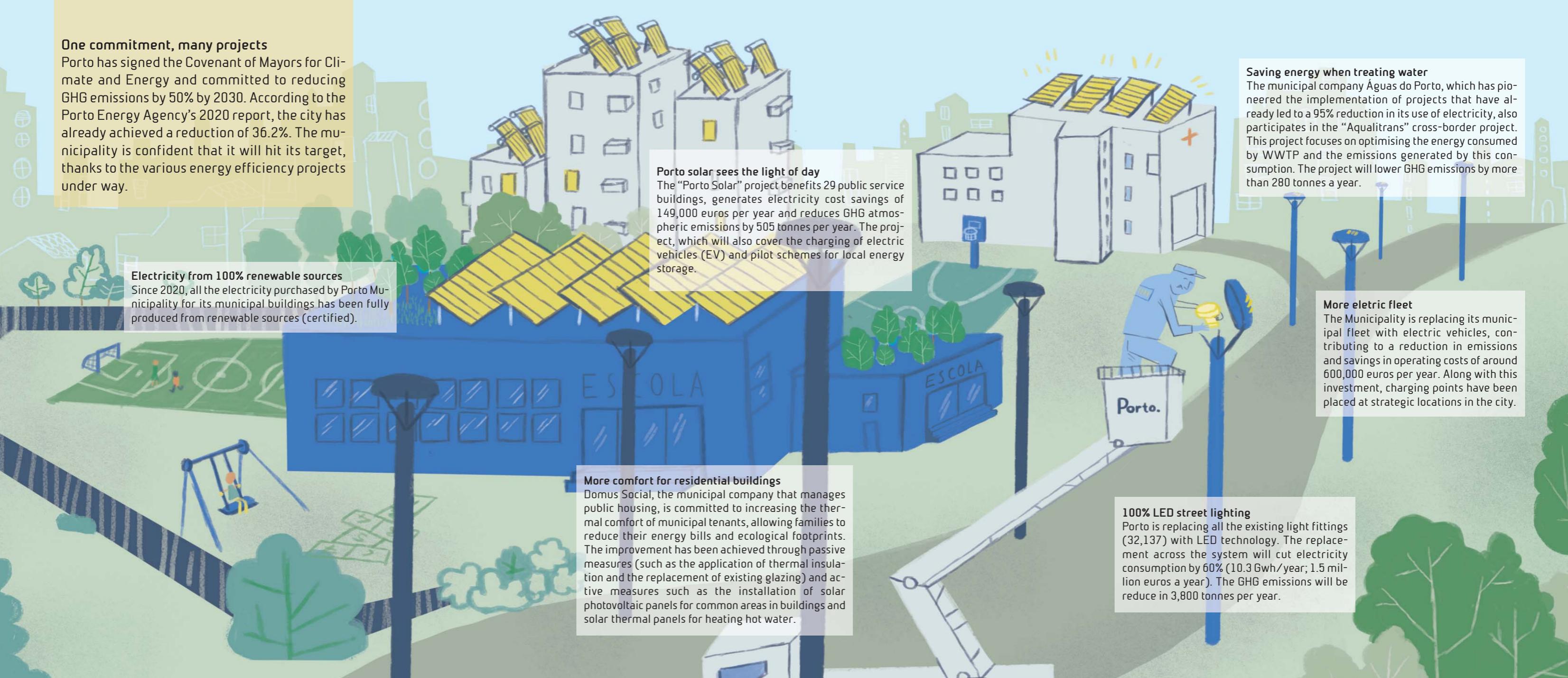
The municipal company Águas do Porto, which has pioneered the implementation of projects that have already led to a 95% reduction in its use of electricity, also participates in the "Aqualitrans" cross-border project. This project focuses on optimising the energy consumed by WWTP and the emissions generated by this consumption. The project will lower GHG emissions by more than 280 tonnes a year.

### More electric fleet

The Municipality is replacing its municipal fleet with electric vehicles, contributing to a reduction in emissions and savings in operating costs of around 600,000 euros per year. Along with this investment, charging points have been placed at strategic locations in the city.

### 100% LED street lighting

Porto is replacing all the existing light fittings (32,137) with LED technology. The replacement across the system will cut electricity consumption by 60% (10.3 Gwh/year; 1.5 million euros a year). The GHG emissions will be reduced by 3,800 tonnes per year.



# Mobility

A city for its people

As the transport sector is responsible for the greater part of the city's greenhouse gas emissions (GHG), Porto is acting progressively in this area.

On the one hand, and as defined in the Municipal Environmental Strategy, Porto is taking part in an energy revolution and aims to set a national benchmark for electric mobility. The municipal fleet of light vehicles has already been renewed (70% of the fleet is already electric or hybrid plug-in) and the fleet of municipal solid waste collection vehicles (from the Porto Municipal Environment Company) is being upgraded.

On the other hand, and aware of its responsibilities as regards changing behaviours, the municipality has taken steps to improve, add value and encourage the use of public transport.

Porto Municipality (together with others in the PMA) owns the Porto Collective Transport Service (STCP) and, thus, can more easily influence the prioritising of this mode of transport and ways of improving customer service. For example, extending bus lanes, optimising urban lines and relocating terminals are some of the priority public transport measures that have already been implemented. The renewal of the bus fleet, replacing diesel vehicles with

**Porto has invested in electric mobility, public transport and soft mobility, and has recently created a plan to gradually recover public spaces for people use.**

electric and natural gas vehicles, is another measure that has been ongoing since 2018.

Metro do Porto is currently building a line to link two city hubs (Boavista - Baixa).

In 2019, the single metropolitan pass was introduced (€30/month for all public transport in the city and €40/month in the Porto Metropolitan Area), as was free travel for children up to the age of 12. This age limit has recently been extended to 18.

No less important has been Porto's investment in its Public Space Recovery Plan. This has involved the expansion of the cycle-path network, the availability of free and safe bicycle parking and experimental temporary closures to traffic of streets that are heavily used by both pedestrians and vehicles (16 pedestrian zones in three areas of the city; from 8 am on Saturday to 8 pm on Sunday).

There will soon be 210 bike and scooter sharing points in the city and motorcycles are allowed to use all bus lanes.

The whole city is moving in a different way.

## Cut carbon emissions and give the city back to its people

Porto has several measures in place to decarbonise transport and promote the use of public transport and soft modes of travel.

### Promotion of soft mobility

Porto currently has 15 km of cycle lanes, which will grow to 35 km by the end of 2020. There are 130 guarded and free bicycle parking spaces in the parking facilities managed by the municipality. There will also be 210 bike and scooter sharing points in the city, as well as 72 bike racks offering 520 parking slots.

### A more ecological municipal fleet

In 2018, 70% of the light vehicles (diesel) in the municipal fleet were replaced with electric vehicles or plug-in hybrids. This involved a total of 390 vehicles. This measure has cut CO<sub>2</sub> emissions by 542 tonnes and fuel costs by 600,000 euros a year.

### Porto Metro

The Porto Metro network, which links seven municipalities along a 67 km network and has its centre in Porto, has taken 12,983 individual vehicles off the road (between 2002 and 2018) and is responsible for cutting CO<sub>2</sub> emissions by 45,000 tonnes per year. A new line is being built in Porto to connect two city hubs (Boavista and Baixa). In 2019, the single metropolitan pass was introduced (€40/month for all public transport in the Porto Metropolitan Area). In 2020, children and young people under 18 can travel freely in the city.

### Public bus fleet

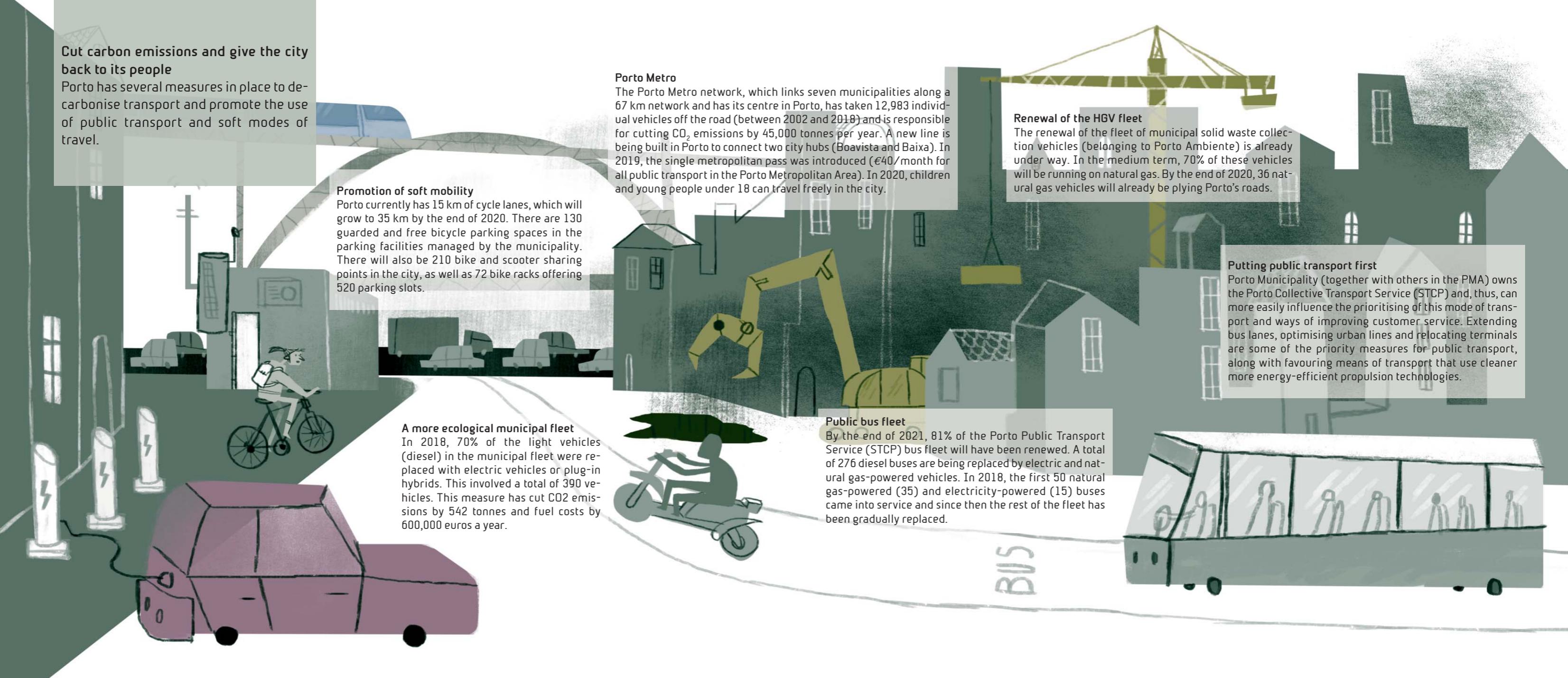
By the end of 2021, 81% of the Porto Public Transport Service (STCP) bus fleet will have been renewed. A total of 276 diesel buses are being replaced by electric and natural gas-powered vehicles. In 2018, the first 50 natural gas-powered (35) and electricity-powered (15) buses came into service and since then the rest of the fleet has been gradually replaced.

### Renewal of the HGV fleet

The renewal of the fleet of municipal solid waste collection vehicles (belonging to Porto Ambiente) is already under way. In the medium term, 70% of these vehicles will be running on natural gas. By the end of 2020, 36 natural gas vehicles will already be plying Porto's roads.

### Putting public transport first

Porto Municipality (together with others in the PMA) owns the Porto Collective Transport Service (STCP) and, thus, can more easily influence the prioritising of this mode of transport and ways of improving customer service. Extending bus lanes, optimising urban lines and relocating terminals are some of the priority measures for public transport, along with favouring means of transport that use cleaner more energy-efficient propulsion technologies.



# Urban waste

## A business solution

Urban waste management consists of waste prevention, collection, transportation, storage, sorting, processing, recovery and disposal. This work is carried out in line with environmental policies and regulations. It prioritises a hierarchy founded on sustainability-oriented management principles that see waste as a raw material.

Since 2017, Porto Ambiente - the Porto Municipal Environment Company - has been responsible for the urban waste management system and the cleaning of public areas in Porto Municipality. The company works to prevent waste production and collects and transports waste within the municipality. Collected waste is taken to *LIPOR - Serviço Intermunicipalizado de Gestão de Resíduos do Grande Porto*, Greater Porto's intermunicipal waste management service, which carries out the remaining management operations.

**In 2019, Porto delivered 31,386 tonnes of selective waste for recycling. It also sent about 6,950 tonnes of organic waste to Lipor, to produce fertiliser through composting.**

Approximately 146,870 tonnes of urban waste were produced in Porto Municipality in 2019. Of this, 79% was unsorted waste and 21% selectively collected waste. In 2019, selective waste take-back totalled 68.8 kg/inhab./year, which was above the target set for 2020. The rate of preparation for reuse and recycling was 37.4%, which exceeded the 2020 target of 30.7%.

Waste collection in Porto is carried out by means of a network of bins and containers and predefined routes for the collection of unsorted and sorted waste.

There are over 5,000 containers on the streets for the collection of unsorted waste. A total of 115,400 tonnes of unsorted waste were collected in 2019 and sent to LIPOR's Energy Recovery Plant, where it is incinerated to produce electricity.

### Less waste, more resources

On waste management, Porto has several measures under implementation to turn waste into resources. City waste is sent for recovery (energy, organic or multimaterial), fulfilling with the "zero landfill" policy.

### Public cleaning

Porto Ambiente provides a daily cleaning service for public spaces, in order to ensure the city's streets remain clean and healthy. Street-sweeping plans cover the whole city and this work is carried out with a regularity that matches the needs of each area. Street-sweeping is complemented by street washing and weeding. Porto Municipality also maintains, replaces, repairs and empties some 5,800 litter bins.

Porto Ambiente also deploys surface-cleaning teams on a daily basis. The purpose of this service is to clean the urban furniture, municipal equipment and buildings that are visible from public areas and have attracted posters, publicity or graffiti.

[www.portoambiente.pt](http://www.portoambiente.pt)

### Multi-material selective collection

Porto Ambiente selectively collects the glass, paper/cardboard and packaging waste streams via a network of 1,160 street recycling bins and through door-to-door collection systems for both the residential and non-residential sectors. In 2019, 6,030 tonnes of glass, 6,200 tonnes of paper and cardboard and 3,380 tonnes of packaging were collected. These materials are sent on to LIPOR's sorting plant, where they are prepared so they can be sent for recycling.

### Green waste collection

Porto Ambiente offers two solutions for garden waste and tree clippings: (i) free collection from homes, institutions and other entities, with a reusable bag provided for the waste, and (ii) disposal at the Drop-off sites.

### Home collection

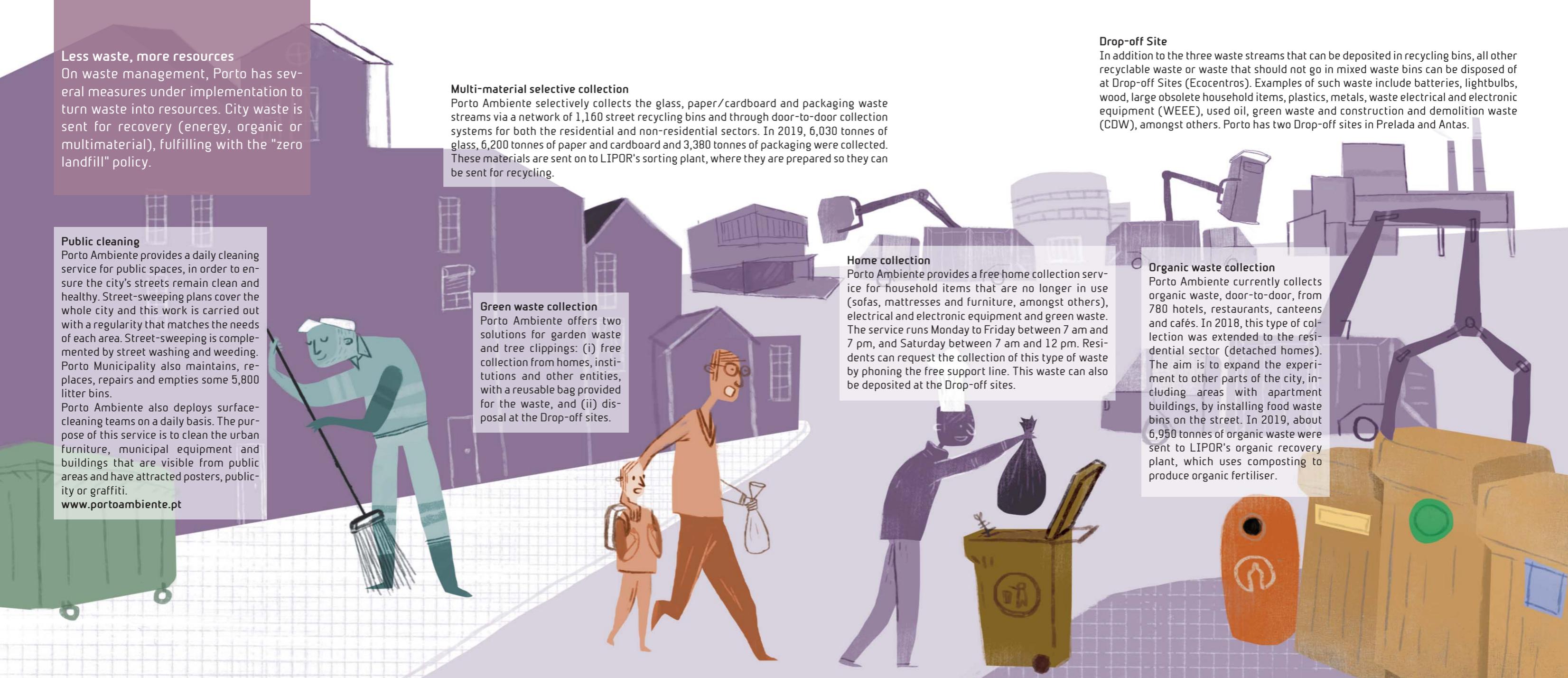
Porto Ambiente provides a free home collection service for household items that are no longer in use (sofas, mattresses and furniture, amongst others), electrical and electronic equipment and green waste. The service runs Monday to Friday between 7 am and 7 pm, and Saturday between 7 am and 12 pm. Residents can request the collection of this type of waste by phoning the free support line. This waste can also be deposited at the Drop-off sites.

### Drop-off Site

In addition to the three waste streams that can be deposited in recycling bins, all other recyclable waste or waste that should not go in mixed waste bins can be disposed of at Drop-off Sites (Ecocentros). Examples of such waste include batteries, lightbulbs, wood, large obsolete household items, plastics, metals, waste electrical and electronic equipment (WEEE), used oil, green waste and construction and demolition waste (CDW), amongst others. Porto has two Drop-off sites in Prelada and Antas.

### Organic waste collection

Porto Ambiente currently collects organic waste, door-to-door, from 780 hotels, restaurants, canteens and cafés. In 2018, this type of collection was extended to the residential sector (detached homes). The aim is to expand the experiment to other parts of the city, including areas with apartment buildings, by installing food waste bins on the street. In 2019, about 6,950 tonnes of organic waste were sent to LIPOR's organic recovery plant, which uses composting to produce organic fertiliser.



# Education for Sustainability

Observe, experiment, do

Porto Municipality sees environmental education as a tool for involving people in the process of transiting to a more sustainable city and, basically, changing behaviours in the expectation that these may have lasting effects.

Porto Municipality understands that environmental problems persist because there is still a gap between the way nature works and the way people think (and consequently act). And a levelling of this situation is crucial.

Hopefully, the environmental education initiatives organised by Porto Municipality will help people to:

- understand environmental processes
- develop a concern for sustainability and a collective environmental awareness
- become familiar with solutions and options
- acquire skills that are useful in everyday life
- feel that they are able to learn in and with nature and experience pleasure in such contact
- have the chance to collaborate in concrete actions that produce positive and visible results

Porto recently set up its Virtual Environmental Education programme, which complements the hundreds of face-to-face activities that take place each year at its Environmental Education Centres.

The environmental education initiatives organised by Porto Municipality began back in the 1990s. At that time, a strong investment was made in the promotion of the selective separation of waste, as a result of the need to comply with national guidelines. In 1997, the pioneering Covelo Urban Garden was set up. Today, the garden still attracts thousands of children and young people, who come here to grow organic food and engage with nature's natural cycles.

The environmental education team has kept on growing, as have the facilities. In 2005, a first network of three Environmental Education Centres was set up. This has since been expanded to five centres, which now work with 50,000 people each year.

Every day, the centres run more than twenty free workshops that cover most environmental issues. There is also a special programme of seasonal workshops (run during school holidays). There are two pedagogical produce gardens in continuous operation (Covelo and the Rural Centre in the Parque da Cidade) and these also offer initiatives, such as the Environment in Family scheme, that are aimed at adults and families.

The Virtual Environmental Education programme was launched in the first half of 2020. This uses the internet to deliver contents, experiences and learning opportunities to all those who are interested.

### Projects for all ages

Porto Municipality runs a number of environmental education activities and projects. The activities are free, open to all age groups and are mostly organised in Porto's green spaces.

### Learn to grow food

In the municipality's two pedagogical produce gardens - located in Parque do Covelo and the Rural Centre in Parque da Cidade - people can try their hand at organic farming. The first Porto Pedagogical Produce Garden was set up in 1997, in Parque do Covelo, with the objective of creating opportunities for younger people to follow plant cycles and vegetable growth, thus stimulating their curiosity and promoting a healthier diet. To date, over 100,000 people, from 400 institutions, an opportunity to engage with nature.

### Permanent environmental education programme

The municipality's education for sustainability strategy has spawned a multitude of projects. The "backbone" of this strategy is the decentralisation of activities across the city, through a daily programme of initiatives that are run at the municipality's five environmental education centres located in some of the city's most attractive natural spaces.

### Environment in the family

To discover and learn in family, the municipality offers activities on Saturdays to carry out experimental activities, art, field trips and observations of fauna and flora, among others.

### Take your projects out of the drawer

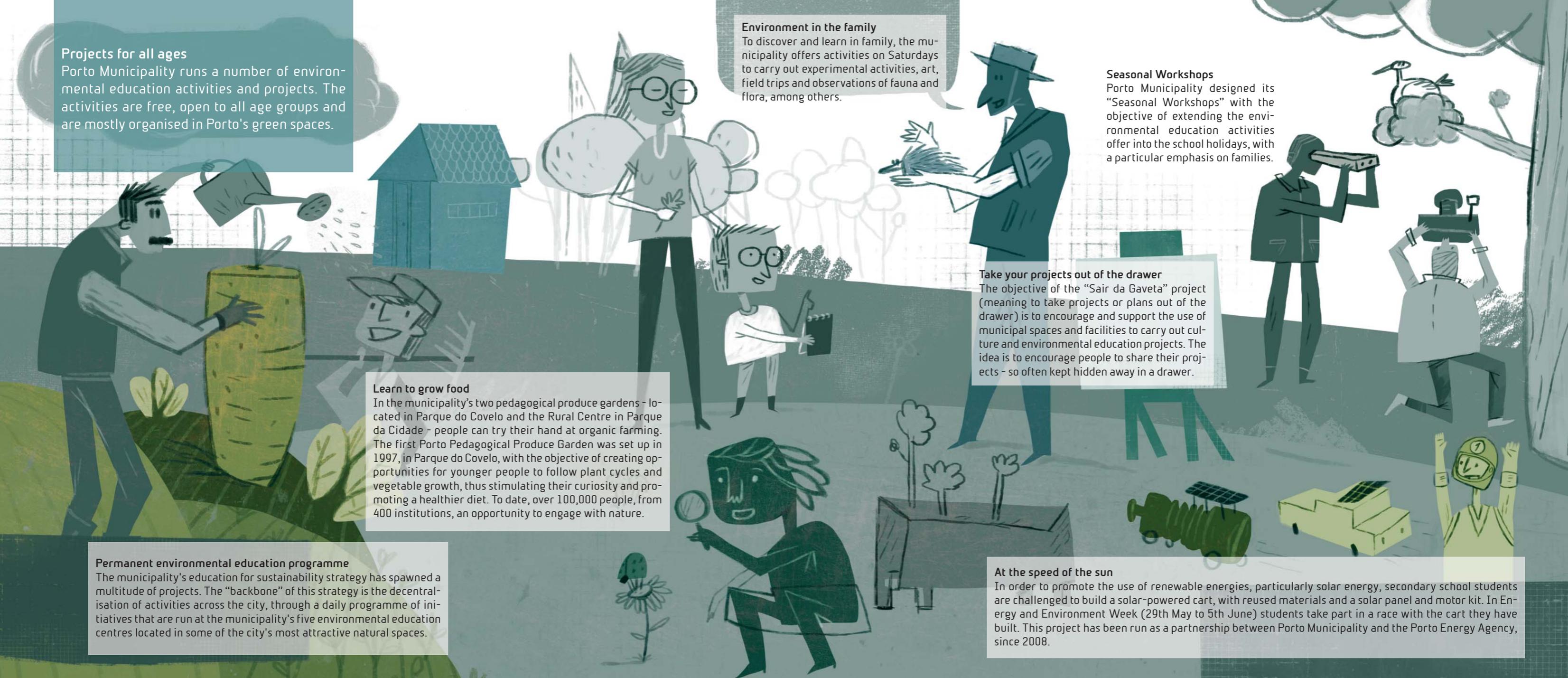
The objective of the "Sair da Gaveta" project (meaning to take projects or plans out of the drawer) is to encourage and support the use of municipal spaces and facilities to carry out culture and environmental education projects. The idea is to encourage people to share their projects - so often kept hidden away in a drawer.

### At the speed of the sun

In order to promote the use of renewable energies, particularly solar energy, secondary school students are challenged to build a solar-powered cart, with reused materials and a solar panel and motor kit. In Energy and Environment Week (29th May to 5th June) students take part in a race with the cart they have built. This project has been run as a partnership between Porto Municipality and the Porto Energy Agency, since 2008.

### Seasonal Workshops

Porto Municipality designed its "Seasonal Workshops" with the objective of extending the environmental education activities offer into the school holidays, with a particular emphasis on families.



# Animal well-being

A plan made real

**In 2020, Porto opened its new Official Animal Rescue Centre, a modern facility providing pet housing, welfare and adoption services.**

Porto Municipality has prioritised the improvement of its response to the challenges of public health and animal welfare. The Municipal Plan for the Control and Welfare of the Dog and Cat Populations is now up and running. This plan, drawn up in 2015, includes a medium and long-term strategy for the proper control of the dog and cat populations and the promotion of responsible adoption. This meets the city's legal obligations as well as the general recommendations of animal associations, the Order of Veterinary Doctors and the General Directorate for Food and Veterinary Matters.

The Municipal Plan for the Control and Welfare of Dog and Cat Populations was discussed and scrutinised with the relevant agencies - the Order of Veterinary Doctors, the General Directorate for Food and animal associations - and the following structuring measures were identified: a campaign to promote responsible adoption; sterilisation of all animals adopted from the City Animal Shelter, through the provision of sterilisation vouchers; training and skills enhancement for shelter handlers /workers; the socialisation of dogs in the adoption process, through the hiring of animal behaviour specialists; the abolition of euthanasia; the application of the CSR method (capture, sterilisation and return) to cat colonies; and the construction of a new animal rescue centre.

All these measures were implemented before they became a legal necessity. One of the cornerstones of the plan was the construction of a new shelter or official animal rescue centre (CROA). This replaced the existing unit, which was more than 80 years old, with a structure that would meet legal requirements and people's expectations. This unit opened in April 2020.

In addition to increasing the number of animals that can be sheltered, the CROA has a surgical block for the sterilisation of dogs and cats, an independent nursing room for treatment and clinical follow-up of the resident animals, exercise and socialisation areas and a grooming and washing area. These conditions will also allow for cooperation with the General Directorate for Food and Veterinary Matters (DGAV) regarding the accommodation of quarantined animals arriving from other countries. The new CROA also ensures that the adoption and official rescue services are physically and operationally separate, which makes for a better service and maximises responsible adoption of the animals housed by the centre.

### Caring for animals in need

Porto Municipality has implemented a number of measures for animal rescue, adoption and the dignified control of stray populations.



### Animal adoption

Unclaimed animals are cared for, given the opportunity to socialise and made available for adoption through an online platform. The municipality sterilises all animals adopted from the CRDA - Official Animal Rescue Centre. The centre also offers free chips, vaccinations, internal and external deworming/delousing and all the preventative healthcare required through to adoption.

### Official Animal Rescue Centre

The new Official Animal Rescue Centre (CRDA) in Campanhã, which has been open since April 2020, means the city now has a modern rescue centre, fully equipped to take in animals, look after their welfare and support pet adoption. The CRDA is an important step forward in terms of public health and the 2015 Municipal Plan for the Control and Welfare of the Dog and Cat Populations. These animals are now assured of a dignified level of housing and care.



### CSR cat colonies

The objective of the CSR (Capture-Sterilise-Return) programme is to control the number of wild strays, take care of the animals' welfare and reduce the number of unhealthy hotspots. Two of the city's leading animal associations collaborate closely with this programme. They were chosen because they have the vocation and skills required to mobilise the necessary resources and they coordinate a network of informal carers capable of complying with the management plans overseen by the municipal vets. Since 2019, 25 such colonies have been legalised and around 310 animals have been sterilised and dewormed/deloused.



# Noise

Understanding the sources and implementing measures

Porto Municipality has a responsibility to intervene in the case of noise nuisance generated by commercial activities and services.

In order to resolve the different noise complaints it receives and to meet its legal obligations, Porto Municipality was the first local authority in Portugal to build a municipal noise laboratory and have it accredited to standard NP EN ISO/IEC 17025 - Acoustic Laboratories. Certification is testimony to the skill and good practice of the municipal team, and to compliance with a demanding array of procedures for determining noise nuisance.

When it receives a complaint, the municipality, in the form of the municipal noise laboratory, takes acoustic measurements, as required by current rules. This is done in the place where the complainant feels the noise is a nuisance: usually in the living room or bedrooms (with doors and windows closed). Measurements are taken with a sound meter duly calibrated and checked as required by law. If the noise is found to violate the legal limits, the municipality notifies whoever is responsible for the source of the disturbance to take

**Porto was the first municipality in the country to have an accredited noise laboratory. This certification attests to the laboratory's competences and good practices and its compliance with a demanding set of procedures.**

the necessary steps to rectify the situation. This procedure can ultimately lead to the activity that is causing the nuisance being shut down preventively.

However, noise in a city is not only managed by the reactive inspection of noisy activities that have already begun, whether these are temporary, permanent or "neighbourhood" noise.

Integrated management is based above all on knowing the levels of noise exposure to which the population is subjected as a consequence of the daily activities inherent in the life of a city, such as road, rail and air traffic and commercial, industrial and residential land use.

On the basis of this knowledge, which is expressed in noise charts, it is then possible to plan land use and the associated development. This can make a significant contribution to decreasing exposure to high noise levels, without compromising the local economy or the factors that make a city an attractive place to live in, visit or do business in.

**Plan and control noise**  
Find out what the municipality is working on to improve noise levels.

**Get to know the city**  
Porto Municipality has strategic noise maps that provide an "X-ray" of the different components of noise across the city: noise from railways, roads, aircraft and industry (which is fairly insignificant in Porto).

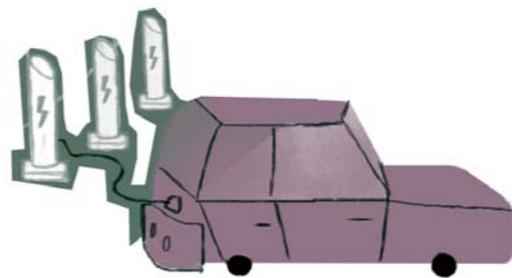
**Reducing noise**  
Using these maps, eight main areas of overlap that come under the council's management have been identified. These are the target of a municipal noise reduction plan.

**Assess and respond to complaints**  
The municipality analyses complaints and then carries out an acoustic measurement to determine if the noise breaks the legal limits, with the aim of responding to the complainant in as timely a manner as possible.

**Issuing special noise licences**  
For temporary noisy activities (works, entertainment, parties, concerts) the municipality may issue a Special Noise License, at the sponsor's request. This imposes preventive noise reduction measures on all exceptional activities that need to be carried out after 8 pm on working days, at weekends, during holidays or in the vicinity of schools or hospitals.

**Putting measures into practice**  
The measures envisaged in municipal noise reduction plans involve reducing traffic speeds, reducing the number of heavy vehicles travelling around the city, upgrading the road surface and, in exceptional cases, upgrading glazed noise barriers.





**Porto.**

