



The Hague

Memorandum on Sustainability  
**Clean energy in  
a green city**



The Hague Approach

5 March 2019

Memorandum on Sustainability

# Clean energy in a green city

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# Foreword

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The Hague is a green city. From the Peace Palace you can almost walk through green to the sea, passing through the Scheveningse Bosjes woods and Oostduinpark. That tranquil green heart is surrounded by a lively city, busy beach bars and the bustling harbour in Scheveningen. High-rise office blocks and stately buildings in the city centre, the rough and ready Binckhorst and quiet Ypenburg. The vibrant Schilderswijk and the spacious and green Zuidwest. As a city, The Hague symbolises this Framework Memorandum. It is a colourful city with a green heart. A wonderful city to live in, now and in the future.

The city council strives to create a liveable city for its residents now and for the generations to come. It also wants a healthy and attractive city where the residents can cycle along green paths, catch the scent of sea air when walking and see a nesting stork from the bus.

Every generation has its own challenges. Our challenge is the changing climate. The sea level is rising, the seasons are turned upside down, drought and heavy downpours are more frequent occurrences. Enjoying a sultry summer evening at a pavement café, on a balcony or in the park is fabulous, but a flooded tunnel or dead grass is not. Driving may be fast and convenient, but traffic jams are no fun. You may feel free on a scooter, but if you cycle or jog behind one, it is less pleasant. Money that we are now spending on importing coal, oil and gas could also be used to boost employment for our citizens.

A lively city like ours consumes a lot of energy. Over the last one hundred years, that energy has come from coal, oil and gas. Changing to a life based on clean energy is the next big challenge. It is an enormous change.

And in the meantime, the city is becoming busier. By 2040, we will have about 100,000 more

residents. More people are visiting The Hague too. Tourists and day trippers who come for a yacht race or the museums. People who come to our city for work. We expect more people by train, bus, bicycle, and also by car. Students, expats, business people are all coming to the city. They want to make their home here too.

In recent years, work has been done on information dissemination, research, awareness raising and the first sustainable pioneers have got to work in our city. In the near future the city will bring about real change for more residents, visitors and users in cooperation with these pioneers and leaders. This is the period in which we take action. In doing this, we of course must not put the financial burden of becoming more sustainable on the lowest income group. This is both unfair and it will mean that nothing will happen.

Transitioning to clean energy can be done step-by-step and neighbourhood-by-neighbourhood. Ten Green Energy Districts (*Groene Energiewijken*) are leading the way and inspiring the rest of the city. Energy efficient new buildings are already being built, we already have sources of clean energy, and more roofs are covered in solar panels. The first electric buses and lorries



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| Photo: Inge van Mill

are already driving around the city.

This Framework Memorandum presents these changes and explains what we are going to do in the time to come. Our actions are based on four themes: clean energy for homes and buildings; clean transport; clean surroundings; and a more sustainable use of resources. It shows the urgency and sets the task, path and building blocks for the next few years.

Residents, entrepreneurs, civil servants and professionals are already working together. Energy cooperatives are being established, houses are being better insulated, there are more solar panels, electric scooters and cars, and paving stones are being replaced by green. The municipality supports initiatives, takes charge where necessary and brings different groups together. As the city council, we are responsible for a liveable city now and for a city that is ready for the future.

What could be better than the city of The Hague where the air is clean and refreshing everywhere, that invites people to walk and cycle, where houses and offices run on clean energy, where all the houses stay cool in the hottest weeks of summer, where there is green everywhere and where you only get your feet wet if you go into the sea. A city that not only has a green heart, but where that green heart is embedded in decision making.

*Liesbeth van Tongeren*

Alderman for Sustainability and the Energy Transition

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# Introduction

## Why this Memorandum?

This Memorandum marks a turning point in our city. From gaining knowledge, awareness raising, pilot projects and creating support, we will move to implementation and visible projects. In collaboration with all the residents of The Hague, the municipality is working on a city that is cleaner, greener and more sustainable. We will make great strides. Thinking and acting sustainably will be a more important element in The Hague's values. Sustainability is the new normal.

That this is needed is not, or hardly, denied. Our Prime Minister is already comparing the energy transition to post-war reconstruction. Governments are giving space to sustainability in more and more policy documents, covenants and programmes. But these intentions are not sufficiently aligned, and they are rarely implemented in practice.

This is the time to align and implement our aspirations. This Memorandum brings together the municipality's four important themes. At the same time, the city council plans to work with people and companies in the city. Thinking and acting sustainably is not one-way traffic. Initiatives in the city can use more support, successful projects can be expanded, and people in the city can do more themselves. This Memorandum shows the ultimate goal of the municipality and the pathway to reach it.

## City in development

The Hague is popular and we are proud of this. As a green residential city on the sea and the International City of Peace and Justice, the city is growing by about 5,000 residents a year. In 20 years time its population will be 600,000. That growth is happening within the current borders of the city. This puts pressure on the quality of our immediate living environment. It demands a high quality urban design in which more good houses, fast mobility and green in the city are carefully combined.

At the same time, we want the entire city to transition to clean energy. We will be a step ahead of the effects of climate change and we want to use resources more efficiently. All these developments are unavoidable and necessary. The energy transition is setting much in motion and is leading to changes in society. This offers opportunities for new technologies, alliances, our economy and employment. The densification of our city is offering benefits of scale for mobility, energy regulations, the quality of the living environment and the way in which we deal with resources.

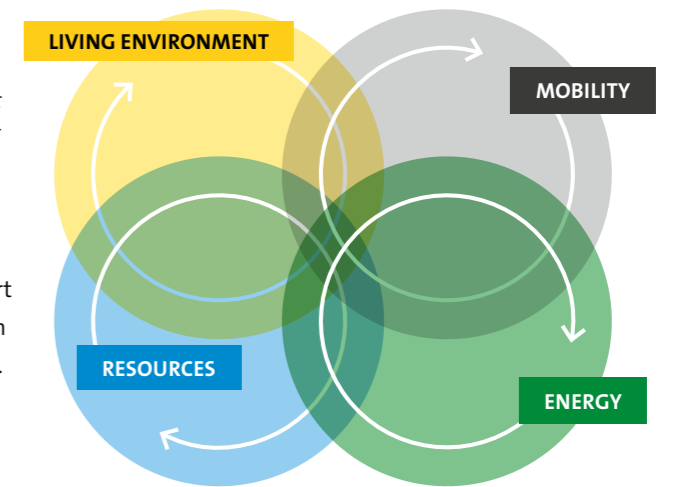
That said, transitions are always slow processes, and certainly so in big cities. They are paired with much money and work that lasts a long time, and touch many interests.

## Four concrete themes

*'Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.'* Our aspirations are thus described in the UN report entitled Our Common Future. This report may be 30 years old, but it is more current than ever. The definition can sound abstract though. The municipality strives to make sustainable development manageable by focusing on four themes: the transition to clean energy; an attractive living environment; clean mobility; and the reusing of resources.

## Together with the city

Together with the city, we, the city council, will take on the challenge. We want to inspire, connect and enable everyone to move forward on sustainability, whatever their age, education or background. Everyone that wants to can join. The municipality will also collaborate with entities in the region so that we can offer companies economic opportunities in a region that is becoming more sustainable. We will do this using the Roadmap Next Economy.



## Good communications

Collaborations in our city will only work if we understand each other well and communicate with each other. We will do this in countless different ways. Great initiatives are already being undertaken in neighbourhoods in The Hague such as cooperatives or websites outlining plans. There are also very many projects, regulations and funds in operation. It is precisely at the initial phase of a transition that it is important to understand each other and to learn from each other. The municipality will therefore collate all this information to make it easier to seek each other out, each other's plans and opportunities. We can also answer questions. We will also enter into discussions with everyone involved and the organisations in the city about policy issues, interests and solutions.

A different medium of communication is needed for each project, neighbourhood and situation. While in one instance a press release or a Facebook message may be enough, in another, a meeting of residents or entrepreneurs may work better. And sometimes it is better to approach groups in person to join a project. And by joining activities that are already in the planning, sustainability becomes an integral part of the regular work and activities.

Sustainability is included in the Green Agenda (*Agenda Groen, 2016*), the Space For The City Agenda (*Agenda Ruimte voor de Stad, 2016*), and the Municipal Sewage Plan (*Gemeentelijke Rioleringsplan, 2015*). The policy for the outdoor space (such as the Framework Memorandum and Public Space Manual (*Handboek Openbare Ruimte*)) will be issued after this executive period. The The Hague's High Rise Developments: Eyeline & Skyline (*Haagse Hoogbouw: Eyeline & Skyline*) includes the intention for each building to score at least an 8 using the independent 'GPR Gebouw' tool on the themes of environment, health, user quality and future value. For energy, it must score a 9. Further, at least 4 stars must be awarded in the BREEAM-NL scale for buildings and district developments.

Residents may always hold us to the following communication principles about the energy transition.

- 1 We will help anyone that is taking action to reduce their energy consumption, move towards greater sustainability and use clean energy.
- 2 We will give practical explanations and tips on subsidies that help save energy, become more sustainable or transition to clean energy.
- 3 Tips and useful information are always available in one clear place on our website.
- 4 We will help groups of companies and/or neighbourhoods that want to reduce their energy consumption, make their energy more sustainable or transition to clean energy to do this more smartly and easily.
- 5 We will always inform residents clearly and in a timely fashion about new plans for sustainability or transitioning to clean energy in their streets or neighbourhoods.
- 6 We have clarity about our own role in new plans and about the influence and voice of residents, businesses and other parties in the city.
- 7 Our information is honest, clear and thoroughly in line with all the parties that we work with.

These principles are the foundation for our communication with projects in neighbourhoods and in the city.

### Setting a good example

Over the last few years, the municipality of The Hague has worked on awareness raising around sustainability. Sustainability is slowly gaining a permanent place in its regular work. This is producing good results. Sustainability is a factor in Socially Responsible Procurement (*Maatschappelijk Verantwoord Inkopen*) in large tenders. We are also grouping our procurement power with other entities such as the central government. In doing so, we act as a catalyst for the market to supply more sustainable products and services. The municipality is including sustainability in its general subsidy framework. The annual report on associated entities will include an assessment of the participants of The Hague's level of sustainability. Further, the municipality's vehicle fleet will gradually transition to electric vehicles.

The city council's aspirations are reflected in the municipality's policy covering issues such as its zoning policy, urban management, economic policy and mobility policy.<sup>1</sup>

<sup>1</sup> Implementing the motion 'Breng in raadsvoorstellen het effect van milieu en klimaat in beeld' (RIS 295471) (introduce the effect of the environment and climate in the city council's proposals) is making the considerations visible, even in executive decisions.

Further, the growing city is giving the municipality a major sustainability challenge. A well designed, attractive and future-proof living environment is crucial. It means buildings made of reusable long lasting materials that are powered by clean energy; thought given to waste and reuse; an attractive and climate resilient residential and living environment; new mobility solutions; and technologically smart designed outdoor spaces.

In the densification and greening of the city and making it more sustainable, we are asking the market for concrete solutions. In doing so, we are using the competitive strength of the market and, apart from price, we are looking for quality and sustainability. This will give us the best balance between quality, creativity and price. Apart from the energy transition, this also stimulates other sustainable developments such as circularity, climate resilience and nature inclusive building. To do this, we are using tools developed by the market itself such as GPR and BREEAM, as well the municipality's own point system for nature inclusive building (NIB). Our tender award criteria and standards fit this Memorandum<sup>2</sup>, are used in design competitions and are laid down in contracts. We meet with other G4 municipalities to learn from each other and get the best results. Wherever relevant, sustainability is included as a criterion in issuing permits. The municipality no longer charges levies for sustainable measures anymore.

The densification of our city does not need to come at the cost of making the city more sustainable and greener. Combining sustainable building with neighbourhood development



will give rise to new solutions such as clean energy and mobility that is no longer based on ownership but on service which you only pay on the basis of usage. The Binckhorst is one such example undergoing this transformation. We are already using the Crisis and Recovery Act in the Binckhorst and in the Erasmusveld to work on clean energy pilot projects and the local reuse of rain water.

In our neighbourhood developments we are including the sustainability requirements for energy, resources, mobility and the quality of the living environment in the plans. This helps us take into account the space – both above and below ground – that is needed for clean energy. We are also preparing for the new Environmental Act that will bring together many laws in the area of spatial ordinance and, among other things, allow for the involvement of residents in spatial ordinance.

<sup>2</sup> RIS299397

### The economy and new jobs

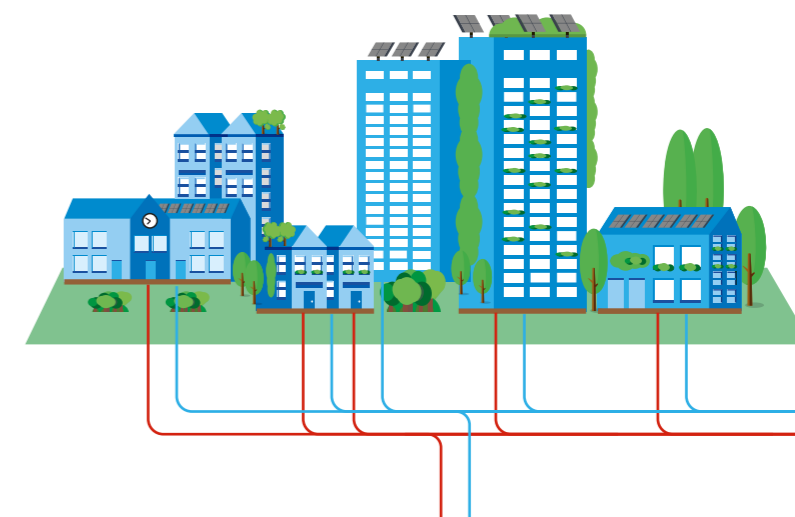
Sustainability and the energy transition offer opportunities to entrepreneurs and companies in The Hague. Their investments create jobs for local businesses who carry out the work. And they offer opportunities for new sustainable and circular earnings models. New knowledge and skills lead to innovation. Start-ups continually develop new, sustainable techniques and products. Sustainability and the move to clean energy is happening across the world. For an international city such as The Hague, this is a chance to attract international organisations and companies. The municipality is already working with the large companies in The Hague. We also want to be a better location for start-ups. Our approach can be seen in programmes such as 'Startup in Residence' and 'Impact Economy'. We help young companies professionalise and connect start-ups to larger companies and organisations so that they collaborate more. At the same time, we hear from them the regulatory and legal obstacles that they run up against. We help them create room for experimentation. There are already good examples of this in the harbour of Scheveningen: Proeftuin op de Noordzee (testing ground on the North Sea); seaweed farm Scheveningen; Oceans of Energy (floating solar panels); and The Hague Innovators. The VPdelta programme at TU Delft is helping students with innovations to enter the market as start-ups. We are working with the universities of Leiden, Delft and Rotterdam, and with The Hague University of Applied Sciences. The Hague entrepreneurs agenda concentrates on making entrepreneurship future-proof. Important issues in this are energy savings and resource use.



### Report structure

This Memorandum consists of four main themes: energy, the living environment, mobility and resources. Each chapter starts with a brief look into the future. We look 20 years ahead and translate our aspirations into choices and concrete actions: our Work Agenda for the next four years.

All buildings climate neutral in 2030



# Energy

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## Clean energy

We want a healthy, clean and liveable city that is ready for the future. The Hague therefore works to meet the agreements made in the Paris Climate Agreement. We do it in a The Hague fashion, bottom up and with the network and energy companies. During this period we are taking meaningful and concrete steps towards the goal of becoming a climate neutral city in 2030. The municipality is working with residents and businesses on clean and affordable energy for everyone and on reducing energy consumption.

The Netherlands now spends more than 40 billion euros a year on importing fossil fuels from abroad. This money often goes to countries such as Russia, Norway, Saudi Arabia and Nigeria. The transition to clean energy will help us spend this money in our own country. The transition will therefore mean more opportunities for entrepreneurs and employment in the city.

The Cabinet has taken four important decisions on energy. The legal obligation to connect new homes to natural gas has been scrapped. The extraction of natural gas in Groningen will stop by 2030 at the latest. Generating electricity from coal will be banned in the Netherlands in 2030. And, as of 2030, new cars will be emission free. What does this mean for The Hague? It means that we want every new building to be delivered climate neutral without using natural gas. In the case of large scale renovations, the starting point is natural gas free.



## In 20 years time ...

*... energy will be generated and stored everywhere. There is energy in everything. Energy is as universal as water. We heat and cool, communicate, move and light things and we do all of this using a fixed monthly energy bundle. Because we store energy everywhere and use it according to need, we only pay for the service – energy as a service. You learn about energy in physics lessons, but also in social studies. It is part of the way in which our society is organised and functions. Devices communicate with each other through blockchain and independently maintain the energy system in balance. Smart sensors continuously monitor the energy usage and the lifespan of devices. And for our everyday needs – shopping, work and social contact – we make much use of the internet.*

## Challenge: less consumption, cleaner

At present, The Hague is almost entirely dependent on natural gas to heat its buildings. The city's energy system will completely change with the energy transition. Our task is therefore to develop new sources and networks of clean energy, create storage facilities for clean energy and to insulate buildings. In the next four years our city will reduce its energy consumption and we will make the supply of energy more sustainable. Our intention is to provide 25,000 to 30,000 existing homes with sustainable energy during this period so that they are ready to be connected to clean energy. The municipality is monitoring the amount of insulation through the energy labels. The energy label required depends on the energy source. A neighbourhood that switches to electricity needs houses with the B energy label or higher, while in neighbourhoods on district heating, a C or D energy label is enough for the connection.

We will work with residents, housing corporations, energy companies, electricity grid authorities, fitters, educational institutions and other entities on an attainable and

affordable transition. Freedom of choice and flexibility are important in this, but something will change for everyone.

### The role of the municipality

The municipality plays several roles in the energy transition.

- Facilitate. Many initiatives are started by residents, companies or institutions in the city. Where necessary we will facilitate these initiatives.
- Connect. We bring different parties together to obtain better results more quickly.
- Managing. Where necessary, we will take the lead and ensure joint action.
- Support. At times, active support from the municipality is needed. Financial support could be a subsidy, joint procurement or the compensation of unprofitable tops.
- Regulations. Where necessary, we will introduce regulations and extend permits.

The role of the municipality may change. It could initially play a managing role and change to a facilitating role over time.

## The Hague's pioneers!

We are proud of all the innovations, projects, efforts and ideas of residents to make their neighbourhoods more sustainable and green. To date, there are 160 neighbourhood initiatives in The Hague.

The municipality and school boards have agreed to make school buildings energy neutral. New school buildings, with a financial supplement from the municipality, are now almost always built energy neutral. The municipality contributes to the costs of energy savings for existing school buildings. And schools include sustainability in their teaching. The Paradijsvogel primary school, Maerlant Lyceum secondary school and the International School of The Hague are even Eco-Schools

certified.

Much work is underway in The Hague Zuidwest on the first source of geothermal heating in a city in the Netherlands. Also, two of the country's most sustainable buildings are located in the city - De Monarch in the Beatrixkwartier and the Extra Verde in Ypenburg. The Hague now has 80 plants for thermal energy storage and at the end of 2017, there were more than 80,000 solar panels. We also have a plant that obtains heat from sea water and a swimming pool with solar boilers as its source of energy. The natural gas free Vlamloos Spoorwijk and the residents' initiatives De Waterspin and De Groene Mient are projects that The Hague is proud of.

## The approach: saving, generating and collaborating

In this executive period, we will take big steps towards a climate neutral The Hague by 2030. We can only do this by working with committed people, companies and organisations. The municipality takes the initiative, supports, connects and directs. Support is essential in the shift to clean energy, and certainly in large groups such as residents' committees, company premises and tenants of housing corporations where resolutions are needed.

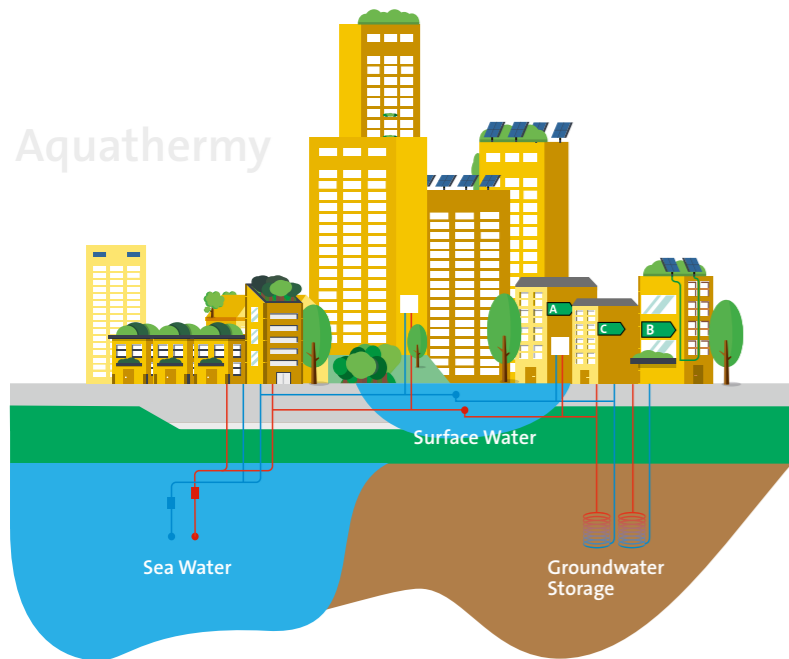
### Saving and energy consumption

Badly insulated houses are often not comfortable to live in. Furthermore, poor insulation takes more energy to heat and thus costs more money. Reason enough for us to start major en-

ergy savings in the city. Good insulation makes homes and other buildings more comfortable and reduces the energy consumption. It also means that we then usually use the energy systems better or more efficiently.

The municipality helps anyone that wants to reduce their energy consumption: residents' associations, housing corporations, companies, SMEs, home owners, residential landlords and tenants. If individuals apply for a permit for minor renovations, we will advise them on insulation. Similarly, we also ask the person submitting the permit application to state the gains in sustainability. By doing this, we take the logical opportunity to invest. This could

be for a rebuild, moving house, installing a new kitchen or central heating system, sound proofing, asbestos removal, or even if the composition of a family changes. Every renovation must make a house one step more sustainable and energy efficient. We pay special attention to people on low incomes and people who are less able to find their way to savings themselves. These groups have the most to gain in lower energy bills. We will reach them through budget coaches, energy saving gift boxes and courses on saving energy.



We will work towards saving energy in construction and renovation and by using energy systems more efficient. We will avoid extra insulation from causing damp and mould. Healthy ventilation and the right building solutions can prevent these problems.

We will alert companies, schools and sports clubs on our subsidies and financing possibilities. Where necessary, we will help with the applications. Small companies can

use the energy scans to get the best energy solution. In line with the Environmental Management Act (*Wet Milieubeheer*) large companies are required to take energy saving measures that can be earned back within five years. From 2019, they are subject to a reporting requirement. The municipality is in discussion with companies in industrial estates to make sure that measures are taken. We are also working on making our own property and our rented property more sustainable. In doing so, we are setting a good example and stimulating the market.

### Sources of clean energy

A main structure for a sustainable energy system for the entire city is being designed for the transition to clean energy. At present, The Hague has the following options.

- Low temperature collective heating solutions such as hydronic systems. This is heat and/or cold obtained from sewerage, waste, drinking and surface water and from geothermal heat.
- Individual solutions based on electricity generated by a heat pump, infrared panels or a hot and cold storage system.
- At a larger scale, solar panels on roofs.
- Collective solutions at 'medium' (50°C) and 'high' temperature (70°C – 100°C) such as district heating using residual heat or geothermal heat beneath the city.

Jointly with the region, we are investigating in the Regional Energy Strategy (*RES, Regionale Energiestrategie*) how the energy transition can be more effective and efficient so that we develop a more robust energy system. We are choosing sustainable energy sources so that we minimise our impact on nature, the environment and animals.

The Hague also has plenty of roofs. If we use



Solar panels and a green roof at Museum

all that space for solar panels, solar boilers or green roofs, we will have an enormous impact on the transition to clean energy and on the increasing heat in the city. Residents and companies receive tailor-made support so that they can use their roofs for solar energy and/or to mitigate our impact on the climate. We will collect the supply and demand for roofs so that we can help buy in at scale. Apart from green roofs, there are also white roofs which reflect the heat of the sun. This helps keep the roof and the building it covers cooler. This will save energy and the roof will last longer. The heat disperses more quickly with a cooler, light coloured roof and this will help in a scenario of rising heat in a busy city.

When determining the best source of energy, we consider the characteristics of the buildings in the neighbourhood; the location of the source of energy; the different energy sources available; and the required investment.

A network for transport and distribution is needed for new energy sources. Our premise is that building them will coincide with the time when housing corporations renovate their buildings; the municipality carries out planned

sewage work; or Stedin replaces its pipes. This will cause less inconvenience to residents and companies. Furthermore, it is more economical to do this.

Energy storage and regulating the demand for energy properly together determine the energy system. Heat storage, for example, needs a hot cold storage system and an Ecovat or a similar system that stores heat. For electricity storage, large batteries such as those at the ADO stadium and electric cars may be options. Grid operators have a large role to play. They are responsible for reliable energy provision that balances supply and demand.

### Financing

Energy provision in The Hague now costs 740 million euros a year in usage and maintenance. The backcasting study's scenario that assumes as many local clean energy sources as possible supplemented with residual heat would cost 930 million euros<sup>3</sup>. The city must be able to cope with the consequences of a rising sea, more and heavier rainfall, and longer periods of heat and drought. Enabling clean energy provision is thus important.

To make these investments possible, the municipality is setting up a sustainability fund in which we will put 30 percent of the yield from the sale of Eneco shares. This fund is largely a revolving fund. This means that loans made from the fund will be paid, generating new capital for investment. Part of the resources will be used to cover the so-called unprofitable tops of initiatives by the city and municipality.

The transition to clean energy can also be financed in other ways.

- Energy and other companies and individuals becoming more sustainable and generating clean energy: this could be done through loans or using their own capital.
- Provincial, government and European subsidies. The municipality can use the regulations and act as a middleman between home owners and entrepreneurs and subsidies.
- Funds for soft loans. Where the market does not offer these loans, the Municipality of The Hague will step up when it can. Examples are the Energy Fund The Hague (*ED, Energiefonds Den Haag*) and the sustainability fund for residents' associations (*VVE Duurzaamheidsfonds*). The municipality also points to national funds.
- The municipality will encourage and manage collective procurement by residents, organisations, companies and industrial estates.

These options may be supplemented by contests or subsidies.

Investments made by individuals in sustainability will not be penalised by the municipality, but encouraged. To do this, we will look into which municipal tax instruments can be used. One form that the municipality is already using is to stimulate sustainable building through subsidy discounts on municipal levies for building permits. We will be part of the national developments and will see what can

be applied to The Hague.

We are also working hard to make sure that the transition to clean energy does not raise the cost of homes. The municipality's influence here though is limited. We cannot, of course, put the costs of sustainability on the lowest income group. Not only is this wrong, but it will also not lead to the desired transition. The municipality is standing firm on this point in its discussions with central government. We continue to draw the attention of central government to sufficient financing and other opportunities to keep the transition to clean energy for housing corporations and individuals affordable. We are looking at the financing of concrete projects with banks and other financiers. To this end, we have tasked InnovationQuarter, that works on the economic development of the region, and the Energy Fund The Hague with this.

### A different strategy for every neighbourhood

The central government wants to receive a planning for the transition to clean energy from every municipality by 2021. In The Hague we started with the Green Energy Neighbourhoods (*Groene Energie Wijken*). We will do several things in these neighbourhoods.

- Devise neighbourhood energy plans with residents, housing corporations, energy companies and other entities with an interest in this. These plans list the type of energy provision that will be available in the future and how we will make the transition.
- Support residents in making their homes more sustainable.
- Make buildings ready to be connected to a clean energy source.
- Connect buildings to clean energy.
- Testing new technical skills in the area of clean energy and energy systems to learn from them as a city.



We will also use the transition to clean energy to improve the liveability and social cohesion of the neighbourhood. Housing in poor condition will be the first on the list. The municipality collaborates with housing corporations, tenants and tenant associations, residents' initiatives, residents' associations and companies. We support them in the activities that they can undertake themselves. Residents are involved in the changes in their neighbourhood in a timely manner. It is also clear what they can expect from the municipality, the choices they have and, where possible, what investments and financial support there are to make the transition to clean energy.

The municipality will connect the demand for and supply of clean energy together. One example is boxes for making homes more sustainable and supporting the implementation. We will also show the options there are in financing these boxes.

### Opportunities for work and education

Clean energy is creating many new jobs. This is why our plans continually make connections with work and education. We are encouraging companies in the energy and installation sectors to offer job opportunities to people in the city seeking employment.

With The Hague University of Applied Sciences and other knowledge institutions, we are looking at technical innovations that are practical and applicable and we are developing and sharing new ideas. We are applying this knowledge and understanding in the Green Energy Neighbourhoods immediately.

Finally, the transition to a sustainable city with clean energy is a long term effort. Our children and grandchildren will be involved too. This is why we are offering all primary and secondary schools in The Hague a syllabus about sustainability and the energy transition.

### Work Agenda 2019 – 2022

This action plan lists the municipality's most important projects in the near future. Concrete projects, sub-projects and actions will be worked out and included in the annual budget and Programme Letter.

### New energy

- The municipality takes on the management of devising the urban plan for the main infrastructure for energy.
- Accessing the energy sources and the infrastructure required for this rests with external parties.
- The first geothermal plant (HAL) in The

*Drawing up neighbourhood energy plans, together with residents, housing corporations, energy companies and other parties with an interest.*

Hague will start operation as soon as the central government has issued all the permits. This will supply heating to 1,200 homes. The supply of heating will eventually be expanded to 4,000 homes in The Hague Zuidwest.

- As soon as the first source on the Leyweg (HAL) works without problems, has a business case and is proved safe, plans will be made and locations found to build at least three more geothermal plants during this executive period.
- At least one new project with hydronic heating (heating from water at low temperature) and one with solar thermal heating.
- We will produce an implementation plan with Eneco for the new pipeline for residual heat (*the Leiding door het Midden*).

We will start preparations for new projects for heat storage such as collective hot cold storage systems and other large systems such as Ecovat.

### Saving and generating energy

- People on the lowest incomes will receive an energy savings gift box and help in installing the contents.
- We are making firm agreements with housing corporations about making their houses more sustainable.
- We will start with the sustainable roofs project. The intention is that every suitable roof has solar panels, solar boilers, a green roof or is painted white.
- We will support and advise residents, building owners, residents' associations and companies on reducing their energy consumption. We will organise promotional activities in shopping streets on taking energy saving measures. We offer insights through scans and other means into energy consumption and sustainable options. The municipality will also organise group procurement.

- We will build solar carports in suitable parking facilities such as that at the Rotterdamse Baan. These are roofing with solar panels.
- Anyone installing sound insulation with a subsidy from central government will receive advice from us about insulating the house for energy saving.
- In developing areas, the municipality will always look at smartly combining supply and demand of heat and energy. For example, the residual heat from data centres or cold storage will be connected to other buildings (houses, hotels etc.). The municipality is the manager and middleman for the supply of residual heat and the demand for heat.
- We will close a cooperation agreement with Stedin to speed up the transition to clean energy.

### Collaborating with the city

- The entire city will have an Energy Transition Plan (*Energietransitieplan*) by 2021. It will cover the energy plans of every neighbourhood, the new energy system for the city, the financing and the plan of action in the transition to clean energy.
- There are 10 Green Energy Neighbourhoods (*Groene Energie Wijken*) in the lead. These are Mariahoeve, The Hague Zuidwest, Binckhorst/CID, Koningsplein and its surroundings, Vruchtenbuurt, Molenwijk/Noordpolderbuurt and Moerwijk-Oost, Vogelwijk, Ypenburg, and Statenkwartier/Scheveningen. We are aiming to provide these neighbourhoods with clean energy within 10 years.
- Collective projects will be started to have groups of 50-100 homes ready for the transition to clean energy.
- In Bouwlust/Vrederust, more than 800 homes will receive subsidies from the Ministry of the Interior's Gas Free Neighbourhoods (*Aardgasvrije Wijken*) project.
- We will start with nature and environmental education in Bouwlust/Vrederust targeted at the transition to clean energy.

- We will support the initiatives of neighbourhood residents who are working on acquiring or want to acquire clean energy.
- We are supporting owners of industrial estates in making and implementing energy plans or with activities to reduce their energy consumption and/or make their buildings more sustainable.
- We are making agreements with large companies in The Hague about their role in sustainability. These cover their own transition to clean energy and reducing their consumption, as well as sharing their knowledge with projects in the neighbourhood and supporting them to do so.
- All the schools in The Hague are working on making their buildings more sustainable. We will continue to support them with information, a supplement for close to energy neutral new buildings and with a subsidy ruling for energy saving measures in existing buildings.
- We are supporting sports clubs to move towards reducing their energy consumption and in their move to clean energy. We will start with making the lighting more sustainable.
- We are encouraging educational institutions and branches of businesses in the city to ensure there are enough trained advisors, architects, contractors and fitters.

### Setting a good example

- We are reducing our own energy consumption by better insulating our own properties and making them more sustainable.
- Every roof of municipality property that is suitable will be fitted with solar panels, a green roof or white roof covering.
- As soon as a new, sustainable energy source is available and suitable, as far as possible our own property will be connected.
- We work with central government, the province and private real estate owners in the EnergyRich The Hague (*EnergieRijk Den Haag*) project for 28 privately or government owned

buildings around Central Station. This project will be expanded to other areas with large office blocks at a later stage.

- The municipality uses clean energy for its buildings and facilities.
- We are putting our efforts into attracting companies and start-ups in our city as well as into companies that are working with or on the transition to clean energy.

### Central government is an important partner

Municipalities have the instruments needed for the transition to clean energy. The municipality of The Hague, the VNG (association of municipalities in the Netherlands) and the G4 (the four largest municipalities in the country) is putting pressure on central government to do the following.

- Grant municipalities the legal authority to decide what energy sources should be used for individual neighbourhoods. This will help create support as, after research and consultation, they can stipulate the energy source to be used. In doing so, the residents involved, companies and energy suppliers know what to expect and can plan in advance.
- Smart financing and enough financial space and instruments, including more financing for individual buildings, the costs of municipalities and covering the most expensive parts of the investment (what we are calling the 'unavoidable losses').
- Good alignment between the roles of the municipality, the province and the central government. The RES (Regional Energy Strategy) can be used for this alignment and to list the options.
- The clear regulation of the heating grid market. This will ensure greater clarity for all parties that are transitioning to energy from the heating grid.

# Living environment

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## Sustainable development

Everyone in The Hague wants to live in comfort. Dry feet. Clean air. Safety. Plenty of quiet spaces and no extreme heat or drought. The climate is changing worldwide. This, coupled with the growth of the city, is giving the municipality extra challenges. To retain and improve the liveability of the city, limit inconvenience, avoid damage to health or the economy, we need to adapt our city. Solutions for noise pollution, cleaner air and climate resilience will be interwoven in the DNA of the city. This is good for health and everybody's well-being. It will contribute to the economic opportunities of the city now and into the future.

### Challenge: sustainable living environment

We make changes in the city for the long term. The actions that we are thinking about today will affect the liveability of the city in 50 years' time. Different interests are weighed up in any urban development plans. Short term versus long term, small scale versus large scale etc. If we want to make provisions for the population growth and build a pleasant city to live in, we will have to put our efforts into climate resilience and strengthening the quality of the environment.

New ways of working and alliances are needed for this, as are different ratios between costs in the here and now and benefits in the future. Greater consideration will be given to space in the city and will include aspects such as the environment, health, natural capital and climate in the planning. These should not only be checked afterwards, but must be included in measures that will enable the city to deal with climate change. To this end we are developing quality frameworks for the living environment and are thinking of solutions for challenging situations. Residents' initiatives are indispensable in this. The quality of the environment is an important part of spatial planning.

## In 20 years' time ...

... The Hague is still a wonderful city to live and work in and to visit. The public utilities are of high quality. Despite high-rise building and population pressure in and around the centre, you still have a feeling of peace and space. A green and blue ecological network winds its way playfully through the public space and encourages people to move and do sports. These are not only to be found along the high speed tram lines, along canals and across squares, but also in the façades of buildings, across roofs and even inside buildings. There is a great diversity of flora and fauna. There are even rare species that nobody ever believed would thrive in cities. All that extra green and water will also ensure that The Hague can cope with the changing climate. Extreme rainfall will fill the roof ponds and underground water buffers. This 'sky water' can be used to water the green during hot spells. As the quality of the environment is incorporated in The Hague's spatial values, this will give rise to both below ground and above ground development that will further improve the urban quality. The diversity of design and the courtyard gardens will create quiet places where you can escape the hustle and bustle of the city in just a few steps. You can chat with your friends or read an e-book with singing birds in the background. The combination of this high quality urban environment at a cycle ride from the beach with pleasant residential areas in between make The Hague a pleasant place to live and work and attractive to international companies and institutions.

| Photo: Valerie Kuypers/Gemeente Den Haag



## Approach: integrated design

To use all the opportunities that arise with climate resilience, they must be embedded in the thought processes and actions of residents, private entities, housing corporations and other government bodies such as the municipality, the water authority and the Province. To start, we will ensure there is understanding of the issue, that the strategy is integrated in all the regular work and that that work gets done.

### Understanding water problems and heatwaves

Over the last few years, TU Delft has carried out research on heat stress and the urban heat island effect of The Hague. We will do further research into the effects of drought. The vulnerability of our water and sewage system in extreme rainfall has been assessed using the 3Di-waterbeheer computer programme. This simulates extreme rainfall to predict problem areas. As was agreed in the National Delta Programme (*Nationaal Deltaprogramma*), we are carrying out stress tests for extreme weather<sup>4</sup>. We are upgrading the stress tests in 2019 with the water authority in line with the latest information. In doing so, we have obtained a detailed image of the problem areas and can weigh up the actions needed to make the city more climate resilient.

Some streets and neighbourhoods in The Hague are vulnerable to flooding. We map the effects of floods on vulnerable infrastructure and objects such as hospitals, police bureaus and main roads. This will help us design and implement a policy that will reduce the risk. At the same time, we are making residents more self-reliant through information on the internet.<sup>5</sup>

The sea level is rising and this is why much investment has been made over the last decades in strengthening the coastline. At present the sea defences are in line with the norms. For the harbour of Scheveningen, research is underway into whether the sea defence will need to be moved at a certain point. We are constantly reviewing our information and are continually assessing safety aspects and the sea defence in Scheveningen. In doing so, The Hague is in line with the National Delta Programme.

The Hague is working with other entities on climate adaptation in the Climate Adaptation City Deal, the South Randstad Community of Practice, Resilient Cities (The Rockefeller Foundation) and the Interreg project Nature Smart Cities (EU).

To continue innovating, efforts are being put into applying new technologies and solutions. We will be able to test new methods and frameworks and improve our actions. We will check climate resilience in new spatial developments. One example is that we will use the 3Di-model to check the effects of extreme precipitation on the urban design of Erasmusveld. This will generate understanding in other

<sup>4</sup> The stress tests already carried out for The Hague are available on <https://denhaag.klimaatatlas.net>

<sup>5</sup> For example [www.ggdleefomgeving.nl/omgeving/hitte-en-gezondheid](http://www.ggdleefomgeving.nl/omgeving/hitte-en-gezondheid) and [www.overstroomik.nl](http://www.overstroomik.nl)

areas that will be densified such as around the three large railway stations. We will also run a pilot with the University of Wageningen and Deltares for Laakhaven. This will map the most effective and suitable measures needed to deal with extreme precipitation and heat stress.

### Integrated climate resilience strategy

Our objective is a pleasant, climate resilient city. As far as possible, we will take the measures needed when these coincide with other physical work in the city such as area development, refurbishment and major maintenance. This will keep the costs and the inconvenience in the city down. In existing areas our strategy will mostly be on customisation and small-scale solutions such as vertical gardens, green squares, porous paving, green roofs and personal gardens. This will gradually make The Hague climate resilient. We are creating new alliances with residents and companies in the city. After all, a climate resilient city is made together.

It is important to translate the results of the stress tests into a city-wide strategy. The principles of the strategy, as outlined in the illustration, will be followed. This will help identify acceptable risks, the critical problem areas that should be dealt with in the short term and what is needed in the longer term. We will talk to residents, private entities, housing corporations and other entities about the risks, thereby jointly determining the goals.

In tenders, standards for climate resilient building and designing outdoor spaces will be further worked out after market consultation. This will lead to high quality designs that will include desirable aspects such as green spaces that run through the outdoor space in the city to collective spaces in or on buildings. Or designs which add spaces on or beneath buildings or outdoor spaces for the collection and drainage of rainfall.

The standards will be applied in any renovations and large-scale maintenance of the outdoor space and in new building projects and refurbishment. On the initiative of the Province of South Holland, the Climate Resilient Building Covenant (*Convenant Klimaatbestendig Bouwen*) was signed on 4 October 2018 to make agreements on general principles and guidelines. Over 40 entities including municipalities, construction companies, water boards, civic society organisations and project developers are collaborating on buildings that are better able to cope with extreme weather. This South Holland coalition will develop new design principles and standards, stimulate innovation and make more pilot locations possible. The municipality of The Hague is actively working on this by incorporating the climate resilient aspect into our tenders for public space.



Westbroekpark  
Photo: Valerie Kuypers

### Green city

The Hague wants to remain an attractive city, and green is an important part of this. Our intention is to further enhance the quality of The Hague's green with space for change and the initiative of others so that green becomes future proof in area development. Green capital is the foundation of a high quality lifestyle. The Hague's green has ecological, societal and economic value. Or as stated in the Green for the City (*Groen voor de Stad*) agenda: 'Green influences many aspects of city life. It has an important contribution to our health, improving liveability, allows the value of real estate to rise and can contribute to solutions to climate problems.' Green policies are not only about making something prettier and more peaceful, it is an essential precondition for a healthy and sustainable city life.

Apart from green on the ground, consideration will also be given to green on buildings. In the areas for densification in particular,

green in, on and around buildings will be an important way to give space to the various functions of green in the city. These include the development of nature values, supporting the climate goals, and offering space for rest and relaxation.

### Blue city

The municipality is working with the Delfland Water Authority (*Hoogheemraadschap van Delfland*) on improving the water quality in the city. Water is an important element of ecological quality and is often a logical connector in the blue-green corridor. A network of ditches, streams and other waterways is an important goal. One example is the new landscaped park in Madestein that creates an ecological corridor through the Westland area connecting the southern end of the city and the green Midden-Delfland.



Westduinpark  
Photo: Fleur Beemster/  
Gemeente Den Haag

## A balanced environment

The most important challenge in the next few years is to combine urban growth with a pleasant and healthy living space for residents.

This mostly concerns clean air, soil quality, noise levels and external security. Environmental standards are important for this, but they do not go far enough. Under the motto 'using opportunities and achieving our ambitions', we intend to place greater emphasis on the values that we find important in the city. Densification in the city and the energy transition are triggering new developments such as obtaining geothermal heating, hot cold storage systems and installing neighbourhood batteries. Our point of departure is that we want developments in the city to be done in a responsible way. This may call for a risk analysis.

This applies, for example, to the transport of

hazardous substances and safety. By removing or managing risks associated with transport, storage and use of hazardous substances such as LPG, fireworks or high-pressure pipelines for natural gas, space can be freed up for the growth of the city. We are looking into the option of removing LPG utilities from the city. For example, existing and new commercial activities involving hazardous substances may only be permitted in combination with specific measures for risk management.

In the case of noise, we will opt for a balance between a lively and a quiet city. Liveliness is part of a big city. But we want to create quiet places elsewhere. Even noise that is within the noise standards can affect health. In the layout and design of the city we will take this into consideration at an early stage. Area developments such as the Central Innovation District (CID) offer important opportunities to gain experience. Measures may include restricting traffic, encouraging the use of more quiet

vehicles (engine and tyre noise), modifying the road surface and reducing speed limits. Should the noise level remain high even after these measures, we will create a noise-free area on the side of any housing to ensure peaceful sleep.

The ground beneath The Hague needs attention. Previously, this usually involved soil decontamination. Densification on the ground surface has led to densification below the ground, for example in the form of an underground energy grid, rainwater storage, underground infrastructure and garages. More considered use and management of the above ground and underground is becoming more important in a compact city. The municipality is the right authority to manage this. We will work towards an integrated ground and underground management in the time to come. The municipality will have the last soil decontamination done.

## Clean air: for a healthy living environment

The air quality in The Hague meets the European standard but air pollution is still a factor in illness and death. Cleaner air is thus a priority. We therefore plan to at least meet the standards advised by the World Health Organisation (WHO). We have already reached these for NO<sub>2</sub>, but not yet for particulate matter.

The Health Council of the Netherlands<sup>6</sup> (*Gezondheidsraad*) declares that diesel vehicles are an important local source of air pollution. Next to this, agriculture, shipping and industry are important contributors to unhealthy air. Information campaigns on wood burning will be held in summer (barbecues and braziers) and winter (fireplac-

es and wood burning stoves). We are trying to have as many vessels in the harbour use shore power as possible.

We will continue to measure the air quality. To adjust these measurements to the reality, The Hague has measured the air quality in the city over the last few years. Enough information has now been collected to translate the emissions to the model. We will retain the minimal measuring network necessary using the monitoring stations of the Netherlands National Institute for Public Health and the Environment (RIVM).

## Work Agenda 2019 – 2022

The Hague has identified goals for which there is a role for the municipality to play in the time to come. Concrete projects, sub-projects and activities will be worked out and included in the annual budget and programme letter. The most important projects for the near future are stated in this work agenda.

### A plan for heat and water for every neighbourhood

- We will translate the outcomes of the stress tests of 2019 in a city wide approach to limit extreme heat and water issues.
- We will evaluate the infrastructure to identify the parts that are most vulnerable. These could be tunnels beneath railway lines and trams, generators and emergency generators, and the storage facilities for vulnerable museum collections. Appropriate measures will be taken in consultation with the owners.
- More space will be created for water storage.
- We will find a prominent location in the city to test a professional smart rain barrel.

<sup>6</sup> Health Council of the Netherlands (2018) *Advies gezondheidswinst door schonere lucht*.



### Nature inclusive and climate resilient construction

- A point system for green and nature inclusive construction will be gradually introduced. This point system will be included in tender documentation and land allocation agreements. Where possible it will be part of the BREEAM area development requirements.
- Knowledge will be accumulated with architects and developers on the measures needed, securing and managing green and nature inclusive construction.
- Agreements will be made on the guidelines for climate resilient construction in line with regional experience (as stated in the Climate Resilient Building Covenant).
- Ecological management will become the norm. For example, as many bee, butterfly and bird friendly green spaces and parks will be created and managed as possible.
- We will build a sustainable iconic project through a 'sustainable construction' contest, for example.

### Public spaces will be made climate resilient

- In the case of municipality refurbishing of public space, the starting point will be 'retaining rain water and water infiltration at the place where it falls'. We will work this out in the Public Space Framework Memorandum and the Public Space Manual (*Handboek Openbare Ruimte*).
- In the case of sewer replacement, new buildings and area development, as much of the free flowing clean rain water as possible will be collected and used.
- More spaces will be created in public spaces such as playgrounds and parks for water storage.
- We will continue to encourage residents and private entities to take water saving measures on their own property. This could be removing flagstones in gardens (*Operatie Steenbreek*), greening roofs and school yards

(*regeling groenblauwe schoolpleinen*).

- We will develop an educational curriculum on sustainable school buildings and green-blue school yards as a contextual learning environment in education.
- From an educational perspective, parking places in green-blue school yards will be fitted with porous paving.
- As part of the European Nature Smart Cities, research will be carried out into the societal value of green in the city. We will use EU subsidies to run a pilot in the Laak district. We will also investigate the societal effects of creating more green in the neighbourhood.

### Cleaner and quieter

- Information campaigns on burning wood will be held in summer (barbecues and braziers) and winter (fireplaces and wood burning stoves).
- In 2019, we will create the mandatory Action Plan for Environmental Noise (*Actieplan Omgevingslawaa*). We will integrate this in the implementation programme of this Framework Memorandum.
- We will implement the programme passed in March 2018 for integrated soil and underground management.
- We will look into the possibilities for sustainable energy provision for construction work, after which these can be applied in our orders.
- We will investigate the resources we can use for the building and rebuilding projects of third parties such as through consultation with private commissioning entities.



Star cycle route in  
Leidschenveen  
Photo: Valerie Kuypers/  
Gemeente Den Haag



## Clean and efficient

The Hague is changing rapidly. The city is very popular. More residents mean more mobility. The means of transporting oneself is changing. New transport services, new means of transport, better information and changing demands are changing the mobility landscape. Keeping the liveability, attractiveness and accessibility of the city needs a critical look at the current mobility policy. On top of this is the commitment to not let traffic exacerbate the further warming of the planet. The growth of the city requires the exploitation of new opportunities and taking harder decisions.

### **Challenge: towards active, space efficient transport**

The plan is that people walk, cycle or travel more by shared transport. This is cleaner and healthier and puts less pressure on public space and the accessibility of The Hague. Clean vehicles and the shared use of these are crucial for a healthy city with clean air.





Photo: Gemeente Den Haag

## Approach: the mobility transition

The Hague will make space in the city through more efficient mobility solutions. This entails: expanding public transport; stimulating the use of clean transport; balancing the parking supply and demand; giving space to innovations and experimentation; and regional collaboration. Space for other forms of transport (i.e. cars) will remain.

### Making space

In its choices, The Hague will prioritise transport that requires little space, is sustainable and is healthy – walking, cycling, light

electric vehicles (LEVs), and public transport. These will be given priority in designing the outdoor space. More consideration will also be given to people living with disabilities who also wish to use these forms of transport. We will strengthen the pedestrian network in the city centre, Scheveningen and the pre-war neighbourhoods. The municipality will facilitate cycling. We will continue building the 'star bicycle routes' and build enough bicycle parking facilities in the city centre, shopping areas, residential areas and at stations.

## In 20 years' time ...

... *The Hague is an attractive, accessible city that is inviting for walking and cycling. The public space is designed for public transport – a clean means of transport that we share and that takes care of the space. There are spaces for bicycle and car parking in residential areas as well as for playing and the green is distributed more equitably. Buildings are designed in a way that invite residents and visitors to walk or cycle. There are enough charging points for electric bicycles or cars. There are clean and quiet cars, lorries, vans, taxis and scooters. Stocking the city centre is done smartly and cleanly. Products are delivered by smaller vehicles from distribution points.*

*Every neighbourhood has a 'mobility point'. Depending on your destination you take the RandstadRail, the shared bicycle or shared electric car. Everything works with one mobility card and you make reservations, travel and pay on your mobile phone.*

*Cyclists from The Hague and its surrounding municipalities can easily reach work, shops and recreational areas. There is much more public transport and investments have been made in three rapid light rail networks. This cuts down on waiting times and people arrive at their destinations more quickly.*

## Extending public transport

Public transport makes and keeps the city accessible. We can build on the successful fast and comfortable RandstadRail with more rapid and direct connections. The number of residents is growing and the distance travelled is growing too. This requires a different public transport structure. A structure with regional connections that offer faster transport with larger capacity and more comfort. One that also attracts more travellers. We will collaborate with our regional partners to expand the regional public transport structure and better entrance and exit points for passengers. In line with scaling up of public transport, investment will be made in three strong public

transport corridors. The use of automatic public transport for the last kilometre will also be assessed. To do this we will examine how the public transport of the future can be developed in The Hague. Connected to public transport is the growing number of Park&Ride facilities at the edge of the city. More space will also be created for bicycle parking at stations and public transport stops in the period 2020-2030.

## Clean transport

The Hague is promoting clean transport. One of the ways that the municipality is doing this is by stimulating electric vehicles. A recent



| Photo: Gemeente Den Haag

TNO<sup>7</sup> study shows that there is still not a well-functioning market for public charging infrastructure. The municipality is therefore contracting the installation of charging points in the public space. We are positive towards initiatives that integrate charging infrastructure in the street furniture. Naturally we are setting a good example with our own fleet of vehicles, such as the engineering office's 25 electric Smart cars. We have also committed to using shared electric cars that are also available for the people living in the immediate area.

Electric cars can contribute to balancing the supply and demand of electricity and the efficient use of the power grid in the city. This could be by ensuring, for example, that the speed and the point in time of charging is geared to the availability of sustainable electricity and the capacity of the grid.

Agreements were made with public transport providers in the Rotterdam-The Hague Metropolitan Area (MRDH, who grants concessions to HTM) that all new buses will be emission free by 2025. The first electric buses are already on the road. The municipality is working with various market parties to make the city's logistics cleaner and to only permit electric city provisioning in the centre in 2025. Options with market parties are also being examined to make the city logistics more efficient by reducing the number of movements through collective package letter boxes, fixed pick-up points in neighbourhoods or delivery to places of work.

Similar agreements are being made with taxi companies about electric vehicles. By only hiring electric vehicles and making electric provisioning mandatory, we are stimulating the demand for clean energy.

Where possible, the municipality and other government partners are using their procurement position as a catalyst to bring movement to the market. The municipality also wants to set a good example by cleaning up its own fleet of vehicles. Electric vehicles will gradually be phased in. Up to 2021, 70% of the specific purpose vehicles will be emission-free. We are looking into how to make this 100% after 2023. To stimulate innovation, we will put 'open requests' onto the market instead of a request for an off-the-shelf solution.

### Balanced supply and demand for parking

In 2018, 51% of the households in The Hague had one or more cars. Most of the time, cars are actually not in use. Parking is one of the biggest space users in the city. The growing city needs a different way of parking. Providing cheap public parking space for residents has reached capacity. There is no space on the street for more parking places without this coming at the cost of pedestrians, cyclists, green or pavement cafés. Building more car parks is a limited option, given the high costs. The parking requirements in new developments is raising building costs.

The demand and supply of parking places in The Hague must be brought into balance. We are striving for a tailor-made approach that takes account of the circumstances and needs of each neighbourhood. In doing so, alternatives to private vehicles are being encouraged, such as the use of shared cars. By using in-house garages more intensively and by encouraging the use of parking places on private property, we are highlighting the pressure on the public space. The parking ratio for new residential housing will be more flexible and targeted to the specific area. For example around the area of the public transport

7 TNO (2018) Publieke laadinfrastructuur elektrisch vervoer en de rol van MRA-E en G4

corridors and close to public transport nodes, the parking ratio may be lower.

### More space for innovation and experimentation

Technological and societal developments have a major impact on urban mobility. We do not know if many of these developments will become the new normal. To find out, the municipality will give space to innovation and experimentation. Market entities and residents are coming up with more and more initiatives to make mobility more smart, clean and quiet. Where possible, the municipality will contribute to the working out of these innovations and we will set a good example ourselves. Thus, we are encouraging car sharing (electric and fuel powered). We are also promoting electric car sharing in new housing developments. We are looking into whether locally generated solar energy with a smart charging infrastructure can be stored in electric shared cars. The car can pass this power to houses at a later point. We also want to offer space to suppliers of flexible mobility services (Mobility as a Service, MaaS). This allows travellers to choose integrated travel options via a digital platform. Instead of investing in means of transport, the consumer subscribes to transport solutions. This will be combinations of regular and public transport on demand and private vehicles. The digital infrastructure will play an important role in this.

### Collaboration and action

Collaboration is essential to make progress in the transition to sustainable mobility. The municipality is therefore working closely with regional and national partners, not only within the government, but also with the market. We are also letting residents and entrepreneurs in the city think and act with us. The city executive describes our approach in a letter outlining the main points of the mobility transition

(*Hoofdlijnenbrief Mobiliteitstransitie*). The main point of this is putting our efforts in a system shift in three areas:

Making better use of the space for infrastructure in the city by giving preference to space efficient, smart and safe mobility.

Making the organisation of the different means of transport more integrated so that digitisation and 'smart' solutions make travel more convenient and comfortable.

Actively influencing the choices users make (behaviour) so that they make more use of sustainable means of mobility. The Hoofdlijnenbrief Mobiliteitstransitie will be accompanied by the Mobility Transition's plan of action.

## Work Agenda 2019 – 2022

Making mobility more sustainable in The Hague is described in the Hoofdlijnenbrief Mobiliteitstransitie. This letter will be worked out into a plan of action at the start of 2019 that will form the work agenda for the issue of mobility. The projects will all have a place in the plan of action. Appealing examples are reducing the barrier effect and improving the flow at city entrances for cyclists; targeted encouragement of cycling in neighbourhoods with low bicycle use; experimenting with new empty streets (*'vrijstraten'*) and designing two local mobility hubs in the Binckhaven. Apart from the plan of action for mobility, the actions below are also in the planning for the next four years.

### Electric transport

- Every year sees the addition of at least 200 charging points. Where needed, extra rapid charging stations will be installed in the city.
- Owners of parking places in garages and public car parks, on residents association premises, P&R locations and companies are encouraged to ensure that there are enough charging points.
- A pilot will be run for using electric vehicles as buffers for the electricity grid.
- We encourage the purchase of electric vehicles and join national activities that arise from the climate agreement.
- Agreements are being made with the taxi sector on using more electric taxis.
- Research is underway into the option of giving E-taxis their own place in the taxi ranks.
- The municipality and the large employers in The Hague are setting a good example by only hiring E-taxis.
- Charging points with high-voltage power for heavier E-vehicles will be mapped. We will encourage initiatives to share charging points on the basis of reciprocity.

## Clean transport

- With central government and other large cities, we are working on one uniform environmental zone. One of the ways we are doing this is to work on improving the air quality.
- The subsidies on trading in polluting cars and mopeds will continue.
- As far as possible, we will keep non-electric mopeds and scooters off bicycle paths.
- Where possible, we will reduce the speed limit in residential areas to 30 km/hour.
- We are looking into the opportunities for electric lorries and more electric buses.



## Reduce, Reuse, Recycle

It is time for a turnaround by reusing products and their component raw materials again. And by not buying products individually, but by sharing them or buying the use of them. This is already happening a lot at small scale. Entrepreneurial people in The Hague are setting up companies to 'mine' raw materials from discarded goods and to make new products from them. Residents are coming together to grow their own food or to compost vegetable and fruit waste. The current scale could be larger.

Just as a transition is needed in energy provision, a transition is needed in how we consume resources and materials. We need to produce less waste. And where there is waste,

we need to reuse these resources. This calls for change at all levels, from the global scale to the neighbourhood. It will help using all the public space with waste containers. This space

is expensive. The municipality sets out its plan in this Framework Memorandum to better use resources and materials in the city.

Households in The Hague collectively produce more than 200 million kilos of waste a year. This is on top of commercial waste and construction waste. We incinerate much of this. At the same time, there is a growing problem with plastic litter and the seas are filling up with plastic that literally chokes marine animals to death.

### **Challenge:** sustainable use of resources

Our intention is that residents and entrepreneurs in the city reuse their everyday products as much as they can, and as early as they can in the raw materials chain. What we mean by the latter is that we first try to reuse a product by repairing it or replacing parts, for example, and then reusing the various parts of the product and finally removing the raw materials and materials from the product for reuse. Apart from this, we intend to tackle food

waste and support sustainable initiatives for biodegradable waste.

Good quality raw materials are needed for reuse. The reuse of the current waste streams is often thwarted by low quality such as the mixing of biodegradable waste with other types of waste.

### Approach: six tracks in sharing and reusing

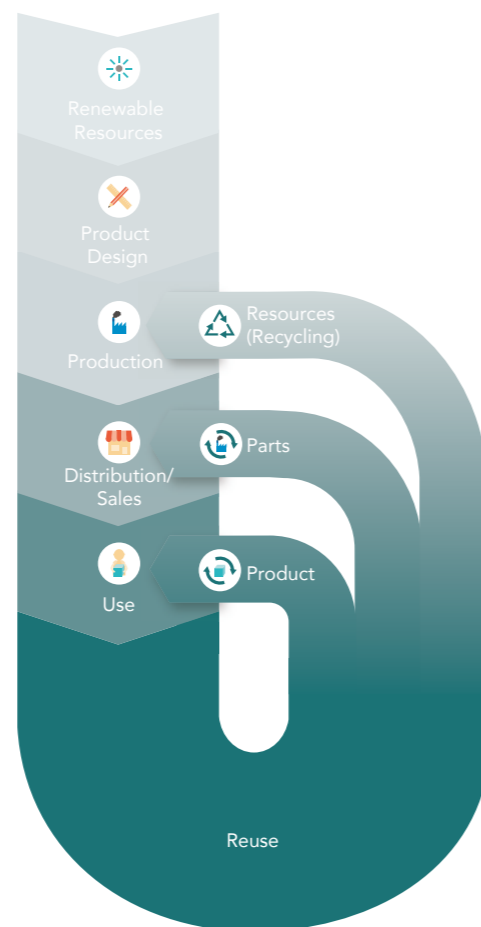
We want to concentrate on reuse that provides the most opportunities locally and has the greatest impact. With this in mind, The Hague will concentrate on six tracks: sharing and reusing consumer goods; reusing materials from household waste; reusing building materials; reducing plastic; tackling food waste; and supporting entrepreneurs in raw materials management. To support this, information and awareness raising will be done, focusing especially on the youth in The Hague, and residents will be encouraged to participate. The illustration shows how the raw materials cycle can be further closed through reusing products, parts or the raw materials. Eventually less and less new raw materials will be needed.

### Sharing and reusing consumer goods

The first question when purchasing something is whether you really need it. Reconsider the purchase. Go for buying usage instead of owning the item. This is becoming more and more common. Compare buying CDs in the past with having a subscription to Spotify. This is also up and coming in the car business where shared cars are gaining ground. But it can also be done in a lot of areas. Why not 'lease' a washing machine or share one drill with the neighbours. By only paying for usage, manufacturers will manufacture stronger products. Broken products are their problem

so it is in their interest to make them stronger. There are already more than 2,000 shared cars in The Hague; 14,000 people in The Hague are members of Peerby (a sharing platform for things); and washing machines are already being leased whereby you pay by the wash.

Repair Cafés give broken products a new life, but are still working on being better known. Furthermore, many products are difficult to repair and spare parts are not always available. Fortunately, more and more professionally repaired products are being purchased: telephones and computers; furniture and other household appliances. Secondhand shops and Marktplaats (online secondhand shop) play an important role in this. Would it not be good if repairing would become the new throwing away? Awareness of repairing as an option is a new challenge. Repairing products also offers



### In 20 years' time ...

... we will buy far fewer products such as lamps and fridges. Instead we will buy services such as light and refrigeration. Products that we do still buy, such as drones and 3D printers, we will share with neighbours. Devices will last longer, parts will be cleverly designed so that they can be replaced easily and there will be job in the repair of equipment. There is a bustling trade in reused raw materials. Raw materials are valuable and residents and business people treat them accordingly. Special apps make it easy to bring supply and demand together: second-hand goods, shared services and residual materials. Materials will be traded in resource centres and products repaired. We will also sell leftover food, lease washing machines, share electric cars and bicycles. There are dozens of companies that make new products from discarded consumer goods. Most are doing well, some go under, but others have found a gap in the market and are successful in The Hague and far beyond. Waste collection and processing have changed into logistical services for circulating resources and materials. The residual waste that there is will be turned into sustainable energy using new technology. The difference between household waste and commercial waste has disappeared as the value of the waste and reuse are more important than where the material comes from. The construction industry is using 'harvesting teams' to reuse 100% of valuable building materials in the design of new buildings. The materials have a material passport to identify the resources they contain. In the hospitality industry and at festivals, there is no more disposable plastic. We shop in plastic free supermarkets. Shops and online shops use much less packaging. Suppliers take the packaging materials with them after delivery for reuse.

employment opportunities. It is still hard to find repair companies, preferably locally, online. Where possible, we will encourage initiatives such as an online repair marketplace. We also want products to be designed with a view to a longer life and simple repairs. Encouraging a design hub in The Hague could contribute to making this a standard part of the design for everyday objects.

### Reuse from household waste

The Hague already separates waste. In homes, in neighbourhoods with waste separation containers and in central places in the city such as the waste recycling centres. Separated

waste can be brought here. At the end of 2018, post-separation of waste was added. We are concentrating strongly on waste separation, just as the central government in doing in the national waste policy. A next step is now needed and that is from separating waste to large scale reuse of the resources contained in waste. This requires a thorough reorganisation of the chain from waste collection to waste processing. The chain is currently focused on removing waste from the street quickly and transporting it away from the city. This also applies to commercial waste and building waste. We will pursue four leads in the next few years.



Photo:  
Emmy de Graaf

We will first look at what is needed in our existing infrastructure to increase waste collection for reuse. This involves people keeping it at home, the existing waste provisions in neighbourhoods, and the city's provisions such as the waste recycling centres. Our thoughts are going out to resource centres at neighbourhood level and city level, the transport of resources on call or according to need, and the digital support to bring supply and demand together. We will also determine the best options for reuse for the various waste streams such as textiles, biodegradables, glass, packaging materials, old paper as well as bulky household waste

Urban development is increasing the population and thus the pressure. This calls for other ways of collecting separated waste to maintain the quality of the public space. Separating waste is not a goal in itself, but is a preference along with a deposit system. Post

separation serves the purpose of reuse and provides opportunities for it. New residential areas such as the Binckhorst and one quarter of the waste recycling centres offer interesting opportunities for innovation.

Secondly, waste processing requires a different angle. In 2020 our municipal contract for processing residual waste, biodegradable waste, bulk household goods and swept up material will come to an end. These items are a large part of household waste in The Hague. We will innovate in phases. In the first years we will look for new processing options for the separated waste streams. After that, the municipality, private partners and other municipalities will see if there is another entirely different way of waste processing. This will be the definitive turnaround to raw materials management. This is largely uncharted terrain. A daring operation that needs enough time to allow the intended

transition to succeed. An operation that also needs space for experimentation as barriers in European and national legislation must be done away with.

Household waste and commercial waste are currently treated differently. The municipality has a legal obligation in terms of household waste, but not in terms of commercial waste. When the reuse of valuable resources drives the waste processing and the advantage of scale is a factor, the best opportunities will be tested in pilots. This is the third lead. We will also examine waste at schools and sports clubs which is now considered commercial waste and is thus not handled in the current separated waste streams.

Finally, we are talking about nothing less than a transition of the waste chain. This requires a planned and phased approach. The household waste plan (*Huishoudelijk Afvalplan, HAP*) will be continued in the annual elaboration of this sustainability memorandum.

### Reuse in the construction industry

The built environment is an excellent place for raw materials management. There are large volumes of materials and often materials that are relatively good for reuse. It involves a sector that is well organised and that is already moving forward in the circular use of materials. Furthermore, the municipality has quite a lot of influence given its role as commissioner (municipality property, outdoor space) and its management role (area development). There are opportunities and leads here to look into.

The important element of this lead is that we are the client and adopt a managerial role in the physical living environment. This is a potentially powerful instrument to stimulate the reuse of building materials. In The Hague's recent Socially Responsible Purchasing memorandum (*Maatschappelijk Verantwoorde*

*Inkoop*), the foundation has already been laid – the municipality sets requirements for the circular use of materials and raw materials in its order in both the construction and demolition of buildings as well as in its ground, transport and water work in the outdoor space. Apart from this the municipality will stimulate the circular use of resources and materials through award criteria in design tenders. To strengthen our role as clients and managers on the market, we are seeking collaboration with other municipalities and the central government that is a large real estate partner in our city.

There is much to gain with smart, modular design solutions in building projects. A good registration system is needed for this to record the specifications and the quality of products and components for future reference. The Hague is trying to interest partners to jointly set up a 'materials passport' system. We will start with pilots to gain experience. An interesting idea is storing CO<sub>2</sub> in or adding 'waste' to building materials. We also need clever people to come up with innovative ideas. We will encourage ideas in collaboration with technical educational institutions in the region and the well represented professional group of engineers.

Under the name Circular City (*CirkeIstad*), various cities, including The Hague, pioneers in the construction industry are working on clever ways to reuse building materials. The Hague is seeking a close collaboration with the Circular City. The added value is that joint initiatives or support for each other's initiatives arise from this collaboration. Digital platforms are used to bring together supply and demand of secondary building materials. By extension is the option of being part of national initiatives. The Hague already joined the National Raw Materials Agreement (*Grondstoffenakkoord*) in 2017, and the Concrete Agreement (*Betonak-*



koord) in 2018. Should new initiatives arise where the city can make a contribution or benefit from, it will do so.

### Reducing plastic

A lot of plastic is single-use plastic. These include plastic cups and straws. Furthermore, much plastic is only packaging for something else. Plastic is a global challenge and The Hague is no different. We have identified the following leads.

It starts with awareness raising. The Hague will continue to speak up against disposable plastic. One example is joining the bottle deposit alliance (*Statiegeldalliantie*) that is working on introducing deposits on drink cans and small plastic bottles. In doing so, we will stimulate reuse and address litter. This subject is of course relevant to all residents of The Hague, but we will focus on children and youth in particular.

We will also prioritise plastic litter in areas where the problem is the largest. This is on the beach, in the city centre and around the Haagse Markt open market. To reduce plastic litter and other rubbish on the street, we will run a public campaign in which we may work with schools and join residents' initiatives. Clean ups by residents through organisations such as Trashure Hunt will continue. We will promote greater sustainability at events in different ways such as encouraging more sustainable use of raw materials. In this way, reusable packaging will become the norm.

The municipality is setting a good example. We are specifying avoiding packaging materials in our procurement processes. We are also moving to the separated collection of plastic and other resources in municipal buildings.

The reuse of plastic will of course be addressed in renewing the household waste chain. Twice as much plastic waste will be collected separately and how it is processed will be communicated as transparently as possible.

### Addressing food waste

Thousands of kilos of food that is still edible is thrown away every day by shops, restaurants and households. This is such a pity. Where needed and where we can, we will support initiatives that reduce food waste. Waste cannot always be avoided. In terms of vegetable, fruit and kitchen waste, we will offer more space to sustainable initiatives in neighbourhoods such as composting or fermentation. The municipality is not undermining the freedom of choice of people to eat what they want, but it will offer more vegetarian and healthy food choices in its organisation and at the meetings it organises or co-organises.

### Supporting entrepreneurs in raw materials management

The success of a dynamic raw materials economy succeeds or fails with entrepreneurs that jump into the secondary raw materials market. It is not only entrepreneurs from The Hague that will set up something here, but also entrepreneurs from outside that are expanding to The Hague. These entrepreneurs will experience what SMEs and start-ups experience in general – that The Hague welcomes them in a business friendly city.

Companies that work in the 'circular economy' need a little something extra. In the past, the municipality made contact with new initiatives and often supported them. The municipality will continue doing so. To give greater structure to this, we are looking for connections in the Impact Economy programme that is targeted at innovative start-ups.



In terms of area development, we are also looking more often at location and incubators for circular economic activities.

Construction companies and project developers are taking their corporate social responsibility (CSR) more and more seriously. The Hague appreciates this and wants to encourage CSR. During meetings with construction companies and developers, attention is paid to CSR and sustainability to jointly determine the maximum feasible reuse of raw materials. This is also the case for sustainable energy, mobility and the quality of the lived in environment. Within the framework of the participation obligations set out in the Environmental Act (*Omgevingswet*), companies and developers are already being asked to explicitly discuss the CSR and sustainability measures along with

the building plan and to include them in their permit applications.

*Cleaning up the streets  
Veegbedrijf Mierisstraat  
Photo: Arnaud Roelofs/  
Gemeente Den Haag*

## Work Agenda 2019 – 2022

We have identified a series of objectives in which the municipality has a role in the time to come. Concrete projects, sub-projects and actions will be made explicit and offered in the annual budget and programme letter. The most important projects in the near future are stated in the Work Agenda.

### No disposable plastic

- From 01-01-2020 we will not buy in any more disposable plastic any more and will set this as a criteria for events and subsidised institutions.
- We will ensure that the event organisers and companies such as beach bars have enough expertise and we will encourage them to take measures.
- We will look into the options for banning single-use plastic bags and the options of encouraging the use of bags made of biodegradable materials.
- We will start a pilot with entrepreneurs in the food sector for reduced plastic packaging.
- A project called PlasticCity was started with European partners to upcycle at city level.
- The Hague Plastic Coalition will start concrete supply chain projects.

### Procurement contracts

- We will encourage greater reuse of raw materials through procurement contracts. The municipality will adapt its procurement contracts accordingly.
- We will experiment with different forms of circular tenders and circular buying in which we challenge market parties to come up with solutions.

### From waste to raw materials

- In their subsidy application for large scale public events, the events must include sustainability. Limiting waste, reducing the use of plastic, using alternative sources of energy, encouraging the use of public transport are all examples of this.
- The ideas and experiences of events will be shared as good practice with other events in The Hague to make them more sustainable too.
- Making event locations more sustainable is part of the location policy. The current status of the energy provision and the possible sustainable scenarios will be made transparent for every event location in the public space.
- In collaboration with other municipalities and market parties, we will assess the possibility of setting up a consortium that deals with the reuse of residual waste.
- We will design an approach with school boards to collect separated school waste. This will be linked to an educational objective. Connections between household and commercial waste will be piloted.
- We will facilitate the expansion of Repair Cafés in the city.
- We will encourage initiatives from the market in which the service (the use of the product) will be sold rather than the product itself.
- As soon as there is demand from schools, the nature and environment education organisation (*Natuur- en milieueducatie, NME*) will develop educational packages for primary schools on the theme of circularity and the 'Plastic, can we use less?' (*'Plastic, kan het ook wat minder?'*) school project will be started.
- 'No' will be the standard letterbox sticker for the distribution of advertising materials. If residents want folders, they may stick a 'Yes – Yes' sticker on their letterbox.
- We will target the collection and distribution of valuable raw materials if there is demand for this at companies and start-ups.



### Attracting start-ups

- We will facilitate the opportunity for manufacturers in The Hague to have their products designed and re-designed for circularity.
- We will encourage companies to have their commercial waste collected jointly in the centre. Where necessary, the municipality will initiate a project.
- Start-ups and companies that practice reuse will be invited to locate in The Hague or expand their operations to The Hague.
- We will continue to play the role of a raw materials middleman.
- We will help existing start-ups in this sector in finding raw materials, production, housing and a market for their products.

Urban Farmers, rooftop farm Televisiestraat  
Photo: Fleur Beemster/  
Gemeente Den Haag

# Epilogue

This Memorandum gives direction to the policy on energy, mobility, the living environment and raw materials. It broadly outlines the approach for each of these subjects. The work agendas are the first step in making the approach concrete. The second step is to set up and implement a programmatic approach in which financial resources, projects, supporting measures and joint initiatives can be brought together.

The objective is to attain concrete results on these objectives and, in monitoring, make these results visible. We will do this in the form of an annual Programme Letter on Sustainability and an annual Progress Letter on Sustainability (*Voortgangsbrief Duurzaamheid*). Sustainability will also be part of all relevant policy documents and decisions: sustainability is the new norm.

## Programme Letter on Sustainability

The annual Programme Letter on Sustainability is the practical description of the Framework Memorandum on Sustainability for one calendar year (budget year). The Programme Letter also shows its status vis-à-vis the objectives at the end of the coalition period. The Programme Letter describes the desired result for each subject in the Framework Memorandum for the next year, the required efforts, the available resources, the projects and the desired results or mid-term results. The Programme Letter also describes how the participation of residents and entrepreneurs and collaboration with social organisations and with other government bodies is progressing. Relevant new developments at local and supralocal level, new legislation and regulations and the conclusions from the previous Progress Letter will be included in the Programme Letter. The annual Programme Letter will be issued in the September of the previous year. This is intentionally done to coincide with the municipality's budget. The municipality's budget is the

financial foundation while the Programme Letter is its implementation.

## Progress Letter on Sustainability

The annual Progress Letter reports on the progress and yields of the policy in this Memorandum. This is done according to the main indicators of the Council. At the same time, use is made of national measuring instruments such as the central government's climate monitor and Telos' sustainability index to compare The Hague's progress with that of other municipalities. These indexes show the status of the city and where influence could be exercised on which indicators. We show what the municipality has done for this and the results obtained.

As in the case of the Programme Letter, the Progress Letter follows the four themes in this Memorandum. The Letter is issued in the month of May after the calendar year over which it reports. This coincides with the Annual Accounts (*Jaarrekening*). The Annual Accounts is the foundation while the Progress Letter is its implementation. The Progress Letter reviews the multi-year progress that goes back at least to the start of the coalition period.

## Start of the annual cycle

The first regular Programme Letter covers the year 2020 and will appear in September 2019. The first regular Progress Letter will cover the year 2019 and will appear in March 2020.

# Clean energy in a green city

