

Rotterdam Circularity Programme 2019 - 2023



**Rotterdam
Circulair**



Table of Contents

3

Introduction

4

Rotterdam’s circular aspirations
at a glance

6

Rotterdam 2050

7

How circular are Rotterdammers?

5



Chapter 1 | Circular in 2050

8



Chapter 2 | Guts and daring

10

Double interview M4H

11

Poem of Sir Culair

12

Chapter 3 | United and with conviction

15

Interview GroenCollect

16

Chapter 4 | Action programme

22

Chapter 5 | Evaluation and monitoring

23

Double interview Erasmus MC and
Woonstad Rotterdam

24

5 golden tips to be more sustainable

Illustrations: Maus Bullhorst
Design: Tappan

20



Rotterdam: the city for circular
initiatives



What is a circular economy?

The terms ‘circularity’ and ‘circular economy’ tend to be used interchangeably. Circularity is the technology and logistics used to close cycles. One example is disassembling broken products into their original materials. These materials can then be used to make new products. In turn, these products can be disassembled and the parts used again. This can be done over and over again. The circular economy is the underlying economic system for circularity. It is, as it were, the economic catalyst to make circularity economically attractive to consumers and industry.

- A circular economy is built on:
- **avoiding and reducing the use of primary raw materials;**
 - **extending the lifetime of products;**
 - **reusing products and parts;**
 - **recycling materials into raw materials.**

The linear economy is the opposite of the circular economy. In the linear economy, products are manufactured, used and then discarded.



‘We are making sure that circularity truly is becoming the benchmark.’

Rotterdam is on the way to becoming a waste-free society. To achieve this, the city is moving from a linear economy to a circular economy. This is easier said than done. Or is it? Alderman Arno Bonte of Sustainability, Air Quality and the Energy Transition in any case has a clear message. ‘A waste-free city is a beautiful city.’

Introduction

In the current linear economy, products end up on the landfill or in incinerators. ‘This is not a long-term system,’ says Bonte. ‘The Municipal Executive wants to turn the city into a circular city. This means extending the lifetime of products and using waste as raw materials. Our vision is to create a waste-free society as quickly as possible. This plan explains how we intend to do this.’

The turnaround in thinking needs time. Still, many companies are embracing the circular philosophy. ‘If you compare Rotterdam to other cities, we are in the fortunate position of being able to pat ourselves on the back because we have so many initiatives here,’ Bonte continues proudly. ‘Our challenge now is to scale up these initial successes and to make sure that circularity really does become the norm.’

Focus on four sectors

‘We are focusing on four sectors in this document. Construction is the most important one. More than 60% of Rotterdam’s waste is generated in this sector. And with so many high-rises in the city, collecting biodegradables is a challenge. We intend to better separate this ‘green stream’ and reuse it, such as for making bioplastics. This is our second sector. The third is that we are facilitating the recycling of consumer goods by turning the waste separation collection points into ‘upcycle malls’. Not only can you bring your goods here when they are broken or you don’t want them anymore but you can repair them or pick up items for reuse. The last of the four sectors is health care. It may be a smaller waste stream, but it is a serious one. We are working with hospitals to filter medicine residues from waste water and to use them to generate energy.’

Support

Rotterdamers who want to take action on circularity are not alone, emphasises the alderman. ‘The Municipality brings entrepreneurs together to see how we can jointly start projects. We facilitate the infrastructure for material depots and circular meeting places. Together with entrepreneurs, we are also looking at any laws and regulations that may block progress. While the Municipality has some leeway to adjust some of these ourselves, we also support circular entrepreneurs to lobby central government.’

Good example

‘Circularity is a priority issue for the Municipality and we are striving to set a good example with our own operations. To this end, we have incorporated circularity in our tender policy so that we can support circular businesses as much as we can. Our ‘from trash to treasure’ campaign puts good initiatives in the limelight and we hope that these will inspire other Rotterdammers. We are showing that for us, there is no such thing as waste any more. We see value in all raw materials and try to use them as much as we can.’

Investing now for the future

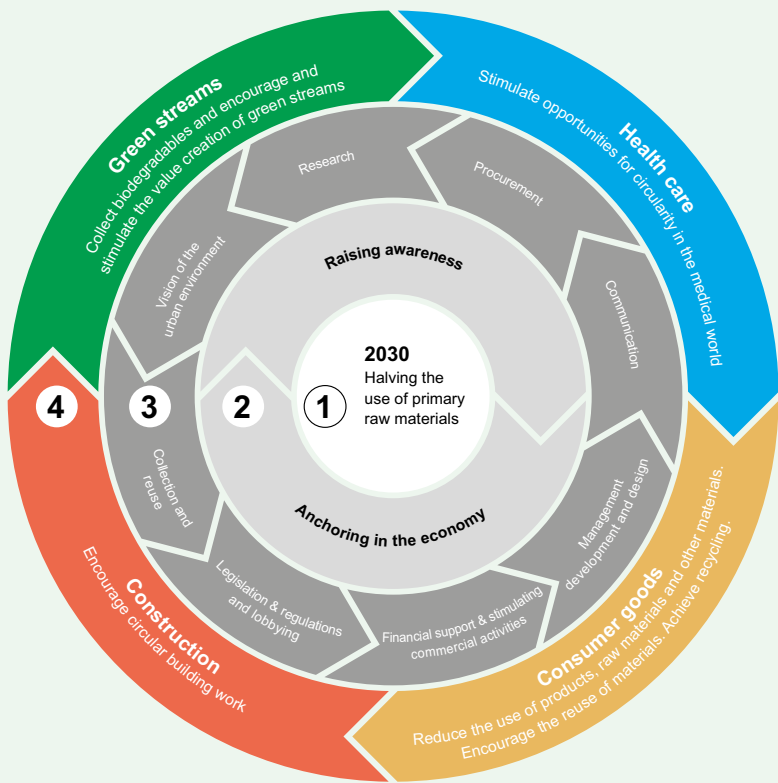
For those in Rotterdam who have not yet embraced the circular principles of ‘reduce, reuse and recycle’, or who are not sure how to, Bonte has another call to action. ‘This really is the new economy. By investing in circular activities now, we will be economically stronger later. This plan will bring forty new circular companies or initiatives to Rotterdam over the next four years.’

Arno Bonte
Alderman for Sustainability, Air Quality and
the Energy Transition

Photo: Casper Rila

Rotterdam's circular aspirations at a glance

Chapters 1 to 4 are shown in the graphic. In the middle (ring 1), is the dot on the horizon – the goal to halve the quantity of primary raw materials used in the city by 2030. Ring 2 shows two pathways to this goal – raising awareness in the city and anchoring circularity in the economy. To this end, the Municipality has a range of tools (ring 3), which we can use for the issues, opportunities and actions in the four key sectors in ring 4. These key sectors will continue to be prioritised after 2023 as well so that we can reach our target of halving the amount of primary raw materials used by 2030.



① Goals for 2030 ② Two main streams ③ Tools ④ Key sectors with challenges



Circular in 2050

Rotterdam is leading the way

Rotterdam's ambition

Rotterdam is unique in the Netherlands. It is known for its dynamism and pronounced contemporary architecture. It is a diverse city that is owned by everyone who lives and works there. Rotterdam is constantly changing. It is building and developing, has a manufacturing industry, is a logistical hub, has major municipal services and is a repository of knowledge and a source of labour. On top of this, Rotterdam has one of the largest ports in the world which is an economic force unrivalled elsewhere in the Netherlands.

The city and port of Rotterdam are currently largely dependent on primary raw materials and their associated employment opportunities. But Rotterdam is fully equipped to make a major shift towards becoming a circular society. And we intend to do it too! A growing world population coupled with the depletion of our planet's raw materials and temperature rise call for a radical reduction in the use of primary raw materials.

However, this is a tall order for a port city that is largely rooted in the linear economy. Furthermore, Rotterdam has many skyscrapers and stacked structures as well as a large construction industry. Thus, the city is facing a huge challenge. Continuous work on awareness raising; recognising and seizing opportunities; finding other ways of working and new business models. In short, a long-term approach that needs time but also needs the firm resolution for which Rotterdam is famous.

According to research carried out by Metabolic¹, Rotterdam's circular potential lies on the interface between the city and the port. The research examined the raw material streams in the city and port and the opportunities for circular employment. At 10% compared to 8.1%, Rotterdam already has more circular jobs than the Netherlands' average. Circularity is also extremely relevant to the country's climate goals.

We have high expectations in terms of circularity. We want circularity to be the city's benchmark by 2030 and to halve the use of fossil raw materials. In parallel, we are estimating an increase in the number of jobs of between 3,500 and 7,000 jobs that will directly contribute to the circular economy (Metabolic, 2018). By 2050, Rotterdam society will be completely circular. The material cycles will then be closed.

¹ *Circulair Rotterdam, Kansen voor nieuwe banen in een afvalvrije economie, Metabolic et al., 2018.*

Circularity in action

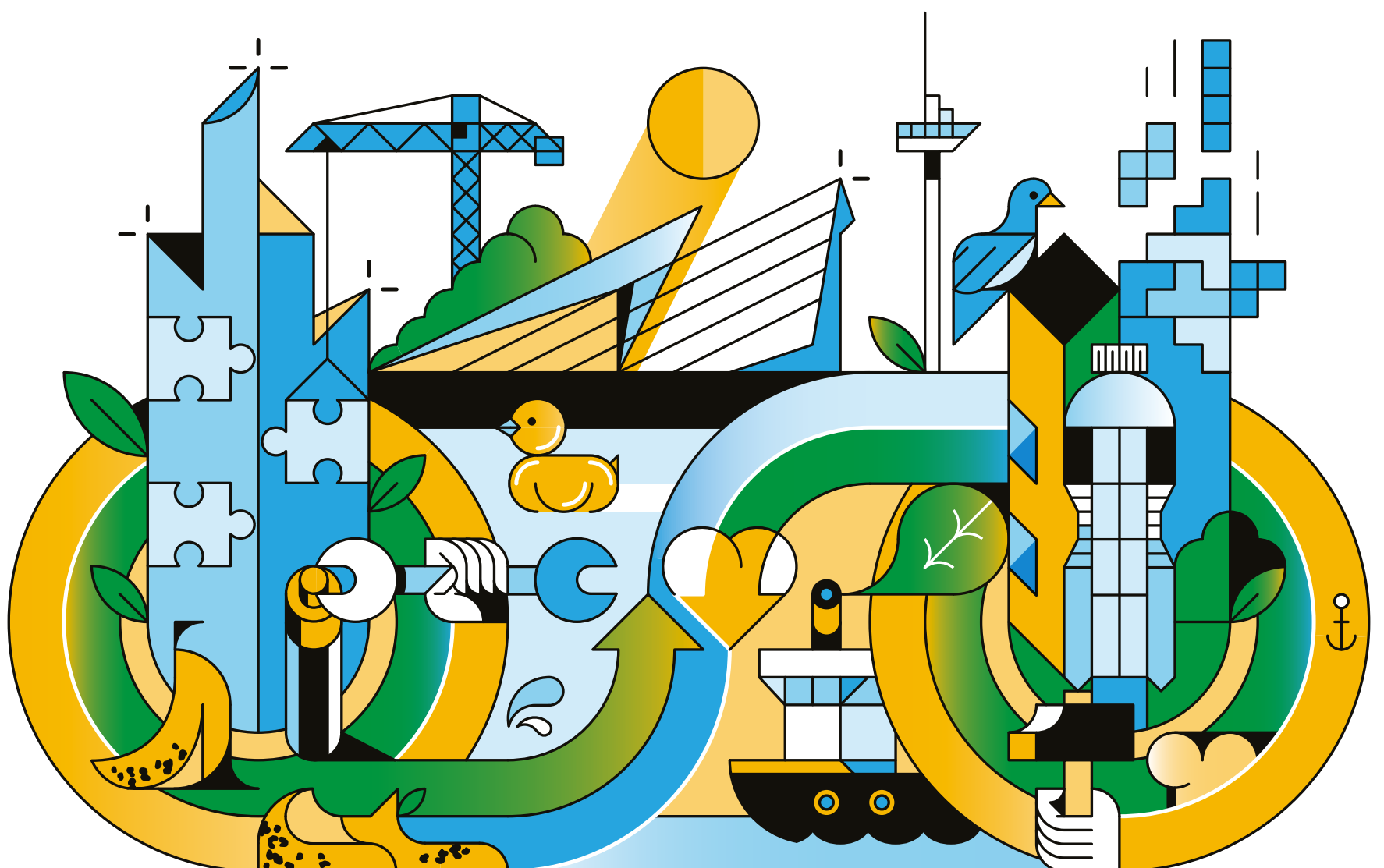
Anyone that left Rotterdam 30 years ago and comes back now, will be amazed. Yes, the Meuse River still runs through the heart of the city and icons such as the Euromast and the Erasmus Bridge are still standing firm. Yet if they look closely, they would see that the city has reinvented itself. The time in which the city and port were run on primary raw materials and fossil fuels is gone. Rotterdam reuses almost all its raw materials and is running entirely on renewable energy. The city is greener and cleaner. Rotterdam is completely circular.

You see circularity in the buildings. Buildings from the past have been renovated with materials from buildings that were demolished. New buildings have risen from existing materials. Furthermore, these buildings can be disassembled easily and turned into other buildings. They are also designed and equipped to facilitate users to be circular in everything they do. Wandering around the streets, there is no litter anymore. Packaging is something from the dirty past. There are small upcycle units and repair cafés dotted around the city where Rotterdammers can bring their household appliances for repair.

The entrepreneurial spirit of the Rotterdammers has not changed. The city is still a real manufacturing hub. However, it is business as usual in the circular economy of 2050. Companies integrate circularity in the designs of their products. The products are easy to disassemble and to repair.

There is little ownership of goods, instead, we pay for using them. The food and drink industry supplies vegetable and fruit waste to companies that make new products from them such as plant-based leather for shoes and furniture. The Port of Rotterdam is still one of the most important in the world. Not because of its size or storage capacity anymore, but because of its innovative companies. The Port turns waste streams of materials back into their original or new raw materials at a large scale, which are then reused in the city.

Anyone returning to Rotterdam in 2050 will see a city and port whose inhabitants, companies and municipality are fully equipped to assure new generations a liveable future.



How circular are Rotterdammers?



‘People who throw electrical appliances into the rubbish bins. That’s crazy!’

Anita – *Secretary, Tax Department
Municipality of Rotterdam*

What do you already do for the circular economy?
You can’t imagine all the things that we recycle at home. We separate or reuse everything. And I buy clothing that I can wear for a very long time.

How can we make Rotterdam completely circular by 2050 and how can you contribute?
I believe that the Municipality of Rotterdam should play a role in raising awareness on how much we pollute

the city. I sometimes walk past the separate waste bins on the street and see how people just push everything into them without even checking to see if they’re using the right bins. How difficult is it to read the labels? Or even worse, people who throw electrical appliances into the bins. That’s crazy! To be honest, I don’t know what else I can do as I already do a lot. And it’s not difficult at all.



‘We give our empty iced tea packets to a lady who makes something new with them.’

Bradley and Mohammed – *classmates and friends,
leisure & hospitality students at a vocational training college*

What do you already do for the circular economy?
Mohammed: We recently got those waste separation bins at home. I always collect paper separately. My father then throws it into the old paper bins.
Bradley: I only drink the iced tea from the Albert Heijn supermarket, so I go through a huge number of packets every week. We don’t throw any away and once in a while my mother gives them to a woman who makes something new with them.

How can we make Rotterdam completely circular by 2050 and how can you contribute?
Bradley: There are quite a lot of those separate rubbish bins in Rotterdam. I see one every few metres but the question is whether Rotterdammers use them properly. Maybe it would be a good idea to put the word ‘recycle’ in big letters on the pavement. That may give people a little push to make them more aware of dealing with their rubbish more carefully.
Mohammed: I could separate more waste and look carefully at what I throw away.



‘I buy a lot of second hand things.’

Suzanne – *Lawyer*

What do you already do for the circular economy?
I often buy second hand things. For our baby we bought as many things from other people as we could. If I don’t need it anymore, I sell it on. I also separate waste of course.

How can we make Rotterdam completely circular by 2050 and how can you contribute?
I still see a lot of plastic in many supermarkets. It would be wonderful if we could go somewhere where we can use reusable bags and serve ourselves. Some places already offer this service but they are so expensive that

they’re not accessible. If shopping like this would be cheaper it would be much more attractive. What I can do myself? Probably separate more plastic. I do think that plastic is the biggest pollutant. Maybe it would be an idea to put a deposit refund system on plastic?

Guts and daring

Two pathways to get there

How can we make Rotterdam a circular city? By showing guts, trying new things and daring to make mistakes. We embrace new ideas by companies and residents, inspire, experiment and keep going if there are good opportunities. We will turn Rotterdam into a testing ground for the circular economy.

Becoming a circular city requires everyone that lives and works there to be on board. This means that we make each other aware of the possibilities. That we inspire each other by taking action to make the opportunities offered by a circular society tangible. The Municipality of Rotterdam will join in wholeheartedly by looking at its own products, services, way of working and the design of the city through a circular lens. Together, we will make Rotterdam circular.

Step by step to a circular society. This is the focus of the next four years.

You do not become a circular city from one day to the next. It takes the thought, time, money and manpower of residents and companies in Rotterdam and of the Municipality itself as the instigator of change. The Municipality is working towards a circular city and has defined two main pathways to achieve this by 2023.

1. Raise awareness of circularity. Residents, companies in Rotterdam and the Municipality embed thinking and acting circular in everything they do.

The whole city is more aware of the need for circularity. Inspiring examples are catalysts for thinking and acting circular and circularity becomes irreversible. The progress indicators of this pathway during the current municipal executive period are:

- an increase in the percentage of household waste separation (including bulk waste and biodegradables) from 30.4% in 2018 to 45% in 2023;
- the population of Rotterdam shows an increase in circular behaviour from 20% in 2018 to 30% in 2023 (according to Blauw²'s behaviour monitoring).

2. Stimulate employment and economic development in the circular economy.

The Municipality promotes circular initiatives, improves the investment climate through creating circular funds and supports incubators for innovative start-ups. This second pathway will be deemed successful if at least 40 new circular initiatives are completed in the city during the current municipal executive period.

Do you want to achieve your circular goals? It all starts with awareness

Taking serious steps towards a circular society starts with awareness. Everyone must understand why we need to use raw materials and products in a different way. When we reach this point, circularity will not only be pioneering developments in the port in chemical recycling for example, but will also mostly be small initiatives in the city that have a huge impact when bundled together.

The Municipality communicates intensively with companies and residents so that everyone sees waste as valuable raw materials. We challenge Rotterdammers and entrepreneurs to think and act in terms of circularity. In discussions with them, we will see what they need to accomplish this.

The 'From trash to treasure' campaign that was started in 2018 is all about raising awareness. The campaign shows concretely what circularity means for the people of Rotterdam. We are also aware of the differences between neighbourhoods and the small town centres such as Rozenburg, Pernis and the Hook of Holland. A baseline study in April 2018 shows that Rotterdammers are positive and enthusiastic about a circular society.

² How circular is the average Rotterdamer?
Baseline study, Blauw research, 2018.

Together
are aiming
for a circular
Rotterdam



In the time to come, the communications will concentrate on increasing the circular behaviour of Rotterdammers. We will focus on specific target groups. One such group is young people. In collaboration with our festival partners, we will raise awareness about circularity among the youth by making festivals circular.

The campaign will help us raise awareness about circularity in discussions with residents and companies. In our discussions, we will draw on design or maintenance projects in the city where we embed circularity. We will then use the occasion to talk to neighbourhood residents and jointly find and roll out even more opportunities for circularity.

From trash to treasure

The name 'From trash to treasure' refers to the shining perspectives that circularity offers. 'In the future, waste will be worth its weight in gold'. The Municipality of Rotterdam's campaign message and gold colour will be communicated through various channels: on rubbish collection vehicles, waste separation facilities and containers. These will be given new names such as gold transport, gold mines and gold storage. The campaign revolves around 'five golden From trash to treasure tips'. These tips give concrete tools to help Rotterdam achieve its circularity goals. Thus, the campaign is also an invitation and a challenge to Rotterdammers and Rotterdam companies to come forward with ideas. There are also five golden tips for employees of the Municipality. In the public campaign, we will first concentrate on the message that is the easiest to reach all residents of Rotterdam. As part of this, we will look at sectors such as the building and nutrition sectors where, according to research by Metabolic, there are major opportunities for the city.

Promote circular economic developments and employment

Rotterdam's economy is already developing rapidly and new innovations follow each other in rapid succession. There are a great many new technologies about to break through in the Port of Rotterdam, for example. The Waste to Chemicals consortium is working to create green methanol – an important raw material for the chemical industry – from low-grade plastics and dried mixed green waste. Ioniqa has developed a technique to make the raw material needed for new PET bottles from PET waste. And there is more. In the summer of 2019, we will separate plastic packaging and drink packaging from Rotterdam's household waste in a waste processing plant. Apart from 'adding value' to waste, there are also bio based initiatives to make raw materials from carbon.

The process of turning the economy circular offers great opportunities for Rotterdam and is an important issue in the Roadmap Next Economy. The Municipality and the Port each have ambitious projects in the area of the circular economy and there is much potential for mutual strengthening. As well as the Foodcluster and the Municipality, the Port has major streams of raw materials that make new processing and separation initiatives possible. Each entity also has specialised knowledge about the streams and regulations in the complex waste and raw materials world. Moreover, united,

the Municipality and the Port of Rotterdam are strong enough to attract Government and European subsidies. These will help boost the development of new technologies.

The Municipality of Rotterdam is initiating concrete activities to support companies and start-ups. Investments and innovation will play a central role. Companies and initiatives can apply for concrete help such as in: applying for subsidies; putting a waste stream in place; support in finding funds; consortium building; or help with regulations or lobbying. As venture capital is still limited for circular initiatives, we are using investment funds to support new circular activities.

Finally, we will put our efforts into urban circular innovators and incubators that are often at the start of a transition. Between 2019 and 2023, Rotterdam will actively run an 'incubator policy'. New business models and innovations supported by the Municipality will emerge from incubators such as BlueCity and PlantOne. Incubators and new enterprises will help us raise awareness in the SME programme about circular business models. We will use start-up and scale-up programmes to encourage innovative circular companies. One good example of this is the annual CleanTechSummit which connects innovative companies and investors. Awareness among SMEs combined with the appropriate innovative chain approach is crucial to bring the circular economy to a higher level.

During this executive period, we are aiming to support and facilitate at least 40 circular initiatives. In doing so, we hope to generate about 700 million euros of circular investments from companies.

Circular incubators

There are already many innovative circular producers in the city and pioneering companies that are developing circular business models. Incubators are important in the development of these types of initiatives. BlueCity is one such incubator. It concentrates on new activities that convert biomass into niche products. One example is FruitLeather Rotterdam that makes leather from fruit waste. Another incubator is PlantOne that works on sustainable and innovative chemicals. Yet another, RDM, acts as an incubator for metal related companies. There are innovative pioneers in the metal sector that have adopted new business models. There is also a company that refits bridge cogs instead of replacing them completely. This saves a lot of materials. In the Merwe-Vierhaven, known as M4H, the Port of Rotterdam and the Municipality of Rotterdam are developing a circular 'production district' that offers space to innovative entrepreneurs. This area, where companies' raw material streams will be intertwined, will become a circular hotspot for the city in the future.

M4H where the Port and the city converge

Photo: Joris Den Blaauwen

If you are looking for pioneering entrepreneurs, just go to Merwe-Vierhavens, or M4H. And where is M4H? It borders the neighbourhoods of Bospolder-Tussendijken, Spangen, Mathenesse and the Municipality of Schiedam. This is where the Port and the city converge and, where much work is being done to build a future-proof Rotterdam. The Municipality and the Port of Rotterdam are co-managing the M4H and are developing the area into a testing ground for and a showcase of the circular economy. 'The testing ground function is progressing nicely, though the showcasing still needs work,' says Walter de Vries, Urban Planner at the Municipality of Rotterdam. 'The developments are not always visible on the outside but look around the corner and you think 'wow, what's happening here?!'.'

Rotterdam Makers District

M4H and RDM Rotterdam, which lie on the other side of the Meuse River, together comprise the Rotterdam Makers District. The makers of the future who are working on making the port and the city sustainable are located here. 'We are looking for companies that really contribute to solving societal issues on energy, mobility, water and material usage. We cherish these types of enterprises,' says Walter. 'Many of them are now still small and are trying out new things but we are trying to facilitate them well so that they can forge ahead and have an impact on the city and the port.'

More than waste

The innovative manufacturing industry finds a home in M4H. These companies use modern technologies such as 3D printing, laser cutting, robotics and they experiment with sustainable materials. 'These are new

technologies that can play a role in changing the port and city's economies,' says Isabelle Vries, General Programme Manager at Rotterdam Makers District. 'It's not always about raw materials and residues, which is the common assumption in circularity. The energy transition and digitisation also contribute to sustainability.'

The city as neighbours

In Rotterdam it is not unusual to live in a harbour. Many people live in the Mullerpiet, Lloydkwartier or Kop van Zuid areas. But with the influx of residents, the harbour related companies disappeared. This is not the case in M4H. This will be a place to live and work. 'We are looking to mix functions. Just look at the famous building of architect Rem Koolhaas, 'The Rotterdam', and you'll see one block which is used for offices and one for housing. Why should there not be vertical mixing to make it lively 24 hours a day?' wonders Isabelle. 'Another benefit of mixed uses is sharing,' Walter adds. 'Parking places can be used by the companies during the day and by the residents in the evening. This means that you can use a premises more efficiently and sustainably.'

Make it happen

'Internationally, it is unusual for a municipality and a port to collaborate like this to develop an area,' explains Walter. 'I'm pleased that Rotterdam, as the largest port city in Europe, is leading in this.' To Isabelle, acting as an example is part of both the Municipality's and the Port's aspirations. 'They want to be at the forefront of the energy transition. This is a huge task but I believe wholeheartedly that Rotterdam can play this leading role in the world.'

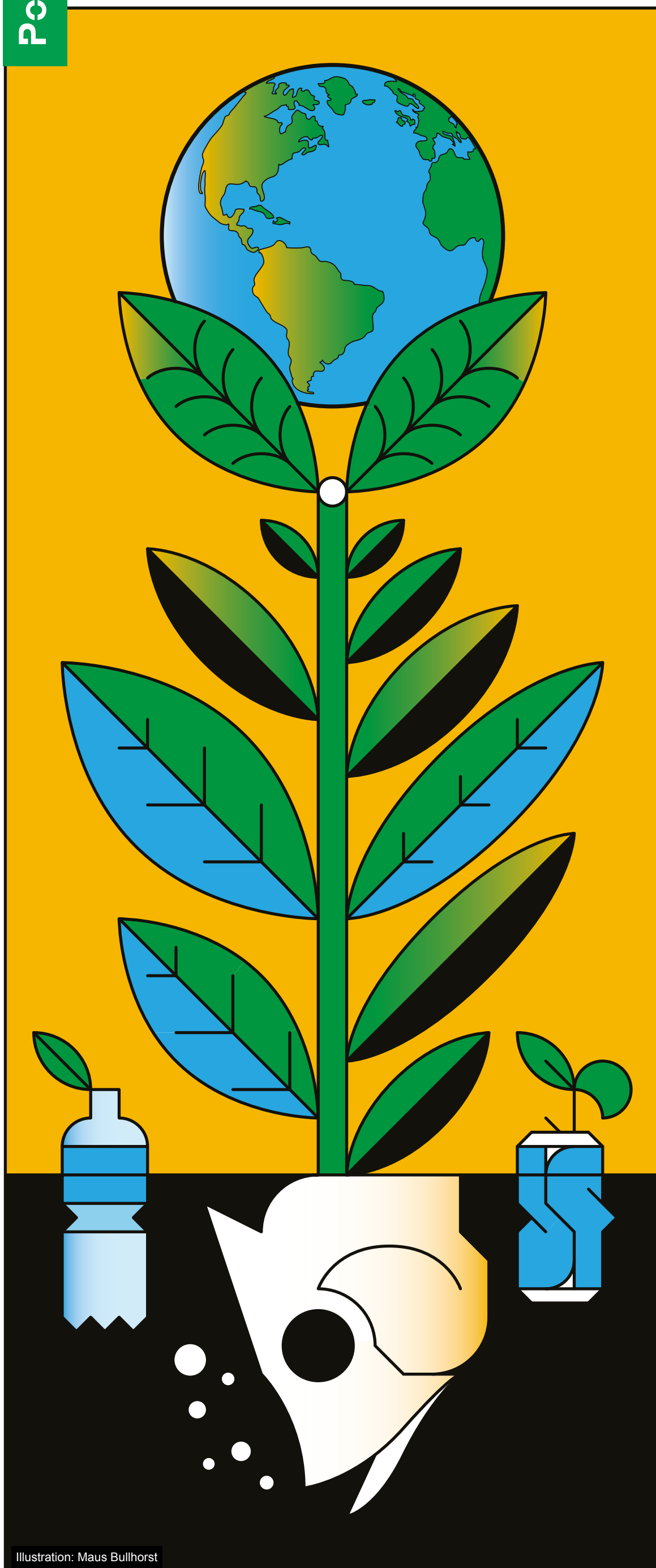


Illustration: Maus Bullhorst

Rotterdam with me?

Rotterdam vivid, spirited
a spring of inspiration
pure bliss isn't it?
eternally ahead of things
constantly renewing
a boiler-room of doing

we will not withdraw
until we draw you in
for in this urban setting
louder than words
our actions will sing
to give our future wings

former viewpoints led astray
now we catch the flow
of new waterways
leave behind our old ways
and our polluted days
literally no time to waste
beyond square one
all will be circularly made
and out of the box created
in the name of the Maas
the city and safe havens

0-1-0
with a little imagination
in this three number combination
one sees a mixer and turntables
fading in hopeful tunes
for a climate changing
we spin around
we turn around
as we seek repentance
with the sounds

our resources are samples
that we can remix again
finding new rhythms
so the party never ends
material loops nothing is lost
a win-windustry of stuff
let's keep each other company
complete the cycle
the future should not
be dot dot dot
but we should finish
what we start up
reincarnate what we dig up

moving forward
putting ECO back in economy
seriously convinced of sustainability
we take giant leaps

Sir Culair

a.k.a. De Droominee

United and

A very Rotterdam strategy



Circular bench in Vroesenpark
Made of old waste containers and used wooden planks from old benches.

Photo: Leander Varekamp



Pop-up recycling centre

The Reyerwaard district, the example of the future, people brought their old clothes or goods to the pop-up recycling centre to exchange or leave for recycling.

A circular city can only be created through collaboration. Collaboration in the Municipality, with the private sector, with organisations and with residents. Rotterdam has a large network and invites partners such as companies, residents, corporations and knowledge institutes in the city to forge new alliances with each other.

However, the circular economy does not stop at the municipal boundaries. We work with the central Government, other municipalities (including with the City Deal Circular City cities) and national entities under the National Agreement on the Circular Economy and the National Raw Materials Agreement. In the next few years, we will identify obstacles in **legislation and regulations** to circular initiatives, put them on the agenda and remove them. These may cover raw material streams of consumer goods, plastics, building materials, biodegradables, food and the manufacturing industry. Just think of the legal definition of waste and legislation in the area of packaging materials. At the moment, the law bans the use of recycled plastics to be used as a raw material in the packaging of foodstuffs. Changing this legislation to allow recycled plastics to be used for this purpose will help the transition to a circular economy.

The Municipality of Rotterdam is authorised to **extend permits** and it can use permits to steer the circular aspirations of the construction and demolition industry.

There are several opportunities for circularity in these sectors. We will assess the possibilities to align the permits accordingly.

Rotterdam will monitor progress towards circularity according to the stated goals. Where necessary, the Municipality will give direction. We will also see what is happening in the city and what residents and companies need to become circular. This will hone the plans and improve communications with the city. Rotterdam will also look into new technologies for waste collection.

By **circular procurement** and setting requirements on businesses and residents, the Municipality will take the lead. This means that every Municipal budget holder that buys products or services challenges entrepreneurs to only supply circular products or services. This holds for everything, be it paving stones, street surfaces or cobblestones, or catering, company apparel and shoes. The priority is to apply it to products that are still made from primary raw materials.

One of the most important tools to achieve the circular goals is our own procurement and tendering policy. Every year Rotterdam spends about one billion euros on products and services. Where raw materials are a substantial part of the procurement, we will enforce circularity as a criterion.

Collaboration is important in procurement. When moving towards a circular economy, you look at the entire chain. You use each other's knowledge to jointly find ways to use less materials and reuse the materials that are at the end of the life-cycle of products. This is a huge challenge. Buying circular is a core aspect of the Actieplan Maatschappelijk Verantwoord Inkopen (action plan on corporate social responsibility in procurement) in Rotterdam. In the action plan, we make the connection between sustainability, circularity and social policy in order to increase employment opportunities.

Managing the Municipality's assets³ Under assets we include: green, roads, sewage, quay walls, bridges and so on.] is another important instrument in circularity. The public space is a gold mine of materials and holds enormous potential for municipal designers and managers. To this end, activities in the city have been created to allow circular design and experimentation to retain the value of objects and materials throughout their life-cycles – the development phase, the user phase

³ Under 'assets' we mean green, roads, sewage systems, quay walls, bridges and other infrastructure.

with conviction



Project Buurman
Buurman – neighbour in English – is a work space and shop for reused materials.

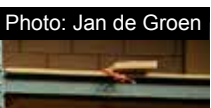


Photo: Jan de Groen



Golden Plastic Whale
Fishing plastic from the water in a sloop made of plastic bottles collected during the World Port Days event.



and the reuse phase. Storage facilities are needed to upcycle usable streams such as soil, silt from ditches and canals, green waste and building materials. This will allow us to close the raw materials and materials chains. Furthermore, it will shift towards a regional reverse logistics. The reduced transport and consumption of primary raw materials will help reduce CO2 emissions.

We will also apply circularity in **developing specific areas** of the city such as Rotterdam Central District, Nieuw Kralingen and Merwe-Vierhavengebied (M4H), the circular 'makers district'. In conjunction with the Port of Rotterdam, we are looking at the chains in the M4H area, the built up area and the way in which we enable users to become circular. We are sharing this knowledge and are exploring what it can mean for our municipal instruments in the years to come.

The **vision on the urban environment** is a strategic instrument which will give understanding and direction to the interface between the aspects that influence the physical living environment. Circularity is one of the perspectives in this vision. At the same time, we are working on rolling out the Rotterdamse Stijl (Rotterdam style) which guides the **design of public spaces**. The Rotterdamse Stijl toolkit includes 100% high quality recyclable products. We are developing a tool which will allow us to measure the environmental impact when we order new products.

This means we can always choose the most circular and low energy product.

One of our principles of circularity entails seeing waste as raw materials. This has implications for the way we **collect and reuse raw materials** and how we handle collected materials. We are looking for innovative solutions for collecting and processing waste and are facilitating reuse. The circular use of waste will be integrated into the new raw materials policy paper.

The Municipality's internal operations must become more circular. We intend to move this forward by leaps and bounds. There is no alternative because circular procurement and tenders also mean that you need to adjust your internal operations. This is already being done in some areas. Playground equipment for children is already being reused as much as possible. We move the equipment from neighbourhoods with older children to neighbourhoods with young children. In order to do this, the Municipality needs storage space and people to dismantle, repair and reassemble the equipment in the new location. This also goes for the underground waste containers. The Municipality does not just get rid of them at the end of their lifecycles. Many parts are recycled. Putting efforts into dismantling and reusing these containers turns out to be more cost effective than investing in new containers. Thus, the benefits are two-fold: it generates less waste and creates employment.

Why have a vision of the urban environment?
Rotterdam is creating a vision of the urban environment for two reasons. One, because every municipality in the Netherlands is required to produce one as part of the new Environment and Planning Act. Two, there is a need for a new vision on the physical living environment of the city.

We see the Environment and Planning Act as a strategic instrument that underlies all the interconnected aspects that touch the physical living environment. The term 'physical living environment' comprises all the elements that determine the quality of the space. These include construction, infrastructure, water systems, water, soil, air, landscape, nature, cultural heritage and world heritage. We look very consciously at the interaction between the physical and the social and economic domains. We will do this in a new way that adopts the principles of the Environment and Planning Act – with our partners and with Rotterdammers.

'The vision of the urban environment encompasses the city that Rotterdam strives to be in the long term and visualises the impact of trends and policy on the living environment. At the same time, it is a catalyst to 'make the city' together.'

Five components guide the vision: 1) Circular city; 2) Compact city; 3) Healthy city; 4) Inclusive city; and 5) Productive city. None of these are more important than the other. They form a cohesive whole and act as a compass for reaching our goals through the choices and the plans we make for the physical living environment. The vision of the urban environment will be adopted by the Municipality's Executive Council at the beginning of 2020.

Working on concrete projects, close to and with residents



Photo: Jan de Groen

BlueCity
A pool of opportunities. Where circular companies with brains, audacity, guts and fun set a course towards an economy where waste is non-existent.

Better Future Factory
From waste streams to fabulous products

Photo: Jan de Groen

Rotterdamse Stijl circularity
The Rotterdamse Stijl will help maintain Rotterdam as a desirable city in which to live and work by creating well designed outdoor spaces and using attractive materials. It will provide tranquillity, harmony and familiarity in Rotterdam's public spaces. Rotterdamse Stijl has described its guidelines in a manual and toolkit. Rotterdam is currently upgrading the Rotterdamse Stijl in terms of circularity in its Visie op de Openbare Ruimte (outdoor space programme) 2018–2028. The programme's priority themes for the Rotterdamse Stijl are: climate adaptation; mobility; energy transition; and densification. Rotterdam is also looking at how it can support the process of turning the outdoor space circular.

Rotterdamse Stijl's updated toolkit recommends the use of 100% high quality recyclable products. Given technical and aesthetic requirements, these will probably be different materials than have been used to date. This also means that when buying new materials, circularity is the precondition in the tendering process.

The design rights of certain products lie in the hands of Rotterdam and in these cases, we will see if these are sufficiently modular to be considered circular or if the design needs to be adapted.

Shoulder to shoulder with the city
The Municipality is serious about circularity and we are assuming our responsibility. Many Rotterdammers in our districts and small centres are saying that they want to be involved. They see the urgency and the opportunities but they also see the huge task that faces us. How will we bring about the required change in thinking and acting at neighbourhood level? The only way is by working on concrete projects at neighbourhood level close to and with the residents. So, this is what we will do! We will listen to each other, learn from each other and will not pass the costs on to the people of Rotterdam. We will build an active circular community in the city and support residents in working out circular ideas. Shoulder to shoulder, we will put Rotterdam firmly on the map as a circular leader.



‘Separating waste must be as easy as possible. If not, you simply won’t do it.’

Photo: Joris Den Blaauwen

Orange peel soap and rotten mango leather. It sounds like hocus pocus but it's not. The Rotterdam company, GroenCollect, collects all sorts of organic waste from the city to make new products. ‘The key is that we think from the perspective of a business and then make it as easy as possible to separate waste. Success guaranteed.’

For more than ten years now, Philip Troost, GroenCollect's director, has worked on small scale bio fermentation. After graduating from TU Delft, he established Stadsgas Rotterdam. Through his work, Troost saw the scale of valuable waste flows that were incinerated instead of used. He then started GroenCollect, next to Stadsgas, two years ago. The principle behind GroenCollect is to collect waste flows and use them sustainably and in a socially responsible way

Electric vehicles

‘Our work is demand driven,’ says Troost. ‘There is an entrepreneur that wants to make soap and needs kilos of orange peel to do so. We then go in search of the peels. We know that everything we collect will be used.’ Other materials that GroenCollect collects include coffee, bread and rotten mangos. These are collected by Troost employees in electric vehicles. ‘We did think about using bicycles as that is even more sustainable but the bottom line is that we are a commercial company. We need to pick up certain volumes if we are to be profitable and this is simply not doable by bicycle. So, we chose a green alternative.’

As easy as possible

According to Troost, GroenCollect's key is to address producers directly. ‘We tell them that it is a pity that nothing is done with their waste. They often know that organic items can be recycled but they often don't know that the plastic vats of specialty beer are also reusable, for example. And this while recycling is becoming a major market. They then talk about high costs, inconvenient collection times and that everything is so difficult.

This is an opportunity for us as we put ourselves in the restaurant owner's shoes and deliver customised solutions. We make it as easy as we can for them. That's the thing about waste separation – if it's not very easy, you won't do it.’

BioHub Rotterdam

GroenCollect is located on the Keileweg. Troost has renamed this area the BioHub Rotterdam. The company is currently working on building a biogas unit on its premises. As soon as it is finished, Troost wants other entities to locate here too. ‘Once we have the unit, we will have heat and energy which other companies can use.’ GroenCollect is now collecting the different waste streams and bringing them to clients. ‘Ultimately, we hope that we will no longer transport anything but that we process all the waste streams at the BioHub itself and turn them into products. Then we will truly be sustainable.’

Looking forward to working

GroenCollect employs about seven people who either are in offender reintegration programmes, are long-term unemployed or have a minor mental or physical handicap. Apart from being sustainable, it is thus also a social enterprise. Troost says that ‘we are not social workers. We simply offer a place where you can come if you want to work. The people who work here frequently move on to ‘regular’ jobs. That's wonderful to see.’

020 and beyond

While it started as a Rotterdam initiative, GroenCollect's activities have long crossed the city's borders. The company also works in Amsterdam and The Hague. ‘Surprisingly, we are suddenly starting to grow faster in Amsterdam than in Rotterdam,’ says Troost. ‘You really see a culture difference. In Rotterdam you have to prove yourself while in Amsterdam they especially like the social aspect. But no worries, we haven't finished with Rotterdam yet!’

Roll up your sleeves and get stuck in

Action programme

It is a gradual process, turning into a well-functioning circular economy with growing employment. Circularity is a growth model and one that will continue to develop even after 2023. To catalyse change in the right direction, we approached the research agency, Metabolic, about the sectors that have the largest environmental impact and where the most jobs can be expected.

We will focus on these key sectors in the next four years.

Construction

An important sector that generates 66% of the Netherlands' waste (OECD, 2015). Furthermore, a growing sector as during this municipal executive period, 18,000 new homes will be built in Rotterdam.



Construction

Green streams

This sector has a large environmental impact because of climate change and the high level of water use in food production and consumption..



Green streams

Consumer goods

While goods such as electronics, paper, clothing and plastics are often produced from low-grade materials, these are potential treasure chests of valuable materials.



Consumer goods

Health care

Hospitals could have a large circular impact relatively easily by purifying their waste water from medical waste.



Health care

After analysing material streams, Metabolic has compiled a long list of activities for each of the four key sectors. The Municipality and its partners in the city have selected the ten activities with the most potential in terms of both the efficient use of raw materials and the creation of employment. These ten activities will be at the heart of our work over the next four years.

Construction

The key sector ‘Construction’ comprises the development, design and management of areas, buildings, infrastructure and public spaces. This is the sector where we can have the biggest impact on circularity, largely because it is currently one of the least efficient sectors. It is therefore at the top of Rotterdam’s agenda. The Municipality of Rotterdam can exert much influence on the construction sector and specify circularity in demolition, building, management and design through the strategic issuing of permits and tender processes.

The task for 2019-2023 is:

to promote circular construction. This means extending the life of existing buildings and at the end of their lives, dismantle as much as possible so that the freed materials can be reused efficiently.

We will carry out this task by creating:

- a materials passport
- a circular concrete covenant
- building hubs
- a digital market place for building materials

Materials passport

In conjunction with our partners in the city, we will explore the option of introducing a materials passport. We will encourage the use of the passport through the building regulations. With partners and other municipalities, we will look at creating a national database for the materials passport. A materials passport describes how much materials and components are used in a building or infrastructure and what the Environmental Impact Indicator (MKI) is. For buildings, this is expressed in the Material Performance of Buildings (MPG). This information is essential in a circular economy, whether it relates to dismountable units or the demolition and

dismantling of buildings. The option of using the materials passport for municipal infrastructure is also being assessed. The Municipality is designing its management systems in such a way that information can be easily exchanged with other players in construction.

Circular concrete covenant

Most of the construction and demolition waste consists of concrete and rubble. This can be used to make new concrete. If this is done, it will reduce the environmental impact related to the production of concrete from primary raw materials. In 2019, Rotterdam, other municipalities and its construction sector partners signed a circular concrete covenant. It contains agreements on the efforts that all the entities will make to recycle building and demolition waste and how this will be accomplished.

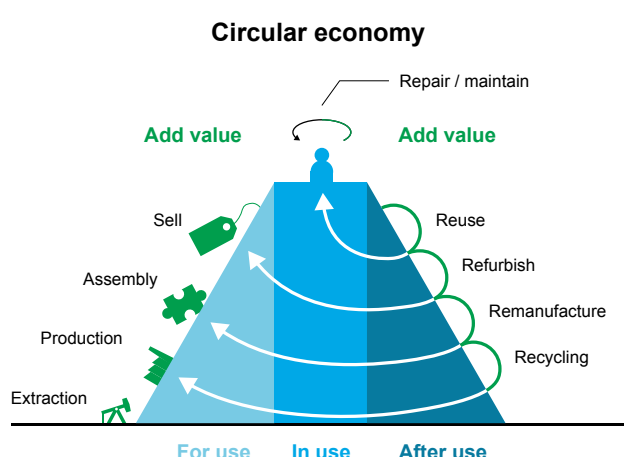
Building hubs

Rotterdam is well on the way in terms of circular asset management. The city was the first in the Netherlands to have a circular soil and waste material bank. This ‘bank’ has been in operation since the 1990s and has grown into a ‘materials bank’. A central location will be built in the districts of Noord and Zuid for the temporary storage of objects and materials. These will be examined, repaired and shared and sent on. Material and building hubs help reduce the amount of transport in the construction industry, particularly in the city centre. This directly reduces CO2 emissions and dust. In the time to come, we will explore the opportunities that construction hubs offer construction companies and large building developments.

Digital market place

As an extension to the materials and building hubs, we will look at the digital system that best brings supply and demand of building components together.

Goal
Extend the lifetime of existing buildings and dismantle as many materials as possible for efficient reuse.



Value Hill

The most important underlying factor for construction related activities is the ‘Value Hill model’ (Achterberg, Hinfelaar, & Bocken, 2016).

We will build on this model in handling circular construction and circular material streams in Rotterdam. The model’s principle is to adopt an integrated value perspective to look at both objects (buildings, infrastructure and outdoor space) and the materials used in these. The model can be used to organise various circular strategies and to link them to each other. The challenge here is to climb as high as possible up the Value Hill using the principles of prevention, value creation and value retention. This means that optimising the circularity value is at the core and the entire chain is interlinked. The Value Hill creates a shared understanding that can be used by the different roles and disciplines to optimise circular opportunities in construction.



Goal
The bio-degradable stream increases, food waste decreases and green streams are reused in a better way.

Green streams

In this sector, our goal is for the biodegradable stream to increase, the food waste to decrease and for green streams to be reused more. There are plenty of opportunities in Rotterdam. The food wastage in the city is still about 14%. This is a little higher than the national average of 12%. We are therefore looking at ways to reduce this food waste. Most organic waste is not separated at source and now lands in the incinerator along with the residual waste. A relatively small part is collected by the Municipality to be processed into biogas and compost. The collected organic waste often contains residual waste. We will address this point in our communication with residents – clean organic waste is essential in the production of good compost and biogas.

The task for the green stream sector between 2019 and 2023 is to encourage and stimulate organic waste collection and the value creation of green streams.

We will do this by:

- improving the collection of household organic matter;
- improving the value creation of organic streams.

Domestic organic matter

The 'Household organic matter' campaign is leading to more separated organic waste. We are aiming for 15 kilograms less organic matter in the residual waste per household per year. About 75% of homes in Rotterdam are in blocks of flats. There is often little space here to separate organic matter. Thus, we will concentrate on other activities such as defining the requirements for building developments to make separate collection of organic matter possible. We are extending the collection of organic matter in Rotterdam and are starting to work with the Next City programme pilot, a pilot to improve waste separation, and particularly organic matter, in blocks of flats. We are also working with specific target groups such as students to explore how they can separate more organic matter.

Adding value to organic matter streams

Adopting better ways to process waste into feedstock or basic materials is generating huge opportunities for the circular economy. These are domestic waste streams and those of restaurants and hotels. Many new technologies are being developed in the area of waste processing and in particular organic matter. The Municipality is listing new processing initiatives with potential to explore if and how we can work with the Port of Rotterdam to speed these up. And if we can contribute to improving the investment climate to help progress these new initiatives.

Consumer goods

We will adopt a three-pronged approach in the ‘Consumer goods’ sector: reduce - reuse – recycle. Currently, about 30% of the domestic and office consumer goods are recycled; 4% go to landfill; and a good 66% is incinerated.⁴ Incineration is a loss of value despite the energy that it generates. The largest part of the waste stream of consumer goods is packaging. About 60,000 tons of paper, plastic, glass and metals and 6,600 tons of textiles are incinerated every year.

The task for the consumer goods sector for 2019-2023 is to encourage less consumption and the longer use of products and raw materials as well as more reuse of materials and more recycling.

We will do this by:

- making sure that there is less waste and litter;
- setting up Upcycle Malls;
- separating plastics and drink packaging better.

Less waste and litter

The Municipality of Rotterdam, the G4 and the Association of Dutch Municipalities (VNG) are in discussions with the Government and the packaging industry to emphasise the urgency to reduce the use of plastics. The aim of these discussions is to reduce plastic waste and have more recyclable plastic packaging. Rotterdam has also become a member of the Statiegeldalliantie (deposit system alliance). Part of the task is to think of solutions for

the small PET bottles that now end up as litter. Rotterdam is also promoting initiatives to reuse recycled plastics. Procurement can play a significant role in this, both in contracting processing companies and in looking for possible applications. Industry and the packaging industry are working at national level on a Plastic Pact. Rotterdam is exploring options to turn the Plastic Pact into a Plastic Act for the city. This could include clauses specifying the reuse of plastic in municipal tenders in the civil engineering sector.

A large quantity of vegetables, fruit and consumer goods are on sale in the city’s markets every day. However, at the end of the day much waste remains. With the relevant entities, we are exploring how we can reduce the quantity of waste and make the markets more circular.

Upcycle Mall

We are introducing the Upcycle Mall – a new style of recycling centre. You can bring your waste there so that new products can be made of old material. You can also pick up recycled material there to make something yourself. The Upcycle Mall will become a sort of marketplace for raw materials and products that are fit for a second life. Not only physical, but digital too. To make it easy for Rotterdammers, the city will have different hubs. Raw materials and old goods can be brought here and new materials and goods can be picked up. These hubs could also cater to specific target groups and areas. For example, a target group could be students that move house and an area could be one that is already working on circularity and sustainability, such as Reyerood.

Better separation of plastics

There are many different types of plastic, each with its own qualities. Plastics can only be recycled at value if the different types are separated. The waste processing company AVR is building a waste separation plant for Rotterdam to remove plastics and drink packaging from the residual waste. The plant will be in operation in the summer of 2019. After separation, the plant will produce pure raw material streams from the sorted plastics that can go straight to recyclers. This will significantly boost Rotterdam’s plastics recycling. Our goal is to increase the waste separation percentage from 32.2% in 2018⁵ to 45% in 2023. We will increase the clean plastics and drink packaging streams from residual waste to 64%.



Photo: Guido Pijper

Health care

Rotterdam is a world leader in the health care and medical industry. The hospitals’ operations in Rotterdam are even leading in the area of sustainability and innovation. Still, there are many ways to make our hospitals even more circular. These could involve energy streams, procurement and waste streams. A reduction in the number of patients would also have a large impact on circularity. Simply put, healthier Rotterdammers mean fewer patients and less waste. Large hospital buildings also have opportunities for circular construction. The circular demolition of the Erasmus MC that recently started is a fine example. The hospital’s old toilets are being given a second life in the houses of Woonbron.

In the next few years, we will work with hospitals in Rotterdam and other health care partners to see how we can use circular opportunities in the medical world. The Municipality of Rotterdam will identify these, bring various entities together and play a facilitation role where required. The task for the key sector ‘Health Care’ in the period leading up to 2023 is: encourage opportunities for circularity and use them whenever possible. One concrete activity that we will roll out with medical and health care institutions is the installation of medicine filters.

Installing medicine filters

The waste water of hospitals and health care institutions contain concentrated and substantial amounts of medicine waste, hormone disruptors remnants and cleaning agents. Hospitals and health care institutions could install medicine filters relatively easily. This would have a large circular impact. Medicine filters purifies waste streams, turns them into energy and returns clean drinking water. Two hospitals in Rotterdam have already done this successfully. These are the Franciscus Gasthuis and the Erasmus MC. We will discuss following these good examples with the other hospitals and health care institutions in Rotterdam

⁴ Circulair Rotterdam, Kansen voor nieuwe banen in een afvalvrije economie, Metabolic e.a., 2018.
⁵ Fourth progress report waste policy paper

Rotterdam

the city



‘Giving clothing and other things a second life must become the most normal thing in the world.’

Clothing swap at the pop-up recycling centre

Working on a new image for waste

How will Rotterdam become a circular city in 2050?

Rotterdammers must become more involved in the environment of one of the best cities in Europe. And become more aware about the consequences of discarding things that can have a good second life. We often hear people say that there is little point in recycling as you cannot save the world alone. Or they say that handling their rubbish differently is complicated. This mentality must change and it must become easier to separate waste. One way of doing this is through pop-up recycling centres in the city.

You held a clothing swap. How did it go?

People in Reyerwaard and surrounding areas brought their clothes to a pop-up recycling centre to swap these for other clothes. Some of the people said that they would otherwise have thrown the clothing away. This may seem like a small contribution to a circular Rotterdam, but it raised much awareness. Many people asked us when the next clothing swap would be. That must be a sign of success! It also shows that Rotterdammers want to contribute to the circular economy if they have the chance.

How can Rotterdam become a circular city in 2050?

Turning the city circular can only be done together. This may be a challenge for a diverse city like Rotterdam, but we believe to our core that Rotterdammers can do this!

Charlotte da Silva Lobo and Blaurin Tourialai



‘How to turn Rotterdam into a circular city? Just ask the children!’

Code Groen

Code Groen: children think up creative solutions for a future-proof city

Code Groen is an annual educational art project run by the Hofplein Youth Theatre and SVKR for the last years in primary schools. In four weeks, children work with two artists to think of ideas for a future-proof Rotterdam. They choose one of three themes: ‘Sustainability’, ‘Innovation & Technology’ and ‘Society & Us’. To generate some ideas, the children visit innovative companies in Rotterdam. The result is a theatre performance, artwork or another art project.

How can Code Groen play a role in Rotterdam becoming circular?

Children should have a voice on issues that affect them. They are, after all, the new generation of Rotterdammers. Children also have a fresh, out-of-the-box view of ‘big people’s problems’. One school, for example, thought up the idea of a rubbish bin that says ‘thank you’ if someone throws rubbish in it. Some children also thought about not destroying old cars, but instead using them as flower containers and parking them along the Meuse River.

How will Rotterdam become a circular city in 2050?

Just ask the children! The Code Groen Children’s Congress last year led to a motion in the municipal executive office. This shows that children are a valuable think tank for the Municipality.

Ragnhild Rikkelman, Code Groen project leader at Hofplein Youth Theatre

for circular initiatives



‘You must always consider the climate when taking a decision.’

Vegan Food Festival

Moving towards a circular economy with a wide reach

What is the Vegan Food Festival doing about circularity?

We are, of course, using reusable plastic cups. We also pushed the Green Deal motion for a power connection in the Oude Westen neighbourhood park; we separate our waste; and use reused material in our décor. We also have an educational project on circularity and sustainable pioneers. We have had workshops, for example, by Fruitleather and Meatable.

What are your circular plans for the future?

We want to change the drinks we offer; list our waste streams and visibly process them. One way we could do this is to have a gigantic worm hotel. But above all, we want to make sure that our visitors continue thinking about circularity after a day at the Festival. On top of euros, love and emotion, the climate simply must be something you include in your decision making.

How would you define a circular festival and how can we achieve it?

Festivals are perfect for influencing the behaviour of visitors in an accessible way. Every festival organiser wants zero waste and green energy and wants to put money into it but does not yet have the opportunity to do so. This could move faster. Support the festivals that want to do this. Develop tools with and for organisations that can be used in different events. And be the binding factor between these events.

Berend van Zanten



‘We are taking the first step towards a circular economy – raising awareness among Rotterdammers!’

Zero Waste Meal

Zero Waste Meal: waste-free cooking to reduce plastic waste

You won the Circular Student Award with your Zero Waste Meal. How did you come up with the idea?

Dora: When I was working on my research for Data Design at school, I collected my own plastic waste for four weeks. This was 60 litres, or 720 litres in one year, of which about 10% could be recycled. This made me think how I could reduce that waste. I started to shop at the greengrocer where I could bring my own bags and containers for my shopping. Just by doing this I cut my waste by 66% in the first month. Lotte came around for dinner one evening and I cooked a waste-free meal for her. She was amazed and wanted to know more about the zero-waste lifestyle.

Lotte: I already knew that Dora was very environmentally aware and I saw an initiative by the Municipality of Rotterdam to nominate the most circular student. I thought, that's Dora! We took the example of how Dora cooked for me as the basis of the idea to pitch to the Municipality. One thing then led to the other.

What do you need and what will you do in the next few months to put your ideas into practice?

Lotte: We will create a campaign in spring. We will work with a team of representatives and together we will work on the first step towards a more circular economy – raising awareness among Rotterdammers. I am also very happy with the efforts and openness of the Municipality of Rotterdam and pleased that they are prepared to work with students like ourselves. This gives us a great springboard to test ideas. Hopefully this will continue in the future.

Dora: And we are looking for students of 18 years or older from Rotterdam who are open for a new lifestyle, enjoy cooking together and have a wide reach among other students!

Dora Varga and Lotte Gerick

Evaluation and monitoring

Good monitoring is needed to be effective and to reach the goals and aspirations. Are we on track with implementing the programme? Are we reaching the desired results and are these leading to attaining the plans for 2030 and 2050?

We report through the regular Planning and Control cycle on the programme's progress and the relevant activities. This compares our achievements to the plans. Have the planned activities been done and are the expenditures in line with the budget? We can then act according to the findings. Further, a more detailed progress report will be issued twice. These will include the programme's measurable outcomes. The emphasis of the last progress report will be on the effects on the raw material streams and employment in Rotterdam..



Photo: Jan de Groen

Advertorial

WASTE IS WORTH ITS WEIGHT IN GOLD.

Waste is still often seen as rubbish. A great pity. Because if Rotterdammers separate their waste properly, it turns into useful raw materials for something good. So, let's demonstrate that 'rubbish' has value. Just like gold. You don't just dump gold, do you?

Rotterdam: a gold mine

So, this is why Rotterdam is working on improving products, reducing waste and handling waste differently. We are doing this in a typical Rotterdam way – with guts and with each other. We are doing this by trying things out, learning from each other, encouraging each other and moving forward.

ROTTERDAMCIRCULAIR.NL |  **ROTTERDAMCIRCULAIR**

ROTTERDAM.
MAKE IT
HAPPEN.

 **Rotterdam**
Circulair


City of Rotterdam



Woonstad Rotterdam gives a new home to the toilets of the Erasmus MC

Photo: Joris Den Blaauwen

If you look at the Rotterdam skyline, along with the skyscrapers you see a crane or two. 'This city will never be finished', wrote Jules Deelder. The construction industry is working overtime in Rotterdam. The Meuse Tunnel is being renovated. The Boijmans van Beuningen Museum's depot is being built. The Coolsingel is being overhauled. This means that much can be gained in terms of circularity in the construction sector. One inspirational example is the collaboration between Erasmus MC and Woonstad Rotterdam. 'All I wanted was to roll up my sleeves and get stuck in. And that worked!' says a proud Taco van Iersel, programme manager at Erasmus MC.

Circular demolition

The Erasmus MC has undergone much renovation over the last few years. The renovated university medical centre opened in May 2018 and many of the buildings became obsolete. These buildings were demolished. 'This will keep me busy until 2022.' The demolition is not being done with a demolition ball, but in a way that will create as little waste as possible. 'It's very exciting. This is a completely new world for me,' admits Taco. The world that he is referring to is circular demolition. This entails reusing as much of the materials that are released from the demolished buildings as possible. Doors, wooden beams, steel pipes and plasterboard will be given a second life.

Big people's Lego

'Maybe the contractor will be able to reuse the whole building,' says Taco enthusiastically. During the process he kept discovering new things about the circular economy. 'I believe that there is always a chance that you can do something circular or use reused materials. As long as you're creative.' Dennis Lausberg, Real Estate and Maintenance Director of Woonstad Rotterdam agrees with him. 'You need to look at something and think what is this and what can it be used for? You need to think in possibilities. It's really a sort of big people's Lego.'

Woonstad Rotterdam, the biggest housing corporation in the city, is one of the first buyers of the demolished materials of the Erasmus MC. Taco describes the relationship between Woonstad Rotterdam and the

Erasmus MC as 'an opportunistic marriage'. Apart from ceiling plates and other materials, the most striking is the 500 toilets that Woonstad Rotterdam is taking over from the old hospital building. Dennis explains that 'If all goes well, whoever lives in a Woonstad house will be using an Erasmus MC toilet.'

Embedding the circular economy

'If you want to bring circularity to a higher level, you also need to incorporate it into your daily activities. We build another 1.5% new homes every year. This equates to 1,000 to 1,200 homes. We do much more in maintenance of our property,' explains Dennis. 'To introduce circularity in repairs and responsive maintenance of existing buildings in our company operations is much more difficult than starting from scratch in a new development. However, through this initiative we want to prod the everyday things.'

This is not the only thing they do at Woonstad Rotterdam. Embedding the circular economy in your complete operations does not happen by itself. 'We have hired someone specially for this. This person is completely unpacking the concept of circularity so that we know exactly what we are talking about. And we will then decide what practical things we can do.' The collaboration with Erasmus MC means that this now goes beyond words. 'Stopping talking and just do it,' says a determined Dennis.

Modest pioneers

This initiative is putting Erasmus MC and Woonstad Rotterdam at the forefront of the circular Rotterdam movement, even though they are modest about it. 'Pioneers? It doesn't feel like it,' says Taco. Dennis concurs. 'I don't feel like a revolutionary. It's just the practical thing to do. It starts with yourself and thinking whether throwing something away is a good thing. Can it be used for something else? Or if I need something, can I get one without it being brand new? These are small steps, but that's where it starts,' says Dennis. 'Are we pioneers? Well, ok then. But please copy us. If we can do it, so can everyone,' decides Taco.

5 golden tips to be more sustainable

1



Drink water from a refillable water bottle
Disposable plastic bottles are bad for the environment. So, drink tap water from a refillable water bottle. This makes a huge difference in plastic.

2



Don't throw broken things away, repair them

Is your blender broken? Don't throw it away but check if it can be fixed. Bring it to a repair café for example. If it can't be fixed, bring it to a recycling centre.

3



Separate your waste and give things a second life

Separating rubbish is easy these days. There are containers everywhere in Rotterdam for paper, glass, PMD (plastic/metal/drink packets), textiles and residual waste. If you have things that can still be used or if you need something new, why not try second hand shops or the Marktplaats website. You can make someone else happy and you may just find what you want.

4



Bring a bag with you when you go shopping

Make it a habit to have a bag with you if you go to shops or to the market. If you forget a bag, reuse the plastic bag that you buy several times. And when it breaks, throw it in the PMD container.

5



Don't throw food away

A lot of food still disappears into the waste bin. It's a pity and it's so easy to avoid! Buy and cook small portions and don't throw the leftovers away. You can make really delicious things with leftovers. Visit voedingscentrum.nl for ideas. If you do have leftovers, separate it in the organic waste bin or use it to make compost.

