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1 Introduction

"If any city can do it, Utrecht can," so claims the 2010-2014 municipal board programme. And it's absolutely true. With its highly motivated population, vibrant community of energy- and sustainability-minded organizations and businesses, and wealth of knowledge institutions, the city has all the ingredients to achieve climate neutrality in 2030.

Sustainability is one of the pillars of the 2010-2014 municipal board programme entitled 'Green, Open and Social'. The programme identifies three sustainability priorities:

1. energy saving and renewable energy generation
2. clean air through healthy mobility
3. an attractive green environment

The documents before you are the 2011-2014 Utrecht Energy Programme and the Implementation Programme for 2011-2012. The 2011-2014 programme is a revised version of the Draft Utrecht Sustainability Plan as adopted in October 2010 by the Municipal Board. The programme sets out the priorities, objectives and instruments that will drive our efforts to achieve a climate-neutral city in the years ahead. Our city embraced this commitment to climate neutrality as early as 2008. The climate plans were subsequently discussed around the summer of 2010 with a broad diversity of social partners. In early December 2010 the Draft Sustainability Plan was discussed with the City and Spatial Planning Advisory Committee. At roughly the same time, the plan was put to public consultation. Sixty residents and members of civil society organizations attended a consultation meeting. A number of written reactions to the plan were also submitted.

The consultation process and reactions revealed that the plan could count on a strong and broad base of support. We are delighted that so many people in our city feel involved with sustainability. The questions and ideas that were put forward by the various civil society organizations provide us with a source of inspiration for the further development of the plans. In carrying out the activities in the coming period, we will aim to further reinforce our cooperation with the civil society organizations in order to build tangible results together.

Using the input from the reactions, adjustments were made to the 2011-2014 draft plan. The plan was then developed into the practical 2011-2012 Implementation Programme which is included separately with the plan.

The current version of the programme incorporates the following adjustments:

- The name
  The central focus of the plan is on 'energy' and, hence, on reducing the city's CO_2 emissions. Separate plans exist for healthy mobility and greenery development, such as the Utrecht Air Quality Action Plan and the Long-Term Greenery Plan. One aspect of an attractive green environment, namely the efficient and economic use of space, is given further shape in the Master Plan for Inner Urban Construction. Appendix 2 contains a list of the municipal plans which jointly give shape to the Utrecht sustainability policy. Early in July 2010 the municipal council submitted a motion to focus the sustainability plan primarily on CO_2 reduction. To underline the focus on *energy*, and to emphasize that this involves both *energy reduction* and *renewable generation*, we chose 'Utrecht Energy Programme' as our working title.

- Reactions taken on board
  The results of the discussion with the committee and the suggestions of civil society partners, both in writing and during the consultation evening, were incorporated wherever possible in the plan and in the Implementation Programme for 2011-2012.
- More information
  A number of elements from the Draft Sustainability Plan are worked out in more detail in this version. This includes more information about the proposed revolving fund, the method used to monitor the results and impacts, and the expected multiplier effects in terms of third-party investments and employment.
- Initiatives from the city
  To recognize and reward the many initiatives and proposals from citizens and other social partners, the plan includes additional options for supporting community initiatives according to the incentive-for-action principle: partners who put forward practical CO2 reduction proposals that they can carry out themselves are eligible for an incentive grant to help them realize the plan if necessary. Some practical suggestions from civil society organizations have been included in the implementation programme. The cooperation with residents and other social partners will be given further shape during the implementation of the 2011-2012 programme.
- Communication
  A communication chapter has been added to serve as the basis for the communications in 2011-2012. The municipality cannot achieve CO_2 reduction on its own. The active cooperation of residents, businesses, schools and civil society organizations is imperative to realize the desired effects. A targeted communication strategy will therefore be deployed to reach as many people as possible and drive our plan forward.
- Leading by example
  Both the committee and the consultation rounds emphasized the importance of a municipality that leads by example. This challenge has been vigorously taken up. The resulting Action Plan for the Internal Municipal Organization will go through the customary decision-making channels in the spring and will then be put into practice.

Next, the plan was worked out in a 2011-2012 Implementation Programme. The five key areas for action from the Draft Plan were then developed into tangible activities. An approach based on the activities that were already identified in the Draft Plan was described for each key area. The budget for 2011 and 2012 was allocated to the diverse key areas.

The Utrecht Energy Plan in combination with the 2011-2012 Implementation Programme leaves sufficient scope for input from social partners. We will strive for co-production wherever possible. With this plan we aim to mobilize as many residents and parties from Utrecht as possible so that we can genuinely realize the required CO_2 reduction.

2 Necessity and Opportunity

2.1 Necessity: European and National Climate Policy

Climate change is a source of growing national and international concern. Scientists almost unanimously agree that CO_2 emissions and other greenhouse gases (such as methane) are contributing towards rising temperatures on earth and the many detrimental effects of this. Europe and the Netherlands have therefore set themselves objectives for addressing this problem (see text box). Utrecht, too, has a responsibility to contribute towards the global climate efforts. The city sees a further advantage in reducing its dependence on fossil fuels. For these reasons, Utrecht has been pursuing CO_2 reduction for some time now.

European and national climate and energy objectives

In a bid to mitigate the impact of climate change, the global community is seeking to limit the average global increase in temperature to two degrees Celsius. This means reducing greenhouse gas emissions in Europe by 80% in 2050 compared to 1990. The EU wants to reduce its energy consumption by 20% and generate 20% renewable energy by 2020.

Before the new Rutte/Verhagen government took office in 2010, the Netherlands had more ambitious targets for 2020:

- 30% CO_2 emission reduction compared to 1990 (1990=2010, as emissions have hardly changed in that period);
- Increase renewable energy as a share of total energy consumption from 2% to 20%.

In Utrecht we are holding firm to this objective, despite the change in the national policy. The current national policy follows the EU objectives. Utrecht's objectives are ambitious, but necessary to retain a realistic chance of achieving our ambition to be a Climate Neutral City in 2030. The ambitious objective provides focus and direction and challenges our social partners to think outside the box. The fact that the city is prepared to invest in their ideas provides them with an added incentive. Our motivation is not just to spare the environment, but also to promote the economic development of our city and protect low-income households against high housing expenses in the future.

The government's green spending cuts (e.g. the reduced spending on energy subsidies/ green funds and new housing association regulations) may impede our efforts and necessitate adjustments to our planned activities and/or objectives. However, given the reactions we have received so far from stakeholders and other interested parties, we are quietly confident that we can make a substantial step towards our objective in the coming years. So at this stage we have no reason to modify our ambitions and objectives. We will, of course, carefully monitor the progress of the programme in terms of results and impacts and make adjustments as and when necessary.

Climate adaptation

Apart from reducing CO_2 emissions, the government is seeking to adapt its spatial planning strategy to make the Netherlands 'climate-proof'. Specific actions have been identified for this purpose in the Delta Water Defence Programme. The priority is to improve the safety of the parts of the Netherlands that are particularly vulnerable to flooding. This programme explores how governments can take account of the consequences of climate change in plans for new construction and restructuring in urban areas. Utrecht is taking part in the Climate-Proof Cities Implementation Alliance, which forms part of the Delta Programme.

The purpose of this implementation alliance is to work together with the government and the four large cities on the implementation of adaptation measures in (inner) urban areas.

The exact consequences of climate change for urban life (warming, suffocation, drought, flooding) are currently being studied. These will differ per city, depending on the city's specific structure and design. Safety is a high priority, though this is primarily a responsibility for national government and the water boards. Large parts of Utrecht are relatively safe. Here, the risk of flooding due to the sea or large rivers breaking through the dykes is low. Lower-lying parts of the city have a higher risk of this, however. The municipality takes measures to cope with extreme rainfall and minimize the risk of flooding in the city (see text box). Regarding such effects as urban warming, suffocation and drought, we are taking part in a European research programme entitled Climate Proof Cities to gain a deeper understanding of the consequences and effective measures for Utrecht. The study that is being carried out by the consortium of universities (Utrecht, Delft, Nijmegen), consultancies (e.g. TNO Applied Research and Deltares) and a number of Dutch municipalities (Amsterdam, Rotterdam, Haaglanden, Arnhem/Nijmegen, Tilburg and Utrecht) will cast more light on the impacts of climate change and the instruments required to provide an adequate response in urban areas.

Utrecht has a tradition in urban water management

Water management in Utrecht dates back at least nine centuries. This is reflected in the city's current water system. Major interventions, such as the filling in of canals, were carried out to accommodate the city's expansion. Utrecht now realizes that water is an important asset that adds value to the city. This not only applies to the well-known waterways, such as the Catharijnesingel, but also the smaller ones, such as the Minstroom.

In the coming years Utrecht will seek to improve the water quality and increase the city's water discharge and storage capacity. For instance, the construction of catchment and storage tanks in the city will reduce the need to discharge diluted effluent into the surface water during heavy precipitation. In addition, virtually all properties in Utrecht will soon be connected to the sewage system or have their own water treatment installation.

2.2 Cities must lead the energy transition

In the near future 80% of the population will live in cities: so this is where we must limit man-made climate change. An estimated 80% of the CO_2 emissions come from cities (source: NICIS, 2010).

Given that urban construction, mobility and industry are major sources of CO_2 emissions, these are the key areas for taking remedial action. The Netherlands has a relatively old housing stock. The current housing stock renewal rate is about 1%, which means that existing housing offers considerable scope for CO_2 reduction. The Inspectorate of the Ministry of Housing, Spatial Planning and the Environment (VROM) recently concluded (source: Binnenlands Bestuur 2010) that corporate energy consumption can be cut by 10-30%. Mobility also offers good potential for CO_2 reduction, particularly in a compact city like Utrecht: the small distances provide an ideal environment for quieter, cleaner, safer and more sustainable transport options (bicycle, public transport, electric transport). In short, cities are clearly well-placed to become major drivers of CO_2 reduction.

2.3 Opportunities for energy policy

Urban energy policy not only offers benefits for our cities, citizens and children in the longer term, but also in the short term, and the advantages extend beyond the confines of energy.

Energy policy stimulates the economy

According to the advice of the Social and Economic Council of the Netherlands (SER) of 6 April 2010, sustainability efforts generate substantial investments in cities. The economic crisis and high oil prices have put green innovation more prominently on the agenda. Leading (economic) voices from at home and abroad (e.g. Rifkin, Wijffels, Winsemius and Vermeend) predict that new economic growth will be driven by the sustainable economy. The new Dutch government policy aims to bring about a Green Deal with social partners in order to effectuate the transition to a more sustainable society.

Multiplier effect

Our programme centres on measures that are designed to encourage and facilitate sustainable economic investments by private parties. As with the Local Economy Stimulus Fund, the measures from the Utrecht Energy Programme also create multiplier effects. The municipal money that we invest stimulates investments by businesses and individuals. An initial rough estimate indicates that if we succeed in realizing our ambitions in the coming four years with the earmarked € 26 million of municipal funding, this will generate investments in energy-saving and renewable energy measures totalling € 500 million. This represents a multiplier effect of about 20. In other words: each invested euro would generate 20 euros of private investments, implying a reduction in CO_2 emissions of 50,000 tonnes a year. This is the theory, however. The practical expectation is that this objective will only be achieved after several years once the knock-on effects of the measures have rippled out to businesses and organizations. Another precondition is that external factors (government policy, European policy, technological advances) enable an acceleration of the efforts. In this light, it is more realistic to assume a multiplier effect of 10 for the first four years.

Energy policy promotes employment

Energy saving can be particularly beneficial for the construction sector, which is currently suffering from high unemployment. Government at all levels, including local government in Utrecht, must take pro-active and supportive initiatives to promote, facilitate and control this process. The politician Jan Terlouw recently made this point at a conference when he said: ”bring builders, bankers and councillors together to cash in on these opportunities.” This will generate new jobs at contractors and installation companies. Moreover, energy policy can also create work for people who are at a distance from the labour market (re-integration/ assimilation). This can be done by means of e.g. energy campaigns in the city (such as the former ‘Actie €nergiewinst’ campaign) or by making arrangements with contractors and installation firms to employ these people on a social return basis.

Employment effects of sustainable investments

We expect the Utrecht Energy Programme to have various employment effects, such as a (partly temporary) growth in employment thanks to investments in energy-saving and energy-generating measures. Contractors, producers, suppliers and installers can immediately benefit from this. Data from a national consultancy lead to the following estimate:

- A short-term (until 2014) employment impulse in Utrecht of about 1800 man-years, entailing one year of employment for about 450 people each year. Some of these jobs will go to benefit claimants through the SoZaWe Jobs Plan. This job creation plan aims to help benefit claimants progress to the normal jobs market within six to eighteen months. It is based on the Social Return approach, where businesses undertake to provide a certain percentage of apprenticeships to people from the target group.
- Some of these extra jobs are permanent. We estimate that the realization of our ambition for the coming four years will generate about 400-500 permanent jobs, particularly among suppliers and in the installation operation and maintenance industry as well as through the creation of new companies and the growth of existing companies.
- Translated to the ambition for 2020, this means a one-off employment effect of 4500 man-years. In theory, a permanent employment effect of 4000-5000 FTEs can be realized by 2020. However, the ambition will not be fully realized in the initial years, so the actual number is expected to be lower.

Businesses see opportunities and save costs

The business community is increasingly embracing sustainability, partly in response to customer pressure. In view of the anticipated rise in global demand for sustainable innovations, this presents Utrecht-based businesses with opportunities to gain a first-mover advantage by developing key export products. Businesses can also achieve substantial energy savings and, hence, cost savings - not only through the more economic use of energy, but also by entering into mutually beneficial energy partnerships: the residual products of one company can be an important raw material for another company. District heating is, perhaps, the clearest example of this.

Sustainable energy policy is a money-earner

Less use of energy means a lower energy bill. Energy investments in existing buildings (residential, offices) permit savings on ever more expensive fossil fuels. It is estimated that energy will in future account for 50% of the housing expenses of low-income households. Genuine energy saving measures can therefore be vital for these households. In the longer term, sustainable energy can also earn money: whereas fossil energy will only get more and more expensive, sustainable energy will become steadily cheaper through the development of new technologies and economies of scale.

Residents are calling for energy saving

In our residents survey (2009), residents cited energy and climate policy as the second-most important subject after air quality. It is also clear that many residents are already taking measures of their own, varying from simple steps such as using energy-saving lamps to wider initiatives in order to make a street or neighbourhood more sustainable. This grassroots energy is a source of inspiration to us.

Sustainability contributes to social cohesion

A sustainable city requires a communal effort from everyone: residents, entrepreneurs, institutions and companies, associations and transporters. Residents are already teaming up in joint projects to insulate their homes or produce clean energy. This can give a fresh impulse to the social cohesion in the city. At neighbourhood and district level, (temporary) networks are being harnessed to kick-start energy projects such as buying solar panels with neighbours, the creation of a solar cooperative to place rooftop solar panels on local schools, or to exchange information and tips. We, as the municipality, wish to encourage these initiatives wherever possible.

EXAMPLE

Utrecht: '€nergiewinst' Campaign

Energy is a relatively large cost item for low-income households. The '€nergiewinst' Campaign was targeted specifically at this group. A total of 7,909 Utrecht households received free energy advice and an energy saving box. Forty benefit claimants were trained as energy advisers to help the participants carry out the measures in their homes. The initiative was widely appreciated: the energy advice and advisors received an average satisfaction rating of 8. The participating households reduced their combined CO_2 emissions by 6,400 tonnes a year, which is equivalent to the annual gas and power consumption of over one thousand households in the Netherlands.

A better indoor climate

The indoor climate of older homes, school buildings and business premises often leaves a lot to be desired. This is not only unpleasant for the occupants and users, but in serious cases can also affect their health and performance. Studies show that a poor indoor climate can affect children's learning ability. By combining energy saving measures with quality improvements, these buildings can be made much more congenial (more pleasant indoor climate, less noise nuisance). Climate-enhancing measures such as awnings/blinds or (mechanical) ventilation can prevent overheating and save energy by reducing the need for air-conditioning in the summer.

More positive effects

Mobility measures also provide a combination of beneficial effects. If more people cycle, walk or use public transport, this not only saves energy, but also helps to improve the urban air quality, reduce noise nuisance from traffic and relieve the pressure on scarce public space in the city. In short, the achieved CO_2 reduction also has knock-on effects by improving other environmental and spatial aspects of Utrecht.

City of knowledge and culture

The presence of abundant creative talent with a new and forward-looking vision on society and technology will help to bring Utrecht's energy policy to full maturity. The dynamic young urban population, inspiring cultural climate, social cohesion, and diversity of (higher educational and academic) institutions and knowledge workers in Utrecht provide fertile ground for nurturing and achieving our ambitions. Utrecht as a city of knowledge and culture has all the necessary ingredients to make an inspiring contribution to a green, knowledge-intensive and innovative economy in the Netherlands and beyond.

2.4 We are not on our own

Many businesses in Utrecht endorse the climate-neutral ambition. Rabobank is building a new sustainable head office in Utrecht and is leading the way towards reducing (automotive) mobility. Dutch Rail is also committed to sustainable and socially responsible entrepreneurship, as are companies such as Conclusion, Movares and many others. In the services sector, many companies are focusing on organizational and/or technological developments in sustainability.

Utrecht University, HU University of Applied Sciences Utrecht and the Province of Utrecht are high-profile players in the field of sustainability and climate. Utrecht University, for instance, is working with the PBL Netherlands Environmental Assessment Agency on projects in the fields of nature, environment, planning and sustainability. A related initiative is the Utrecht Sustainability Institute, which was set up at the end of 2009 by the Utrecht University, TNO Applied Research, the Royal Netherlands Meteorological Institute (KNMI), Deltares and the KWR Watercycle Research Institute. HU University of Applied Sciences Utrecht has identified sustainable development as an educational priority and is pursuing applied research and partnerships with the business community in order to achieve shared objectives. The Province of Utrecht has already been engaged in a sustainability drive for several years, with the objective of creating a climate-neutral province by 2040 while also keeping the Utrecht economy strong and vibrant for the future. A further objective is to preserve important values that cannot be immediately expressed in cash terms such as nature (the peat lands, the Utrecht Heuvelrug) as well as historical and landscape values for the future. As a city, we are working actively with these parties to initiate new developments by sharing knowledge, experiences and networks. In this way, we are jointly putting Utrecht on the (inter)national sustainability map.

Province and municipality: strong sustainability partners

The province of Utrecht and regional partners have the ambition to give sustainable development a strong impulse. In 2009 knowledge institutions, public authorities (including the Municipality of Utrecht) and businesses signed the Treaty of Utrecht in a joint undertaking to advance sustainable development in the region with the ultimate objective of achieving climate neutrality in 2040. The province of Utrecht is one of the main drivers of this project. Here is an excerpt from the mission of the Treaty of Utrecht:

We want a good quality of life for everyone living in our province. We are striving to promote a sustainable Utrecht and to preserve the region's pulling power. We will reinforce our strengths as a meeting point of knowledge and creativity, with a rich culture in an attractive landscape. We are working to reduce, offset and, ultimately, prevent the negative impacts of our choices on other resources, future generations and other regions on earth.

The province has attached six objectives to this mission, including the realization of a climate-neutral and climate-proof province in a policy track entitled 'Doing business with sustainable energy'. Successful examples of cooperation between the municipality and province (and other partners) are the Sustainable Uithof Campus and Station Area projects, the Master Vision for Rijnenburg, the Utrecht Science Park, the 'De Omslag' (Turnaround) Programme of HU University of Applied Sciences Utrecht and smart grids. At the National Sustainability Conference in November 2010 in Utrecht, the province, municipality, University and University of Applied Sciences presented themselves jointly as a single sustainable region.

Looking at the activities in the Utrecht Energy Programme, we want to work together with the province to promote e.g. household energy saving, home energy labels, a climate-neutral municipal organization (including sustainable procurement) and electric transport projects.

3 Utrecht Makes New Energy 2008-2010

To achieve a 30% CO_2 reduction ten years from now, we must reduce our CO_2 emissions by 3% per year relative to the current level. Though major steps were made in the past years, the overall reduction in tonnes of emission savings is still too low.

What is Utrecht's CO_2 footprint?
The Netherlands has a CO_2 footprint of about 220 megatonnes (mega=million) a year, or about 12 tonnes per inhabitant. With our population of 300,000 people, you would expect this to work out at about 3.6 megatonnes for Utrecht. However, the customary CO_2 calculation method for cities fails to take account of several important components, such as the production of food for the city's inhabitants, travel outside the municipal boundaries, and the emissions from power stations located in the city. If we add these components, Utrecht produces about 1.6 megatonnes of CO_2 per year, leading to an average annual CO_2 footprint per inhabitant of about five tonnes. Though such data are not necessarily mutually comparable, this would appear to put Utrecht among the lower CO_2 emitters. Amsterdam emits about six to seven tonnes per inhabitant, and Nijmegen about eight tonnes. The reason for the difference is that Utrecht has less heavy industry and that about one third of the city is connected to district heating.

3.1 Utrecht Energy Policy: Utrecht Makes New Energy 2008-2010

Utrecht addressed the need to reduce CO_2 as early as 1990. Since the mid-1990s we have developed and implemented the Utrecht energy policy, often in close conjunction with the former energy company REMU (now Eneco).

In 2008 Utrecht gave its energy policy a fresh impulse with the '2008-2012 Utrecht Makes New Energy' (UMNE) programme. In this programme, the municipality assumed a coordinating role to provide information and motivation to partners in the city and secure their commitment to Utrecht's CO_2 reduction efforts. In the past two years, the combined efforts of the various parties culminated in various projects, such as thermal energy storage in the Station Area, Energy Neutral Neighbourhood West, a wind locations feasibility study, a City Hall energy study, the Utrecht Energy Covenant with schools and offices, arrangements for energy-efficient neighbourhood renovation and restructuring with housing associations (with STEK subsidies), and Environmental Care Assistants in the SME sector.

UMNE aimed to generate a financial multiplier effect. The initial budget (EUR 500,000 per year) was successfully increased by almost two million euros thanks to subsidies and investments from (market) parties. One important multiplier was the approval of a Dutch Green Technology application. In partnership with Noord Holland Noord (Alkmaar), Amsterdam Innovation Motor (Amsterdam) and New Energy Docks (Amsterdam), we are currently carrying out projects to drive social and technological innovation in order to advance the energy transition.

EXAMPLE

Utrecht: STEK for energy saving in social housing

Instead of imposing extra quality demands, we decided in 2004 to offer a simple and flexible incentive scheme to the housing associations: the Energy and Quality Stimulus Tender (STEK). Housing associations were invited to indicate which projects offered the greatest scope for reducing energy use and promoting a good indoor climate. To date, this initiative has lowered the CO_2 emissions in Utrecht by 900 tonnes. Several projects are still ongoing.

3.2 Results and Progress

The achieved change in CO_2 emissions is hard to calculate for these two years because the consumption data are not yet available. The most recent consumption data are from 2006 (source: CBS) and are not complete because they exclude heating usage in Utrecht. New energy data are expected this year. In the absence of up-to-date consumption data, we made an estimate of the achieved CO_2 reduction for each (municipal) project in this period: the total estimated reduction is about 900 tonnes of CO_2.
If we compare this with the required reduction of almost 500,000 tonnes in the coming ten years, it is immediately clear that a considerable upscaling of the efforts is required.

3.3 Completion and Transfer

The UMNE results were used to draw up the Draft Sustainability Plan. In addition, UMNE has committed a large number of partners to the climate-neutral city ambition. These partners were consulted during both the development of the Draft Sustainability Plan and the Utrecht Energy Programme.

About half of the UMNE activities have been completed. The UMNE activities that are still ongoing will be transferred to the Utrecht Energy programme, thus bringing all Utrecht Energy activities within a single programme.

4 Objective, Starting Points and Approach

4.1 Ambition and Objective

Utrecht wants to be climate neutral by 2030. Climate neutrality entails zero greenhouse gas emissions within the municipal boundaries. In the 2010-2020 period we are striving for:

- 30% less CO_2 emissions compared to 1990; (1990=2010 as the emissions have hardly changed in that period);
- increase the share of renewable energy to 20% (of Utrecht's total energy requirement).

This Utrecht Energy Programme is designed to reduce the CO_2 emissions in the city by an average of 3% per year.
The priority is to improve the sustainability of:

- homes and other buildings;
- industry;
- mobility.

Homes, businesses and mobility

This selection is based on the fact that virtually all of the city's CO_2 emissions can be traced back to these three areas (see Chapter 2.2). We estimate that homes and businesses each account for about 40% of the CO_2 emissions, with mobility causing the remaining 20%.

Measures to save energy and promote renewable energy will be set out for each of the three areas. This entails that activities will be carried out in homes and other buildings, in industry and in mobility with the twin aim of reducing the consumption of energy and fuel and replacing fossil fuels with more renewable energy.

Definition of climate neutral and greenhouse gases

The terms CO_2 neutral, climate neutral and energy neutral are not synonymous. Climate neutrality not only comprises CO_2 emissions, but also the other gases that contribute towards the greenhouse effect, such as methane. The term 'energy neutral' goes a step further; it means that net importation of energy from outside the municipality is not permitted in any given year. In other words, all energy consumed in the municipality must be generated by renewable means within the municipality itself. Our aim in the first instance is not to be energy neutral; we assume that Utrecht will still need to import (renewable) energy in 2030.

The most important greenhouse gases released in Utrecht are:

- carbon dioxide (CO_2), from the combustion of fossil fuels;
- methane gas (CH_4), from e.g. sewage treatment;
- laughing gas (N_2O), from airco systems of buildings.

The effect of each greenhouse gas is expressed in terms of 'global warming potential'. This is a relative measure, which indicates the effect of a greenhouse gas compared to that of CO_2. Methane (global warming potential 25: one tonne of methane has the same effect as 25 tonnes of CO_2) and N_2O (global warming potential 298: one tonne of N_2O has the same effect as almost 300 tonnes of CO_2) are (much) stronger greenhouse gases than CO_2. However, in an urban environment like Utrecht, CO_2 emissions have so far been the biggest contributor to the greenhouse effect. This is

why our priority is to reduce the CO_2 emissions in the city.

The contribution of CH_4 is significant when it comes to sewage treatment and the processing of kitchen & garden waste and other green waste in Utrecht. The contribution of N_2O from airco systems is relatively low, so these are still left out of consideration. However, due to the growing number of airco systems in the city, emissions of this greenhouse gas will become an important factor in the future.

Reducing tonnes of emissions with sustainable energy generation

The UNME activities carried out so far have not given priority to promoting a more sustainable energy supply. Due to a lack of time and resources within UMNE, the municipality opted to play only a facilitating role in the promotion of sustainable energy until 2010. In the Utrecht Energy Programme the municipality has adopted a more active coordinating role in the efforts to make the energy supply more sustainable. More sustainable energy alongside less energy usage is certain to lead to a substantial decrease in the CO_2 emissions in our city. This is therefore described as a separate theme in this programme.

Setting the right example with the municipal organization

We, as the municipality, can also play a role by promoting sustainable energy use in our own organization, notably in the buildings and fleet of vehicles that we own and/or manage. Though this may make only a modest contribution to the attainment of the CO_2 objective, it is important for the municipality to lead by example. The municipality must be seen to be green by the city's inhabitants. This subject is therefore worked out in a separate sub-programme.

The decisive impulse

The targeted 3% CO_2 reduction may not be immediately achieved in the first year, but this slow start is expected to be offset by the acceleration and upscaling that is built into the programme in the subsequent years. Achieving the objective depends partly on initiatives of market parties and the willingness of residents and other parties in the city to participate. In addition, other municipal implementation programmes such as the Utrecht Air Quality Action Plan and the underlying Action Plans for Clean Transport and Goods Transport will make a contribution towards reducing the CO_2 emissions in Utrecht. The effects of our approach will be closely tracked via the CO_2 monitoring procedure that is to be set up (see Chapter 10).

Assuming that we succeed in reducing the emissions by 30% in the coming ten years, this still leaves 70% of the climate-neutral ambition to be realized in the ten years between 2020 and 2030. On the strength of the experiences that we will gain in Utrecht with upscaling, innovative community initiatives, innovative financing methods and more stringent energy policies in the Netherlands and Europe, and assuming the expected rise in energy costs in the coming ten years, we expect this to be feasible after 2020. In the coming years we want to give the Utrecht energy policy the decisive impulse in the right direction. We have deliberately not opted for a 'CO_2-offset' approach in Utrecht, as this creates no economic gains for the city and merely shifts the responsibility for energy reduction elsewhere.

Green electricity

Many residents and entrepreneurs in Utrecht, as well as the municipality of Utrecht itself, buy green electricity. What does this mean for the city's CO_2 emissions? Green electricity is power that is generated from sun, wind, biomass or water. Since 1 January 2004 CertiQ (part of Tennet) issues Guarantees of Origin to electricity companies that sell green electricity to consumers. Guarantees of Origin prove that the electricity was generated from green sources and was not sold more than once as green electricity. The guarantees are checked every year, and revised and re-issued if necessary.

In other words, purchasing green electricity means that no CO_2 is emitted during the generation of this electricity. For instance, based on its energy consumption, the municipal organization would emit 28,000 tonnes of CO_2. However, several years ago the municipality started to exclusively buy green power, thus reducing the annual emissions of the municipal organization by about 17,000 tonnes per year. To become CO_2 neutral, the municipality now only needs to reduce the CO_2 emissions from its heating and fuel usage. This does not give us carte blanche to use unlimited amounts of green electricity: firstly, the availability of green power is limited, and will remain so in the future; and secondly, we also want to reduce the costs of the municipal organization. Energy saving helps us to achieve this aim.

4.2 Let's not reinvent the wheel

The time scale for achieving our climate-neutral ambition is tight, so we must not waste precious time reinventing the wheel. All known examples of good practices, both in the Netherlands and beyond, will be applied wherever possible. We will take advantage of the sustainability knowledge and inspiring initiatives of our colleagues in 100,000+ cities. We will also learn from successful projects carried out in Utrecht in the past. Examples are 'Thermieplus', where homeowners were helped to make their homes more energy efficient. We are focusing on practicable innovations as well as on 'big and quick' wins in the city. All this will naturally be done in cooperation with the parties involved and in line with ongoing projects in the city, such as the Police Quality Mark for Home Safety, the improvement of the indoor climate in schools, the development of the Station Area, the measures from the Utrecht Air Quality Action Plan and the restructuring of industrial estates and residential areas.

EXAMPLE

Tilburg: Social Housing Energy Covenant

In 2000 the Municipality of Tilburg, the Breburg housing association and energy company Essent signed the first energy covenant with a view to saving energy. This was followed by a second covenant involving the original parties as well as three other housing associations. This covenant provided a basis for information sharing and the development of a common 'language'. The first covenant confirmed a set of energy-saving arrangements, while the second delivered energy performance advice (EPA) to 16,000 households. Meanwhile, a third covenant has been signed to make the arrangements an integral part of the daily working practices at the housing associations.

4.3 Beyond the pilot

The results of 'Utrecht Makes New Energy' (900 tonnes in two years) show that substantial upscaling is required in the coming period to achieve the objectives of the municipal board's programme. A 30% reduction means lowering the city's emissions by almost 500,000 tonnes in the space of ten years. The time has come to make large strides forwards. And there are plenty of opportunities to do this. The technology to make homes, cars and businesses energy efficient and sustainable is already available. The challenge now is to connect these technological innovations to social innovations, for instance by using new financing models or processes. We have moved beyond the pilot phase and are now going to mobilize, facilitate and connect all the learning experiences, experiments, achieved results, knowledge and expertise in the city to scale up our efforts. By investing this energy in Utrecht, we will put Utrecht robustly on the sustainability map.

4.4 The Municipal Role and Responsibility

In our role as principal, purchaser of products, regulator, co-governor, licence-issuer and manager of funds, we will actively pursue our ambition to create a green and sustainable city (2010 – 2014 Municipal Board Programme, Green, Open and Social, page 10).

The municipality fulfils different roles vis-à-vis different parties and residents in the city. We want to take optimal advantage of our diverse roles to achieve the ambitions and objectives of the energy policy. The role we play in implementing these activities can vary from intermediary, problem-solver, seducer, facilitator to enforcer. With some activities, such as law enforcement, the municipality plays a clear and unambiguous role. In other cases, the municipality determines and defines its role according to the efforts of the social partners or according to what we consider desirable to achieve our objective. In this connection, Utrecht will challenge market parties to display their entrepreneurial skills.

Dialogue with parties in the city

We enter into a dialogue with parties in the city and give everyone ample opportunity to express their views on how we can best achieve our ambition and objectives. We welcome input from critical minds, such as the Utrecht Environment Centre, and will get around the table with (market) parties and knowledge institutions to discuss the progress of the energy policy results.

Coordinator and facilitator

To give the Utrecht energy policy the decisive impulse, we are going to help and support residents, organizations and businesses to take energy-saving measures or promote a sustainable energy supply. We will do this by providing the required information, actively approaching residents and parties and helping them, on request, to find the required investment loans, connect and exchange the knowledge of existing initiatives and overcome other barriers. Wherever the market is or should be involved, the municipality will encourage this within its designated powers.

EXAMPLE

Etten-Leur: Wind Farm Planning Permission

The municipality of Etten-Leur carried out a project to enable planning permission for wind farms in the outer area of the municipality. The municipal council and external stakeholders were involved in the process at an early stage. Perseverance and persuasion proved to be the decisive factors. As a result, five wind turbines with a total capacity of 6.5 MW are now up and running. The wind turbines generate sufficient electricity for some 4,000 households and save 7,600 tonnes of CO_2 emissions per year.

Co-governor

As the municipal authority, we have dealings with regional, provincial, national and European authorities. We enter into a dialogue with all these authorities to explain the direction we have chosen and to discuss opportunities and obstacles. In doing so, we try to secure their backing for Utrecht's ambition, so that supportive policy instruments are made available at all levels.

We also actively pursue sustainability in our role as co-governor in (regional) organizations. One example of this is Utrecht's participation in the Utrecht Waste Removal (AVU) project.

Licence-issuer, assessor and enforcer

In our role as licence-issuer, assessor and enforcer we will make sure that every party fulfils its responsibility. All existing legislation and powers at our disposal will be employed to implement and enforce our energy policy.

Principal and purchaser

Every year the municipality purchases about EUR 500 million of products and services. As a large party in the market we have the opportunity *and* the duty to set the right example as a purchaser of products and services and as the manager of our buildings and public space. We will return to this in the separate Action Plan for our own organization.

EXAMPLE

Agentschap NL: Energy Performance Norm at construction sites

Municipalities often lack the time and/or specific knowledge to effectively monitor compliance with the EPN on construction sites. The AgentschapNL has compiled a free package of tools to help inspectors supervise EPN compliance. The package promises builders that the supervision will make no extra demands on their precious time, and will actually help them to use their available time and staff more efficiently. Municipal supervision of energy aspects is important, even if only on a random sampling basis – because it sends out a preventive signal to construction parties that the EPN is being enforced.

4.5 Environment and Energy Policy Principles

Various principles are applied in the world of environment and energy policy. The best-known, perhaps, is 'the polluter pays' and, in relation to energy, 'the user pays'. One widely-used energy policy principle is Trias Energetica. This is a three-step plan which prioritizes energy sustainability efforts in the following order: first, save as much energy as possible, next generate as much renewable energy as possible, and finally, use fossil fuels as efficiently as possible[1]. These principles serve as the basis of the approach and proposals set out in this policy document.

4.6 Energy policy pays for itself

The beauty of energy-saving measures is that they earn themselves back (often within only 5 years). This means that the required financial investments from the municipality can be relatively small. The main difficulties are to overcome the 'split-incentive' problem (i.e. the party who invests in the energy-saving measures is not the party who benefits from the lower energy costs) and to organize energy arrangements with other parties. If these bottlenecks are resolved, municipal resources can generate a strong multiplier effect (both in terms of market investments and employment).

4.7 Combining objectives

The municipality has set up a Sustainability Fund to give an impulse to market initiatives and, hence, employment. One important aim is to help people with employment difficulties find work. To this end, we negotiate specific commitments in tenders and arrangements (between e.g. a bank, energy company, housing association and contractor) to ensure a social return in the form of e.g. training places and jobs for (young) unemployed people in Utrecht.

[1] District heating is an example of this. The used fossil fuels are employed as efficiently as possible to generate both electricity and heating.

5 Housing

Energy saving in existing buildings is one of the priorities. We make arrangements for this with the housing associations and owners (2010 – 2014 Municipal Board Programme, Green, Open and Social, page 10). Energy-efficient construction features prominently in new-build projects such as Rijnenburg, Veemarkt and inner urban development projects.

5.1 The Utrecht Housing Stock

There are 129,000 homes in Utrecht, jointly accounting for about 40% of the CO_2 emissions in the city. Energy saving in existing homes alongside energy-efficient new construction therefore has a high priority. Half of the housing stock consists of rented housing, while the other half is owner-occupied. The measures are therefore aimed at occupants, housing associations, owners, but also at new construction and listed buildings.

The following is known about the energy quality of the Utrecht housing stock:

- about 22% of the homes in Utrecht have an energy label, of which 87% have an energy label C or lower (2009);
- insulation is the most effective measure;
- Utrecht residents make little use of national subsidy schemes (133 subsidy payments (HR++ glass and insulating glass) and subsidized energy advice for 39 households) (2009).

To explain our proposals to promote energy saving in the Utrecht housing stock, let us first briefly look at the current situation in the social housing and owner-occupied segments. Next, we will look at new construction as well as at listed and historical buildings in Utrecht. Proposals for industrial and commercial buildings, schools, offices and other utility buildings are set out in Chapter 6.

Action:

- We will set up central, well-equipped information points in all neighbourhoods where residents can get information about energy saving and renewable energy and will actively draw their attention to existing subsidies. We will ensure that residents can easily find their way to these points by providing information at existing facilities in the neighbourhood (community centres, social coaches, nature and environment centres, etc.). We will contact residents' organizations and community leaders and ask them to help us. These 'neighbourhood ambassadors' provide the energy policy with a familiar face in the neighbourhood.

5.2 The Housing Associations

The Utrecht housing associations each have their own ambitions for making their housing stock more efficient. Their aim is to reduce their housing stock's energy consumption by 20-30% in ten years' time. This is not enough in our opinion. More is required to achieve a climate-neutral city by 2030.

The housing associations encounter obstacles when taking measures, such as regulatory restrictions, insufficient support from residents and lack of financial resources for renovation. The further detailing of the arrangements in this connection will be taken on board in the New Arrangement System (the follow-up to the existing DUO and Performance Arrangements), which will be ready in spring 2011. Improvements to rented housing not only have an energy effect, but also a social effect.

People on low incomes generally live in rented housing from a housing association. In the future they will face rising energy costs and, hence, rising housing expenses. Energy currently accounts for about 30% of the total housing expenses. Due to rising energy prices, this may increase in the future to 50%, and the hardest hit group will be low-income earners who often live in housing with a poor energy performance. As energy-saving measures serve to reduce energy costs, housing associations and the municipality consider energy renovation in these homes to be important from a social perspective.

Actions:

- Performance agreements with housing associations: in 2011 the municipality and housing associations will agree to achieve a maximum acceleration of the insulation of their housing stock, while smart funding schemes will be sought to resolve the split-incentive problem and divide the costs and benefits of energy measures fairly between lessor and tenant.
- Projects will be set up together with the housing associations, energy companies, residents' organizations and others to build support for sustainable lifestyles and energy measures among tenants. We will actively make residents aware of the existing subsidies to support activities in this field (Sustainable Development Initiatives Incentive Scheme, livability budgets, provincial and national funding). We will remind residents of what they can do themselves, such as buying energy-efficient equipment and using the bicycle more often.

EXAMPLE

Roosendaal: Passive House Project

The AlleeWonen housing association in Roosendaal has started to renovate 246 rented homes and convert them into passive houses in the post-war Kroeven neighbourhood. The passive house concept is based on a high-insulation shell to minimize the required heating. About 120 homes will be given a new outer wall made of pre-fab wooden frame elements which give the homes an entirely new appearance. Despite the radical measures required, renovation still proved a cheaper option than new construction at passive house level. Renovation at passive house level is a quarter more expensive than the known 30% energy saving. However, AlleeWonen believes that this rigorous approach is cheaper than carrying out more limited home renovations every ten years. In addition, the residents can stay in their homes longer (and the renovation lasts only 5 days).

5.3 Owner-Occupied Housing

Homeowners can apply for energy-saving and sustainable energy subsidies at both national and provincial level. A renewed provincial subsidy scheme has been opened and will run until the end of 2011. The national subsidy schemes expired at the end of 2010. These national schemes will be continued, but the form in which this will take place is not yet known. Owner-occupiers who invest in their homes will earn this back through lower housing expenses, greater comfort and a higher price for their property. Evaluations of various energy projects in the Netherlands reveal the following barriers for Dutch homeowners. Firstly, the owners are unsure how to go about finding an energy adviser and a contractor. The various subsidies seem attractive, but applying for them is time-consuming. People also dread the inconvenience caused by renovation. Finally, the investments are sometimes large and are only earned back over time.

Actions:

- To make things as easy as possible for homeowners, we are starting an approach to make owner-occupied housing more energy efficient. Wherever possible, this is being done according to the block-by-block approach, which has already proved successful in owner-occupied home improvement projects. The intention is to combine knowledge and expertise and to share this with the entire city. In this connection, we are striving to link up with the Meer Met Minder[2] initiative, create green jobs (via social returns) and take advantage of the knowledge acquired in a national experiment of the Ministry of Housing, Spatial Planning and the Environment (VROM).
- Together with various partners, including financial institutions, we are looking for smart financing methods to help people make their homes more energy efficient (e.g. by adding the costs of home investments to the service charges). Financial arrangements are developed with the aid of the knowledge and experience gained with first-time buyer loans in Utrecht.
- We are supporting the Energy Neutral Neighbourhood West Project, expanding the energy network in that neighbourhood and sharing the results with all other neighbourhoods in the city.
- We are working out a more concrete municipal enforcement order policy to create more tangible options for obliging (private) homeowners to improve the energy quality of their home. An action plan will be presented for this in 2011.
- Together with other parties involved (e.g. financial institutions and estate agents), we will encourage buyers and sellers to obtain energy labels for their homes.

EXAMPLE

Utrecht: ecoteams deliver results!

A course to reach women in Utrecht, particularly among ethnic minorities, with tips for saving the environment and money. The first step is to train coaches from their own circle; these coaches then form ecoteams to teach their own friends and acquaintances about the environment. The participants who complete the course receive an energy-saving kit containing e.g. an energy-saving lamp.

5.4 New Construction

New construction offers various opportunities for energy-neutral/efficient measures. The energy performance norm for new-build homes will be raised by 25% on 1 January 2011. This means that these new homes will be 25% more energy efficient than existing new homes. The norm is to be raised to 50% in 2015. The higher energy performance norm is expected to pave the way for the definite breakthrough of innovative technologies which already exist but are still expensive. Energy-neutral construction at almost no extra cost thus appears to have become a realistic prospect for the near future. Another encouraging development is that banks are rapidly developing products to offer consumers easier, cheaper and/or higher loans for more energy-efficient homes.

[2] Meer met Minder is the national initiative to promote energy saving in existing housing and other buildings. It is a joint initiative of the government (ministries of Economic Affairs, Housing, Spatial Planning and the Environment, and Homes, Neighbourhoods and Integration), housing associations (Aedes), construction companies (Bouwend Nederland), the installation sector (UNETO- VNI) and the energy companies (EnergieNed and VME).

Energy-efficient construction plays a prominent role in area development projects such as Rijnenburg, Veemarkt, the Station Area and inner urban construction plans.

Actions:

- We assess and enforce compliance with the energy performance norm for new housing and buildings.
- Arrangements are made wherever possible to incorporate renewable energy in new construction projects.

5.5 Listed and Historical Buildings

In the past two years the sustainability of historical city centres as well as historical and listed buildings has become a topical issue. Many initiatives have been developed to gather and apply knowledge in this field. Amongst other things, various research and graduation projects at HU University of Applied Sciences Utrecht have focused on historical buildings. Historical buildings tend to have high heating bills, so energy-efficiency measures can yield great savings. Energy-efficient historical buildings also greatly enhance Utrecht's prestige as a cultural and sustainable city, which will strengthen our bid to become European Capital of Culture in 2018.

Actions:

- We will propose a sustainability action plan for the historical city centre and its listed buildings.
- We will adjust the guidelines for listed buildings to include energy as a theme in new restoration regulations and bring energy measures in listed buildings within easy reach.

6 Business & Industry

We are aiming for a healthy, green and economically vibrant city that can look to the future with confidence. We are striving to achieve sustainable economic growth and to accelerate the sustainability of the existing economic activities (2010 – 2014 Municipal Board Programme, Green, Open and Social, page 10).

6.1 Introduction

Our approach is predicated on the expectation of the VROM (Ministry of Housing, Spatial Planning and the Environment) Council that a CO_2 reduction of up to 40% can be achieved in the business sector in the coming years. Until now, CO_2 reduction among businesses was not a priority for Utrecht. We now want to change this by combining our efforts with various business sectors. Wherever possible, we will consult and work with businesses (production companies, business services, non profit), sectors (SME, retail, hospitality & catering) and industrial estates/business parks (Lage Weide, Overvecht, De Uithof) to achieve the projected CO_2 reduction.

6.2 Top 750 Energy-Consuming Businesses

Utrecht is home to between 750 and 1,000 companies with statutory obligations to save energy under the Environmental Management Act. The municipality is the competent authority for the majority of these businesses, and the province for thirty businesses. In addition, a small number of companies (e.g. HU University of Applied Sciences Utrecht and Utrecht University with a total of fifty buildings) are a party to the MJA (Long-Term Energy Agreement with the National Government). These MJA organizations are following their own course to achieve a 30% energy saving. We are monitoring their progress. The same applies to supermarkets, a number of which have signed covenants to cover their refrigerated cases in the foreseeable future. If these energy-saving efforts stagnate, we will proceed to enforce the measures. Energy forms a structural part of the annual energy-saving enforcement programme. Under this programme, we check businesses and other sectors (schools, healthcare institutions) for energy measures that can be taken in business processes and buildings. As in the residential sector, priority is given to existing buildings. Energy projects are already being carried out in offices, (higher education) schools (Utrecht Energy Covenant), and hotels and museums (Green Key). The first results of these projects are expected in early 2011.

Actions:

- Upscaling and expansion of the Utrecht Energy Covenant and Green Key project to other sectors such as care homes, office properties and DIY stores (including required energy advice/CO_2 footprints). We are working together with banks to obtain investment credits for the required measures.
- Stronger enforcement of energy provisions in the Environmental Management Act by giving employees specific energy-saving enforcement training, deploying more staff to enforce energy-saving and sustainability measures, making and enforcing more long-term agreements, and taking relevant actions in each specific sector in this connection.
- We will consult and make arrangements with the retail trade about measures such as lighting and air curtains (shop entrances).
- We will consult and make arrangements with hotel, restaurant and bar owners about terrace heaters.

EXAMPLE

Nijmegen: Nijmegen Energy Covenant

One year ago fourteen Nijmegen-based companies entered into a joint commitment to save 1.2 million tonnes of CO_2 in the space of three years (3% less CO_2 emissions). The first year's objective was amply achieved. Instead of the expected 188 thousand tonnes of CO_2 emissions, the NEC saved 223,000 tonnes of CO_2 in the first year, which is equal to the energy consumption of about 43,000 households. The participants want to put Nijmegen in the forefront of the CO_2 reduction drive.

6.3 Towards more sustainable industrial estates/business parks

Companies in industrial estates and business parks can make their energy supply more sustainable and cheaper by working together. For instance, they can set up shared smart grids to use each other's electricity and heating surpluses. Besides making use of residual heating, this also makes the generation and use of renewable energy (e.g. wind) more profitable. Logistics is another area where cooperation can lead to energy-saving gains. The municipality is keen to play a coordinating and facilitating role in this connection by making facilities available to companies that undertake to implement sustainability measures. In addition to more sustainable energy systems and logistics, companies can also profit from energy-saving measures in buildings and production processes.

Action:

- Implementation of sustainability measures at industrial estates/business parks, energy scan for industrial estates/business parks: due to a lack of resources, energy saving and sustainability are low priorities during the restructuring of existing industrial estates/business parks. The municipality can give a facilitating impulse by carrying out an energy scan at existing industrial estates/business parks, facilitating the resulting measures, and providing staff to assist the procedural arrangement of the proposals (adjustment of planning permission, etc). The energy scan will show that many measures are self-financing in the longer term.

EXAMPLE

Hoogkerk: smart grids

Decentralized energy generation from renewable sources such as wind, sun and biogas is set to undergo rapid expansion. There are peaks in the demand for energy, but also in the decentralized supply of energy. Smart solutions in the energy network are necessary to cope with these peaks. A pilot is currently being carried out in Hoogkerk, where 25 homes are virtually connected with each other and equipped with micro combined heat and power units (micro CHPs), hybrid heat pumps, smart energy meters, PV panels, electric transport and smart domestic appliances. The energy consumption of the residents is monitored. Washing machines, for instance, are activated when a surplus of solar energy is available and the electricity is cheapest. ICT-based smart grids enable these developments by ensuring that the supply and demand of energy are constantly matched.

6.4 Towards a more sustainable economy in Utrecht

Many organizations and institutions in the Utrecht region engage in consultancy, project and process management in the field of energy and sustainability. Various financial institutions are also taking high-profile sustainability measures in their head offices. This expertise is valuable and necessary to make major strides forwards in the energy policy. We are going to support and promote these efforts so that sustainability ultimately becomes an integral part of Utrecht's DNA at every level (from supermarket to corner shop) and a major economic engine for the city. We are developing this approach into practical measures in consultation with (private) partners and are prepared to invest in the (economic) infrastructure that is required to make these measures a success.

EXAMPLE

Amsterdam: want to save energy? Check your entrance!

An automated entrance door and an air curtain can yield businesses double-digit savings in heating costs. A 'closed door' also creates a more comfortable environment for the customer and shop staff. And, as a pilot with an energy-saving entrance that was carried out at a DA chemist store in Amsterdam has shown, this need not have any negative effect on the number of customers. Agentschap NL, together with other parties, has used the results of the pilot to make an informative factsheet for entrepreneurs.

We are currently working with our knowledge partners in the Uithof Campus to make the Uithof Campus more sustainable. The (earlier-mentioned) development of smart grids on industrial estates/business parks is also an example of this. Another example is HU University of Applied Sciences Utrecht which will explore the opportunities for setting up a New Energy Course in the coming school year. They want to create a joined-up New Energy Course from intermediate vocational (ROC) to higher vocational (University of Applied Sciences) to academic (Utrecht University) level. These are examples of initiatives that could create new high-quality employment in the Utrecht region.

Sustainability and the 1,200 jobs plan

In the coming years the incumbent municipal board wants to create 1,200 new jobs in Utrecht so that everyone who can work has an opportunity to work. Several proposed projects from the Sustainability Plan ('Energie steken in een duurzame stad') will help to achieve this ambition. On the one hand, the municipality's social return policy will be vigorously taken in hand. This means that entrepreneurs (contractors, installation companies) who carry out sustainability work for the municipality will be obliged to use part of the contracting sum to offer jobs or apprenticeships to job seekers or young persons. Job seekers can also be given a role in the services that are being set up as part of this Sustainability Plan. Another example is a possible follow-up to the 'Actie €nergiewinst' energy project that was carried out in 2006. We will develop this further in the coming months. In addition, we are trying to persuade other parties in the city, such as housing associations, to sign up to this objective when carrying out energy renovation work in social housing.

Actions:

- Draw up a sustainable economy agenda for Utrecht with partners in the city; long-term vision for promoting the sustainability of the Utrecht economy.
- Based on the economic agenda, we are developing the required policy-supporting instruments for a green business community and SME sector: sustainability will be an aspect in the location policy for businesses, subsidy scan, etc.
- Team up with large ICT organizations in the region to realize smart grids for business combinations. Smart grids are intelligent electricity networks where all electricity users can also feed electricity into the network.
- Promote the acceleration of the energy-saving and sustainable energy cluster in the region. In addition, we want to deploy policy-supporting instruments to give further shape to the sustainable economy in the region. This can vary from a sustainability scan in the location policy through to providing support to sustainable start-up businesses.

7 Mobility

We want to make Utrecht the number one public transport and cycling city of the Netherlands. Attractive alternatives are required to keep Utrecht healthy, accessible and on the move (2010 – 2014 Municipal Board Programme, Green, Open and Social, page 15).

7.1 Towards more sustainable mobility

Sustainable mobility means that we are aspiring for silent, clean and energy-efficient transport with no or minimal emissions of harmful materials (e.g. nitrogen dioxides and fine particles) and minimal CO_2 emissions. The municipal board wants to halve the growth in car traffic; this, in itself, is a big task in a city that is still expanding. To emit 30% less energy by as early as 2020, the average emissions from the cars driving in Utrecht must be reduced by 30%. What's more, the volume of car traffic is still growing, so we actually need to reduce more than 30%. This would mean that from now onwards everyone living in Utrecht must exclusively buy a small or hybrid car, which is obviously not feasible. Additional measures are therefore needed.

Our initial focus will be on public transport and the bicycle. This will reduce the number of car kilometres and hence the CO_2 emissions.

- The first step will be to replace diesel buses with a tram service on the Netherlands' busiest public transport connection, namely the line from Utrecht Central Station to the Uithof Campus. Besides reducing the emissions, this will improve the transport quality and capacity. We are aspiring to achieve this by 2015.
- Together with the Regional Board of Utrecht (BRU) we are looking at the options for expanding the tram network to five busy regional links. This further expansion is to be realized between 2015 and 2025.
- Together with the BRU, we have set more stringent demands for buses in the new Public Transport concession. The new concession holder will seek to provide emission-free transport on vulnerable routes in the city.
- We are encouraging the use of the bicycle with faster and comfortable routes. By promoting the use of the electric bicycle, using the bicycle for longer distances can be made more attractive; areas such as Leidsche Rijn, for instance, will thus feel nearer the centre for cyclists.

Looking beyond Public Transport and the bicycle, we also want to carry out projects that will curb CO_2 emissions by reducing the number of car kilometres in the city, namely by:

- making goods transportation (energy) efficient.
- strengthening the mobility management, notably for commuter and commercial traffic in the city.
- constructing accessible P&Rs with a fast Public Transport link to the centre and additional services such as valet parking, repair service and a borrow-a-bike scheme, so that cars are intercepted at the periphery of the city.
- various measures such as replacing petrol scooters with electric scooters

This links up with the more stringent demands of the new Air Quality Action Plan and three plans that are currently on the drawing board (bicycle plan, electric transport and goods transport) and places emphasis on CO_2 emission reduction.

7.2 Energy Efficient Mobility Management, Goods Transport and Electric Transport

The municipal board programme opts for the promotion of electric transport and the passive facilitation of natural gas vehicles. Thanks to the more efficient combustion engine, electric transport leads to a CO_2 reduction of about 30%. An additional advantage of electric transport is that it is quieter. We want to have about 5,000 electric vehicles driving in Utrecht by 2014. If these vehicles use green power, their CO_2 emissions are zero. In addition, we are working on clean goods transport. Great gains can be achieved through the more efficient organization of goods flows to and in the city. Smarter logistical processes and efficiencies in the shipper-transporter-customer chain can reduce the number of transport kilometres. Some transport movements in the city centre can be carried out with smaller (electric) vehicles. We want to build on the success of the cargo hopper and the beer boat. The environment zones in the city are being expanded. Mobility management together with the partners in the city should lead to a further reduction of car traffic. All these projects will help to reduce CO_2 emissions in the city.

EXAMPLE

Utrecht: electric transport with the Cargo Hopper

In April 2009 the city distribution company Hoek Transport launched an innovative electric distribution vehicle: the Cargo Hopper. The Cargo Hopper replaces seven to eight delivery vans on a daily basis. Apart from sparing the environment (zero emissions), this also reduces the nuisance caused by traffic. The Cargo Hopper runs on solar power, so the CO_2 emissions are zero.

Photo: Hoek Transport

As a large number of the aforementioned projects and measures are initiated, implemented and financially covered under the auspices of the diverse Action Plans, they are not mentioned in this plan. The most important objectives of these action plans are mentioned in the box below. The actions set out below are supplementary to the action plans.

Bicycle Plan, electric transport and goods transport

Alongside the more stringent Air Quality Action Plan, we are currently developing three Action Plans; a bicycle plan, an electric transport plan and a goods transport plan. In view of the close correlation between these plans and the Sustainability Plan, the objectives of the action plans are summed up below. The aforementioned objectives contribute to the reduction of the car kilometres, thus helping to reduce the CO_2 emissions in the city.

Objectives of the Bicycle Action Plan:

- Accelerated construction of the top five bicycle routes; resolve bottlenecks and improve the comfort over the entire route.
- Expand the number of bicycle parking places in the city.
- Encourage the use of the electric bicycle.
- Appoint a bicycle coordinator.
- Shorten the cycling distance between Leidsche Rijn and the City Centre by constructing a bicycle bridge across the Amsterdam-Rhine Canal.

Objectives of the Electric Transport Action Plan:

- 5,000 electric vehicles in the city by 2014.
- Construction of 300 to 1,000 charging points.
- Accelerated electrification of municipal fleet: at least 60 electric vehicles in 2014.
- Practical pilots with electric taxis and Greenwheels.

Objectives of the Goods Transport Action Plan:

- A fully-fledged high-quality goods transport network.
- Optimal utilization of the Lage Weide goods transport hub.
- Efficient, green and innovative restocking system.
- Goods transport management in industrial estate management.
- Optimal restocking in planned development.
- Construction logistics as integral part of the construction process.

Actions:

- We apply individual marketing techniques so that new employees in the region, primary school pupils and students opt to cycle, walk or use public transport rather than the car.
- Together with the Utrecht business community, we are exploring the opportunities for taking additional CO_2-curbing measures in the goods transport system.
- We encourage green-powered electric transport (5,000 electric vehicles in 2014) in active partnership with the business community.
- We encourage mobility management at businesses and will monitor compliance with the Environmental Management Act.

8 The Municipality Itself, Municipal Buildings and Schools

Together with entrepreneurs, residential property owners and housing associations, an approach is being developed in 2010, which incorporates existing sustainability and assessment criteria for e.g. purchasing, construction and licensing. The municipality leads by example (2010 – 2014 Municipal Board Programme, Green, Open and Social, page 10).

We are currently drawing up a detailed action plan for our own organization. This plan will be presented to the city and the Council before the end of 2010. It will consist of a coherent package of measures to reduce our own energy consumption in order to make our own organization and municipal buildings greener.

Alongside energy measures in relation to buildings (insulation), lighting and ICT, we are also aiming to promote behaviour change and sustainable purchasing. We want to lead by example and be a CO_2-neutral organization by 2012, with the municipal office building serving as the shining icon of this ambition.

Alongside the municipal office building, the municipality is also developing projects, such as the Music Palace, the new library, new multifunctional accommodation and the XXL Theatre. We want to build these as energy-efficiently as possible. Business cases are being developed to explore ways of earning back the extra investments over time.

The bar is also being raised for our sustainable purchasing. The municipality annually purchases goods and services worth about EUR 500 million. As a major customer for a large number of businesses, we are in a position to set extra demands and requirements in our tendering procedures and act as launching customer. We will return to this in the action plan for the municipal organization.

Another aim is to make primary and secondary schools more energy efficient. To this end, we are continuing our talks with school boards and are aligning our efforts with the initiatives to improve the indoor climate in schools. We engage energy advisors to carry out energy checks and help school boards find ways of financing the resulting measures. We encourage the school boards to purchase green power.

Actions:

- Implement energy measures in municipal buildings larger than 1,000 m^2.
- Continue energy assessments and measures in buildings smaller than 1,000 m^2.
- Clean up the municipal fleet of cars and small commercial vehicles, e.g. through accelerated replacement.
- Action Plan for heavy municipal lorries.
- Energy initiative for primary and secondary schools.
- Develop public lighting business case.
- Develop business case and arrangements with tenants to make municipal buildings and facilities (e.g. swimming pools) more energy efficient.

9 Sustainable Energy

Utrecht has several options for promoting a sustainable energy supply (e.g. district heating, wind energy, thermal energy storage and solar energy). The municipality's role may vary for each option, but wherever market parties are prepared to invest, the municipality will act as coordinator and facilitator. Where such parties are absent, we will explore whether it is beneficial and efficient for the municipality to play a more active role. We will in all events strive for sustainable district heating in Utrecht (together with NUON and Eneco) and wind energy at the locations named in the feasibility study. We will do this not just by providing scope to market parties, but also by encouraging initiatives from the city. This could be facilitated by a municipal incentive scheme for more sustainable energy generation to supplement the provincial and national schemes. One condition for this is that the implementation costs are low in order to guarantee a maximum return and flywheel effect. On an entirely different scale, we are currently exploring the possibilities within the parameters of our existing partnerships to use residual waste, kitchen & garden waste and cuttings to make the Utrecht energy supply more sustainable.

Actions:

- We are working with NUON and Eneco to make a plan for a greener electricity power station.
- We are linking up with existing initiatives (market and private) to enable wind energy in Utrecht.
- We are supporting initiatives to promote sustainable energy (and energy saving) in the city. Energie-U (which started in Neighbourhood West), the solar cooperative in Neighbourhood West, and the existing Transition Towns in Utrecht are the first examples of this.
- We are supporting and/or carrying out feasibility studies into e.g. (private) biomass initiatives, thermal energy storage and geothermal energy. We are doing this in cooperation with the province of Utrecht.
- We are exploring the possibilities for using residual waste, kitchen & garden waste, and cuttings from Utrecht to make the city's energy supply more sustainable.
- We are exploring the merits of setting up a Utrecht Climate Fund to enable sustainable energy initiatives.

EXAMPLE

Eindhoven: thermal energy storage in combination with an energy roof

SenterNovem is giving the Christiaan Huygens College in Eindhoven, the Trudo housing association and the municipality (sports accommodation) a subsidy of almost EUR 800,000 to set up a comprehensive and sustainable thermal energy storage system for their new construction project on the Botenlaan. The shared thermal energy storage installation will be realized in combination with an energy roof and PV foil. With this system, the electric energy is used immediately and the heating is stored for subsequent use by the school, sports hall and homes in the neighbourhood. The estimated CO_2 reduction is 98.5%.

10 Pro-Active Society

A Citizen Initiative Fund will be set up to nurture and develop the many initiatives and ideas within society. Where private individuals stick their necks out and contribute initiatives, a government grant can sometimes make the difference between vision and reality. The Citizen Initiative Fund is not a subsidy pot for professional institutions but an incentive scheme to encourage and inspire private initiatives.
Eligible projects must meet the following criteria:

- make a substantial contribution to the reduction of CO_2 emissions
- be initiated/contributed by residents or businesses or private organizations
- offer opportunities for a large-scale roll-out

Further information about this fund can be found in Chapter 7 of the enclosed 2011-2012 implementation programme.

We are looking into whether the fund can be modelled on the Climate Fund in The Hague (see box).

EXAMPLE

The Hague: Climate Fund

The Haaglanden Climate Fund supports local projects to create a climate-friendly living environment. The fund offers companies, (events) organizations and private individuals in the Haaglanden Region the opportunity to become climate neutral. The climate fund starts by asking parties to explore the various options for energy-saving measures. Then the fund asks the parties to reduce the remaining CO_2 by paying a certain amount per tonne of CO_2 into the fund. This money is used to support climate-friendly initiatives in the city, such as a sustainable do-it-yourself day at schools or green gas-powered driving.

11 How are we going to do this?

The above shows that we are going to deploy a varied mix of actions. Instead of starting from scratch, we will build on previous experiences. Some activities are designed to produce tonnes of CO_2 savings from the word go. Others will take more time to mature and deliver.

11.1 Programme-Based Approach

The programme-based approach used for the 'Utrecht Makes New Energy' programme is also suitable for the implementation of this Sustainability Plan because:

- there is a broad spectrum of diverse projects with a common objective;
- extra resources need to be deployed to achieve results (on time);
- the project responsibility for the implementation of individual projects rests with different parties;
- combining strengths of different projects generates synergies and extra opportunities.

The energy and expenditure policy of the sustainability fund will therefore be set up as a coherent programme. The first step is to develop the plan into a two-year programme for 2011-2012. This step was made immediately after the consultation round and the discussion in the City & Spatial Planning Committee. This programme can be found as an appendix to this plan. At the end of 2012 a proposal will be made for the 2013-2014 follow-up programme.

11.2 Programme-Based Organization

The municipal organization must be well-staffed (both in numbers and quality) and strong programme management must be in place to carry out this programme. Within our programme-based management approach, strong organizational control must go hand in hand with excellent substantive input. To make this provision of additional municipal staff possible, a programme management cost item is included in the fund's budget.

We are aware that it will also be necessary to shift tasks and responsibilities in the existing organization. In this context, staff will receive training to broaden their knowledge, skills and competences. The programme management will be tasked with working constructively with all relevant departments so that these can make the best possible contribution towards achieving the objectives.
In addition, certain projects will require extra municipal staff to intensify certain tasks, such as in the field of supervision and enforcement. The required allocation of extra staff is included with the relevant projects. The programme-based organization is worked out in greater detail in the implementation programme.

11.3 Measurable Results and Measurable Effects

Progress Report

The 2011-2012 programme indicates the results to be realized for each project. A report on the progress will be prepared each year, outlining which activities have taken place and the results. The finances, communication and involvement of partners are also reported on.

Monitor

The key question, of course, is: have the efforts produced the desired result? The programme's success depends entirely on the CO_2 reduction that is achieved with the proposals. We will develop a monitor, linked to the Utrecht Energy programme, to keep close track of the progress made by the CO_2 reduction measures. We will start with a zero measurement and then repeat the measurements each year.
The costs for developing and implementing the monitor are included in the programme management item.

We are going to use a dual-track approach to measure the effects. The first track consists of periodic measurements of the change in the actual CO_2 emissions in our municipality. We will do this with the data that can be obtained from the energy network company. This gives a concrete and realistic picture of the extent to which we are getting closer to our ambition. The disadvantage of this measurement method is that there is no one-to-one connection with the measures taken under the Utrecht Energy Programme. To supplement the data on the overall progress of our city's CO_2 usage, we are also going to use a model-based method to keep track of the extent to which our interventions contribute to CO_2 reduction.

We will use both the current data and the calculated data in the programme progress reports in order to make the effects of the implemented activities visible for you. These results will be presented to you annually together with the report on the programme.

12 Communication

As indicated, Utrecht has the ambition to make a decisive step in the 2010-2014 period towards being climate neutral by 2030. This Utrecht Energy Programme sets out the objectives and instruments for achieving that ambition together with partners in the city, the business community and residents of Utrecht.

This programme comprises a broad spectrum of projects that demand an effort from virtually all sections of society in the city. Effective cooperation between the municipality, residents, social partners, businesses and other authorities is crucial to the success of the programme. Communication is an important instrument to achieve and strengthen the level of participation and involvement.

Support and participation

As a city of knowledge and culture, there is a broad base of support in Utrecht for carrying out the Utrecht Energy Programme. The municipality is not on its own. Major partners, including housing associations, Dutch Rail and Rabobank, are willing to invest in sustainable and socially responsible entrepreneurship. The city is home to many knowledge institutions (e.g. Utrecht University, HU University of Applied Sciences Utrecht, TNO Applied Research) who contribute towards the sustainability of our city.
Sustainable energy is a cause that can count on the support of Utrecht environmental organizations and active resident groups. The reactions to the Draft Sustainability Plan confirm this.
Energy does not leave the people of Utrecht cold. This is clear from resident surveys which show that 93% of the residents are fairly interested to very interested in energy saving.
The projects will be developed in close consultation with the residents and other partners and organizations involved.

12.1 Objectives and Starting Points

Communication starting points

1. We opt for clear and sober communication
2. The message is highlighted in a manner that is designed to enthuse and inspire.
3. Communication is interactive: it is not a one-way process; we must also listen, reward involvement and encourage, making use of ambassadors in existing networks.
4. Communication about the results of actual projects is particularly important.
5. A long-term programme with diverse partners and changing municipal roles calls for a - light - communication umbrella to give the communal efforts a more recognizable face.
6. A broad-based city slogan provides a natural means of expressing the cohesion and coherence between the various activities.
7. Emphasis on free publicity via public media and our partners' in-house media and on the creation of public events and experiences.
8. Make use of and link up with existing information channels wherever possible.
9. Make effects appealingly visible in public spaces (energy meter)
10. Communication must be carried out in partnership and in line with relevant campaigns of businesses and other authorities; linked wherever possible to the Knowledge and Culture theme.
11. The starting points of the 'Building Participation' Policy Document are applicable.

Communication objectives

The communication surrounding the Utrecht Energy Programme serves two objectives:

1. Communicate results: show what the municipality is doing together with partners, residents, entrepreneurs and show what the results and effects are.
2. Enable residents and entrepreneurs to obtain ample information and support them in making contributions to a sustainable city.

The communication efforts are not a goal in themselves, but are aimed at achieving the objectives of the programme.

Message

This calls for clear and meaningful messages:

- If anyone can do it, Utrecht can
- Now is the time for a sustainable energy policy
- Sustainable energy use promotes economic growth and employment
- Sustainable energy use leads to savings in energy costs
- Energy measures help to improve the indoor climate in schools, houses and commercial buildings
- Everyone's personal sustainability efforts contribute to the envisaged effects. A switch to cycling, walking or public transport not only saves energy, but also leads to a better air quality and more congenial living environment
- Shared projects to save energy and generate clean energy serve to improve social cohesion in neighbourhoods

Target groups

Many residents and businesses in our city are keen to do something about sustainability and energy usage. To inform people about the opportunities and to help them bring their ideas to fruition, our communication must be tailored to their specific needs. Important target groups are the city's residents, the social partners (schools, housing associations, environmental organizations) and the business community. Each target group is approached in a specific manner and with a specific message.
The communication is geared to the level of involvement in the energy theme. In the case of strong involvement, the focus is on working together to achieve a common ambition. With a lower level of involvement, the focus is on tangible results, advantages ('what's in it for me?') and facilitating private initiatives.

Besides the external communication, internal communication also takes place to ensure that everyone involved is as committed as possible to the programme measures and objectives.

Communication Plan

Based on the above starting points, a 2011-2012 communication programme will be drawn up and implemented. The communication forms an integral part of the approach to each project.

The communication programme will consist of a targeted mix of communication instruments, varying from free publicity, newsletters, new media, door-to-door/ street-by-street initiatives to a CO_2 meter at a central location in the city.
The costs for carrying out the communication plan are included in the programme management item.

13 Use of Funds

With the adoption of the municipal board programme, Utrecht has created a Sustainability Fund for implementing the proposals described above.

13.1 Sustainability Fund Framework

During the discussion of the Spring Policy Document 2010, the Council also expressed its views on the utilization of the Sustainability Fund. On that occasion, a motion (2010/M30) outlining a framework for the utilization of the fund was submitted for discussion.
In the motion the Council is in favour of:

1. Using the funding for:
   - projects which are best suited to achieving the CO_2 reduction objectives;
   - projects that fit in with a strategic plan for achieving the objective of being climate neutral by 2030;
   - projects involving partnerships with other parties in Utrecht such as housing associations and business organizations;
   - projects which can also generate financial returns to provide a supplementary source of funding.
2. Not using the funds for small, separate projects that are unprofitable and yield limited CO_2 savings.
3. Making proposals for the allocation of the Sustainability Fund and putting these to the Council during the discussion of the 2011 budget.

The Municipal Board has adopted the motion.

In view of the objectives from the municipal board programme and the Council's motion, the Utrecht Energy Plan and accompanying fund should be primarily focused on energy saving and sustainable energy generation. The spending proposals give priority to the reduction of CO_2 emissions in the short and long term.
This leads to the following criteria:

- makes a demonstrable contribution to CO_2 reduction and/or more sustainable energy generation;
- promotes and accelerates large-scale CO_2 reduction;
- provides for measures in the existing city;
- can be achieved in the current municipal council term;
- has a financial multiplier effect and/or is set up on a revolving basis.

In addition, the projects are by preference:

- carried out with the participation and/or cooperation of partners;
- linked to other municipal initiatives and/or policies;
- aimed at increasing the base of support in Utrecht.

13.2 Allocation of Resources

In principle, virtually all energy measures earn themselves back over time. In practice, however, energy measures often fail to get off the ground or are only taken with great reluctance. Residents and businesses are unable or unwilling to make the one-off investment. To help them bridge the pay-back gap that is usually inherent in these investments, part of the Sustainability Fund will be used for advance

financing. This means that the fund is partly revolving in character. In this way, it removes investment barriers for residents and businesses.

Revolving fund

The purpose of the revolving fund is to provide private parties (businesses, residents, institutions) with financial assistance to help them make investments in CO_2-reducing measures. The assistance takes the form of 'soft' loans. This distinguishes a revolving fund from traditional subsidies, which are not loans but grants that need not be repaid and are given ‘for keeps’. By encouraging investments in energy policy by means of loans, we use the available funds as efficiently as possible. If the instrument is applied to take energy-saving measures, the consumer may earn back the invested amount through savings on the monthly energy bill. These loans lower the threshold for private parties and enables them to even out the costs of the investments and the resulting benefits (i.e. lower energy costs) over time.

The fund is intended for initiatives / investments by a diversity of social and private parties: homeowners, owners’ associations, companies and social institutions.

A revolving fund is a fund from which loans are granted to third parties. The periodic interest payments and repayments flow back into the fund and are used to extend new loans. It is a municipal fund that is earmarked for financing energy-saving and sustainable energy projects. Thanks to the lending mechanism, the fund is continuously self-financing.

The interest rate on the incentive loans in the municipal revolving fund is always low, sometimes even zero. Thanks to the repayments (and interest payments, if any), the lent money is recycled into the fund to be used for new loans. The great advantage is that the funds can be used in perpetuity.

A revolving fund is a more effective way of lowering the threshold for third-party investments than a guarantee. With a guarantee system, the third parties must provide the funds upfront, whereas with a revolving fund the municipality advances the funds. The consequence is that the municipality runs a greater risk with a revolving fund than with a guarantee. Measures will therefore be taken to cover this risk when setting up the fund. With both schemes, the funds become available again in due course, but the recycling rate is faster with a revolving fund than with a guarantee system as the third-party repayments to the revolving fund are immediately available again for new loans. With a guarantee system, the funds are locked up until the project is completed.

Setting up and managing a revolving fund costs time and money. Any interest income can be used to finance these costs. The management and administration of the fund can be outsourced to e.g. Stichting Stimuleringsfonds Volkshuisvesting Nederlandse Gemeenten (SVN). In the coming period the organization and governing conditions for the fund will be worked out in more detail and subsequently outlined in the 2011-2012 Implementation Programme.

A second reason for the failure to get sufficient measures off the ground (apart from the pay-back gap) is that the benefits go to parties other than the initial investors. To eliminate this split incentive, we want to use the Sustainability Fund to set up arrangements.

A third reason for the hesitant attitude towards energy measures is that parties often fail to realize how these can be self-financing or even profit-making. To overcome this problem, we want to use the Sustainability Fund to develop business cases together with the actors involved. In other words: we want to explore what energy measures are possible, what the costs are, and the extent to which these can be earned back or financed.

The fourth and fifth reasons are the lack of clear information and too much bureaucracy. We therefore propose to finance an Energy Window and energy ambassadors from the fund. Apart from providing information, the Energy Window can also provide general assistance & problem-solving services.

To sum up, the most important lines along which the sustainability fund will be deployed are: provide advance financing, facilitate the organization of arrangements, make business cases, supply information and provide general assistance & problem-solving services. This brings us to the spending mentioned in Chapter 12.

We do everything we can to make money with money by finding co-financing for tangible projects, an approach that was also successful with ‘Utrecht Makes New Energy’. Besides national subsidies (Mooi Nederland, Innovatieprogramma Klimaatneutrale Steden), we will also seek European subsidies. To be eligible for these subsidies, the municipality must embrace and maintain a high level of ambition, so that Utrecht can stand out as a city with a difference.

13.3 Completion of Utrecht Makes New Energy and Dutch Green Technology

The ‘Utrecht Makes New Energy’ programme runs from 2008-2012. A number of ongoing activities will be completed in the coming period. Where relevant, we plan to transfer projects to the new proposed framework and programme. This concerns the following activities:

- implementation of the action plan for the municipal organization;
- Energy Neutral Neighbourhood West;
- Kapteijnlaan Owners’ Association Energy Saving;
- Utrecht energy covenant with offices and (higher education) schools (18 participants);
- 'Slim Bezig' (Energy-Wise) website.

The only project included in the Sustainability Fund spending proposals is Energy Neutral Neighbourhood West. This project is included because we think it needs an extra impulse. The obligations entered into for the other projects are covered from the remaining funding for ‘Utrecht Makes New Energy’.

In addition, under the ‘Utrecht Makes New Energy’ programme, two subsidies were allocated to projects that have not yet been completed. The Dutch Green Technology subsidy runs until the end of 2011, while the national SLOK subsidy for local climate initiatives runs until 2012. The SLOK subsidy can be transferred one-to-one to the current proposals, either because the subsidized projects have been largely completed or because they fit in with the new proposal.

This, however, does not apply to the Dutch Green Technology subsidy application. The reason for this is that this subsidy is not specifically aimed at CO_2 reduction, but at promoting innovation in the sustainability cluster in Utrecht (and the North Wing of the Randstad, which the consortium partners belong to). For this reason, we propose to continue carrying out the activities for the separate Dutch Green Technology programme. The results from these projects will contribute to the necessary acceleration and upscaling of the Utrecht energy policy in the coming years.

Earlier commitments were entered into for two adaptation projects under the Utrecht Makes New Energy programme:

- the Green Roofs Scheme;
- climate adaptation in Utrecht.

These will be continued and the results and progress will be reported separately from this Utrecht Energy Plan.

Appendix 1:
2010-2014 Municipal Programme

- In the coming four years we want to give Utrecht the decisive impulse to become climate neutral by 2030, building on the foundations laid by the existing Utrecht Makes New Energy programme. This calls for a substantial investment from the municipality, which we expect to earn back over time. All aspects of society will be involved, including construction, housing, restructuring, production, mobility, economy, public space management, waste, water management, energy saving and generation, services, health.

- Energy saving in existing buildings is one of the priorities. We will make arrangements about this with the housing association and owners.

- Together with NUON we will explore the opportunities for making the NUON power station sustainable.

- We are striving for an alliance with the Utrecht University and other knowledge institutions to put sustainable knowledge and innovations into practice in numerous locations throughout the city.

- We are working towards a 'polluter pays' system.

- Together with entrepreneurs, residential property owners and housing associations, an approach will be developed in 2010 which will incorporate existing sustainability and assessment criteria for e.g. purchasing, construction and licences. The municipality leads by example.

Appendix 2:
Sustainability in Utrecht – list of current policy documents

Aanbestedingsbeleid; een opmaat naar op maat inkopen: Tendering Policy, Municipality of Utrecht, 2007.
Actieplan Luchtkwaliteit Utrecht: Air Quality Action Plan, Municipality of Utrecht, 2006
Actieplan Luchtkwaliteit Utrecht: Air Quality Action Plan, Municipality of Utrecht, 2008
Afvalstoffenplan Utrecht (2004-2008): Waste Plan, Municipality of Utrecht, 2004.
Beleidsplan 2006-2010; Natuur- en Milieucommunicatie: Nature and Environment Communication Plan, Municipality of Utrecht
Beschermen, verbeteren en benutten. Naar een gebiedgerichte aanpak grondwaterverontreinigingen in de ondergrond van Utrecht: Groundwater Pollution Action Plan, Municipality of Utrecht, 2009.
Bodemkwaliteitskaart Leidsche Rijn: Soil Quality Map (Leidsche Rijn), Municipality of Utrecht, 2008.
Bodemkwaliteitskaart: Soil Quality Map, Municipality of Utrecht, 2005.
Bodemsaneringsprogramma: Soil Rehabilitation Programme, 2009 Utrecht, 2009.
EU geluidkartering 2007: EU Noise Mapping, Municipality of Utrecht, 2007
Geluidnota Utrecht 2007-2011: Noise Policy Document, Municipality of Utrecht, 2007
Gemeentelijk afval-, hemel-, en grondwaterplan Utrecht 2007-2010: Municipal Waste Water, Rainwater and Groundwater Plan, Municipality of Utrecht, 2007 Green Programme, Policy Letter 2010, Municipality of Utrecht, 2010.
Groenstructuurplan Utrecht: Green Master Plan, Municipality of Utrecht, 2006
Handhavingsprogramma 2010: Enforcement Programme, Municipality of Utrecht, 2010
Inspelen op klimaatverandering. Strategie riolering, oppervlaktewater en grondwater: Sewage, Surface Water and Groundwater Strategy, Municipality of Utrecht, 2009
Kadernota duurzaam bouwen: Sustainable Construction Framework Policy Document, Municipality of Utrecht, 1993
Masterplan Primair Onderwijs: Primary Education Master Plan, Municipality of Utrecht, 2007.
Nota externe veiligheid: External Safety Policy Document, Municipality of Utrecht, 2007
Openbaar Verlichtingsplan: Public Lighting Plan, Municipality of Utrecht, 2008
Routeringsregeling: Routing Regulations, Municipality of Utrecht, 2003
Utrecht creëert Nieuwe Energie: New Energy Strategy, Municipality of Utrecht, 2009.
Utrecht creëert Nieuwe Energie: New Energy Working Programme, Municipality of Utrecht, 2009
Uitvoeringsprogramma 'Utrecht maakt Nieuwe Energie'; New Energy Implementation Programme, Municipality of Utrecht, 2009
Waterplan Utrecht: Water Plan, Municipality of Utrecht, 2004
Werkprogramma Utrecht Millennium Gemeente 2009: Millennium Working Programme, Municipality of Utrecht, 2009.
Woonvisie 2009-2019: Housing Vision Document, Municipality of Utrecht, 2009.