Gemeente
Amsterdam

Amsterdam Circular 2020-2025 Strategy

Public version

In Amsterdam we want to ensure a good life for everyone, within the Earth's natural boundaries. That can be done in a circular city in which we adopt a smarter approach to scarce raw materials, produce and consume differently, and in which there are more jobs for everyone.
We are working on wellbeing, health, a pleasant living environment, a cleaner environment, and more justice, both within and beyond the city limits. Welcome to the circular city.

It is becoming increasingly clear that something has to change. Our current way of producing and consuming has a huge impact on the environment and on our society. Scarce raw materials are running out. CO_2 emissions are disrupting the climate. Biodiversity is declining. Inequality is increasing.
The need for a new approach is strongly felt in Amsterdam. We waste a third of our food. In the construction industry, we still use nowhere near enough sustainable and recycled materials.
The production of our belongings, such as textiles and electronics, is the biggest environmental burden for which we as a city are responsible. All of this is at the expense of future generations and people in other countries.

We can change this

There is another way. Nobody wants to live in a throwaway society or contribute to poor working conditions in low-wage countries. We can work towards an economy that is green and social – one in which we emit less CO_2, conserve more raw materials for reuse and make a healthy and good life accessible to everyone. The transition to a new economy has already started…

Survey among Amsterdam residents
via the OIS panel:

More than half of the Amsterdam residents surveyed bought something second hand in the last year.

What is a circular economy?

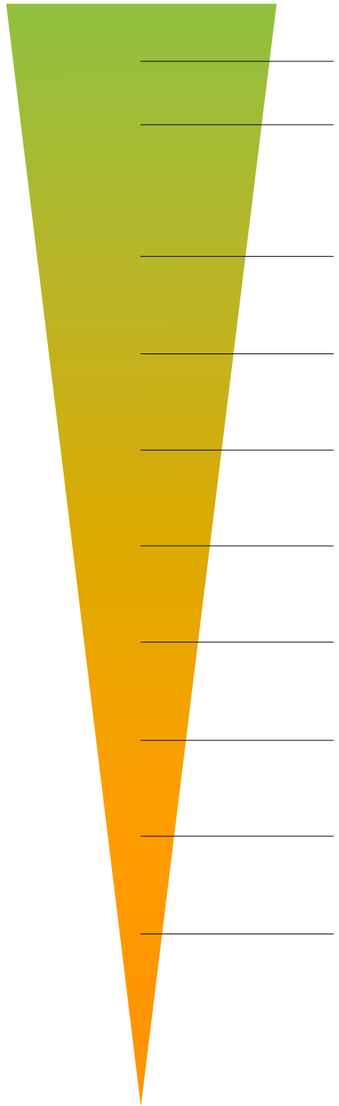
In a circular economy we don't exhaust the Earth. We reuse raw and other materials over and over again. That way we avoid waste and close the cycles. We learn to do more with less. Our energy comes from renewable sources, such as sun and wind, as much as possible. A circular economy makes it easier to achieve our climate targets.

We also take each other into account. We are going to share, reuse and repair more with each other, so that our consumption behaviour not only leads to less burden on the environment, but also to more solidarity between the people of Amsterdam. Think, for example, of sharing tools and household appliances, and also the use of sustainable subscription-based products, such as energy-efficient white goods. By attaching more value to use and not just possession, more people gain access to high-quality products and facilities.

The circular economy will also create jobs in and around Amsterdam. Despite the fact that some jobs will disappear, there will be a net increase, for example, in the repair and processing industries.

In a circular economy, the value of raw materials is retained as much as possible throughout a product's lifecycle – from design to disposal. A ladder of circularity has been designed for this purpose, showing which processing options are preferable to others. The three options at the top (refuse, rethink, reduce) relate to the changing use and design of products. Examples are avoiding the use of plastic cups, sharing cars and producing the same products with fewer raw materials. The next four options (reuse, repair, refurbish, remanufacture) relate to the use phase of products. These are aimed at prolonging the lifecycle as much as possible. Second-hand stores and repair centres play a role here. The bottom three options (repurpose, recycle, recover) cover the end of a product's life: components can be repurposed, while materials can be recycled and, as a last option, incinerated with energy recovery.

The ladder of circularity:



Refuse: make a product redundant.

Rethink: make product use more intensive by sharing the product with more people or by using the product in several different ways.

Reduce: use fewer raw materials and less energy for the same product.

Reuse: reuse of discarded, functioning product in the same function by a different user.

Repair: repair defective products so that the original function is preserved.

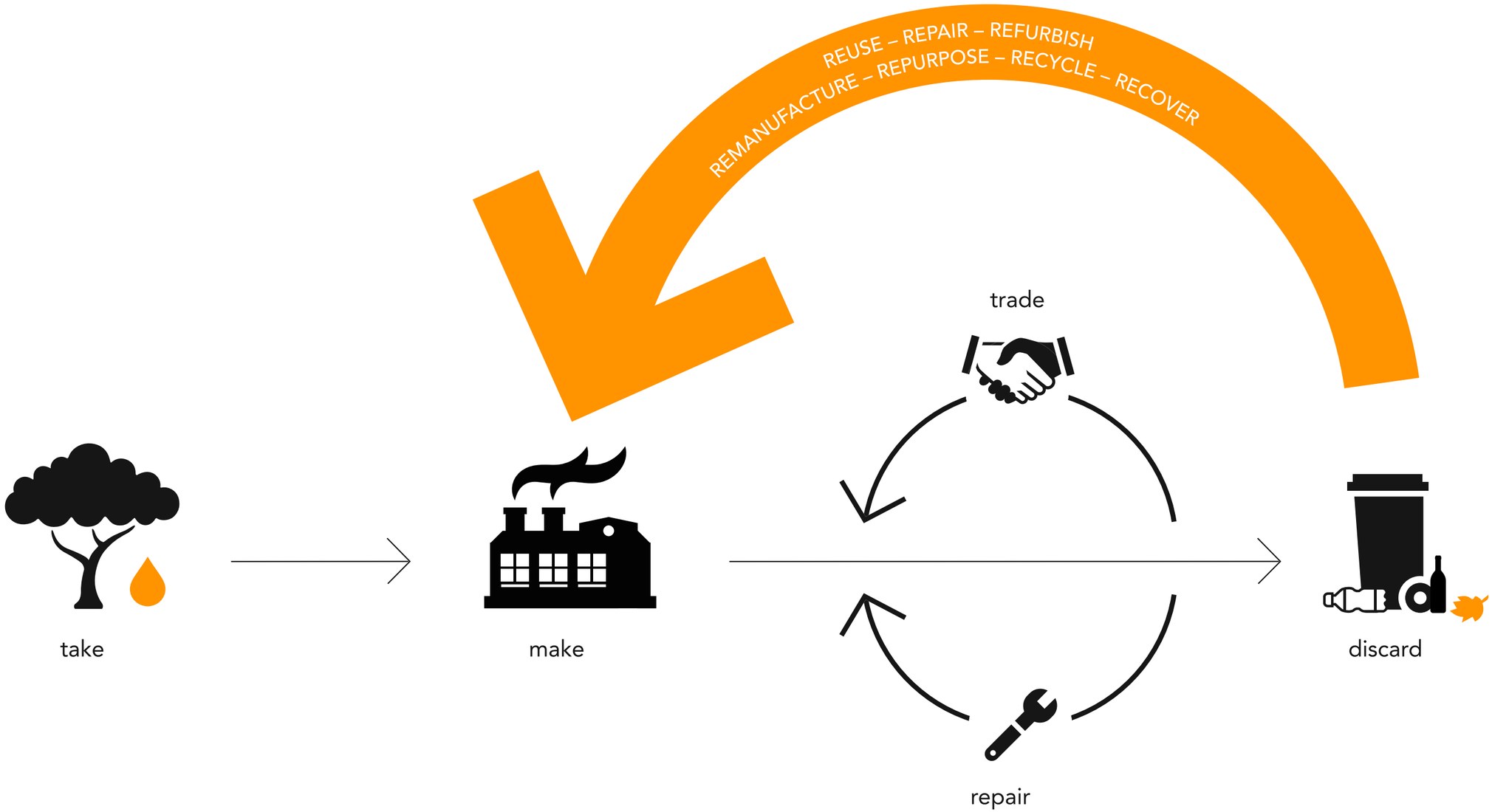
Refurbish: refurbish old products to make them suitable for new use.

Refabricate: reuse functioning components of the product to make comparable products.

Repurpose: reuse the product or components thereof in a new product with a different function.

Recycle: reuse the materials of the product for application in new products.

Recover: incinerate the materials with energy recovery.

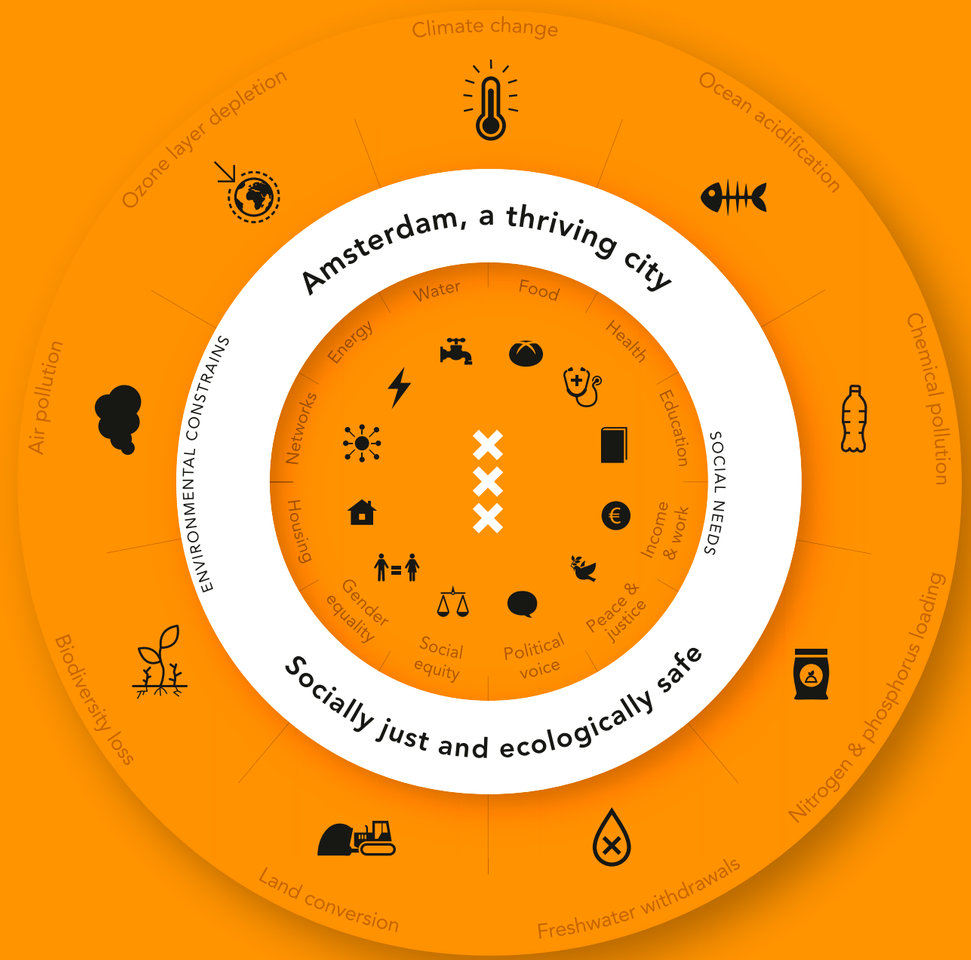

REUSE – REPAIR – REFURBISH
REMANUFACTURE – REPURPOSE – RECYCLE – RECOVER
trade
take
make
discard
repair

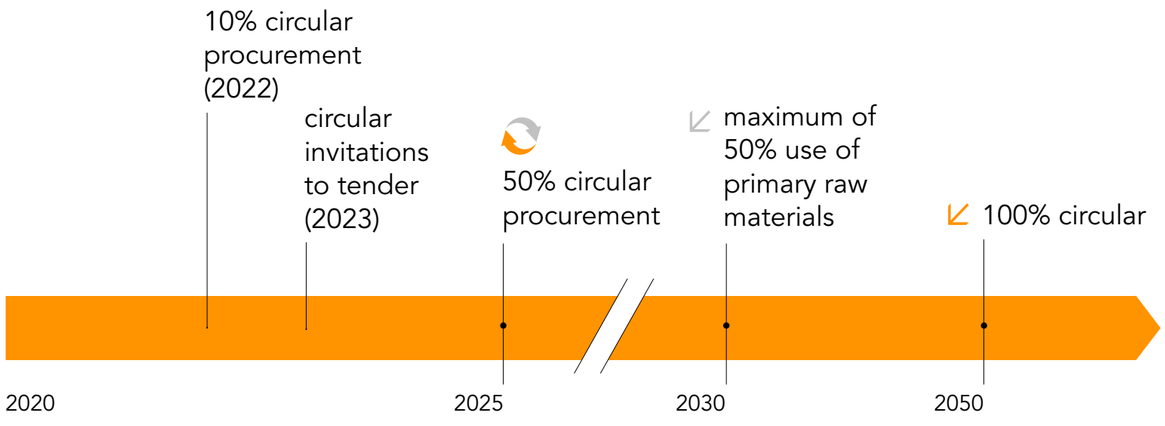
Life in the doughnut

The circular economy can be represented as a doughnut.
The inside of the doughnut represents the lower limit of prosperity needed for a socially equitable existence. This involves income and work as well as good health, social networks and political participation. This is the *social foundation* needed for a thriving society: a foundation which we can reinforce in a circular city, both locally and globally.

The outside of the doughnut represents the ecological limits of the planet, which we must respect. Examples are climate change, nitrogen saturation and a decline in biodiversity. This is the *ecological ceiling*, which we have to take into account in order to grant others the same broad prosperity.

The doughnut model was developed by Kate Raworth, a British economist working for the University of Oxford and the University of Cambridge. At the request of the City of Amsterdam, she wrote *The Amsterdam City Doughnut*, an evaluative framework to make our city circular. It looks at the city from four perspectives: social, ecological, local and global. Together they offer a new perspective on how Amsterdam can be a home where people flourish, in a thriving place, while respecting the wellbeing of all people and the health of the Earth.





Important medium and long-term circular milestones for Amsterdam.

Our ambitions

In order to achieve a circular economy, we need concrete objectives. Our main objectives are:

- **By 2030, we will use 50% less new raw materials in Amsterdam.**
- **By 2050, our city will be 100% circular.**

As the municipal authority, we have the following interim objectives:

- **By 2022, 10% of the City's procurement will be circular.**
- **By 2023, all of the City's invitations to tender in the built environment will be circular.**

What does this mean for Amsterdam?

This strategy gives direction for the next five years in terms of what we are already doing and what we still need to do. This applies both to our city as a whole and to the policy and implementation of the municipal authority.

The Amsterdam region has an excellent starting point for creating a circular economy, but the road towards this is fraught with uncertainty. This means that we sometimes have to experiment (learn through doing) and accept that there are risks involved. We have to break old habits and we have to change the way we think and act. This may cause friction in some areas. We are asking the people and businesses of Amsterdam to take a different approach to food, to change their thinking about possessions and to make different choices in their lives and in their work. The benefits of these changes will not always be noticeable immediately – some may only be so after a few decades – or they will take place on the other side of the world, where many of our raw materials are currently extracted.

We firmly believe that Amsterdam is up to the challenge. Amsterdam is a progressive and liberal city that is not afraid to experiment or to invest in the future. As prominently written on the former Commercial Intelligence Bureau *(Bureau voor Handelsinlichtingen)* on Oudebrugsteeg: "De cost gaet voor de baet uyt" (cost comes before benefit). This is what has made us who we are today as a city.

The circular future is already taking shape today. The region already has numerous entrepreneurial and innovative businesses, start-ups, knowledge institutions and residents who are already working hard on the circular economy. In the *Innovation and Implementation Programme 2020-2021* we describe which projects and initiatives we are already starting in order to accelerate the process.

What does the strategy involve?

As the City of Amsterdam, we are focusing on three value chains:

Food & organic waste streams. This is what we eat and where we get our food from, how we reduce food waste and what we do with our food waste and garden waste.

Consumer goods. This is mainly about our consumption and purchasing behaviour with regard to products such as electronics, textiles and furniture. How do we retain their value longer, how do we prevent raw and other materials from being incinerated as waste and how do we ensure that we share more with each other?

Built environment. This refers to the design, construction and renovation of houses and buildings, and also to the design of public spaces, from roads and bridges to playgrounds and parks.

We have chosen these value chains because of their economic significance to the city, their impact on the environment and climate and the opportunities for the City of Amsterdam to exert influence. On the following pages, we describe how we intend to make our economy circular over the next five years.

Survey among Amsterdam residents via the OIS panel:

Seven out of ten Amsterdam residents had a product repaired in 2019.

Ambition 1

Short food chains provide a robust sustainable food system

We aim to increase the consumption of regional products as this reduces the environmental impact of logistics. We will better adapt regional food production to needs. We will stimulate circular agriculture as well as urban agriculture, to enable Amsterdam residents to grow food together and teach children about sustainable food.

Courses of action:

- We will stimulate urban agriculture to bring food closer to the people of Amsterdam.
- The City will purchase regionally produced food.
- Sustainable chain parties will collaborate more in order to increase the consumption of regional food.

Tuinen van West

Circular Experimental Garden in West

Tuinen van West ('Garden in West') is an experimental garden. It is an educational laboratory for experiments in the field of food production, biomass, soil, fertilisation and biodiversity. Waste streams, such as prunings and compost, are collected locally so that they can be used again and again. *Tuinen van West* is a place where anyone can go to contribute, to learn and to enjoy.

Ambition 2

Healthy and sustainable food for the people of Amsterdam

We will initiate a transition from consumption of animal proteins to plant-based proteins. Consumers and businesses will reduce food waste by 50% by 2030.

Courses of action:

- We will offer Amsterdam residents more opportunities for a healthier diet.
- The City is committed to reducing food waste.
- Initiatives against food waste and for more efficient production of food will be supported.

Amsterdam Zuidoost Food Forest, K-district

Amsterdam Zuidoost Food Forest

The Zuidoost Food Forest *(Voedselbos Zuidoost)* is an initiative of the residents of the K-district. This forest is managed by the residents and includes berry bushes, herbs, fruit trees and vegetables. In addition, this initiative stimulates social cohesion between different generations and population groups, increases biodiversity and makes the neighbourhood more resistant to rising temperatures in the city.

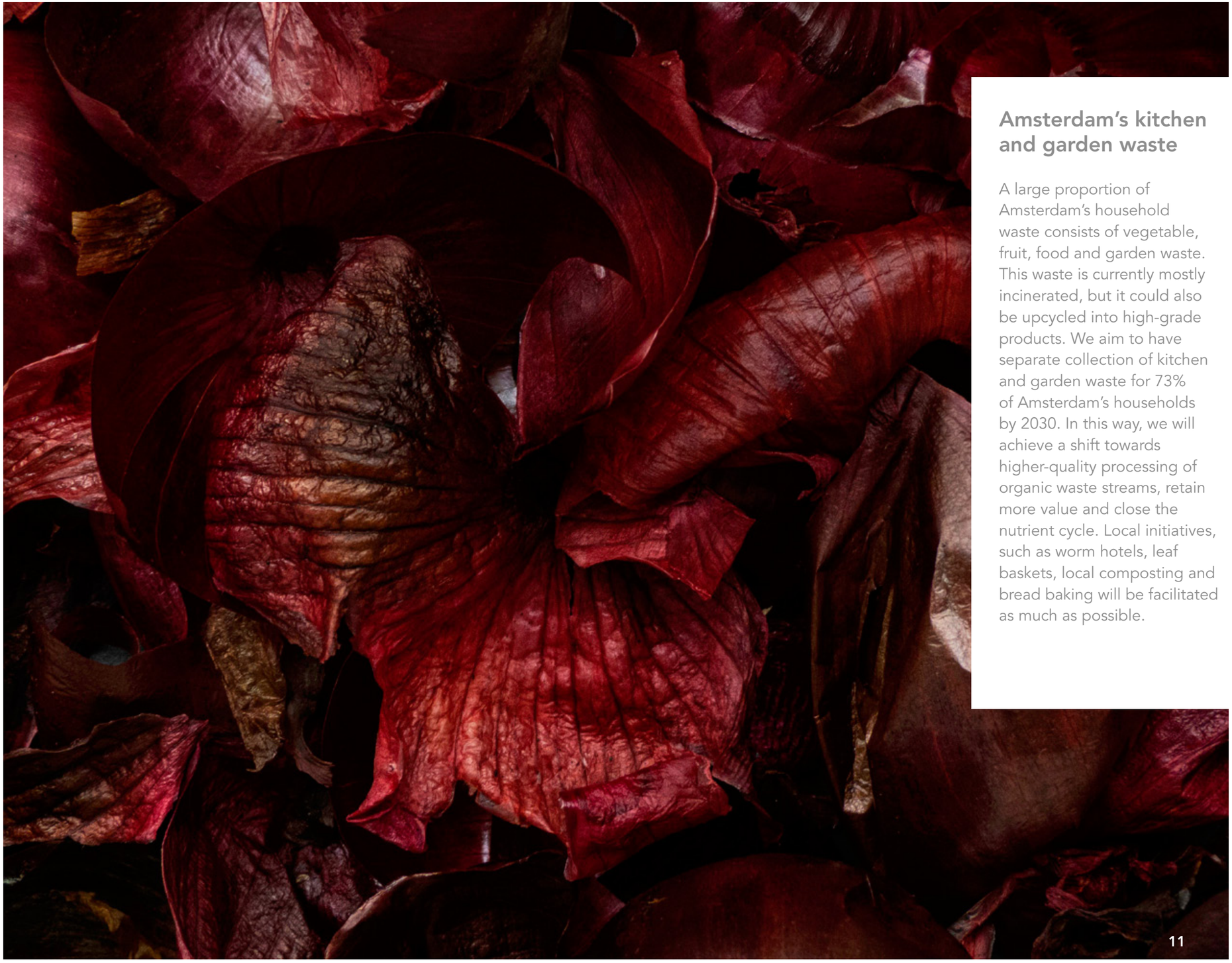
Ambition 3

High-quality processing of organic waste streams

We want to improve the collection and processing of organic waste streams from residents, visitors and businesses before 2023. Kitchen and garden waste will be collected and processed separately.

Courses of action:

- Working together to ensure the best approach for each city district.
- The City will set the right example.
- The people of Amsterdam are made aware of the importance of separating waste for uncontaminated waste streams.
- Deploying its spatial planning tools and innovation policy, Amsterdam will designate locations for the collection and reuse of waste to stimulate closed nutrient cycles.



Amsterdam's kitchen and garden waste

A large proportion of Amsterdam's household waste consists of vegetable, fruit, food and garden waste. This waste is currently mostly incinerated, but it could also be upcycled into high-grade products. We aim to have separate collection of kitchen and garden waste for 73% of Amsterdam's households by 2030. In this way, we will achieve a shift towards higher-quality processing of organic waste streams, retain more value and close the nutrient cycle. Local initiatives, such as worm hotels, leaf baskets, local composting and bread baking will be facilitated as much as possible.

Survey among Amsterdam residents
via the OIS panel:

Amsterdam residents say that one of the first steps towards ensuring a better environment should involve making it easier to separate waste.

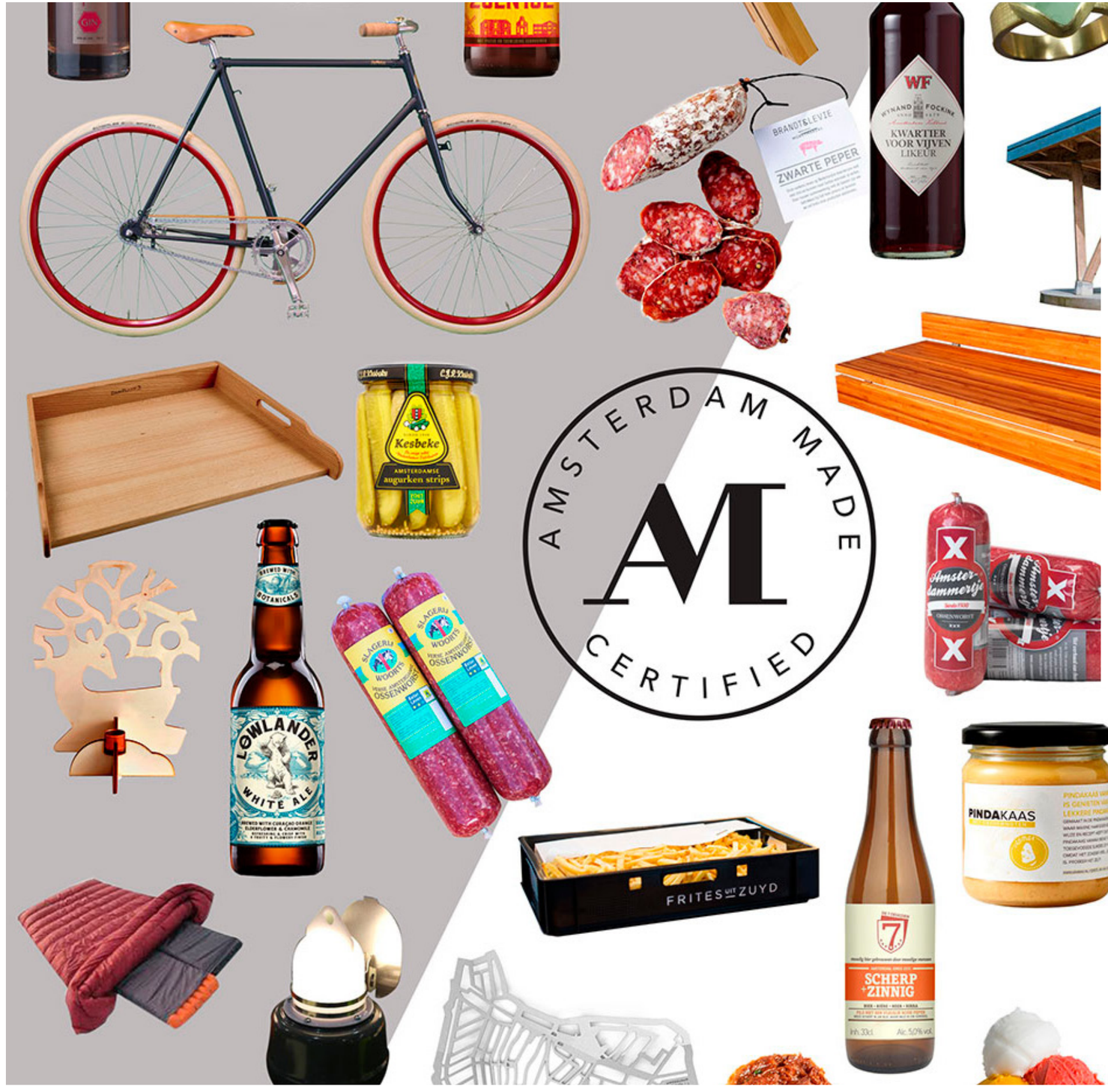
Ambition 1

The City sets the right example by reducing its consumption

By 2030, the City will reduce its overall consumption by 20% and implement 100% circular procurement.
This will start with consumables and the furnishing of our own premises.

Courses of action:

- The City will purchase fewer new products and instead adopt a policy of access over ownership.
- The City will support the development of new circular products and services.



Amsterdam Made

Amsterdam Made is a community of over 150 manufacturing companies based in the Amsterdam Metropolitan Area. It is working on solutions for various sustainability challenges, such as helping its member organisations to become more sustainable and reducing the use of raw materials, and it is examining how to make the transition to a 100% circular industry and what consequences this will have. By working together, the businesses in this community are helping each other and others to make the transition to a circular economy.

Survey among Amsterdam residents
via the OIS panel:

More than three-quarters of Amsterdam residents are positive about the idea of buying fewer new products for the benefit of the environment.

Ambition 2

Using what we have more sparingly

We will reduce the environmental impact of the textiles, electronics and furniture sold and used in Amsterdam. We will ensure a good infrastructure for sharing platforms, second-hand shops, online marketplaces and repair services.

Courses of action:

- Working together for better products in Amsterdam.
- Increased awareness of the need to consume less and share more.
- Sharing and repairing made easy, accessible and affordable.

Extending the useful life of consumer goods

Many of Amsterdam's residents are used to putting things they no longer need on the street, expecting others to pick them up. This does happen, but not often enough. As a result, many appliances and pieces of furniture end up as bulk waste while they are still in good condition or require only simple repairs. Therefore, we are going to encourage the people of Amsterdam to take those things to a second-hand shop or recycling depot, for example, via our City website where people can offer their bulk waste. We are also looking at the application of new technologies, such as artificial intelligence. For example, we are investigating whether the City's scooters, cars and trucks can be deployed to help identify useful bulk waste along the roadside so that it can be offered for reuse via online marketplaces rather than collected for disposal.

Survey among Amsterdam residents
via the OIS panel:

The respondents report that, in addition to cars and bicycles, they most often purchase tableware and furniture second-hand.

Ambition 3

Amsterdam makes the most of discarded products

By 2025, we want to be able to collect and separate textiles, electronics, furniture and plastics so that they can be reused, repaired or otherwise upcycled.

Courses of action:

- The City, businesses and knowledge institutions will work together to extract value from discarded items.
- The business community will help the people of Amsterdam to appreciate the value of their goods.
- Amsterdam will treat discarded but useful goods with respect.

Dutch Circular Textile Valley

We usually do not give it much thought, but clothing has an enormous environmental footprint. Cotton cultivation and textile production are among the most polluting industries, and the vast majority of textiles that are collected are recycled into low-grade products.
The Amsterdam Metropolitan Area acts as a magnet for businesses and initiatives in the clothing industry, so we are working hard to promote the area as a hub in the Dutch Circular Textile Valley. In this initiative, knowledge of sustainable and social textile manufacturing is exchanged with other textile regions around the world, which will contribute to the creation of a global ecosystem for circular textiles.

Wieland Textiles' innovative textile sorting machine. This machine efficiently sorts high quality textiles for the production of new clothing.

Survey among Amsterdam residents
via the OIS panel:

The vast majority of respondents think that producers should be required to design products that can be repaired.

Ambition 1

The transition to circular development requires a joint effort

From 2022 onwards, all new urban development and public space designs in Amsterdam will be based on circular criteria, including the use of sustainable materials and the possibility of assigning different functions. The built environment must also meet the ever-changing needs of residents and visitors.

Courses of action:

- Lower limit: use recycled and biobased materials (such as wood) as much as possible.
- Draw up a value-chain assessment, which includes raw and other materials.

View of Buiksloterham, Amsterdam's circular city district.

Buiksloterham

The former industrial area of Buiksloterham is being transformed into a circular city district for living and working. The district functions as a testing ground and offers various opportunities for research, experimentation and innovation in the field of sustainability and circularity. For example, the district uses new sanitary facilities to recover phosphates, and uses straw and loam for the insulation of buildings. In this district we are testing new concepts and criteria to make smarter use of materials, close loops and use energy from local and renewable sources. We will apply the knowledge gained from these experiments to other projects in and around the city.

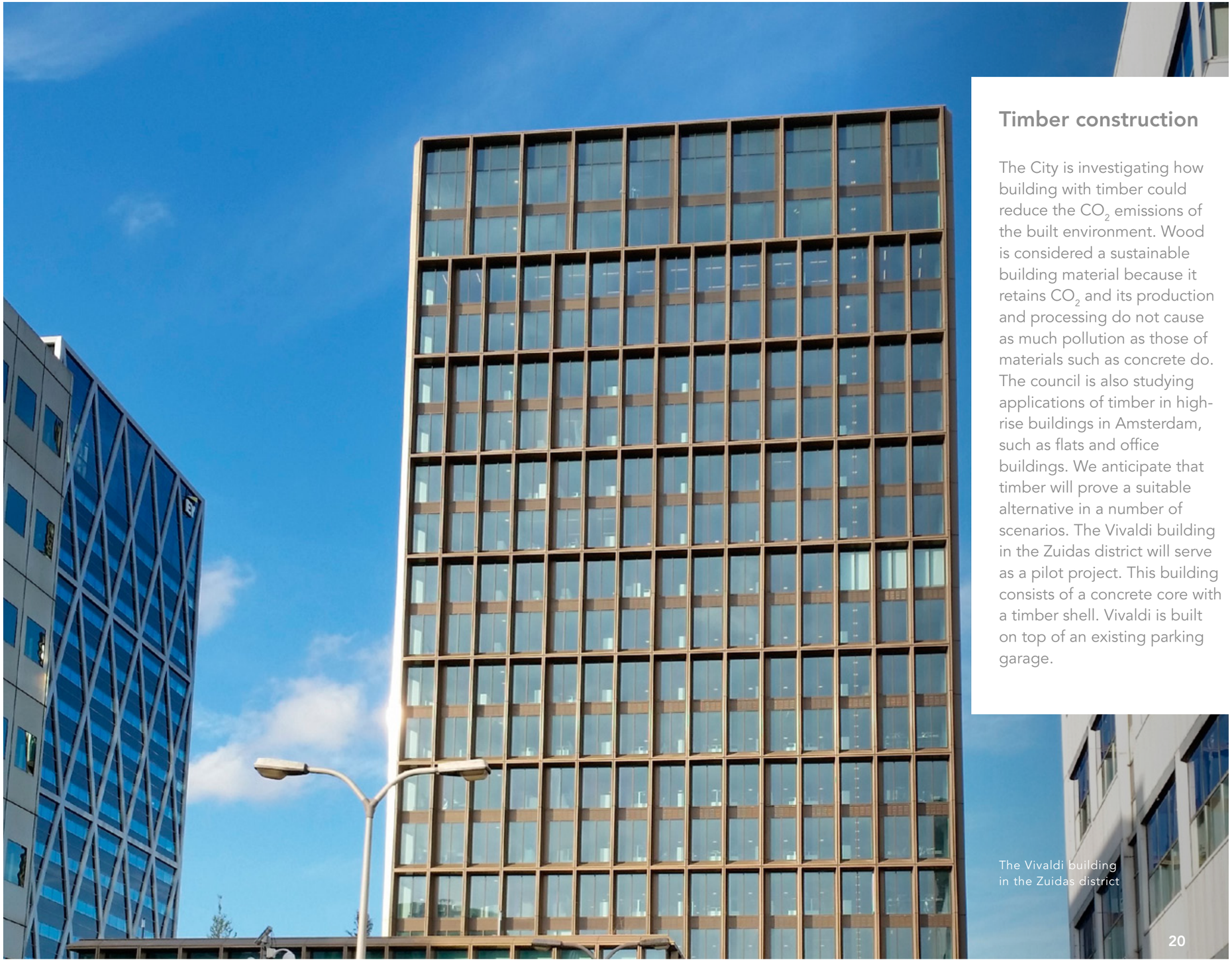
Ambition 2

The City sets the right example by formulating circular criteria

From 2023, we will use circular criteria as the standard when working on buildings and in public spaces. Among other things, we will do this in procurement and the tendering process for land allocation.

Courses of action:

- Extend the useful life: use what's available.
- Tighten internal municipal processes: encourage circularity.
- Organise market research: stimulate innovations.
- Municipal assets: what are they worth?



Timber construction

The City is investigating how building with timber could reduce the CO_2 emissions of the built environment. Wood is considered a sustainable building material because it retains CO_2 and its production and processing do not cause as much pollution as those of materials such as concrete do. The council is also studying applications of timber in high-rise buildings in Amsterdam, such as flats and office buildings. We anticipate that timber will prove a suitable alternative in a number of scenarios. The Vivaldi building in the Zuidas district will serve as a pilot project. This building consists of a concrete core with a timber shell. Vivaldi is built on top of an existing parking garage.

The Vivaldi building in the Zuidas district

Ambition 3

A circular approach to the existing city

By 2025, 50% of all renovations and building maintenance activities in Amsterdam will follow the principles of circular construction. Among other things, we will do this for social and private housing stock, public real estate and schools.

Courses of action:

- Agreements on circular ambitions: invite extra-municipal parties to the table.
- Made-to-measure knowledge: the City provides targeted knowledge and data services.
- Affordable and scalable: the City stimulates innovation projects.
- Close the loop: retain as much value as possible.
- Existing financial and fiscal instruments: make them circular.

Sustainable canal banks

During the coming years, Amsterdam will be renovating and replacing hundreds of kilometres of its canal banks. The canal bank along Rechtboomssloot is being replaced with a new bank made of circular concrete, and will be maintained using emissions-free vehicles and equipment. The lessons learned can be taken into account in other rebuild projects.

Renovation of Rechtboomssloot

Who does what?

Amsterdam can't do this alone – but fortunately it doesn't have to. The Dutch government and the European Union also have circular ambitions. We work with the central government and with Europe on policy choices to make the world cleaner and society more equitable. For example, a shift from taxation on labour to taxation on raw materials and energy is an important precondition for creating a circular economy. In the city we are now working with the seven city districts and with many local initiatives, market parties, knowledge institutions and residents.

What is the City's role?

The City will set the right example. We apply circularity in the maintenance of public spaces and the renovation of our buildings and infrastructure as well as in the procurement of catering, office furniture and electronics. We stimulate innovation and cooperation between businesses and institutions, for example to exchange both materials and knowledge. We do this with a sector-oriented approach, focusing on organisations that have a major impact because, for example, they form a hub in multiple value chains. Examples include hotels, hospitals and port and industrial companies. We set standards and impose rules. We stimulate and facilitate the frontrunners, and will do everything in our power to bring those who lag behind on board.

What is the role of businesses?

We expect companies to focus on innovation to bring a circular economy closer. They will have to deliver their products in a responsible manner. They will develop new business models, such as 'product as a service', in which they bear more responsibility for good quality as producers, and remain the owner of the raw and other materials. Designers will make products that can be easily disassembled for repair or reuse. They will also be responsible for the collection and high-quality processing of products after the use phase.

What is the role of Amsterdam's residents?

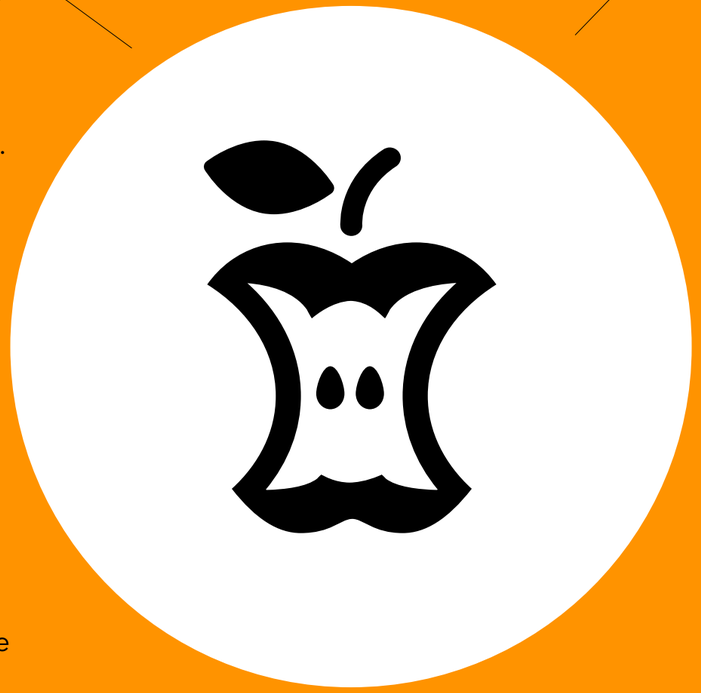
The people of Amsterdam will be closely involved in the transition to a circular city. Many people have had enough of the throwaway society, but also need help or good examples to make sustainable choices. By offering healthy and local food everywhere, we can encourage Amsterdam residents and visitors to eat healthier. We are also increasing opportunities for residents to make more conscious choices in their purchasing and consumption behaviour. Naturally, we will continue to ask the people of Amsterdam to separate organic and other waste streams where possible.

What results do we expect?

Achieving a circular economy requires interventions throughout the entire production and consumption chain: smarter design, new uses and upcycling. The next two years – the period covered by the *Innovation and Implementation Programme* – is obviously far too short to achieve this. The main purposes of the programme are to gain knowledge and experience, to create preconditions for a circular economy, and to scale up effective measures.
This way, we will start working on a system change for the longer term.

We outline a number of results for each value chain below.

Food & organic waste streams



Result: By the end of 2021, urban agriculture will be part of the greenery. Amsterdam's residents can play a role in small-scale food production themselves by planting vegetable gardens. Awareness about healthy and sustainable nutrition will have increased.

Result: From 2021, sales of regional, sustainable products will increase as a result of cooperation between parties in the regional food chain. This development is expected to be a source of inspiration for companies that are not yet sustainable.

Result: As municipal authority, we will set the right example by tendering our catering differently, aimed at stimulating more sustainable food consumption within our own organisation. We will learn from initiatives in the city to combat food waste and use these insights to develop new policies and programmes on food waste from 2021 onwards.

Result: Over the next two years, we will strengthen the infrastructure for the separate collection of organic waste streams. And in the new call for tenders for the processing of kitchen and garden waste, we are focusing on more high-quality processing of this raw material stream. By the end of 2021, new facilities will be available for the collection of kitchen and garden waste and we will be able to upcycle a larger volume of organic waste streams.

Consumer goods

Result: This year, we are adapting the City's procurement systems in such a way that it will be easier to secure circularity in procurement processes. Since January 2020, the City has adopted circular procurement for all office furnishing products. This sends a clear signal to the market and encourages businesses to make their product ranges more sustainable.

Result: New tenders for the tasks performed by second-hand shops will be issued in 2021. We will look at whether these shops can perform additional tasks to ensure that more items can be reused. Examples include repairs, touching up and sharing.

Result: Over the next two years, we will increase the circular processing of latex paints, textiles and nappy material. In two years' time, the experience we gain from this will enable us to expand upcycling and apply it to more material streams.

Result: In two years' time, the City and businesses will have increased the local supply of circular products for purchase, lease or sharing. Because you do not necessarily have to own all of these items yourself, this will make it easier for Amsterdam's residents to use high-quality items.

Result: In order to take a more careful approach to discarded items from Amsterdam's households, we will focus on the further development of recycling depots into circular craft centres over the next two years. From 2021, we will be able to use the experience gained, especially at the recycling depot on Toetsenbordweg, to develop new recycling depots.

Built environment

Result: As a municipal authority, we are charting the extent to which circular building materials can be used in construction, so that the Environmental Performance for Buildings requirements can be tightened from 2021.

Result: By the end of 2021, we will have completed several projects in the built environment to test the correct circular invitations to tender in practice.

Result: An instrument for drawing up value inventories will be available by the end of 2021. This will enable us to deal more efficiently with raw materials and material streams in area development and transformation processes.

Result: From 2021, a City circular expertise and reporting centre will bring together available knowledge for municipal parties and provide practical advice to accelerate the implementation of circularity within our own organisation.

Result: Over the next two years, the City will use its own tendering process to invite circular plans and measures. By the end of 2021, we intend to complete an invitation to tender for concrete elements, to use reusable materials such as wood, and to complete three new circular tenders for land allocation. In two years' time, the additional costs of circular construction will also have been identified.

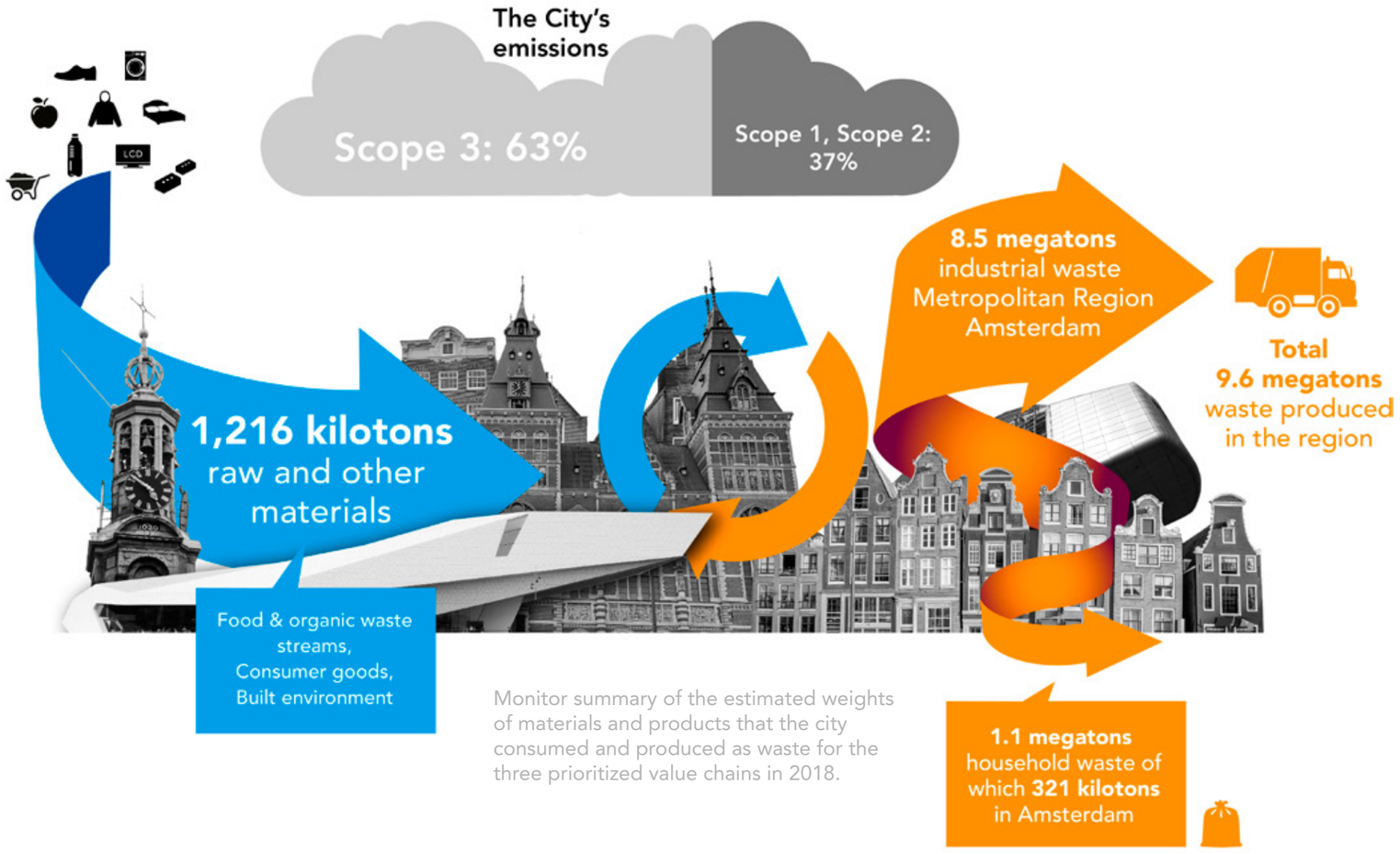
Our approach

The transition to a circular city is in full swing. This transition is new and far-reaching, and there is no step-by-step plan that has already proven itself in practice. We learn by doing. We build knowledge by working together with our partners in the city.

We follow two approaches in implementing our ambitions. One approach is top-down: as a municipality, we indicate what we want to achieve and how we want to get there. We also follow a bottom-up approach, giving room to circular projects and initiatives to accelerate and scale up.

Within the *Circular Economy Innovation and Implementation Programme 2020-2021*, we are investigating themes such as quality assurance and the role of fiscal instruments. We are also working on a lobbying agenda to make the transition possible at the national and European levels.

We will evaluate the progress of the various projects in 2021, which will give us a better understanding of what works and of the costs and benefits. We use this knowledge to further refine and finance our future circular actions.



Monitor summary of the estimated weights of materials and products that the city consumed and produced as waste for the three prioritized value chains in 2018.

On the right track

To find out whether Amsterdam is on the right track, we are going to measure our progress. We are developing a monitor with which we can determine the social and ecological impact of the transition. For example, we can see the amounts of raw and other materials that the city consumes and produces as waste, and highlight social aspects of the transition. By collecting more and more data, the monitor will show where improvements can be made. We will further develop and refine the framework for this monitor.

A better and more beautiful Amsterdam

A circular society in the city means:

A fairer society – by purchasing services instead of owning products, sound and valuable products are accessible to everyone, now and in the future.

A resilient society – by being less dependent on, for example, imported raw materials such as phosphate for our food production and rare metals for our electronics, we become more self-reliant and therefore better protected from influences that can negatively affect the import of raw and other materials.

A healthier world – reducing emissions of toxic substances during production, use and disposal reduces damage to nature and health.

A more efficient economy – reclaiming raw materials and products locally as much as possible leads to new activity with less waste. This creates new jobs in various sectors, such as the repair and processing industries.

A circular capital city

The most important challenge for the 21st century is to give ourselves and others a fair chance at a good life, while separating economic growth from pressure on the environment. The transition to a circular economy is an excellent opportunity to take up that challenge.

We are convinced that Amsterdam is up to the challenge – determined, heroic and charitable as we are. Amsterdam is a progressive and liberal city that is not afraid to experiment. In the best Amsterdam tradition, we will harness participation, innovation, creativity and entrepreneurship. Together we will effect a modern, thriving, equitable and responsible city – a circular capital city.

Publisher's note

The Amsterdam Circular 2020-2025 Strategy is a product of the City of Amsterdam in close collaboration with Circle Economy. The City of Amsterdam would like to thank all parties involved for the valuable conversations and insights that contributed to the creation of this strategy.

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