



Ministry of Infrastructure and the
Environment

Climate Agenda: Resilient, Prosperous and Green



Climate Agenda: Resilient, Prosperous and Green

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Summary

Outlook

The climate is changing. The effects of climate change are becoming increasingly noticeable and they will intensify still further in the years ahead. Extreme weather now occurs more often than in the past, necessitating water control measures, for example, while plans to combat hot weather have to be invoked earlier. But climate change has wider ramifications: it affects our health, infrastructure, homes and food production. These phenomena affect all sectors of the economy and society. They threaten our prosperity and impact on international safety and welfare distribution. To keep the risks within acceptable levels the world's leaders have given a commitment to limit the rise in the average temperature to not more than two degrees. There are widespread concerns about climate change: in the Lower House of Parliament, in the business world and in the community at large. By working together we can turn the threats into new prospects and achieve a more solid growth of global prosperity and welfare. For that reason among others the Cabinet is pursuing an ambitious international climate policy.

Swift international action is required to curb greenhouse gas emissions and the accompanying climate change and to prepare our human environment for climate change. Europe and the Netherlands can play a positive role both through international cooperation and by setting a good example. It calls for an investment of effort. Acting quickly now will reduce the climate problem in the future and make it affordable. Therefore, we are now putting forward a Climate Agenda for mitigation and adaptation. The sooner we start, the better able we will be to factor climate stability into plans and maintenance programmes for roads and cities and to get the job done. And it is important to be ready on time by issuing a powerful message in the EU and globally so as to steer decision-making in the right direction. To do this we are now focussing on a new dot on the horizon of 2030. Rather than setting out a raft of concrete actions, this agenda defines concrete goals and ambitions for 2030 and explores and paves the way for the next steps towards 2030 and 2050.

There is a need for perseverance in conducting a strong and consistent approach to the climate, both globally and nationally, in order to ensure a sustainably prosperous economy and to equip society sufficiently to deal with climate changes. Only when all countries and their inhabitants jointly reduce greenhouse gas emissions and green their economies will it be possible to tackle climate change most effectively worldwide and to curb the average temperature on Earth. A solid approach will yield opportunities for the Dutch economy and thus jobs. After all, there is a growing global demand for smart, clean and economical technologies and solutions to the consequences of climate change.

This is where we want to be a front-runner. We can already see that Dutch companies are doing business in a climate-intelligent way and thus opening up new niches and markets. Internationally, the Dutch water sector is working with great success on total solutions for mitigating flood risks, while the Netherlands is European champion in recycling and Rotterdam and Schiphol are carving a reputation as a sustainable seaport and airport, respectively.

This agenda outlines a climate approach focused on assembling a broadly-based coalition for climate measures and on a combined approach to climate adaptation (by designing a resilient physical environment and preparing society for the consequences of climate change) and mitigation (by reducing greenhouse gas emissions).

Solutions

A broadly-based coalition

Only with a broadly-based coalition of stakeholders in the international community will it be possible to come up with adequate solutions and assure that the Netherlands is resilient, prosperous and green. The Cabinet wants to make optimum use of the energy of parties that want to get to grips with the climate problem. This is why the national government is striving for concrete solutions in association with the national/international business community, national/international umbrella organisations of cities, local authorities, NGOs, academia and members of the public. Together with organisations like the Dutch Sustainable Growth Coalition, the C40 Cities Initiative and the Climate Proof City and Local Climate Ambassadors coalitions, the Netherlands can transform itself into a strong and sustainable country. And along with other like-minded countries we can show the way forward and inspire others to take more far-reaching climate measures. By working together we can turn threats into fresh prospects for achieving a growth of global prosperity and welfare. So the Netherlands is pursuing an ambitious international climate policy.

Climate adaptation: getting ready for the effects of climate change

We can deal with the effects of climate change (such as heat stress, health risks and extreme weather) only by implementing targeted measures. This will enable us to avoid some of the harmful effects of climate change (floods, spread of water-borne and vector-borne diseases, heat stress and disruption of transport and energy networks). At the same time it will allow better utilisation of the positive effects (longer growing season and more favourable conditions for recreation and tourism). But we can only do this if we know exactly what we are talking about. For that reason the Cabinet is stimulating the performance of risk analyses at local level as a stepping-stone towards preparing local adaptation strategies. The Netherlands Court of Audit has

pointed out that in addition to water there are other fields that are vulnerable to climate change but that are not yet covered sufficiently by policy. If measures are taken late, they will cost a lot more. With this in mind the Cabinet has adopted the recommendations of the Court of Audit for analysing the risks for key sectors for the economy, human environment and welfare (transport, energy, ICT, health, agriculture, horticulture, nature and fisheries). In conjunction with the Delta Programme, they will be translated into a national adaptation strategy (ready by 2017 at the latest). We also need to make allowance for the global effects of climate change, such as reduced access to raw materials, increased health risks (diseases such as malaria) and consequences for supplies of energy and food. The Cabinet will commission a study into the nature and the potential scale of these risks, preferably in cooperation with other EU member states. Use will be made of the expertise available in the top sectors of Water, Agri&Food and Energy.

In worldwide cooperation, the Delta Programme is our showcase project, everywhere from the United States after Katrina to Vietnam on the Mekong Delta. This sustainable approach is in evidence in Indonesia, for example, where the restoration of peat soil in the lowlands and sustainable management by allocating economic functions are reducing emissions of CO₂ and methane and making the lowlands climate-proof. In association with Indonesia, the Netherlands created the body of knowledge necessary for this to happen.

Climate mitigation: drastically reducing greenhouse gas emissions

Within the EU the Cabinet is pressing for at least a 40% reduction of emissions in 2030 compared with 1990. The European Commission will distribute the non-ETS goal across the member states in 2016, after setting down the Energy and Climate Package. The Cabinet is considering setting indicative sectoral goals for 2030 in accordance with the 'Cabinet Approach to Climate Policy on the road to 2020' published in 2011. By way of indication the Netherlands Environmental Assessment Agency has calculated the reduction that may be required for 2030: a maximum non-ETS emission of 71 – 75 Mton for the Netherlands for 2030. Another study will be conducted to identify measures needed in each sector. Together with partners the Cabinet is linking the European emission reduction goal to concrete actions that will lead to green growth, stimulate our economy, reduce energy consumption and meet the demand for energy as far as possible from renewable sources. This will assure that the average global temperature will not rise by more than two degrees and will enable us to keep the risks of climate change within acceptable levels.

Recently over forty organisations endorsed the Energy Agreement for Sustainable Growth facilitated by the Dutch Social and Economic Council (SER). By implementing this agreement the Netherlands will take crucial steps in the coming years towards making the country resilient, prosperous and green. The horizon of the SER Energy Agreement is 2020. This Climate Agenda builds further on that agreement and focuses on 2030, which has been chosen as a reference point towards 2050 for the forthcoming international climate action negotiations. The agenda also addresses some sectors not covered by the SER Energy Agreement, such as agriculture and other greenhouse gasses, and formulates measures that overarch sectors.

The Cabinet is further striving to bring about an improvement in the European emissions trading system and more stringent product standards. Nationally, the Cabinet is providing a significant boost for the transition to a sustainable economy, in such fields as energy conservation, the use made of materials and mobility.

Actions

The Cabinet has opted for a three-pronged approach:

- 1) Broadly-based coalitions for approaching the climate,
 - 2) Adaptation, and
 - 3) Mitigation.
- Through a broadly-based coalition of companies and public players (globally, in the EU and nationally) we will go forward together towards more far-reaching action on the climate. Through adaptation we will seek to make our society climate-proof. Through mitigation we will focus on measures for drastically reducing CO₂ emissions on the road towards 2020, 2030 and beyond. This Climate Agenda translates these three themes into eight action lines:

Theme: Broadly-based coalitions for the approach to the climate

Action line 1:

Creating scope for an energetic community

To achieve the defined goals the Cabinet wants to leverage the energy that many other stakeholders in the Netherlands have when it comes to climate and sustainability. The Cabinet has great confidence in the power of this 'energetic community'. This is why we are pressing ahead with Green Deals and various coalitions.

Action line 2:

Embedding climate in foreign policy

An ambitious climate policy requires numerous actions internationally. Two key action items are fulfilment of the Dutch contribution to international climate financing and responding to the opportunities that exist for the business community.

Theme: Adaptation

Action line 3:

Heading towards vital climate-robust sectors

Being prepared for climate change also opens the door to opportunities: provided that the risks of climate change are clear, it can give a sector an insight into what to expect and provide a form of security. Central government is working on a strategy built around risks and opportunities. The outcomes will be translated into the National Adaptation Strategy that the Cabinet wants to have ready in 2017 at the latest.

Theme: Mitigation

Action line 4:

Creating a better toolbox for mitigation

Better tools must and can be built for making emission reductions achievable. For heavy industry the ETS is the right tool for securing far greater reductions in the period to 2030 and onwards to 2050. The Cabinet is pursuing a tightening up of the system, for example by creating a higher price incentive by temporarily withdrawing allowances from the market (back loading) and structural strengthening through a more stringent ETS ceiling after 2020.

The Cabinet is also keen to see tougher standards for products in Europe. Tighter product standards in terms of energy consumption, more efficient manufacturing, sustainability and lower greenhouse gas emissions in the lifecycle add up to an opportunity.

Action line 5:

Making space for facilitating renewable energy and energy conservation

Legislation and regulations need to be amended in order to make the jump towards more renewable energy (onshore and offshore wind energy). This is necessary so as to be able to reserve space for these promising projects. The North Sea in particular will then become the renewable energy motor of the Netherlands.

Action line 6:

Taking the road towards sustainable mobility

By way of a follow-up to the SER Energy Agreement, the parties have agreed to pursue goals that include a shared vision of the future fuel mix, public-private partnerships in market preparation and innovation, policies aimed at reducing emissions at the source (CO₂ standards and test cycles), a multi-year communication campaign to bring about behavioural change, reduction of CO₂ emissions by large companies and arrangements for a public infrastructure for recharging electric vehicles. There is a widely supported agenda for attaining the objectives for 2030.

Action line 7:

Towards a different use of materials and sustainable industry

Using materials differently (more efficiently, more bio-based and conversion of waste to raw materials) can make a big contribution to the avoidance of climate change. Cooperation within supply chains is essential in order to make optimal use of the potential that exists. A programme called 'From waste to raw material' coordinated by the Ministry of Infrastructure and the Environment is addressing a few specific supply chains and how to improve sustainability at the front end of the chain.

Action line 8:

Towards more productive and climate-friendlier agriculture and horticulture

The world's growing population is increasing the demand for safe and healthy food. The challenge is to provide sufficient food for everybody without this further increasing the burden on the environment. Together with the business community the Cabinet wants to work towards further reductions of emissions. Climate gains are also achievable on the consumer side. The footprint can be reduced by about 30% by making changes to the menu. This means for example less consumption of animal protein and the reduction of food wastage.

Modernisation agenda for research and innovation

The Netherlands will not become resilient, prosperous and green automatically. Over a period of several decades, we will have to use all our creativity, effort and knowledge to achieve our goals. That is why we have included a modernisation agenda for research and innovation, aimed at the steps that we must take in the period between 2020 and 2030. But equally important are how the ETS instrument will improve and expand, the role that emissions standards can play, the approach to innovation and which steps are desirable in relation to pricing and fiscal greening.

Structure of Climate Agenda

The Climate Agenda sets out:

- The Cabinet's vision of climate change (Chapter 1);
- The approach envisaged by the Cabinet – nationally and internationally – for turning this vision into reality (Chapter 2);
- The translation of that approach into measures and actions (Chapter 3).



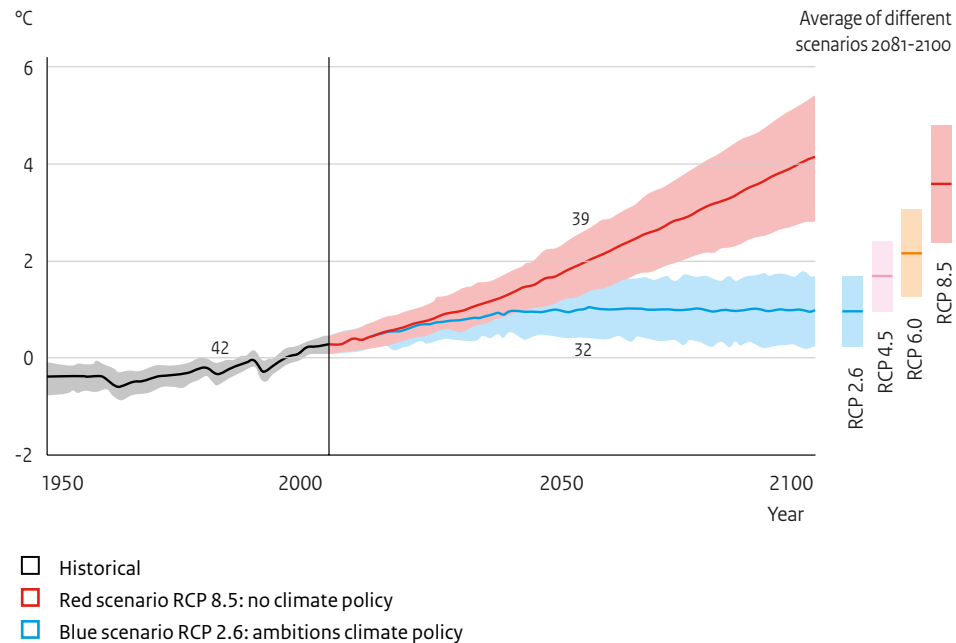
1 Vision: adapt and prevent

Climate change is happening¹. An increasing body of scientific evidence shows that man is making a substantial contribution to the change. It has major consequences for our way of life, not just here and now, but also for our children and grandchildren. Climate change poses a threat to our way of life. The good news is that we can do something about it by a combination of adapting to and preparing for the effects of climate change and preventing hazardous climate change. The way to emerge “green” from the crisis is to assemble a broadly-based coalition.

¹ Netherlands Environmental Assessment Agency (PBL), 2013: “Wissels omzetten. Bouwstenen voor een robuust milieubeleid voor de 21e eeuw” (“Shifting switches. Building blocks for a robust environmental policy for the 21st century”).

Figure 1 Global average surface temperature rise

Source: Intergovernmental Panel on Climate Change (IPCC), 2013: "Climate Change 2013. The Physical Science Basis" (Summary for Policymakers)



1.1 Climate change threatens our way of life

Greenhouse gas emissions continue to increase, and if we go on like this, there will be a global average temperature increase of between 3.5 and 4°C². Scientists in the Intergovernmental Panel on Climate Change (IPCC) agree that man is almost certainly contributing significantly to this increase through greenhouse gas emissions, the use of fossil fuel, the cutting down of forests, and emission of gases that both destroy the ozone layer and heat up Earth. This was reconfirmed by the most recent IPCC report. The effects are already noticeable everywhere in the world: land and sea ice is melting, sea levels are rising, there are more floods, and heat waves, water shortages and forest fires are alternating to ever more extreme degrees (see Figure 2 for example). These extremes put pressure on residential communities, ecosystems, and infrastructures. They result in crop failures, food shortages, migration of population groups, health risks caused by heat stress, and the further spread of diseases like malaria. We must not underestimate the risks, and in various countries, they have already been made part of internal security policy.

The effects of climate change are hitting our economy as well. At companies, for example, extreme weather conditions cause losses and reduce the return on investments³. The Stern Review on the Economics of Climate Change calculated that the annual cost to society worldwide may equal 5 to 20% of GDP⁴. Unless measures are taken, the effects of climate change in Europe have been calculated at a loss of between 4 and 10% of GDP⁵. For the Netherlands, this translates into roughly €1,500-€3,500 per inhabitant each year. It is the reason investors are addressing climate change with growing awareness⁶.

² Increase in this century compared with the pre-industrial level. Source: World Bank, 2012: "Turn Down the Heat; Why a 4°C Warmer World Must be Avoided".

³ Unilever chief Paul Polman said that in 2011, his company had already incurred €200 million in damage directly attributable to the climate change that is already occurring.

⁴ Stern, quoted in: Netherlands Court of Audit, 2012: "Aanpassing aan klimaatverandering: strategie en beleid" ("Adapting to climate change: strategy and policy"), Parliamentary Paper 33 470, No. 2.

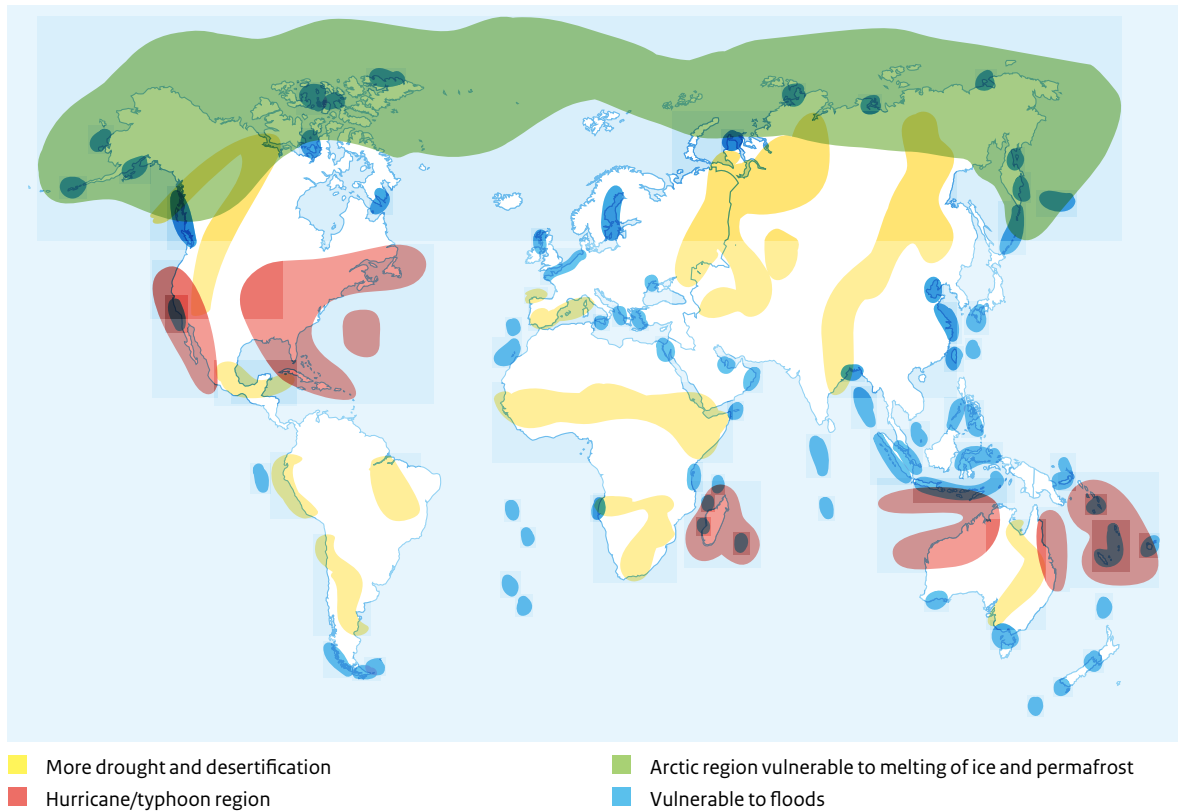
⁵ ClimateCost Project, cited in: Netherlands Court of Audit, 2012: "Aanpassing aan klimaatverandering: strategie en beleid" ("Adapting to climate change: strategy and policy"), Parliamentary Paper 33 470, No. 2.

⁶ Global Investor Coalition on Climate Change (GICCC), 2013: "Global Survey on Climate Change".

Figure 2 Global effects of climate change

Source: Ministry of Defence: "Eindrapport Verkenningen 2010" ("Final Exploratory Report 2010")

UNEP/Grid-Arendal: "Fifty million climate refugees by 2010"



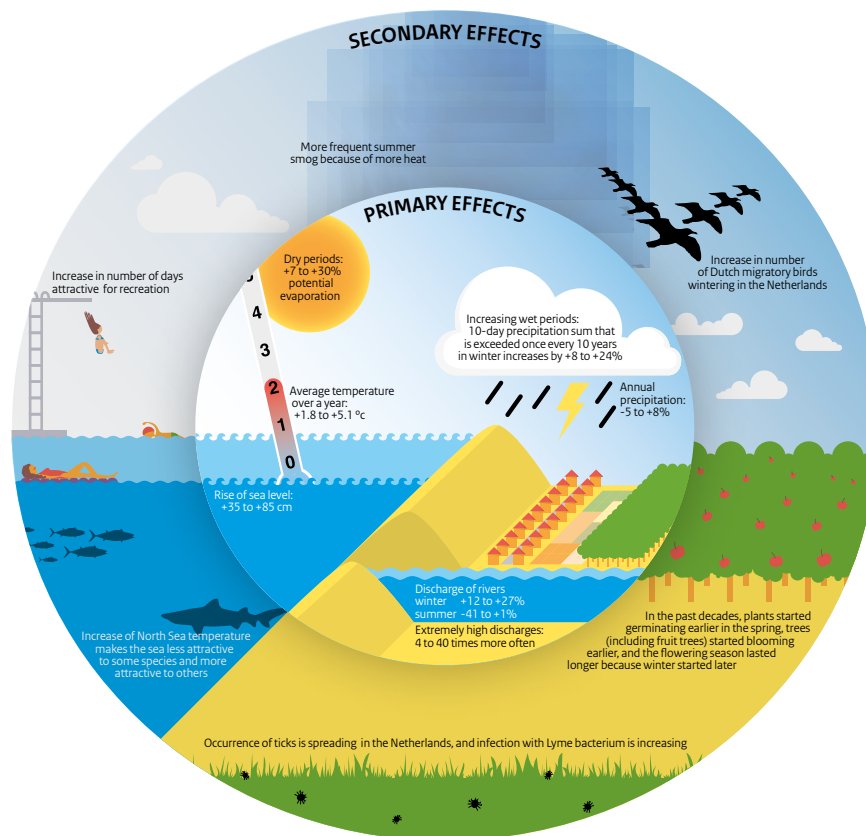
Warning from the World Bank

In its "Turn Down the Heat" reports (November 2012 and June 2013), the World Bank warned that staying on the present course will lead to a world that is 4°C warmer in this century. The reports also show that if the planet warms up by 2°C in the next 20 to 30 years, the world will face food shortages, heat waves, and more powerful cyclones. Adverse effects will undermine global efforts towards development, especially in poor regions. For that reason, the World Bank advocates ambitious action and inclusive green growth, not just because it is a moral obligation, but because it is economically sensible.

We can still imagine these effects, as hard as it may be. But research is also underway into even greater and irreversible effects, i.e. the release of CO₂ and methane as a result of the thawing of the permanently frozen soil in polar areas and seawater, and the melting of ice caps in Greenland and West Antarctica, causing sea levels to rise even more. The monsoon may also stop, thus reducing agricultural production. Entire ecosystems like coral reefs may disappear because of these changes.

There will be a further increase in greenhouse gas emissions due to the growth of the world's population (from 7 billion now to an expected 9 billion in 2050) and the growth of prosperity. It will not be possible to meet the needs of all of these people in the same way as they are being met today. The consumption of so much fossil fuel and raw materials is causing climate change, major pollution, and higher commodity prices now and will even more so in the future. Our living conditions may deteriorate as a result of all of this.

Figure 3 Effects of climate change in the Netherlands



But it does not need to happen. We must and can avoid the irreversible and uncontrollable effects of a sharp rise in temperature⁷. At the same time, we must get ready to cope with unavoidable effects to the fullest extent possible. It is for this reason that world leaders agreed that the average global temperature may not increase by more than 2°C in order to contain the risks.

1.2 Adapt and prevent

Given the matters discussed above and based on systematic scientific research, the Dutch Cabinet has decided to adapt to and to prepare for the effects of climate change (adaptation) and to make a real contribution to preventing hazardous climate change (mitigation). The Cabinet sees this “adapt and prevent” approach as an international challenge, one closely linked to matters like securing the supply of food, raw materials, and water. It is about safeguarding prosperity and welfare within Earth’s capacity to bear the strain. The goal is a society that, even though

⁷ Netherlands Environmental Assessment Agency (PBL), 2013: “De achtergrond van het klimaatprobleem” (“Background to the climate problem”).

Picture of a city in 2050

It is the middle of summer, and the average temperature is higher than it was decades ago. Yet the city is fresher, cleaner, and nicer. Birds that we saw less frequently over the past decades are again nesting in green roof and wall parks. People are walking in the shadow of trees or recreating in parks, while solar panels and soil energy keep the buildings cool. We now move around by means of self-driving, emission-free vehicles. After a 21st-century urban modernisation programme, there are now numerous attractive, innovative houses, some built on water, with a considerable net energy yield. Older houses from the previous century have been renovated and are now climate-neutral.

faced by more extreme weather conditions, is able to respond creatively and adaptively to this situation in urban as well as rural areas (“building with nature”), and to assure its own survival and comfort by economically using virtually only renewable and clean energy sources.

Figuur 4 Volume of sea ice at the North Pole (in thousands of cubic kilometres)

Source: Based on Andy Lee Robinson's Arctic Death Spiral

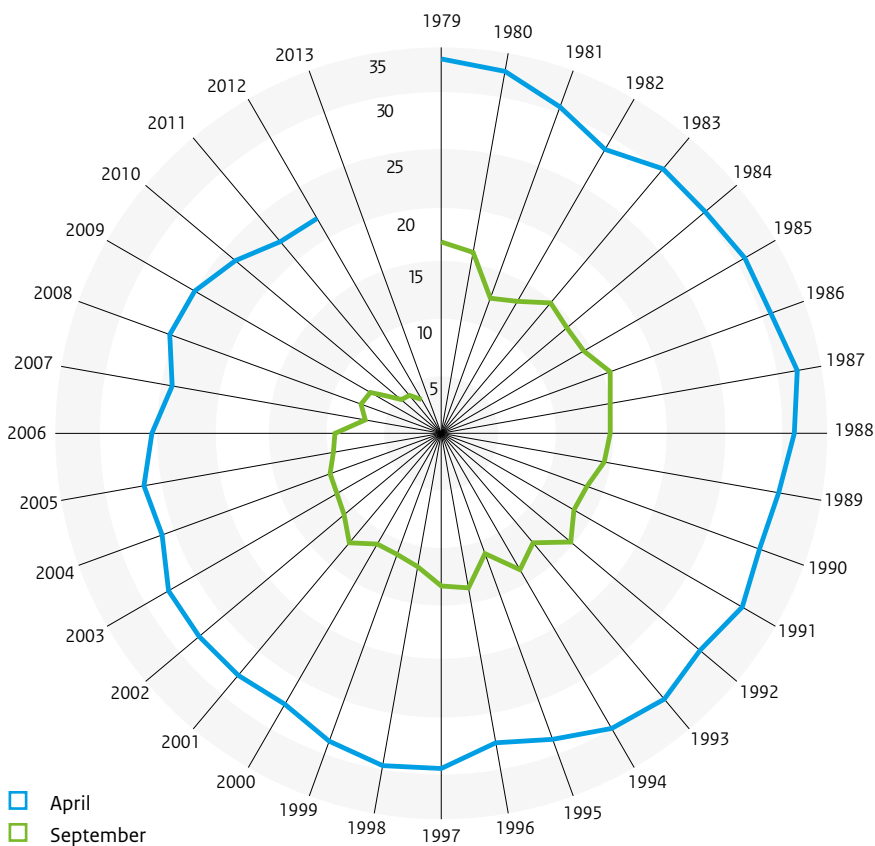


Figure 5 Climate effects that occur with a global temperature increase

Source: Netherlands Environmental Assessment Agency (PBL), 2009: "Getting into the Right Lane for 2050" >>

Diseases that previously did not occur in the Netherlands are getting closer and closer to our country because of climate change. Insects that transmit diseases like malaria, leishmania, and dengue are active for longer seasons and are moving more and more northwards.

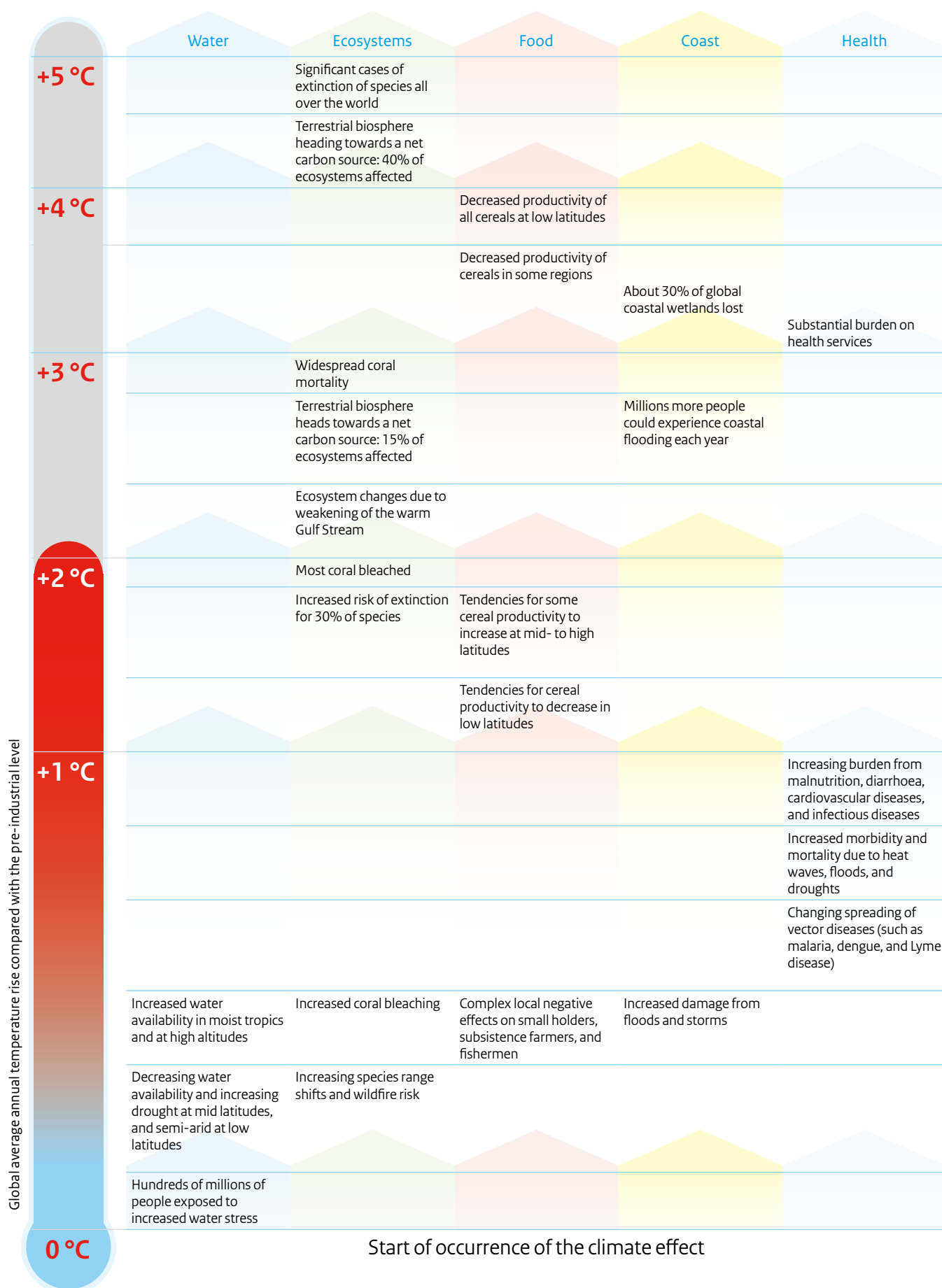
Adaptation

The Delta Programme is the logical first line of defence of our low-lying country to protect us against the adverse effects of climate change, to limit the risks of flooding, and to secure a freshwater supply that is both qualitatively and quantitatively reliable. The Programme focuses particularly on the direct impact on the built-up environment. The damage in Germany amounting to around €8 billion caused by this spring's floods⁸ again underscored the need.

In 2012, renewable sources were already meeting 19% of the final energy demand worldwide. More than 240 billion dollars were invested in renewable sources in that year, a 400-fold increase over a period of 25 years. The capacity that was created was actually slightly greater than what was put into service in terms of conventional capacity. With 4.3% in 2012, the Netherlands appears to be lagging behind slightly in this transition, but if you examine the extraction of renewable energy per square kilometre, we rank among the top in the European Union, even doing slightly better than Germany⁹.

⁸ ANP, 4 September 2013: "8 miljard schade door watersnood in Duitsland" ("Flooding causes 8 billion in damages in Germany").

⁹ NRC Handelsblad, 19 August 2013: "Nederland is echt geen sukkeltje in schone energie" ("The Netherlands really isn't a dawdler in clean energy"), opinion article by Prof. W. Turkenburg.



The new challenge besides the Delta Programme is to limit health risks (heat stress and vector-borne diseases), to protect our cities and vital networks (roads, railways, energy, and ICT), to secure our food supply, and to make our nature climate-robust. While doing so, we are also looking for potentially positive effects in the Netherlands, such as increased agricultural output thanks to longer growing seasons. An ambitious pursuit of adaptation – such as water-resistant construction – opens the door to opportunities for innovation and new jobs, a more attractive human environment, and a more appealing climate for establishing businesses. To do this as smartly and as cost-effectively as possible, these adaptations are – to the fullest extent possible – being factored into scheduled maintenance or renovation of the built-up area, infrastructure, the water system, or of nature and agriculture. This will avoid the need for expensive and more far-reaching adaptations in the longer term¹⁰.

Mitigation

We must work towards a circular and low-carbon economy to limit the warming of the Earth to not more than 2°C (mitigation). This is achievable by reducing the demand for energy, replacing fossil fuels wherever possible by renewable energy sources both for the supply of raw materials and for the supply of energy (“bio-based economy”). In addition, we must reduce the negative climate effect of the CO₂ that we will nevertheless continue to produce. This can be done by capturing carbon, for example with extra forests or by storing CO₂, taking into account the public support that exists. It is also necessary to combat emissions of soot, volatile organic compounds, and HFCs. Besides yielding a major climate gain, this will improve people’s health, enable restoration of the ozone layer, and increase global food production.

Opportunities for a cohesive approach

Adaptation and mitigation measures can reinforce each other. Green spaces created on a large scale will result in less hot cities and reduced energy demand, for example, while protecting peat areas and keeping them wet will retain the carbon, slow down soil subsidence, and act as a water buffer. Simultaneous performance of mitigation and adaptation projects will also result in cost reductions. This is particularly the case in respect of buildings¹¹, such as the combining of solar panels with green roofs or tackling the rotting of foundations caused by groundwater subsidence at the same time as insulating buildings.

1.3 Emerging green from the crisis with a broadly-based coalition

Over the coming four decades, the pursuit of a resilient, prosperous and green Netherlands will require investments by numerous parties totalling no less than 140 billion euro¹². On the other hand, there are also substantial benefits. Ultimately, the global energy supply will be cheaper, which for the Netherlands can make a difference of around 130 billion euro in the period up to 2050 if there is a significant joint worldwide reduction. Through energy conservation alone, the Netherlands can save 70 billion euro in that period. Other benefits include the potential growth of employment opportunities in such sectors as sustainable energy and construction. This potential can now be better leveraged thanks to the measures contained in the Energy Agreement of the Social and Economic Council of the Netherlands (SER), in which a broadly-based coalition has agreed arrangements for jointly improving the Netherlands. For some sectors, there will be new export markets, as demonstrated by the Dutch presence in adaptation programmes in places like New Orleans and New York. Adaptation measures frequently improve the quality of the human environment and nature restoration. Above all, by preventing significant damage to man and nature, we can keep economic growth potential intact for the long haul. By rolling up our sleeves for a joint effort, we will emerge green from the crisis.

Photo 1 Adaptation and mitigation in one: sedum roof with solar panels. Location: Prinsengracht, Amsterdam
Photograph by: de Dakdokters



¹⁰ P. Watkiss (ed.), 2011: ClimateCost

¹¹ See for example the Knowledge for Climate study: A.J.C. Haak, 2012: “Climate change and heat stress in residential buildings. Evaluation of adaptation measures”.

¹² Energy Research Centre of the Netherlands (ECN) / SEO Economic Research, 2012: “Kosten en baten van CO₂-emissiereductie maatregelen” (“Costs and benefits of CO₂ emission reduction measures”); see especially Chapter 4. The other figures given in this section also come from that report.



2 Approach

global, European and national with clear goals

This chapter sets out the approach to the goals the Netherlands wants to achieve globally, in Europe, and nationally. The approach focuses on:

- Pursuing and participating in effective global climate agreements;
- Developing and contributing to an effective European climate strategy;
- Setting national policy frameworks and initiating a modernisation agenda for the period after 2020;
- Defining goals and frameworks, globally, in the EU, and nationally.

2.1 Dutch effort worldwide

Climate policy is being carried out in various ways as part of international cooperation. We are devoting efforts to the global climate negotiations and to reducing disaster risks. The impact of climate change is also playing an increasing role in security thinking. In addition, policy seeks to promote climate mitigation and adaptation in developing countries, including the positive role of women in its implementation. It has been agreed in the coalition agreement of the Dutch government that the public contribution of the Netherlands to international climate financing will come from the budget of the Ministry of Development Cooperation.

Global climate arrangements in a rapidly changing world

The climate problem requires an international approach (see Figure 5). The static arrangements of the past years with highly differing tasks for developed and developing countries are no longer appropriate to the current dynamic situation of rapidly growing economies like Brazil, South Africa, and China. These changing relationships call for a new and more effective global approach to involve as many parties as possible, including governments, the business community, and civil society organisations. Virtually all countries are already combating climate change. But the sum of these efforts is not yet producing the desired result of keeping a temperature increase to not more than 2°C. The efforts of countries like China and the United States are essential for achieving progress (see sidebar headed “Climate policy in the US and in China”).

A new global agreement with participation as the key word

Negotiations are in progress under the UN umbrella on a new global climate arrangement designed to keep Earth's average temperature increase to at most 2°C above the preindustrial level. Under the UN auspices, countries want to establish an agreement by year-end 2015 that will come into effect in 2020. The broadly-based participation of stakeholders – with efforts being made by all countries – is a key element in the vision of the Dutch Cabinet¹³ on the new climate arrangement that needs to be established. This new global agreement must be the starting point of a process towards growing ambitions for tackling the climate problem. Arrangements and initiatives of the private sector, civil society organisations, and authorities – like the “Wedging the Gap” proposal – also merit support. Among other things, the Netherlands is supporting worldwide initiatives like improved cooking appliances in developing countries and the phasing-out of incandescent light bulbs. The Netherlands is further urging the promotion of adaptation in developing countries, for instance supporting

Climate policy in the US and in China

Over the past years, global climate policy has been intensified at talks in Cancún and Doha. But these steps will not be enough to limit global warming to 2°C. Greater efforts by all countries and additional initiatives by the business community, local authorities, and civil society organisations are needed.

The efforts of the US and China are crucial – together they emit more than 40% of global CO₂ emissions – and from a political point of view, their participation in global arrangements is indispensable. If China and the US do not want to set down their emission reduction efforts internationally, other countries are unlikely to do so either. A positive sign is that China and more recently the US are actively conducting a national climate policy. Both countries had their intentions for 2020 recorded in Cancún. China will reduce its carbon intensity (CO₂ emissions per unit of GDP) by 40 to 45% compared with 2005, while the US will reduce (absolute) greenhouse gas emissions by 17% compared with 2005. Both countries have put in place a policy to fulfil these pledges. The US Climate Action Plan includes more stringent emission standards for new and existing power stations and for heavy vehicles, a doubling of the share of renewable energy in the electricity supply between 2013 and 2020, and 8 billion dollars for innovation with clean technology. China has framed national legislation to make the arrangements agreed in Cancún binding. Energy consumption per unit of GDP will be reduced by 16%. At the same time, work will be undertaken in seven provinces and cities to set up a CO₂ emissions trading system, and China is considering the introduction of a national carbon levy and/or an emissions trading system. China and the US stepped up their bilateral climate cooperation earlier this year with a view to developing joint initiatives and intensifying their dialogue on global arrangements.

¹³ This vision is set down in the Cabinet's response of 10 June 2013 to the consultative communication of the European Commission, “De internationale overeenkomst inzake klimaatverandering: het internationale klimaatbeleid na 2020 vormgeven” (“The international agreement of climate change: Shaping international climate policy beyond 2020”), Parliamentary Paper 30 495, No. 16.

the preparation of national adaptation plans. This will be instrumental in bringing about a new approach to international financing of climate measures. The Cabinet thus advocates a modern adaptation toolbox at the global level as well. It needs to be directed towards strengthening long-term resilience, particularly in low-income countries and among vulnerable groups of the population. To achieve this goal, the Netherlands favours global tools ranging from financial aid for the reinforcement of investments by the private sector, insurance schemes, and the sharing of knowledge of data, observations, and Best Practices. This will make it possible to promote adaptation at the national and regional level in a substantive way.

In a broadly-based coalition with like-minded countries as well as the business community, the Netherlands has set its sights on agreeing ambitious and achievable new EU objectives for the post-2020 period. Additionally, the Netherlands is pursuing participation in consultative groups that facilitate and accelerate concrete international climate action, such as the Cartagena Dialogue, the Climate and Clean Air Coalition, and smart combinations of climate gains, clean air, and protection of the ozone layer. To establish effective global climate arrangements, it is extremely important for the EU to operate coherently, credibly, and resolutely. This is something else that the Netherlands wants to help bring about.

2.2 The European Union as the motor of national and global climate action

A large part of climate policy has been determined at the European level, including the agreement of a joint climate goal¹⁴, a single emission trading ceiling to regulate emissions from industry and electricity companies among others, and every Member State has committed to a 2020 goal for sectors that do not fall under that ceiling¹⁵. In 2050, the European Union wants to have reduced greenhouse gas emissions by 80 to 95% compared with 1990 in the context of the reductions that are necessary by developed countries as a group in order to achieve the two-degree objective. It is conceivable that zero emissions will have to be achieved in the subsequent years and possibly even negative emissions (by removing CO₂ from the atmosphere, for example)¹⁶. According to the European Commission, a 40% reduction in 2030 is needed in order to remain cost-effectively on course towards the EU climate goal in 2050. Lower goals means higher climate costs in the long run.

¹⁴ In 2020, there will be 20% less greenhouse gas emissions compared with 1990, and 30% less if all other countries commit to similar goals.

¹⁵ These are emissions from light industry and sectors such as Energy and Waste Management, Mobility, Agriculture, and the Built-up Environment, as well as other greenhouse gases (the so-called non-ETS sectors). This matter is discussed in Section 2.3.

¹⁶ See Global Energy Assessment 2012.

Successes: smart approach to healthy air and protection of the ozone layer will help to halt climate change

Lower emissions of soot, volatile organic compounds, and HFCs are instrumental in stopping climate change. This is good not just for the climate, but also for health and crop yields, so it is smart and cost-effective at the same time.

Climate and Clean Air Coalition: a partnership of more than 60 countries and organisations

According to some estimates, the tackling of Short-Lived Climate Pollutants (SLCPs) – such as soot particles, ozone, and some coolants – can prevent the warming up of Earth by approximately half a degree in 2050 and more than one degree in 2100, while at the same time preventing more than 6 million early deaths each year and improving crop yields by roughly 50 million tonnes per year. This can be accomplished with concrete measures known to be cost-effective, such as efficient furnaces, flaring of gas in industry, and cleaner vehicles. Measures being taken in countries like China and India will ultimately also contribute to cleaner air in the Netherlands. For that reason, the Netherlands is pressing for the development of knowledge of the climate effects of these substances and the use of cost-effective measures such as the reduction of emissions by heavy commercial vehicles and methane emissions from waste, and climate-friendly alternatives to coolants.

Climate gains through the Montréal Protocol

Over the past 25 years, the implementation of the Montréal Protocol for protection of the ozone layer by phasing out HFCs has resulted in gradual restoration of the ozone layer. What's more, it has contributed to a 30% decrease in greenhouse gas emissions worldwide. The Netherlands therefore supports the reduction of use of other fluorocarbons and their phasing-out.

European mitigation goals

The Netherlands is ambitious and wants to be among the EU front-runners and, with those countries, wants to give a powerful boost to EU climate policy. For that reason, the Dutch target in the EU for a goal in 2030 is a greenhouse gas reduction of *at least* 40% compared with 1990, as recently proposed by the European Commission¹⁷. The level will ultimately be decided taking into account the Impact Assessment¹⁸ of the European Commission and developments concerning global climate agreements. To give expression to its ambition, the Netherlands, together with 11 other Member States, issued a declaration – supported by a number of companies – with a message about the emissions trading system: it is and will remain the cornerstone of European climate and energy policy. The system should be reinforced by structural reform and temporary withdrawal of allowances from the market (“backloading”). Continuation and intensification of this cooperation with the business community and the Member States is the Dutch motto for acting jointly and resolutely.

Besides the leading goal for greenhouse gas emissions, goals for renewable energy and energy conservation play a supporting role in the European policy mix. An adequate policy mix is necessary with the right incentives both for the implementation of, among other things, sustainable energy technologies and energy conservation focused on 2030, and for the further development (innovation and cost price reduction) of technologies that are presently still expensive – such as Carbon Capture and Storage (CCS) – and that are vitally important with a view to 2050. When formulating the policy mix, it is also important to make allowance for potential interactions between different policy goals and measures, so as to make sure that different policy goals supplement and strengthen rather than obstruct one other.

It was agreed during the climate talks in Doha that in 2014, signatories to the Kyoto Protocol would reexamine their targets for 2020. Within the European Union, the EU Emissions Trading System (ETS) is an important pillar for bringing about cost-effective reductions. The system is up and running, but needs to be improved and widened. Also see Chapter 3, Action Line 4, in this respect.

European adaptation strategy

The cross-border effects of climate change require an approach at the European level. The Dutch Cabinet welcomes the communication issued by the European Commission on 16 April 2013 on an EU strategy on adaptation to climate change. The present and future changes of the climate call

Climate goals in north-west Europe

A look across the frontier shows that the countries around us also have serious ambitions that in some cases go beyond what they are pursuing at the European level. Besides greenhouse gases, these goals address energy (including renewable energy) and energy conservation. Countries like Denmark, Germany, France and the United Kingdom are going further than the EU goals for 2020. They also have ambitious goals for 2030.

Denmark’s CO₂ objective for 2020 is a reduction by 34% compared with 1990. In 2020, the country wants to obtain 50% of its energy requirement from wind energy, and at the same time save 7.6% energy compared with 2010. In 2030, Denmark wants to obtain 100% of its requirement for electricity and heating from renewable energy.

Relative to 1990, Germany is striving for a 40% CO₂ reduction in 2020. That year, it wants to accomplish a 20% energy-saving compared with 2008 and generate 18% of its energy requirement from renewable sources. In 2030, Germany wants to emit 55% less CO₂ and obtain 30% of its energy from renewable sources: 50% of the energy produced must be sustainable. For 2050, Germany is pursuing an 80-95% reduction of CO₂ emissions, a 50% energy-saving compared with 2008, and 60% renewable energy: by then, the production of electricity must be 80% renewable. Finland and Portugal are focusing on their commitments under the EU climate and energy package for 2020. Portugal has additionally set as a national goal for 2020 an efficiency improvement of 25% in terms of consumption.

France has set as its objectives a 40 to 45% reduction in CO₂ emissions in 2030 compared with 1990, and 75% in 2050.

In its national law, the United Kingdom has marked out a path for reducing CO₂ emissions. It runs from 29% in 2017, 35% in 2022 and 50% in 2027 to at least 80% in 2050 compared with 1990.

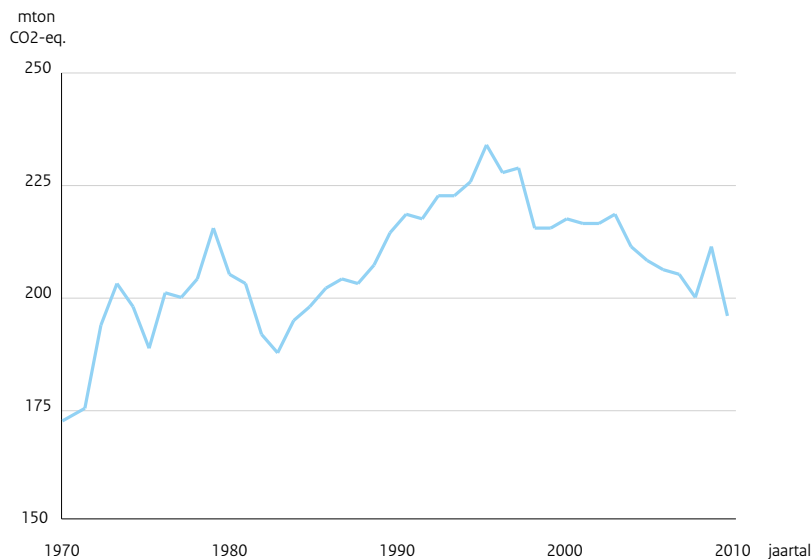
Sweden’s 2020 objective in the non-ETS sectors is a greenhouse gas reduction by 40% compared with 1990. Additionally, Sweden is pursuing 50% renewable energy in 2020. For the longer term, its goals are a fossil-neutral transport sector in 2035 and a net climate-neutral economy in 2050.

Energy conservation is a key feature of most roadmaps in north-west Europe along with Carbon Capture and Storage (CCS) and biomass.

¹⁷ European Commission, 2013: “A 2030 framework for climate and energy policies”

¹⁸ Impact Assessment in the context of the Green Paper on Climate and Energy

Figure 6 Trend in the emission of greenhouse gases in the Netherlands¹⁹ (in Mtonne CO₂ equivalents)



for an active stance to increase resilience. For this purpose, a framework as well as support will be provided to turn awareness into action, both at the European level and nationally. Increasingly, climate change and how to respond to it will be factored into relevant policy fields and sectors, such as the national Flood Risk Directive. The European Commission expects Member States to have adopted a comprehensive adaptation strategy in 2017 in order to arrive at a coherent approach within the EU. The Netherlands is keen to play a leading role in implementing the European Adaptation Strategy.

2.3 The national effort: clear goals and frameworks

Partly through policy and partly through the recession, greenhouse gas emissions in the Netherlands are now decreasing after years of increasing (see Figure 6).

So the Netherlands is on course for attaining the international targets that it took on board for 2008-12 (Kyoto) and for 2020²⁰. The purchase of emissions allowances has been instrumental in the Netherlands meeting the Kyoto target²¹. Estimates indicate that the EU objective for 2020 for sectors outside the ETS will be amply achieved without the need to purchase allowances. However, the achievement of the agreed objectives will not assure by a long way that we are sufficiently on course for the emission reductions needed in the longer term. Figure 7 shows this for the EU as a whole²². By means of the policy announced under the SER Energy

¹⁹ This figure does not include emissions by international aviation and shipping, as these sectors do not fall under national climate goals. However, the Cabinet is also endeavouring to reduce these emissions (see Action Line 5 of this Climate Agenda).

²⁰ These goals are:

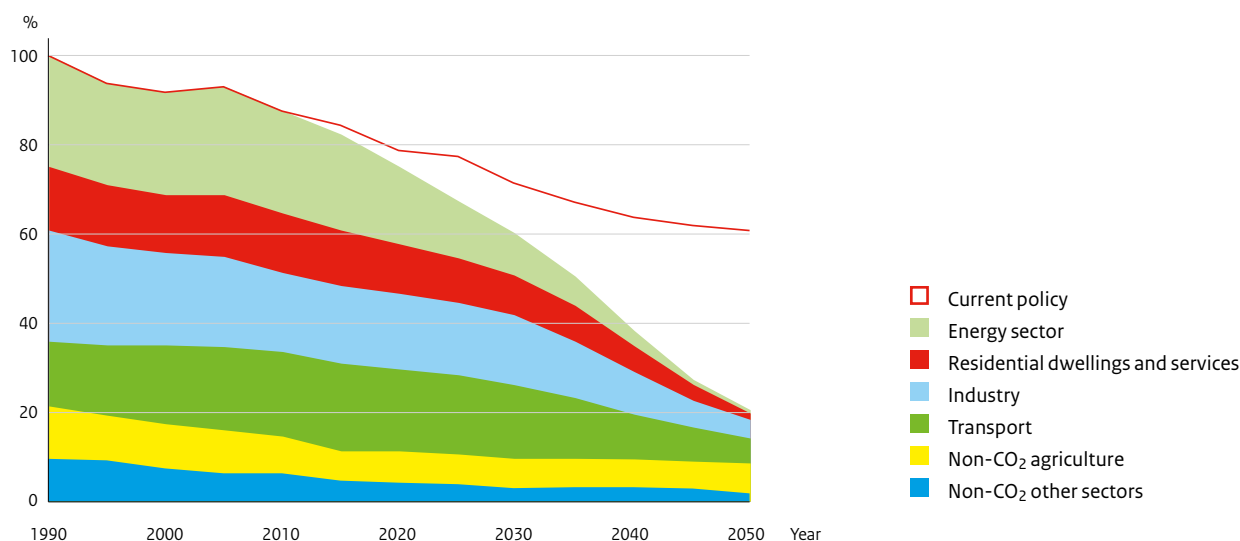
- Over 2008-12, average a 6% reduction compared with 1990 for the Netherlands as a whole (Kyoto target)
- In 2020, achieve a 21% reduction compared with 2005 of emissions that fall under the ETS (under a European ceiling)
- In 2020, achieve a 16% reduction compared with 2005 for sectors that do not fall under the ETS

²¹ For explanatory information, see <http://www.pbl.nl/nieuws/nieuwsberichten/2013/nederland-voldoet-aan-de-kyoto-verplichting-uitstoot-broeikasgassen>

²² European Commission, 2011: "Roadmap for moving to a competitive low-carbon economy in 2050"

Figure 7 Reduction path towards a lowering of EU greenhouse gas emissions by 80% (1990 = 100%)

Source: European Commission, 2011: Roadmap towards a competitive low-carbon economy in 2050



Agreement and this Climate Agenda, the Cabinet wants to assure the extra acceleration necessary in the Netherlands on the road to a climate-neutral economy in 2050.

Mitigation goals

Within the EU, the Netherlands is pressing for a target of at least 40% CO₂ reduction in 2030. The definitive distribution of the European goal among Member States will be decided by the European Commission in 2016 after adoption of the EU energy and climate package. There will first be a distribution across ETS and non-ETS sectors, and subsequently, the non-ETS target will be distributed across Member States. Cost-effectiveness and the capabilities of Member States will play a role in making this translation. By way of indication, the Netherlands Environmental Assessment Agency (PBL) has calculated – given the ambition that the Netherlands is conveying in Europe – which reductions might be expected for non-ETS sectors in the Netherlands. This expectation leads to a maximum emission of 71-75 Mtonne for 2030²³. By way of comparison:

based on the most recent update of the reference estimate of PBL and the Energy Research Centre of the Netherlands (ECN) dating from 2012, it is apparent that the policy set at that time will lead to greenhouse gas emissions in the region of 95 Mtonne in 2030. In 2050, the emission of the Netherlands as a whole (ETS and non-ETS) must have been reduced to roughly the level of current emissions by traffic in the Netherlands.

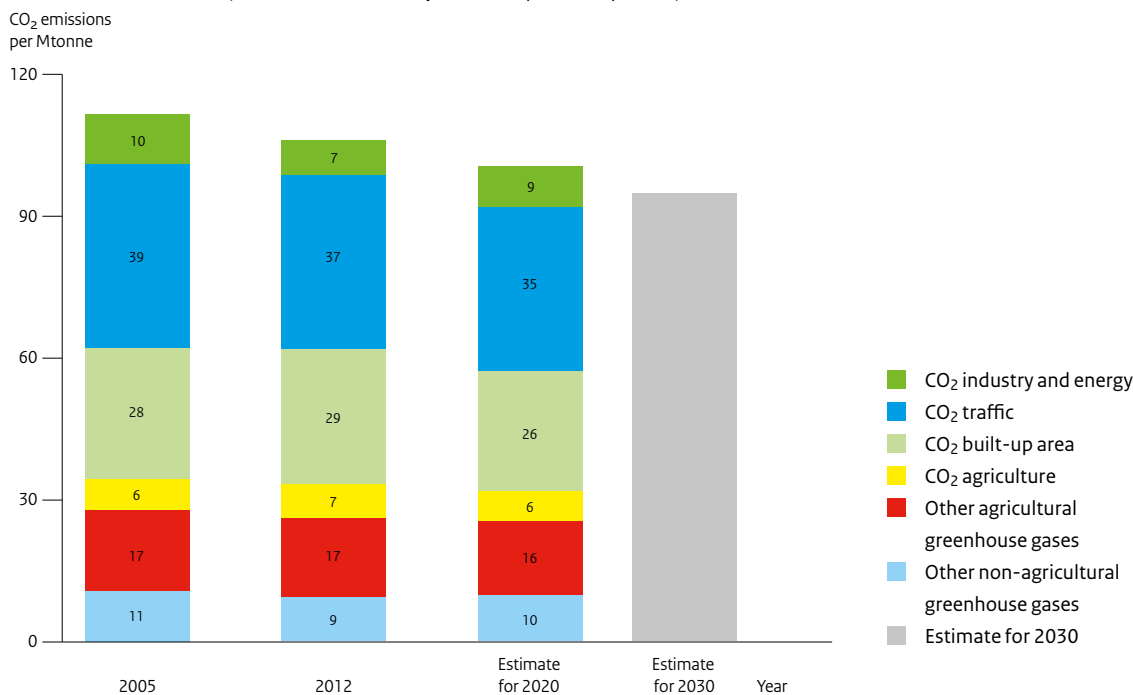
In a letter to Parliament published in 2011, the Cabinet agreed arrangements for the contribution to CO₂ reduction by the various non-ETS sectors²⁴. The Cabinet is considering

²³ Verdonk & Hof, 2013: "Non-ETS emission targets for 2030". Netherlands Environmental Assessment Agency (PBL), Publication No. 1192

²⁴ Parliamentary Papers II, 32 813, No. 1: "Kabinetsaanpak Klimaatbeleid op weg naar 2020" ("The Cabinet's approach to climate policy on the road to 2020"): "The following has been agreed within the Cabinet. If in a sector there are setbacks that are related to the policy (or its implementation) of a specialised Ministry, the Minister who is responsible for that sector will in principle take offsetting measures. If it is demonstrated that (all of) the offsetting measures that are possible within the sector are far more expensive than the original measures, the Cabinet will look to other sectors for alternative cost-effective measures – within the funds that are available – and will take a decision and inform your House accordingly."

Figure 8 Greenhouse gas emissions in non-ETS sectors

Source: Netherlands Environmental Assessment Agency (PBL), 2011: "Naar een schone economie in 2050: routes verkend" ("Towards a clean economy in 2050: exploration of routes")



setting indicative sectoral targets for 2030 in the same way²⁵. For this purpose, ECN, PBL, and the LEI agricultural research institute will be commissioned to conduct a study. They will make recommendations for measures based on a variety of criteria, such as technical potential, cost-effectiveness, and feasibility. This research will be completed by year-end 2014.

At the time of the first progress report in 2015, an initial insight will be provided into the framing of a package of measures as a stepping stone towards an ultimate translation to the non-ETS sector targets based on decision-making in the EU, in accordance with the 2011 Cabinet letter to Parliament (also see Footnote 24).

²⁵ Implementation of the SER's Energy Agreement will be evaluated in 2016. In the same year, the EU is expected to take a decision on the distribution of efforts among EU Member States for the non-ETS goals. Based on the aforementioned research by the three institutions, the evaluation of the SER's Energy Agreement and the likely EU decision on non-ETS goals, a final decision will therefore be made in 2016 with regard to the non-ETS sectoral goals and the measures necessary to achieve them. Consideration will be given to the flexibility between sectors.

With a view to the future and in preparation for new European arrangements, some non-ETS sectors are making considerable efforts to reduce emissions. For example, the mobility sector stated in the SER Energy Agreement its ambition to achieve a maximum of 25 Mtonne of CO₂ emissions in 2030. Horticulture is another sector exhibiting considerable dynamics and ambitions. Supplementary to the national Clean and Efficient Agro Sectors Covenant, in 2012 the horticulture sector agreed with the government to reduce total CO₂ emissions in the years up to 2020 by approximately 20% to 6.2 Mtonne CO₂ per year.

These are encouraging and important developments. For the measures that the Netherlands will have to take in order to meet a new European target for reducing greenhouse gases in 2030, support by the sectors of our economy is of prime importance.

Modernisation agenda for dynamic climate action after 2020

The SER Energy Agreement provides a stable basis for achieving robust progress on the road towards 2020 and beyond. But even now, we must look further and venture down new roads because we know that modernisation is necessary both in policy and in the energy supply in order to take on the major challenges as we head for 2030 and 2050. Also refer to the recommendation, made by ECN and PBL in their computations of the SER Energy Agreement, to work out an innovation agenda precisely with a view to this matter. It is important to consider it now in order to modernise and adapt the instrumentation toolbox. The existing knowledge infrastructure is to be used for this purpose. The studies within the modernisation agenda can be factored into the evaluation of the SER Energy Agreement in 2016. With this in mind, we will draw up a modernisation agenda that will address the following topics:

- Improvement of the system for monitoring achievement of targets and evaluation (in 2020) of the instrumentation of cost-effective climate policy;
- The aforementioned study will in any event be conducted in the six non-ETS sectors;
- Improvement of the ETS scheme to make the price mechanism work more effectively and to widen it to other sectors (in analogy with the civil aviation sector), such as shipping and waste processing. This must also include an examination of the possibility to establish a national system of emissions budgets and trading (in analogy with the horticulture sector) for sectors such as the built-up environment;
- Possibilities for a substantial reduction of CO₂ emissions by power plants fired by fossil fuel, taking into account public support for CCS;
- The challenge posed by a shift from central electricity production by plants fired by fossil fuel to sustainable (central and local) electricity production (requirements to be met by the grid, security of supply, different pricing etc.);
- Optimisation of CO₂ reduction in the supply chains when developing new and sustainable products to reduce the carbon footprint, for example by setting norms;
- Research into incentives in the Convention on Climate Change to look for new instruments to apportion CO₂ reductions to parties that take measures in the supply chain;
- Based on experience with the use of voluntary methods, such as the CO₂ Performance Ladder, and other ways of tackling this in the supply chain, an examination of how others might be encouraged to follow suit by laying down a legal foundation;
- Utilisation of the transition approach and elaboration of an innovation agenda to promote innovation for the introduction of cleaner technology after 2020;

- Pricing and fiscal greening. This will include an examination of whether CO₂ pricing can be improved in due course at various levels, based in part on developments in other European countries.

Dutch adaptation strategies

The Delta Programme will carry out the area-specific strategies and prepare the Delta decisions to be taken in 2015. The implementation of the National Heat Plan²⁶ will avoid and reduce the consequences of sustained heat for the health of vulnerable groups (such as the elderly, people in care institutions, the chronically ill, and people suffering from overweight)²⁷. But this will not yet cover all of the risks. A study conducted by PBL and the Royal Netherlands Meteorological Institute (KNMI)²⁸ confirms the need to make a further analysis in particular of the energy supply, transport, ICT and public health sectors. Similarly, there is not yet a sufficiently clear picture of the potential mutual reinforcement of risks, whereby a relatively minor disruption in one sector has major consequences elsewhere, ultimately with the possibility of the disruption of society. We want to avoid this as much as possible. Given the importance of adaptation and also the opportunities that it offers us, the Netherlands wants to play a leading role and cooperate in cross-border situations and in the integration of climate adaptations in existing EU instruments.

In conjunction with the Delta Programme, the Cabinet is drawing up a National Adaptation Strategy, to be ready not later than in 2017, which will include the following objectives:

- Climate-robust configuration of the urban and rural environments in 2050;
- Based on research to be conducted, determination of how important sectors for the economy, human environment, and welfare that are already vulnerable to climate change (transport, energy, ICT, public health, agriculture, horticulture, fisheries, and nature) can develop in a climate-proof way;
- Continuous monitoring of threats of vector-borne infectious diseases, with a focus on preventing and if necessary fighting them;
- Consistent monitoring and evaluation of the progress of climate adaptations.

²⁶ Ministry of Health, Welfare and Sport, 2007: "Nationaal Hitteplan" ("National Heat Plan")

²⁷ The National Heat Plan is being carried out by parties that include healthcare institutions, municipal health departments, and the Red Cross, in cooperation with the National Institute for Public Health and the Environment (RIVM).

²⁸ Netherlands Environmental Assessment Agency (PBL) and the Royal Netherlands Meteorological Institute (KNMI), 2013: "Aanpassen met beleid – Bouwstenen voor een integrale visie klimaat-adaptatie" ("Adapting with policy – Building blocks for an integral vision of climate adaptation")

2.4 Towards the agenda for actions

The Cabinet has linked to its vision an agenda of concrete measures and actions. These fall under the responsibility of different ministries: the Ministry of Economic Affairs is responsible for energy, nature, and agriculture; the Ministry of the Interior and Kingdom Relations is responsible for the built-up environment; the Ministry of Infrastructure and the Environment has the lead in the domains of climate, water and mobility, spatial planning, and other greenhouse gases outside the agriculture sector; the Ministry of Foreign Affairs is in particular responsible for geopolitical and security aspects, development cooperation, and foreign trade, and also has responsibility for coordinating international environmental policy and sustainability, including international climate financing; and the Ministry of Health, Welfare and Sport is responsible for public health. The actions and measures that the Ministries will initiate are elaborated in the following chapter. In the case of mitigation, the plan is to build upon and implement the SER Energy Agreement. For adaptation, the Ministry of Infrastructure and the Environment will be the lead actor in drawing up and coordinating a National Adaptation Strategy in accordance with the European Adaptation Strategy and the recommendation made by the Netherlands Court of Audit.



3 Agenda for actions

The agenda for actions contains an overview of measures and actions tailored to fit the formulated vision of adapting and preventing. The national government cannot do all of this on its own. Therefore, we will tackle these measures and actions with a broadly-based coalition of parties drawn from mainstream society.

The Action Lines fall into the three themes that are central to this Climate Agenda:

Theme	Action Line
Broadly-based coalitions to tackle the climate	1 Ample scope for the energetic society 2 Embedding climate in foreign policy
Adaptation	3 Towards climate-robust vital sectors
Mitigation	4 Towards a better toolbox for mitigation 5 Spatial facilitation of renewable energy and energy conservation 6 Towards sustainable mobility 7 Towards a different use of materials and a sustainable industry 8 Towards more productive and climate-friendly agriculture and horticulture

3.1 Theme: Broadly-based coalitions to tackle the climate

Action Line 1: Ample scope for the energetic society

To achieve its stated goals, the Cabinet wants to mobilise the energy that many other parties in our country have when it comes to climate and sustainability. Websites like www.nudge.nl and www.hieropgewekt.nl provide an impression of how much is already being done locally. This Climate Agenda sets out a multi-year national framework on which local authorities, the business community, knowledge institutions, and consumers can set their sights. It encompasses a wide range of actions in the fields of waste, renewable energy, and stimulating bicycle and public transport use, all the way through to the introduction of LED lighting. The national government is cooperating closely with other levels of government via the Local Climate Agenda, while the “Think Global, Act Local” principle is being put into practice by the C40 Cities Initiative, a global network of 58 cities including Rotterdam and Amsterdam which are home to 18% of the world’s population and are working together to reduce greenhouse gases.

The Cabinet has great confidence in the power of this “energetic society”. Therefore, we will press ahead with Green Deals and with various coalitions. Through the Local Climate Agenda, climate ambassadors, and the Climate-Proof City coalitions, the national government is supporting local initiatives in various ways, including assistance in communicating on and scaling up successful projects. An interim evaluation shows that this form of cooperation and knowledge exchange is very important²⁹. It also offers a podium for raising problems encountered in the implementation of policy.

²⁹ Ministry of Infrastructure and the Environment, 2013: “Tussenevaluatie Lokale Klimaatagenda 2011-2013” (“Interim Evaluation of Local Climate Agenda 2011-13”); Appendix to Parliamentary Paper 32 818, No. 45

To enable more regional customisation of the cooperation, in 2012 the national government concluded a Green Deal with the Klimaatverbond, a network of municipalities, provinces, and water boards. For the coming years, all parties will pursue continuation of this cooperation aimed at:

- Developing regional climate roadmaps;
- Putting on the agenda measures that combine adaptation to climate change with prevention of greenhouse gas emissions;
- Facilitating more knowledge-sharing between authorities and knowledge institutions about climate adaptation, such as maps, successful measures for climate adaptation, promising business models, and possibilities for synergy;
- Making knowledge of financing more accessible and overseeing applications submitted to the existing European funds and financial instruments, such as LIFE and the European Fund for Regional Development (ERDF).

The SER Energy Agreement is another typical Dutch polder-model success: an approach that, in the view of the Cabinet, merits wider adoption in an international context. We are also going to collaborate with large companies that engage in the field of climate change. There is the Dutch Sustainable Growth Coalition, for example, which advocates an approach to climate change under the stewardship of former Dutch Prime Minister Jan Peter Balkenende. Together with ambitious European countries, we are endeavouring to enlarge this network of countries and frontrunners in the business community.

Government sets a good example

As the government, we are an initiator of policy actions for others and also have an independent duty to make public services more climate-friendly and sustainable. The Minister for Housing and Civil Service, for example, is working on the sustainability of the central government apparatus, among other things through sustainable procurement, the “EnergieRijk Den Haag” project, and waste and raw material management, while government buildings are being made more energy-efficient and implementing bodies like the Directorate-General for Public Works and Water Management (RWS) are pressing ahead on making their operations sustainable. The sidebar headed “RWS sets an inspirational example” provides an overview of all kinds of different actions that the organisation is undertaking in the domain of sustainability. The Cabinet wants to continue and intensify this policy. In 2014, the Cabinet will put forward an action plan for implementing bodies designed to speed up the efforts that are being made. In parallel, the Cabinet will unveil a number of actions to challenge its own employees to put forward ideas for such matters as how to make their own operations and actions more sustainable and climate-friendly.

Local initiatives

Sustainable housing – In the “Bestaande Wijk van Morgen” (“Present District of Tomorrow”) project in Kerkrade, several housing corporations are each designating a district where energy-saving techniques are being used in existing homes. The homes are being renovated sustainably and made energy-efficient.

Rotterdam Green Team – The Green Team is a group of green specialists of the Rotterdam municipality who go out into the city districts. They visit mainly “concrete” districts: districts largely devoid of greenery where many gardens have been paved over. Most rainwater in these districts drains away via the sewers, but when heavy showers occur, the sewer pipes become full, which can cause flooding. To prevent this from happening, the municipality has asked the residents to make their gardens greener by replacing paving by plants, bushes, and trees to allow rainwater simply to sink into the soil. The Green Team gives residents tips and advice on how to make their gardens greener.

Municipality of Zaanstad – Zaanstad is the first municipality with a smart grid in which self-generated solar energy is being used to charge the municipality’s electric vehicles. The grid matches electricity supply and demand, for example by charging the vehicles when a lot of sustainable energy is being generated. Zaanstad is the first municipality to launch such a smart grid. As the launching customer, the municipality is playing an important role in testing innovative techniques.

Haarlemmermeer – The “Duurzaam Bedrijf Haarlemmermeer” (“Sustainable Business in Haarlemmermeer”) initiative was established on 14 February 2013. The municipal investment in sustainable innovation amounting to €3.3 million has been increased tenfold by the business community to over €32 million. The invested money will be earned back through various projects. The initial revenues are expected to flow back in 2014 and can then be reinvested. This is providing a strong boost to local businesses and residents in the field of sustainable innovation in difficult economic times. Most projects are focused on generating sustainable energy. Haarlemmermeer SMEs and residents with their own (rented) house or without a roof suitable for solar panels can generate their own energy through a lease construction for solar panels. The advance payment for energy goes down by more than the rent for the solar panels, thus producing an instant benefit. The project with rented homes initially covers some 3,000 homes and will be rolled out in cooperation with the Ymere housing association starting September 2013.

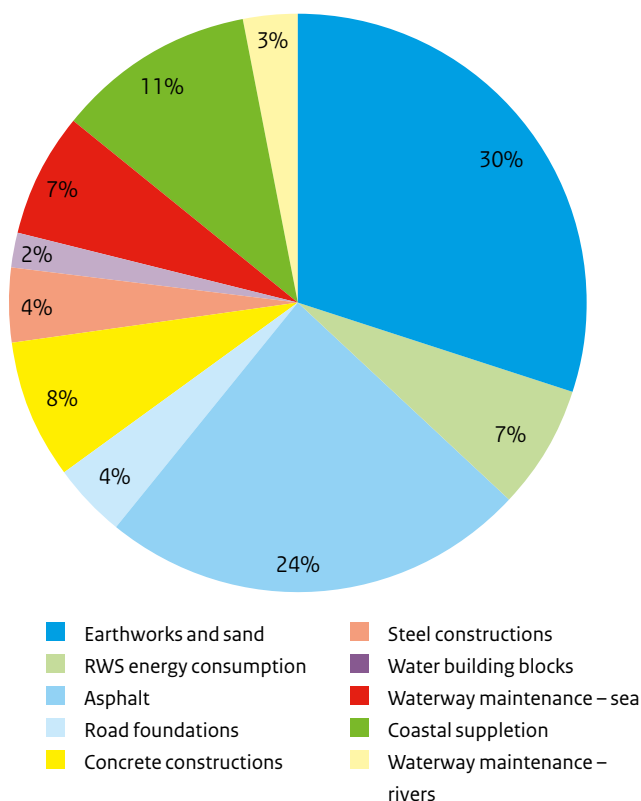
Tilburg – Tilburg is working hard on the “Energieke Bedrijventerreinen regio Tilburg” (“Energetic Business Parks in the Tilburg Region”) Green Deal. Companies undergo an energy scan, after which the Midden-Brabantse Ontwikkelingsmaatschappij voor Energie en Duurzaamheid (MOED) – a public-private partnership dedicated to sustainable energy – provides support in implementing energy-saving measures. A total of 23 businesses on the Kraaiven business park are already taking part. The energy scans showed that they can save roughly 900,000 kWh of electricity, 70,000 m³ of gas, and 280 GJ of heat – adding up to a CO₂ reduction of 700 ktonne per year. This works out to an annual cost-saving of approximately €135,000. Research is now being conducted to find out whether an Energy Service Company can be established to take over the investments required for energy conservation. Thirty companies elsewhere in the central Brabant region have also identified their energy-saving potential.

Culemborg – The rustic district of EVA-Lanxmeer has prepared optimally for climate change. Housing in the district is combined with working, recreation, drinking water extraction, and food production. Right from the start, the district has set its sights on high ambitions in the fields of cultural legacy, landscape, water, energy, use of building materials, mobility, and resident participation in the development and management of the district. Today, the district has some 300 households that work together on such matters as the shared gardens of their estate, managing public greenery, sharing vehicles, generating sustainable energy, and developing the Caetslage urban farm. Each year, EVA-Lanxmeer attracts a few thousand visitors who consider the district to be an inspirational model for plans that they may want to carry out in their own municipalities.

Vianen – The new Hoef en Haag district (1,800 homes) is being planned in a climate-proof way, with a dedicated water system and by creating sufficient green. Experimental gardens are supporting the local partners in choosing noregret solutions, i.e. solutions that contribute to water safety and climate-proofing and at the same time raise the quality of the residential and living environment.

Rijkswaterstaat sets an inspirational example

Figure 9 Rijkswaterstaat Carbon Footprint – Sustainable Purchasing (total: 913 ktonne CO₂ in 2010)



Sustainable procurement ambition

Rijkswaterstaat (RWS), the implementing body of the Dutch Ministry of Infrastructure and the Environment has committed to making 100% sustainable purchases since 2010, and has set itself the target of emitting 20% less CO₂ in 2020 (compared with 1990). This calls for sustainable designs, products and work performance methods. Sustainability means fewer adverse environmental effects caused by raw building materials and less emissions of CO₂. Four priority categories are: dredging, road surfacing, excavation, and concrete structures. As an integral part of all standard contracts, RWS challenges the market to fulfil the jointly formulated sustainability ambition.

What will it yield?

Sustainable procurement conserves energy and reduces CO₂, and can make a difference in the costs. During the building of the N61 trunk road in the province of Zeewuws-Vlaanderen, for example, a saving of 6.9 ktonne of CO₂ was made in the construction phase alone. Measured across the road's entire service life of 50 years, the saving will come to 15.8 ktonne of CO₂. This works out to a sustainability gain of 25% compared with a standard solution. Through its procurement process, RWS is encouraging the market to reduce CO₂ by adopting the CO₂ Performance Ladder.

RWS Dashboard

The RWS CO₂ Dashboard is a graphical representation of the organisation's performance in relation to its own CO₂ emissions. To ascertain how RWS's operations can best be made sustainable, all sustainability data has been gathered centrally in the Dashboard and has been embedded in the existing control and contracting cycle. Based on the present improvement projects, this is expected to enable fulfilment of the ambitious goal of a 20% energy reduction as early as next year instead of 2020.

Water Innovation Programme (WINN)

By means of a Water Innovation Programme (WINN), RWS is exploring possibilities for generating or recovering energy on its sites. Various projects are underway with intensive cooperation with market parties. Examples are the Blue Energy Project on the Afsluitdijk and an energy-supplying pumping station at IJmuiden.

Action Line 2: Embedding climate in foreign policy

As mentioned in Chapter 2, an ambitious climate policy requires numerous actions in the international arena. This section looks in more depth at important action items within international climate policy.

Integrating climate in development cooperation

Climate is being integrated in international development programmes. The most vulnerable and frequently the poorest countries feel the effects of climate change the most, in many cases with consequences for water and food security. It is no coincidence that these subjects are spearhead programmes of development cooperation policy that are relevant to adaptation to climate change. The Netherlands wants to internationally share its climate knowledge in relation to water management and food production.

In a programme called Climate Smart Agriculture, for example, techniques are being developed that will make the agriculture sector more resilient to extreme weather conditions (dry periods, floods, and extreme temperature fluctuations) and that reduce greenhouse gas emissions. The diversification of crop growing, a greater moisture-retaining capacity of soil, and the development of dryness-resistant crops will facilitate adaptation, while the growing of more productive rice varieties, for example, with less methane emission, will contribute to mitigation. When it comes to mitigation, the Netherlands will continue to promote the availability of renewable energy, especially in low-income countries. Through its focus on international forestry policy, the Netherlands will also help to bring about CO₂ reductions in these countries.

Climate change is increasingly figuring in disaster prevention. This is not only because of the possible increase in disasters, but also on account of the risks associated with increasing human and material damage. The most vulnerable are the poorest countries and population groups. Examples of the Dutch effort in this field include the Water DRR facility, cooperation with UNISRD, and the Connecting Delta Cities network. Embassies in partner countries will indicate how development programmes are taking disaster risks into account. Experience with development cooperation has taught us that women play an important role in promoting changes in society such as the use of new techniques for water management, energy supply, and agriculture, and, by consequence, also in relation to climate. Hence, the Netherlands is striving for the greater involvement of women in its approach.

Biogas

The Netherlands is internationally renowned for introducing domestic biogas systems in developing countries. A biogas system produces methane gas based on manure. Households use this gas for cooking and for lighting, thus lowering emissions of the greenhouse gases CO₂, methane, and soot. The residual substances are relatively good organic fertiliser and replace chemical fertiliser. SNV Netherlands Development Organisation started this 20 years ago in Nepal. At present, biogas programmes are in progress in 17 countries. The milestone of 500,000 biogas systems was reached early 2013. These programmes have won international awards like the World Energy Award (2012), the Ashden Award (2010), and the Energy Globe Award (2006).

International climate financing

In the context of meaningful mitigation actions, it was agreed in Copenhagen in 2009 that developed countries would, from 2020 onwards, each year mobilise 100 billion US dollars from public and private cash flows for mitigation and adaptation measures in developing countries, including emerging economies. Depending in part on progress in the international discussion on climate, the Dutch contribution may increase from 200 million euro in 2013 to 1.2 billion euro in 2020.

Under the coalition government agreement, it was agreed that the public Dutch contribution to international climate financing would come from the Development Cooperation budget. For that reason, where possible a relationship is being established with poverty reduction for the attainment of climate goals on the basis of three segments:

- Maximum synergy between climate and the spearhead policy of Development Cooperation. The food security programme and the water programme in particular will produce better results if we factor in the climate risks;
- The release of funds from the Development Cooperation budget for investments that directly benefit the tackling of the climate issue. This concerns utilisation of renewable energy sources, the combating of deforestation, and aid provided to global funds like the Climate Investment Funds, the Least Developed Countries Fund, and possibly also the new Green Climate Fund that is not yet operational. The involvement of knowledge institutions is also important in order to translate the latest international developments into policy;
- Stimulation of climate-proof investments by the business community. The central question in this respect is how scarce public funds can be used to catalyse large-scale private investments.

Rotterdam Adaptation Strategy sets an inspirational example

Knowledge development and implementation

Rotterdam launched a climate adaptation programme called “Rotterdam Climate Proof” in 2008, stimulated by the “Knowledge for Climate” programme. Rotterdam is now working on the city of the future by making early allowance for climate change. From time to time, there is already flooding caused by extreme rainfall, and river water occasionally flows on to the quaysides of Noordereiland and other areas outside the dikes. To tackle the water safety issue, the city is participating in the Delta Programme. Rotterdam mayor Ahmed Aboutaleb chairs the Rijnmond-Drechtsteden sub-programme. All of the research results come together in the Rotterdam Adaptation Strategy (RAS).

Climate adaptation as an opportunity

When carrying out measures, there is an explicit examination of opportunities to contribute to a more attractive and a socially and economically stronger city. This encompasses everything from a water-storing rowing course on the outskirts of the city to the water squares and green roofs in the compact city centre. By smartly linking projects and through challenging research programmes, Rotterdam is becoming climate-proof and improving the residential and living environment. Outside the dikes, as in the Stadshaven area, there is an endeavour to build adaptively. Experiments are being carried out with new types of floating buildings.

Sustainable Delta Cities

The approach adopted in Rotterdam has not gone unnoticed. The European Commission named Rotterdam a “Peer City” within the Cities Adapt programme. The knowledge obtained benefits not only Rotterdam, as it can also be exported to other Delta cities. In June 2013, 23 Delta cities from all over the world gathered in Rotterdam to exchange Best Practices and to learn from each other’s climate adaptation strategies. It is no coincidence that “Sustainable Delta Cities” is one of the business cases in the Water Top Sector designated by the Dutch government. A public-private partnership called Clean Tech Delta and the Connecting Delta Cities international network initiated by Rotterdam can play a bridging role in this respect.

Following Hurricane Sandy, Rotterdam mayor Aboutaleb had meetings with former US President Bill Clinton and New York mayor Michael Bloomberg about urban climate adaptation. The business community is also benefiting. After an agreement between Rotterdam and Ho Chi Minh City, a Dutch consortium developed a Climate Adaptation Strategy for the Vietnamese city.

Energising Development

Through the Energising Development (EnDev) programme, the Netherlands is using climate financing to stimulate the development of the market for renewable energy for households in developing countries. Back in 2004, the Netherlands took the initiative to set up this programme, which is being carried out in partnership with Germany. EnDev is a great success and has now reached more than 10 million people in 24 countries with improved cooking appliances and green electricity. The programme saves more than one million tonnes of CO₂ each year and helps developing countries along a low-carbon growth path. On account of the programme’s success, the United Kingdom, Norway, Australia, and Switzerland have also joined as financiers.

Opportunities for Dutch business

Climate change offers the Dutch business community opportunities to fulfil sustainable ambitions and at the same time strengthen its competitive position. Companies have a great deal of knowledge in-house to make a significant global contribution to the rapid emergence of renewable energy (solar, wind, biomass, and geothermal energy), climate-smart agriculture, bio-based economy, and water management, thanks to the high-quality Dutch technology and chemicals industry, an innovative agriculture sector, a major port, and high-quality knowledge development and application in the field of renewable energy. In the Water International programme, the Dutch government is cooperating with knowledge institutions (“Delta Alliance”) and the business community worldwide on the sustainable, climate-proof development of vulnerable deltas. Together with the Water Top Sector, a lot of work is being done to complete the “third step” from knowledge-focused development to the implementation of projects that matter to the business community. At the same time, investments are being made in innovative financing arrangements. As part of the interdepartmental Water International programme, the Netherlands has established cooperation agreements on climate adaptation in countries including Bangladesh, Egypt, Indonesia, Mozambique, Vietnam, and the United States. The Cabinet supports companies through diplomatic relations, missions, and existing instruments for the business community³⁰. By leveraging the Top Sector approach, our promising economic sectors are being put on the map internationally. Our influence over the policy of international funds and multilateral banks helps Dutch companies and institutions to identify investment opportunities in other countries and to seize them to the fullest possible extent.

³⁰ Such as the Top Sector policy

3.2 Theme: Adaptation

Action Line 3: Towards climate-robust vital sectors

Anticipating climate change also opens up opportunities: provided that the risks of climate change are clear, it can provide the sector concerned with insights and a form of security. Awareness of threats provides a stimulus for fresh innovations, cooperation arrangements, and learning models. In the Delta Programme, central government is inventorying water-related threats and preparing decisions on how to deal with them. For the climate-sensitive sectors of nature, public health, and energy, ICT and transport networks, the Ministry of Infrastructure and the Environment – with relevant Ministries – is compiling an up-to-date picture of the risks and the interrelationships between these sectors. This is in line with the recommendations made by the Netherlands Court of Audit³¹. Potential climate change opportunities (in principle for the agriculture, recreation and tourism sectors) are also being addressed. This will provide a basis for working out a strategy with risks and opportunities³². The outcomes will be translated into the National Adaptation Strategy that the Cabinet wants to have ready in 2017 at the latest.

The Cabinet is endeavouring to establish a knowledge and innovation structure in which authorities, knowledge institutions, the business community, and civil society organisations work with each other. From 2014 onwards, this structure will support existing initiatives such as adaptive Delta management, the “Climate-proof City”, “Local Climate Agenda” and “Natural Climate Buffers” coalitions, and the Joint Programming Initiatives for Climate and Water. For this purpose, relevant European funds such as Horizon 2020 and Climate-KIC will be deployed. The more efficient sharing of knowledge can be accomplished at the European level as well, for example via the Climate-Adapt web portal. A follow-up to the “Knowledge for Climate” research programme will – from 2015 onwards – search for integral solutions to practical issues, both adaptation and mitigation if possible. Input will in any event include the European Adaptation Strategy, the knowledge questions from the Delta Programme, and the announced sectoral sensitivity and risk analyses, as well as the remaining questions from the “Knowledge for Climate” programme.

Besides these initiatives, the Climate Agenda contains the following specific actions for making the built-up environment and the agriculture, horticulture and fisheries sectors climate-safe:

- In the “Climate-proof City” part of the Delta Programme, authorities and companies have joined forces to define a new method of urban development. Core elements are a) publication of a “Climateproof City Charter”, with an implementation programme as a stepping stone towards a broad starting covenant of public and private parties, members of the public, and knowledge institutions; b) the performance of local risk and vulnerability analyses by municipalities and local parties before 2017; and c) the preparation of local adaptation strategies. Administrative arrangements will be made for this in the “*Deltabeslissing Ruimtelijke Adaptatie*” (“Spatial Adaptation Delta Decision”);
- For a cost-effective approach (such as inclusion of adaptation in the scheduled maintenance or modernisation of infrastructure and the built-up environment), central government is promoting an adaptation strategy at local and regional levels, based on an analysis of risks and vulnerabilities;
- The Cabinet is including climate adaptation in relevant central government guidelines. In 2014, the Cabinet will incorporate climate adaptation in the “*Handreiking planobjectivering*” (“Guidance for the objectivity of planning”) to enable early assessment of the degree of climate-proofing of spatial planning variants;
- With the help of funding from the Ministry of Infrastructure and the Environment, the “Natural Climate Buffers” coalition is creating areas where natural processes like climate change get the space they need to make the Netherlands safer and more attractive;
- The Ministry of Infrastructure and the Environment is making existing knowledge and information on climate adaptation digitally available via www.klimaatonderzoek-nederland.nl and will continue to do this in 2014 (partly in liaison with the European Climate-ADAPT platform);
- The “Healthy Urbanisation” project of the Ministry of Infrastructure and the Environment connects people, ideas and knowledge around the subject of a healthy human environment, and is integrating liveability, security, accessibility, and climate adaptation;
- Central government will initiate an inventory of whether – in addition to current research programmes – any measures are necessary to seize opportunities opened up by climate change for the agriculture, horticulture and fisheries sectors, and to combat threats. The outcome will be worked into the National Adaptation Strategy.

³¹ Netherlands Court of Audit, 2012: “*Aanpassing aan klimaatverandering: strategie en beleid*” (“Adapting to climate change: strategy and policy”), Parliamentary Paper 33 470, No. 2

³² This concerns specifically ICT and Energy Networks, Transport, Nature, and the relationship between climate and health. Reporting will occur in the second half of 2014.

The 10 pillars of the “Energy Agreement for Sustainable Growth” will together accomplish:

- The fulfilment by the Netherlands of its European obligation to make an annual energy saving of 1.5%;
- The scaling-up of renewable energy and achievement of the 14% sustainable energy target in 2020 and the 16% target in 2023;
- The stimulation of local energy generation by members of the public and companies;
- The preparation of the energy transmission network for a sustainable future that includes scope for smart grids and storage capacity;
- The proper functioning of the ETS scheme and a good fit within the long-term reduction target of 80 to 95% in 2050;
- The phasing-out of capacity of coal-fired power stations dating from the 1980s;
- The reduction of emissions caused by the mobility and transport sectors to 25 Mtonne in 2030 on the road to a reduction target of 60% in 2050;
- The excellent performance of the Netherlands in smart solutions for sustainability and thus pursuit of a top-10 position in the global Clean Tech Ranking;
- The creation of significant employment opportunities, especially in the installation and construction sectors and, in due course, in the sustainable energy sector;
- The leveraging – via a financing programme – of the enormous investments that are necessary for the transition.

3.3 Theme: Mitigation

The Energy Agreement for Sustainable Growth

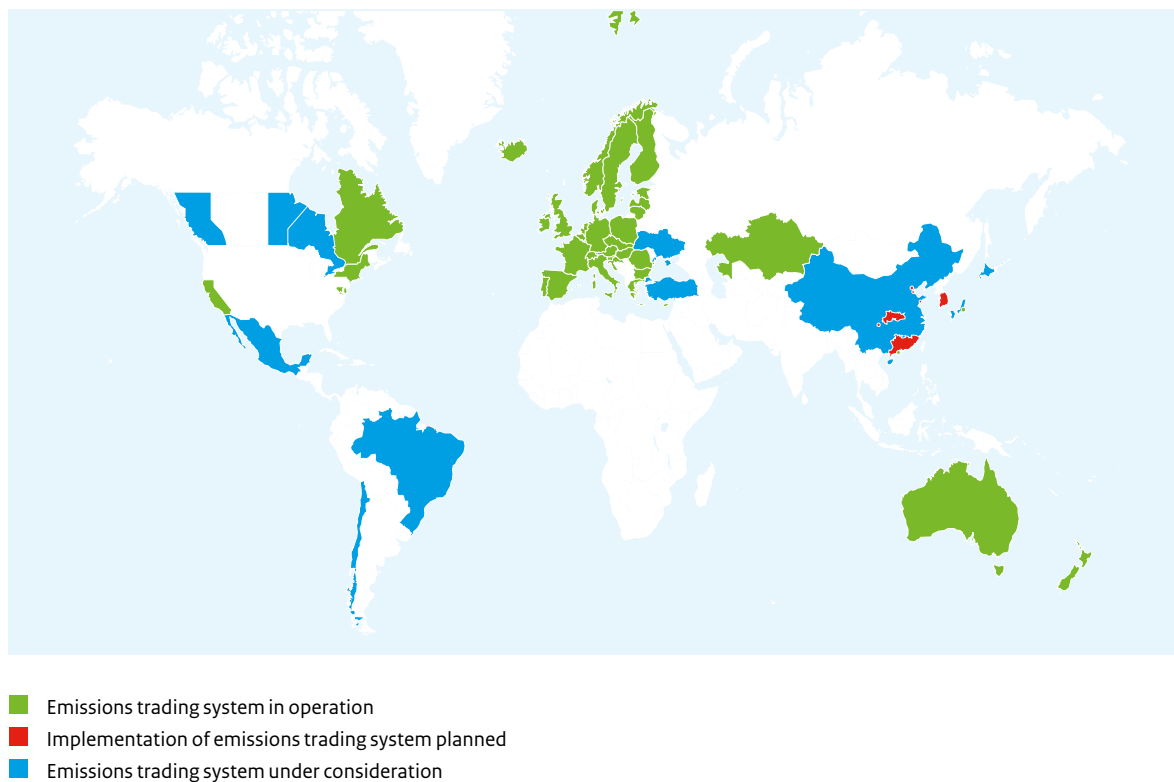
For the most part, greenhouse gas emissions are related to the use of energy. Timely conversion of our energy management (generation, transmission, and consumption), the use of pricing mechanisms such as the ETS, and product standardisation are therefore crucial for limiting climate change. The SER Energy Agreement is an important step in that direction. Partly because of the involvement of many civil society organisations and companies, it creates a solid basis for a transition process stretching out over many years. The Agreement represents major advances towards a completely climate-neutral 2050, whereby we will rank among the best in the world when it comes to energy efficiency. We will give a powerful boost to the economy by ensuring a smart rollout of renewable energy and by supporting members of the public and companies in making their homes and buildings energy-efficient and generating energy themselves. The Agreement is built on ten pillars each containing concrete targets and actions for all relevant sectors.

This Climate Agenda builds upon the SER Energy Agreement by fleshing out the ambitions on the road towards 2030 and by covering measures for sectors that are not yet – or not fully – covered by the Agreement and by including intersectoral measures. The content of the SER Energy Agreement has already been sent to the Lower House of Parliament³³. A letter will follow in 2013 about implementation of the European Energy Efficiency Directive (EED). In 2014, the Minister of Economic Affairs will discuss the subject of the policy required after 2020 in a letter and also address the role of biomass and CCS. The Minister of Housing and Civil Service is responsible for energy-saving in the built-up environment, which is also part of the SER Energy Agreement, and will carry out the arrangements agreed in this respect. Residential dwellings, offices, and other buildings account for almost one-third of all energy consumption, so there are ample opportunities for saving energy here. In 2014, the Minister of Housing and Civil Service will present a long-term policy vision addressing the challenges remaining in the post-2020 period.

³³ Parliamentary Paper 30 196, No. 202, 6 September 2013: “Energieakkoord voor duurzame groei” (“Energy Agreement for Sustainable Growth”)

Figure 9 Countries and regions that already have or are setting up an emissions trading system

Source: International Carbon Action Partnership (ICAP)



Example: Data centres

It is currently estimated that the ICT sector accounts for approximately 8 to 12% of the electricity requirement in the Amsterdam region. This represents a major energy-saving challenge. Together with the national government, Amsterdam wants to make data centres “greener”, with a nationwide level playing field in mind. For this purpose, a Green Deal has been concluded with the city of Amsterdam, and a data centre energy-saving guidance document will be prepared. National government will make sure that the guidance document attracts wider attention so that it can become an important tool for reducing energy consumption at data centres.

affected unequally. This makes the ETS (albeit adapted in some respects) the ideal instrument for bringing about far greater reductions in the sectors concerned in the period up to 2030 and onwards to 2050. With a reduction target of 40% compared with 1990 for the EU as a whole, it is appropriate to have a reduction for emissions under the ETS of approximately 45% compared with 2005, the starting year of the ETS. The European Commission³⁴ has calculated that this is a cost-effective contribution. In the view of the Dutch Cabinet, the ETS can be improved in the following ways:

- Enhancing the system by better harmonisation of supply and demand so as to achieve a greater price incentive. This can be accomplished in the short term by temporarily withdrawing allowances from the market (“backloading”) and in the longer term by means of structural strengthening by tightening up the ETS ceiling after 2020. The setting of the ceiling depends on any modifications made to the ETS³⁵ and the time of introduction;

Action Line 4: Towards a better toolbox for mitigation

Tightening up of the ETS

The EU Emissions Trading System (ETS) leads to reductions at places where they are cheapest to accomplish, and ensures that the competitiveness of the various Member States is not

³⁴ European Commission, 2011: “EU Roadmap for moving to a competitive low-carbon economy in 2050”

³⁵ See Netherlands Environmental Assessment Agency (PBL), 2013: “Evaluation of policy options to reform the EU-ETS”.

- Widening of ETS emissions trading to other countries and regions in the world;
- Connecting the European system to other systems in the world, as recently happened with Australia;
- Widening the system to cover other sectors where it is effective to do so. This necessitates studying how other sectors, in analogy with the civil aviation sector, can be brought into the system, such as shipping and waste processing.

The parties that have endorsed the SER Energy Agreement support improvements of this kind. Connection with other trading systems will provide even more possibilities to make emission reductions where they are achievable at lowest cost. More and more countries and regions have set up such a system – including Australia, New Zealand, and various states of the USA – or are in the process of setting one up, such as China and Brazil.

Setting aside international offsets and examining domestic offsets

Emissions trading in and between countries can increase the cost-effectiveness of the global approach to the climate problem, and provides an important stimulus for sustainable projects in developing countries. The Netherlands has met its Kyoto target (i.e. an average 6% reduction over the years from 2008 to 2012 relative to 1990) by using foreign emissions allowances originating from the Clean Development Mechanism (CDM) and Joint Implementation (JI) projects³⁶. By so doing, the Netherlands has made an important contribution to developing the market and the rules applicable to these so-called offsets (foreign emissions credits).

Successful national climate measures and the sluggish economy have resulted in the Netherlands currently having a surplus of offsets that is not necessary for current or future purposes. Ultimately, the Netherlands expects to have a surplus of offsets amounting to approximately 18 Mtonne. At present, the Netherlands has in its account a total of 45 Mtonne of purchased offsets. This is far more than necessary. The number of allowances required has been regularly adjusted downwards in recent years.

Some of the purchased allowances come from CDM projects for the prevention of emissions of the very strong greenhouse gas HFC-23. While the allowances comply fully with the criteria agreed internationally, there are doubts about the credibility of allowances of this type. Due to these doubts, it has been agreed within the EU to stop using HFC-23 allowances for objectives after 2012.

³⁶ This is explained in www.pbl.nl/nieuws/nieuwsberichten/2013/nederland-voldoet-aan-de-kyoto-verplichting-uitstoot-broeikas-gassen.

In the light of the doubts concerning HFC-23 allowances and because the Netherlands has sufficient other CDM allowances, the Cabinet has decided not to use its HFC-23 allowances for fulfilment of the initial Kyoto obligation. This will allow the Netherlands to *de facto* achieve an international emission reduction of almost 14 Mtonne on top of its own Kyoto obligation. The residual excess emissions allowances (approximately 4 Mtonne) will be retained by the Cabinet for possible future use.

The national government, in cooperation with a number of market parties, is also conducting research into the possibilities, the pros and cons, and the costs of using market mechanisms such as marketable emissions allowances from domestic projects (domestic offsets) in the voluntary carbon market. A precondition for the use of domestic offsets is an unchanged or perhaps even a lower net emission of greenhouse gas.

Tightening up European CO₂ product standards

The vast majority of product standards are regulated at the European level. More stringent standardisation of products in the field of energy consumption, more efficient production, sustainability, and lower life-cycle greenhouse gas emissions present an opportunity. A considerable climate gain is achievable by tightening up the Ecodesign Directive and the Labelling Directive and widening their application to include new product groups, by starting to apply more dynamic standardisation³⁷, by effective implementation of the Energy Efficiency Directive, and by more stringent emissions standards for vehicles.

With this in mind, the Netherlands is consulting with the European Commission and other Member States on how to set down energy-saving standards and CO₂ product standards for more appliances and products, how to revise them more quickly, and how to make the standards tie in optimally with such matters as the energy label for appliances. The potential of the Ecodesign Directive and the Labelling Directive can be used to better effect³⁸, for the climate, for the economy, and for efficient government services. It has been calculated in the United States, for example, that one US dollar spent on staffing to develop these standards results in 60,000 dollars of extra energy cost savings for companies and consumers³⁹. To accelerate this effort, the Netherlands is advocating the provision

³⁷ In line with the Japanese model, for example, whereby the minimum standards move automatically in step with improvements of the best-performing products.

³⁸ Ecofys has demonstrated that European citizens and companies can save billions if the standards are adjusted to the level of Least Life Cycle Cost (LLCC). Ecofys, 2012: "Economic benefits of the EU Ecodesign Directive"

³⁹ American Council for an Energy-Efficient Economy (ACEEE), 2012: "The Efficiency Boom: Cashing In on the Savings from Appliance Standards", Appliance Standards Awareness Project, 2012

Development and dissemination of new market instruments

New climate-related market instruments are an important cornerstone for effectively and efficiently achieving greenhouse gas reductions worldwide over the coming decades. For that reason, the Netherlands (in the form of the Ministry of Infrastructure and the Environment) is supporting – by means of money and knowledge – the Partnership for Market Readiness (PMR) launched by the World Bank. From 13 developed countries (including the Netherlands as well as Australia, Germany, Japan, the United Kingdom, the United States, and the European Commission), the participating countries (including Brazil, China, India, and South Africa) are receiving technical and institutional assistance focused on the use of market instruments for reducing greenhouse gas emissions, with a sharing of Best Practices and the performance of peer reviews. With respect to market instruments, the involvement of the business community is crucial. For that reason, there is also intensive cooperation with the Business Partnership for Market Readiness (BPMR), a group of around 25 companies that have joined the PMR and the World Bank in supporting the implementing countries. The Netherlands is also a member and is one of the co-founders of ICAP (International Carbon Action Partnership), which is helping to build up capabilities for emissions trading in emerging economies and to connect the various existing and future national and regional emissions trading systems.

of extra staffing and the setting up of a European Taskforce. The Taskforce should focus on how the standards for energy-saving and CO₂ product standards can be amplified and revised faster, how the scale mark of labelling can be adapted to make a greater distinction in the market, and how companies that are lagging behind and mounting a counter-lobby can be persuaded or compensated.

Further development of CCS

The further development of CCS is an essential component in bringing about a low-carbon economy in the Netherlands, also in industry⁴⁰, and particularly in combination with bio-energy. This combination should enable energy production with a real withdrawal of CO₂ from the atmosphere. It is particularly because of the low CO₂ price that the use of CCS is trailing behind what appears to be necessary for the

attainment of long-term emission goals. The further pricing of CO₂, demonstration projects, and standardisation (such as emissions performance standards or requirements for “capture readiness”) can support the development of CCS.

Under the SER Energy Agreement, it has been agreed that the Cabinet will develop a long-term vision of CCS, bearing in mind public support. At the same time, there will be an examination of the CCS-readying of power stations (i.e. readiness to capture CO₂ and store it when they are built).

Greater insight into our own climate contribution

Various tools already exist to enable companies, authorities, and members of the public to obtain insight into their CO₂ emissions and advice on how to reduce them. Good examples are the CO₂ Performance Ladder⁴¹ and the CO₂ Calculator of the Milieu Centraal environmental organisation⁴². Measuring produces hard information and is instrumental in determining which measures need to be taken where and when. Figure 11 shows how various activities contribute to the carbon footprint of an average household. From this, it can be deduced that most reductions are achievable in the categories of housing, transport, and food & clothing.

In the following ways, the Cabinet wants to promote the development and deployment of instruments that provide information:

- Making existing instruments more widely known to consumers and companies, including the options for acting in a climate-friendly way;
- Improving the national government's own climate performance by means of the CO₂ Performance Ladder;
- Establishing a Green Deal⁴³ so as to base the different instruments on common data and principles. This will improve the instruments and ensure that discussions move away from ‘What is the CO₂ emission of this or that process?’ towards ‘How can I reduce the emissions of this particular process?’;
- Developing a benchmark for the climate performance of local authorities based on the Climate Monitor⁴⁴, an instrument developed by central government that provides an instant insight into the emissions in each area and the way various techniques contribute to these positively or negatively.

Development of knowledge

The Dutch knowledge infrastructure in the climate field occupies a leading position. A lot of research is being conducted into the climate system and possibilities for

⁴¹ See www.skao.nl/home.

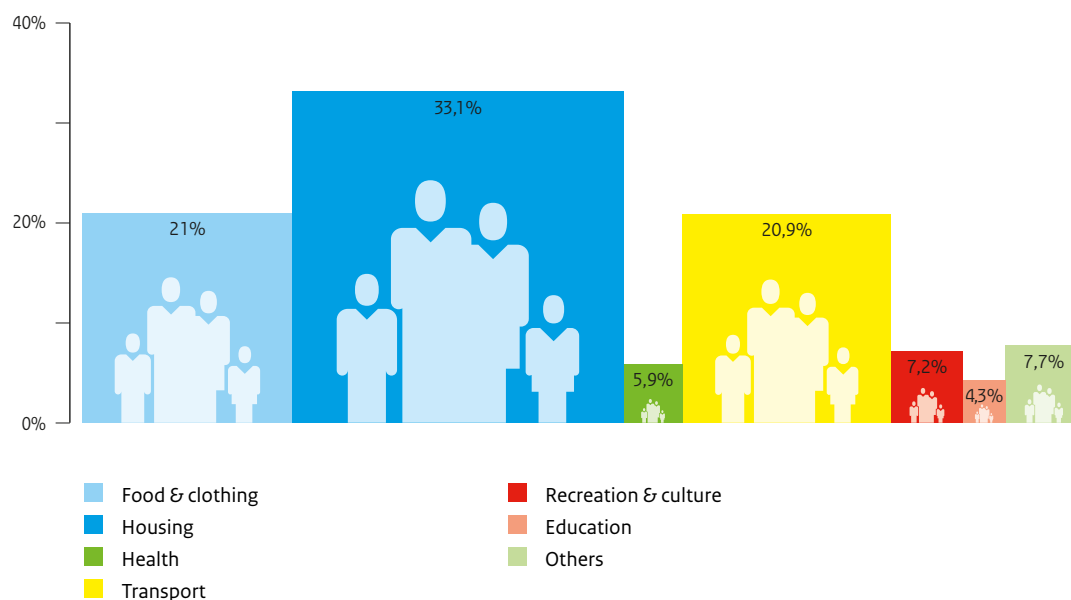
⁴² See www.bit.ly/QvMywy.

⁴³ In any event with the Foundation for Climate-Friendly Procurement and Business (SKAO), Stimular, and Milieu Centraal, which have submitted a request for this purpose.

⁴⁴ See www.klimaatmonitor.databank.nl.

Figure 10 Greenhouse gas emissions per category of an average household in the Netherlands in 2010

Source: Statistics Netherlands (CBS), 2010



mitigation. The knowledge base is up-to-date thanks to periodic inventories, monitoring, and evaluations. When gathering knowledge, we focus on the efficient harmonisation of knowledge-building at the European level, among other things via the EU Horizon 2020 research programme and the Joint Programming Initiatives.

The IPCC is bundling existing knowledge of the climate. The Netherlands is making a substantial contribution to the new series of IPCC reports, the first one of which was published at the end of September 2013. PBL and KNMI will take stock of the implications of the new IPCC reports for the Netherlands. A discussion will get underway in October 2013 on the question of how the IPCC can continue to yield relevant information in the years ahead. The Netherlands wants to see the faster and more transparent sharing of knowledge, also aimed at users other than authorities.

Promoting innovation

Ambitious and stable policy as described in this Climate Agenda generally triggers a growing number of innovations, while more far-reaching innovations require targeted R&D stimulation. PBL has been asked to study how, by means of

a transitional approach, innovation can reduce the costs of clean technology and to report on this matter in 2014. We are striving to:

- Inventory and tackle gaps in the promotion of innovation by combining knowledge on innovations, current stimulation measures within and outside our country, and the preconditions for success. This will include a tie-in with existing instruments in the Netherlands and other countries;
- Remove non-financial barriers for demonstration projects and the application of innovations. For this purpose, it is possible to build upon the results of the SER Energy Agreement, especially as regards Clean Tech, and also on the prevailing innovation policy;
- Continuously improve and innovate by promoting insight and transparency at companies through annual reports, carbon disclosure and accounting, natural capital accounting, the Global Reporting Initiative, carbon footprint, and the introduction of the CO₂ Performance Ladder.

Action Line 5: Spatial facilitation of renewable energy and energy conservation

To enable the growth of renewable energy and at the same time the conservation of energy, the Ministry of Infrastructure and the Environment is cooperating with other authorities on spatially facilitating renewable energy and energy conservation. Space is needed for the extraction/generation, transport and storage of energy in the Netherlands. In conjunction with other authorities, the Ministry of Infrastructure and the Environment is looking for space for renewable energy, is amending legislation, is developing knowledge, and is agreeing arrangements with other authorities. Legislation is being amended with a view to removing obstacles – for example by simplifying noise rules in relation to wind turbines – or providing instruments to other authorities for spatial policy for geothermal energy.

In five National Structural Visions for energy functions (pipelines, high-voltage grid, below-ground, and onshore and offshore wind energy), we are creating a national spatial framework for different forms of renewable energy and are reserving space for large-scale extraction/generation, transport and storage of energy. Offshore wind energy is becoming increasingly important for energy production in the Netherlands. The reservation of space, the designation of areas, and simplification of procedures should make it possible to turn the North Sea into the “renewable energy motor” of the Netherlands as we head towards 2050. Therefore, we are starting by providing space for wind farms in the North Sea to allow expansion to ultimately 4,450 megawatts in 2023, in accordance with the SER Energy Agreement.

An integrated approach to developing areas on a regional scale is an important requirement for ensuring the proper spatial embedding of sustainable energy. The Ministry of Infrastructure and the Environment is encouraging provincial and municipal authorities to adapt their licensing frameworks and to include sufficient space for renewable energy in their spatial plans, and thus to integrally balance energy and other functions.

In the Southern Randstad Adaptive Agenda – part of the Multi-year Programme for Infrastructure, Spatial Planning, and Transport (MIRT) – the national government and the regional authorities are making arrangements for the regional fulfilment of national and regional ambitions. Sustainable energy is an important part of this operation, in the light of the economic opportunities that exist. This topic also occurs in other regional agendas that are now being completed. In the coming years, the national government will work with the regional authorities on fleshing out the agendas. An important element will be the development and dissemination of knowledge.

Action Line 6: Towards sustainable mobility

Mobility causes approximately 20% of greenhouse gas emissions in the Netherlands. Making mobility more sustainable will therefore contribute significantly to attainment of the Dutch climate objective. The Cabinet welcomes the ambitions set out in the SER Energy Agreement, namely a maximum emission by the mobility sector of 25 Mtonne CO₂ in 2030 – a reduction of 6 Mtonne on top of existing policy, or roughly speaking the emissions caused by 3 million cars. As a dot on the horizon, the SER Energy Agreement is aiming for a situation whereby all cars, with the right energy carrier, must be technically equipped to drive in a carbon-neutral way. This transition presents a significant challenge but also an opportunity for green growth: research conducted by Cambridge Econometrics⁴⁵ shows that a continuous tightening of CO₂ standards may lead to €75 billion in fuel savings and 440,000 new jobs in the EU in 2030. A study is currently in progress into the potential for the Dutch business community. Developments in vehicle and transmission technology are expected to contribute approximately 70 to 80% to attainment of the objective of not more than 25 Mtonne of CO₂ emissions in 2030. The final 20 to 30% is achievable only by resolutely pursuing a structural change of behaviour. This behavioural change, such as less travel and more efficient transportation, will also be conducive to better accessibility and air quality.

Sustainable mobility is building upon the SER Energy Agreement

The SER Energy Agreement forms the basis of an agenda of the Cabinet and partners for achieving the defined goals. Through the actions and the measures – including policy – contained in the SER Energy Agreement and this Climate Agenda, the Cabinet is fleshing out the green growth strategy towards sustainable mobility announced earlier⁴⁶. In the coming years, the Cabinet will vigorously pursue implementation of the arrangements that it has taken on board. In the near future, the parties will, among other things, set down a shared vision of the future fuel mix, public-private partnerships for market preparation and innovation, policies aimed at reducing emissions at the source (CO₂ standards and test cycles), a long-term communication campaign aimed at changing behaviour, the reduction of CO₂ emissions by large companies, and arrangements for a public infrastructure of charging points for electric vehicles. The package needs to be a credible step (transition path) towards attainment of the goals for 2050. Steering towards a reduction of CO₂ in the fuel supply chain is essential for the post-2020 period. At the European level, the Netherlands will press for a further reduction of greenhouse gas emissions.

⁴⁵ Cambridge Econometrics: “An Economic Assessment of Low-Carbon Vehicles”

⁴⁶ Parliamentary Papers 2012–13, 33 043, No. 14

Initiatives by business

De Rooy Transport is a logistics company that not only uses the most advanced truck technology – including Euro6 and electric and green-gas vehicles – but that is also making its own operations sustainable by means of a large solar panel park, movement sensors, a green zone, and its own CO₂ offset park behind their site in 't Goy. The company also has lifestyle programmes like free fruit, a company physiotherapist, regular medical checkups, and staff programmes for health, vitality, sustainable employability (via a lifestyle coach), budget coaching, safety, and fuel consumption. De Rooy Transport is demonstrating that even in the transport sector, a great deal is possible in terms of sustainable business and that this contributes to a more successful enterprise.

GreenFox is a company that specialises in making existing lighting systems work energy-economically. In a unique way, they renovate fittings and light boxes to the state of the art instead of replacing them. For a small investment (roughly one-third of the new price), this results in an average energy-saving of 40%. GreenFox works together with sheltered workshops (SWPs) throughout the Netherlands and thus creates benefits for customers (lower energy costs and an earn-back time of about two-and-a-half-years on average), people (employment of persons with difficulty in finding work), and society (reduced CO₂ emissions). The work is performed on site while employees can continue working normally.

Gulpener Bierbrouwerij is a family company that has been brewing beer in the Netherlands in the most sustainable way possible since 1825. The company uses raw materials (barley, wheat, rye, spelt, and hop) that it grows itself in an environment-friendly way. Among other things, this burdens the soil as little as possible and also avoids the need to ship in raw materials from other countries. What's more, it assures farmers in the province of Limburg of a secure sales market. Gulpener is the first brewery with an environmental quality label for all of its beers and the only brewery with its own hop fields.

In its production process, Gulpener strives to substantially reduce the burden on the environment by reducing its consumption of energy and water. Cooperation between Gulpener and the utility companies in Maastricht has resulted in the brewer switching entirely to green energy. A noteworthy fact is that a large proportion of the green energy is generated by hydropower from small rivers and brooks in Limburg. This has elevated Gulpener to a real frontrunner in its sector.

All types of mobility will make their contribution

The greatest challenge for achieving the envisaged reduction of emissions is in the field of the transport of people and goods by road, which accounts for roughly 85% of CO₂ emissions. The aviation and shipping sectors do not count towards the attainment of the national CO₂ objective, but this does not mean that no efforts will be required in this respect. Their relative share in global CO₂ emissions will increase sharply due to the expected growth of volume. For the shipping and aviation sectors, the Cabinet is pressing internationally (in the IMO and ICAO) for global arrangements for market-based measures, such as emissions trading or a levy-based fund. These sectors are already implementing various sustainable innovations and measures, such as economically designed vehicles and engines, the use of bio-fuels, and efficient transport. For example, once a week KLM flies from New York to Amsterdam partly on bio-kerosene made from spent frying oil, while the ambition of Netherlands Railways (NS) is to operate trains in a carbon-neutral way by year-end 2015, and the larger Dutch seaports are granting a discount on port dues based on an environmental index.

Sustainability as an integral part of policy and action

As its own contribution to the transition, the Ministry of Infrastructure and the Environment wants to integrate sustainability as an item in its deliberations on projects in the MIRT process, with the principal goals being to improve accessibility and to strengthen the spatio-economic structure. Sustainability also needs to have a knock-on effect in our actions as employer and commissioner – through RWS – of major infrastructural projects. As part of the “*Beter Benutten*” (“Better Utilisation”) programme, we are examining how greater synergy can be brought about in the regional approach to accessibility and sustainable mobility.



Action Line 7: Towards a different use of materials and a sustainable industry

The different use of materials (more efficiently, more bio-based, and from waste to raw material) can make a major contribution to preventing climate change. However, this does require a further development towards a circular economy to close the chains from production to waste processing. The challenge for industry is not only to reduce direct emissions of CO₂ and other greenhouse gases, but also to cooperate in the chain and to create new, sustainable products that also enable other parties to reduce their carbon footprint. Cooperation within the chain is crucial to the optimum utilisation of this potential. This is particularly evident in the bio-based economy and in the C2C (Cradle-to-Cradle) principle.

The importance of taking steps for the climate in these fields is among other things evident from the TNO report entitled “*Kansen voor de circulaire economie*” (“Opportunities for the circular economy”)⁴⁷, which makes reference to a potential reduction of 17 Mtonne for the Netherlands.

Optimisation in the chain

The sectoral studies conducted as part of the multi-year agreements for energy conservation reveal significant possibilities for reduction, such as utilisation of regional residual streams. A key matter requiring attention in the transition towards a more bio-based economy is the climate effects caused by the growing of biomass. The sustainability of the production and use of biomass must therefore be laid down in clear criteria that lead to greenhouse gas reductions.

Application of the cascading principle (i.e. the most efficient use possible of biomass in the supply chain) may favourably influence the greenhouse gas balance.

The Ministry of Economic Affairs is examining how a more structured deployment of and better cohesion between existing instruments might lead to faster learning from

⁴⁷ Appendix to Parliamentary Paper 33 043, No. 15

experience and to more effective and better facilitation and information. The “From Waste to Raw Material” programme being coordinated by the Ministry of Infrastructure and the Environment is focused on a few specific supply chains and on making the front end of the chain sustainable⁴⁸. There will be a search for additional ways of promoting a situation where companies work on a reduction of the CO₂ emissions in their supply chains.

Further improvement at the back end of the chain

In the past decades, considerable progress has been made in the Netherlands in reducing emissions in the waste phase. In the policy letter entitled “*Van afval naar grondstof*” (“From waste to raw material”), it was announced that waste policy would be scrutinised with a view to focusing it on a circular economy and innovation. From a climate point of view, there are three challenges:

- How to deal with the overcapacity of incinerators in the Netherlands, partly with a view to their contribution to air pollution and the effects – including climate effects – of alternative processing of the foreign waste currently also being stoked;
- Acceleration of the growth of the currently still small share of fermentation of vegetable, fruit and garden waste and green waste. Fermenting it first results in the production of biogas and makes composting more energy-efficient, while the quantity of compost remains equal;
- The frequent unavailability of figures on the climate gain of recycling throughout the chain or their unsuitability for use by the business community. A greater insight into this question might lead to more climate-friendly decisions. To make the climate gain more transparent and to make progress, we are – in cooperation with companies – examining in what way the CO₂ Performance Ladder can be used.

Reducing other greenhouse gases in non-agricultural sectors

Over the past ten years, major successes have been notched up in the Netherlands in reducing emissions of other greenhouse gases by non-agricultural sectors: methane, nitrous oxide, and F gases (HFCs, PFCs, and SF₆). Thanks largely to measures in industry and waste management, the period between 1990 and 2010 saw a reduction of 60%. In 2010, the emissions still totalled 12.4 Mtonne of CO₂ equivalents. Under current policy, it is estimated that emissions in 2020 will be around 10 Mtonne of CO₂ equivalents and in 2030 around 9 Mtonne of CO₂ equivalents. The national government sees limited possibilities for further reducing emissions in 2030 to 7.5 Mtonne of CO₂ equivalents and is pursuing the following actions in addition to current policy:

- Phasing-out of the use of HFCs and introduction of bans on specific applications via the EU review of the F Gas Regulation;

- Inclusion of (tighter) emissions requirements in legislation or environmental licences if this looks likely to be effective given the technical developments. In consultation with the Combined Heat and Power (CHP) plant industry, for example, research is being conducted into the cost-effective and climate-effective reduction options that in due course may make it possible to tighten up the standard for methane emissions for CHP gas engines in the national Activities Decree;
- Consistent financial incentives for use of new low-emission and energy-saving techniques (such as the EIA and MIA/Vamil arrangements);
- Arrangements or Green Deals with companies, for example on cooling in a number of sectors;
- International research into possibilities for reducing emissions of nitrous oxide (N₂O) caused by sewage treatment.

Additionally, the Cabinet is continuing to pursue without letup the phasing-out of substances that destroy the ozone layer, such as halons and HCFCs, in line with European legislation. The contribution made by emissions of CFCs has been minimised since 1990, and since then, emissions of HCFCs have been halved to approximately 1 Mtonne of CO₂ equivalents. Many of these substances are also very strong greenhouse gases.

Action Line 8: Towards more productive and climate-friendly agriculture and horticulture

The growing world population is causing a greater demand for safe and healthy food, including animal proteins. This is leading to increased use of raw materials and agricultural lands that are becoming increasingly scarce. Therefore, the challenge is to ensure that there is sufficient food for everybody (food security), without further increasing the burden on the environment.

The Dutch agro complex is a global player when it comes to exporting high-quality agro products, food, and sustainable production systems (such as low-emission and animal-friendly stalls and low-energy greenhouses). The sector can play a key (international) role in this essential greening process. In that respect, the export of knowledge and technology will benefit from a good position in the domestic market.

Primary agriculture and horticulture account for approximately 12% of our national emissions of greenhouse gases. In the coming period, the climate policy for agriculture and horticulture will build upon the arrangements agreed in the Clean and Efficient Agro Sectors Covenant (2008) and the arrangements made with the horticulture sector about the CO₂-settlement scheme.

⁴⁸ Parliamentary Paper 33 043, No. 15

CO₂ gains in the agriculture and horticulture sectors

In 2011, glasshouse horticulture used 52% less energy per unit of product than in 1990. The sector made efficiency improvements mainly by modifications in cultivation, energy conservation, and the use of gas motors with a CHP plant⁴⁹. The total CO₂ emissions of the agriculture and horticulture sectors (including energy generated for sale) will decrease under the adopted policy to 7.1 Mtonne⁵⁰ in 2020⁵¹. Glasshouse horticulture will account for the largest share of 85%. The energy challenge agreed in the SER Energy Agreement will be amplified in a policy memorandum entitled “*Visie Tuinbouw*” (“Vision of Horticulture”) that is due to be published and that will address improvement of the CO₂ sector system as of 1 January 2015.

Other greenhouse gases in the agriculture and horticulture sectors

Under the proposed policy, the emissions of methane and nitrous oxide in the agriculture and horticulture sectors will amount to 15.8 Mtonne of CO₂ equivalents in 2020. This falls within the climate policy goal for 2020. Emissions of nitrous oxide will decrease on account of a reduction of the chemical fertiliser load through the use of precision agriculture and less grazing. Up to 2030, the emissions of methane and nitrous oxide will – if policy remains unchanged – decrease to 15.2 Mtonne of CO₂ thanks to a further increase in manure fermentation and precision agriculture. The agricultural sectors have relatively limited possibilities for reducing emissions⁵². Methane and nitrous oxide calculations made by PBL indicate that up to 2030, there is a technical reduction potential of 4.5 Mtonne of CO₂ equivalents. Measures are being directed towards a further reduction of leakage losses and towards more efficient production by using fewer inputs per unit of product. Most of the options currently involve net costs, so they will not be used willingly. Cost reductions through innovations are important to bring about wider usage. Achievement of one-third of this technical potential will elevate the Dutch agriculture sector to a low-carbon economy within the cost-effective climate path outlined by the EU. In the meantime, a few progressive climate-friendly arable farmers have succeeded in producing in a climate-neutral way for a period of twelve months⁵³.

Based on the present cooperation with the business community, the Cabinet will examine the matters on which climate efforts can be focused in future in order to achieve a further reduction of emissions. At the present time, the sector is focusing largely on production of renewable energy in order to reduce greenhouse gases. A climate ambition and an economic perspective must go hand-in-hand in this respect. There will be continued support for the current climate policy in the sectors, even after the disappearance of the marketing boards (PBOs) as of 1 January 2014, but the financial contribution of the sectors concerned has not yet been guaranteed.

Sustainable food consumption

Besides pursuing the sustainability of food production and land usage, it is also possible to achieve climate gains on the consumption side. Food consumption accounts for approximately 20% of the carbon footprint of consumers. Changes to the menu can reduce the footprint by approximately 30%⁵⁴. Among other things, this means less consumption of animal proteins and the reduction of food wastage. Production efficiency improvements can reduce the footprint by a further 10%. Therefore, the national government is endeavouring to make consumers and producers aware of the need to prevent food wastage. In a policy memorandum entitled “*Duurzame voedselproductie*” (“Sustainable Food Production”) ⁵⁵, the State Secretary for Economic Affairs has addressed this matter. The measures are:

- To provide information to consumers about food wastage via the Netherlands Nutrition Centre (VCN);
- To adopt an integrated approach to food wastage in the supply chain by seizing economic opportunities for companies.

The Local Climate Agenda will also help to scale up successful initiatives for reducing food wastage, such as Food Battles and reduction of CO₂ emissions related to food products.

In a **Food Battle**, households get incentives for limiting wastage in their local supermarket. They keep accurate records of how much food they throw away. A trial in Apeldoorn, Eerbeek, Brummen, and Lochem showed that within three weeks, this resulted in 20% less food wastage.

⁴⁹ LEI Wageningen UR, 2012: “*Energiemonitor van de Nederlandse glastuinbouw 2011*” (“Energy monitor of Dutch glasshouse horticulture 2011”)

⁵⁰ Excluding changes due to shifts in ETS participants

⁵¹ Netherlands Environmental Assessment Agency (PBL) / Energy Research Centre of the Netherlands (ECN), 2012, “*Referentieraming energie en emissies: actualisatie 2012*” (“Reference estimate for energy and emissions: update 2012”)

⁵² Source: European Commission, 2011: “Roadmap for moving to a competitive low-carbon economy in 2050”

⁵³ BoerenKlimaat.nl, 2013: “*Klimaatneutraal in de praktijk: Ervaringen en resultaten van de deelnemers van BoerenKlimaat.nl*” (“Climate-neutral in practice: experiences and results of participants in Boerenklimaat.nl”)

⁵⁴ Netherlands Environmental Assessment Agency (PBL) 2013: “*De macht van het menu. Opgaven en kansen voor duurzaam en gezond voedsel*” (“The power of the menu. Challenges and opportunities for sustainable and healthy food”)

⁵⁵ Parliamentary Paper 31 532, No. 118



4 Next steps

The Climate Agenda contains ambitions, goals and actions to prevent and to adapt to climate change. But it is more than that: it also provides guidance for companies, civil society organisations, and members of the public for going forward together towards a sustainable society. To complete this road successfully, there is a need for consistency in policy as well as its execution and adjustment. Arrangements agreed in the SER Energy Agreement will to a large extent assure attainment of these goals:

- A standing committee that will concern itself with the implementation of goals and measures will be established by the SER parties to assure progress of the SER Energy Agreement and;
- An evaluation of the SER Energy Agreement planned for 2016 will also be used to make further adjustments to the set of instruments with a view to achieving the goals for 2020, 2030, and 2050.

The basic principle of the Climate Agenda is for the specialised ministries that are involved to be jointly responsible for achieving the ultimate goal but to remain individually responsible for their own policy fields.

This is to be accomplished through the following actions:

- Progress on the actions contained in the Climate Agenda will be reported every two years to the Lower House of Parliament. The first progress report will be published at year-end 2015. It will be based on PBL's Assessment of the Human Environment and the reference estimate prepared every four years by PBL and ECN on the development of greenhouse gas emissions and the attainment of the policy objectives for climate and energy;
- In response to a parliamentary investigation into the costs and effects of climate and energy policy⁵⁶ and the inconsistencies and gaps that it revealed, a consistent methodology for climate evaluations will be developed and deployed;
- PBL will be asked to submit a proposal, not later than 1 July 2014, for a compact and pragmatic system for monitoring and evaluating the adaptation challenges, so as to perform a baseline measurement as of 1 September 2014.

⁵⁶ Parliamentary Paper 33 193, No. 3

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