



ASN Bank

Climate Policy

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A Introduction

Human rights, climate change and biodiversity are the pillars of our sustainability policy. Together they incorporate almost all issues that are important in everything that we do, including the selection of our investments:

- Climate change: how do we select our investments in such a way that they contribute to a safe, liveable and stable climate for people and nature?
- Biodiversity: how do our investments contribute to a clean environment and protection of nature?
- Human rights: how do we protect people's rights through our investments?

The common ground beneath these three pillars is the concept of justice¹. This is the essence of our sustainability vision.

Human rights and climate change

In 2010, the assembly of nations meeting in Cancún, Mexico, stated for the first time that climate change posed a direct as well as an indirect threat to the human rights of every individual and every society in the world. This statement was made in connection with the 1992 convention on climate change (United Nations Framework Convention on Climate Change, UNFCCC). The resolution in question refers to the rights to housing, health, self-determination and livelihood as examples of rights that have come under pressure from climate change worldwide. According to the resolution, the protection and safeguarding of human rights provide an excellent framework for reaching sound, coherent and legitimate national and international political decisions about climate change.²

In July 2011, the United Nations Security Council took it one step further, stating that climate change can also threaten world stability and peace. Floods, long periods of drought and other extreme weather conditions can lead to regional food insecurity and the displacement of large groups of people, creating refugee flows. This may jeopardise peace, public order and security, not just in the country of the climate disaster but also in surrounding countries.³

In other words, climate change has a major impact on people's lives worldwide, and that impact is becoming increasingly severe. The poorest regions of the world will be hit the hardest. Human rights principles, such as justice, are vital in the response to climate change. We endorse that view. As Gro Harlem Brundtland put it:

*"(...) there were those who wanted its considerations to be limited to "environmental issues" only. This would have been a grave mistake. The environment does not exist as a sphere separate from human actions, ambitions and needs (...)."*⁴

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A.1 Climate change and climate change policy

The earth's climate has changed regularly throughout its history. The current change is primarily due to the activities of man: global warming is attributable to greenhouse gas emissions. As a sustainable organisation, we aim to:

- contribute to the preservation of a safe, liveable and stable climate for people and nature, and
- limit the – now inevitable – consequences of climate change.

¹ Based on Our Common Future, Brundtland Report, 1987: <http://www.un-documents.net/ocf-cf.htm>.

² See: UNFCCC, The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. This is also discussed in other UN documents, such as: United Nations Human Rights Council, Resolution 10/4 Human Rights and Climate Change, 25 March 2009.

³ United Nations Security Council, Statement by the President of the Security Council, S/PRST/2011/15*, 20 July 2011.

⁴ Our Common Future, Brundtland Report, UN, 1987: <http://www.un-documents.net/ocf-cf.htm>.

This document describes how we intend to do so. It formulates our objectives and strategy for tackling the problem of climate change. This requires clear choices, which we will make and explain in this policy paper.

'Climate change problem' means the effects of global warming resulting from greenhouse gas emissions caused by human actions. We endorse the reports drafted by the International Panel on Climate Change (IPCC) about the facts underlying human-induced global warming and refer to these reports.

Key conclusions from those reports are the following [1; 2; 3; 4]:

- It has been irrefutably established that the concentration of CO₂ in the atmosphere has increased and that the earth is warming.
- It has been established that in all likelihood (i.e. with a scientific certainty of 90% to 95%):
 - global warming is the result of human-induced greenhouse gas emissions into the atmosphere;
 - the main human activity contributing to the increase of CO₂ is the burning of fossil fuels – land use change is also a major contributor, but to a lesser extent;
 - the global temperature rise in the 21st century will exceed the rise of 0.74 degrees Celsius in the 20th century as well as the rise of 0.8 degrees Celsius observed since records began;
 - the CO₂ concentration in the atmosphere has increased from 379 ppm⁵ in 2005 to 390 ppm in 2011; that is well above the natural range of 180 ppm to 300 ppm of the last 650,000 years.

Greenhouse gases

Apart from carbon dioxide, there are five more so-called 'Kyoto greenhouse gases'. Although they contribute to the aggravation of the greenhouse effect to a much lesser extent than CO₂, their contribution is still considerable: together they account for around 45%. These are the LLGHGs (Long Lived Greenhouse Gases), in decreasing order of importance: methane (CH₄); nitrogen oxide (N₂O); perfluorocarbons (PFCs); hydrofluorocarbons (HFCs) and sulphur hexafluoride. The 'Montreal gases' (CFCs and HCFCs) and water vapour in the higher layers of the atmosphere also contribute to the greenhouse effect.

The degree to which all these gases contribute to the greenhouse effect is expressed in carbon dioxide equivalents (CO₂eq). Accordingly, where this document refers to CO₂eq, we mean all greenhouse gases taken together; in other cases, we mean only CO₂.

Water vapour in the troposphere is also a greenhouse gas. Depending on the temperature, water can condense, freeze and vaporise. Consequently, physical conditions determine whether water vapour leads to temperature changes. Water vapour in the atmosphere increases at higher temperatures. This way, water vapour aggravates the greenhouse effect caused by other factors.

New international studies about climate change are being published all the time. They make it increasingly clear that climate change is a very persistent problem. Further global warming has become inevitable by now due to the delayed effect⁶ in the climate system. If greenhouse gas emissions are reduced now, we will not notice this until after 2040. This means that temperatures will continue to be affected by current emissions for a long period of time, even if we stabilise global carbon emissions today.

⁵ ppm is parts per million, an indication of the concentration of CO₂ in the atmosphere.

⁶ Following elevation of the concentration of CO₂ in the atmosphere, it takes at least thirty to fifty years (forty years on average) for the average temperature of the atmosphere and the earth's surface to rise.

Climate controversies

The climate is a complex system affected by hundreds of variables. There is still much to learn about the exact influence that different variables have on the climate. This fuels scientific debate but also regularly creates controversies. We have concluded that sufficient scientific proof has been provided for the human origin of the current climate change issue [18; 24; 25].

A reduction of carbon emissions is not yet in sight. Despite the economic crisis, global carbon emissions in 2011 exceeded the levels of 2010 by 3 percent. Worldwide emissions rose by an average of 2.7 percent per year in the last decade [8]. This rise is even accelerating: in the period 1990-1999 emissions rose by 1.1% per year [9]. Greenhouse gas emissions are currently increasing according to the IPCC scenarios with the highest growth figures, or even more. A continuation of greenhouse gas emissions in this way will make it increasingly less likely that the temperature rise will remain below the internationally agreed 'safe' threshold of a maximum temperature rise of 2 degrees Celsius or 450 ppm [7; 8; 9; 10; 11; 12; 13; 14]. Many scientists have pointed this out.

Dangerous climate change

The discussion about what level of CO₂ in the atmosphere may be considered 'safe' enough to prevent dangerous climate change⁷ has been going on for many years. Dangerous climate change means that points of no return are passed and climate processes are initiated that probably cannot be reversed. At the same time, the process of climate change is accelerating and the climate is rapidly undergoing changes that would ordinarily take centuries or even millennia. Mankind cannot prepare for such an abrupt climate change [15; 16; 17; 18; 19].

At the same time, a growing number of scientists point out that the safe upper limit of global warming is 1.5 degrees Celsius, or around 350 ppm [15; 16; 17; 18; 19]. Scientific research has revealed that the damage caused at a temperature rise of 2 degrees Celsius or more may be much greater than previously assumed.

The consequences of climate change are becoming increasingly visible. Temperature measurements started around 1850. Since that time, nine of the ten hottest years to date were in the 21st century, the exception being 1998 in the last century [<http://data.giss.nasa.gov/gistemp/2011/>]. Glaciers and pack ice are disappearing as we speak [20; 21; 22]. Extreme weather conditions are also becoming increasingly common and more intense [23], and forecasts about rising sea levels have been adjusted upwards.

Disappearance of Arctic summer ice

In 2007 the IPCC still expected the North Pole to be ice-free during the summer for the first time around the year 2100. However, studies have indicated that the North Pole will in all likelihood be ice-free during the summer well before the middle of this century. The ice cover has been shrinking every summer by an average surface twice the size of the Netherlands for the last thirty years. Scientists say that this rapid melting of ice masses is a matter of grave concern, as ice masses normally change very slowly, over periods of hundreds to thousands of years [20; 21; 22].

⁷ Article 2 of the Climate Change Convention (United Nations Framework Convention on Climate Change (UNFCCC)) reads as follows: 'The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.'

Extreme weather and further sea level rise

Scientists increasingly link extreme weather to climate change (<http://www.giss.nasa.gov/research/news/20120806/>) [23]. Sea level rise forecasts have been adjusted upwards since the IPCC published its report in 2007. In recent years various research groups have concluded that a rise of one to two metres by 2100 may be possible. This would have major consequences for islands and countries with long, low coastlines that do not have the means to protect themselves. One example is Bangladesh (source: KNMI).

Global Carbon Budget

Based on their calculations of the remaining Global Carbon Budget, scientists estimate that we can still release approximately 565 billion tonnes of CO₂ into the atmosphere by burning fossil fuels until around 2050. If we do not burn more, there is a reasonable chance that we will manage to stay below the climate threshold of up to 2 degrees of global warming [7; 8; 14; 41; 42]. In 2011 global emissions were 34 billion tonnes of CO₂, a new record. Worldwide emissions grew by an average of 2.7 percent in the last decade [5]. Research indicates that proven reserves of fossil fuels in the ground are now approximately 2,795 billion tonnes of CO₂, five times more than the remaining Global Carbon Budget. Oil, gas and coal companies are already counting on extracting those reserves [39; 40].

A.2 Mitigation and adaptation

As further global warming is unavoidable, it looks as if it is already too late to solve the climate change problem completely. That is an important fact shaping our climate change policy, as it means that adaptation is inevitable. In other words, our climate change policy must include dealing with the consequences of climate change, such as drought, flooding and loss of biodiversity. Mitigation is necessary as well: preventing temperatures from continuing to rise in order to limit the climate change problem. After all, curbing the rise in temperatures increases the options for adaptation and may possibly prevent further dangerous climate change. Consequently, mitigation and adaptation are strongly interrelated.

Given current developments it is also becoming increasingly important to contribute to adaptation, especially in those areas that are particularly hard-hit by the effects of climate change, such as low areas and regions already experiencing droughts [26]. We prioritise mitigation for two reasons: first of all to increase the chances of preserving a climate that is liveable for people and nature, and secondly because many reports show that mitigation is much cheaper than adaptation [7; 8; 27]. However, adaptation will also become vital.

A.3 Towards a carbon-neutral⁸ society

As stated earlier, we have already exceeded the safe climate change threshold of a temperature increase of around 1.5 degrees Celsius, or approximately 350 ppm of CO₂ concentration in the atmosphere. Global carbon emissions are increasing faster every year, and there is no sign of any reduction yet. The ultimate level of global warming will mainly depend on the time at which carbon emissions are stabilised and the rate at which emissions are then reduced. The further into the future that time lies, the more CO₂ will accumulate in the atmosphere, and the greater the average global temperature rise will be. The sooner carbon emissions are reduced, the higher the chances that global warming will remain below the limit for dangerous climate change.

One condition for the latter aspect is that the world reaches a turning point in its emissions before 2020. After that we must get to a net carbon-neutral situation as quickly as possible, but certainly by the year 2050. After that, Western countries would even have to become carbon negative, removing CO₂ from the atmosphere⁹ [10; 11; 12; 13; 14]. This requires a very strong reduction of carbon emissions in the short term [6; 7; 8; 9; 10; 11; 13]. The longer we wait, the more difficult and costly it will become for later generations. Richer countries should take the lead in creating a carbon-neutral world as quickly as possible. We want to be at the forefront of this effort.

The 2015 Paris Climate Agreement

Presented at the Paris Climate Change Conference on 12 December 2015, the Paris Agreement (also the Paris Climate Accord or Paris Climate Change Agreement) is an international convention to curb global warming.

The Agreement is the first legal document to lay down that global warming should be kept below 2 degrees above pre-industrial levels. In addition, it lays down the aim of limiting global warming to 1.5 degrees.¹⁰ Furthermore, the use of fossil fuels should be quickly put to a halt, as it is one of the main causes of excessive carbon emissions.

The Agreement requires Member States to draw up national climate plans (National Determined Contributions (NDCs), or Intended National Contributions (INDCs) in respect of intentions), with ambition levels rising with every new plan. It also expects rich countries to financially assist developing countries in reducing their emissions.

Covering the period after 2020, the Agreement was to take effect only after ratification by 55 countries jointly emitting more than 55% of greenhouse gases. The Agreement was ratified remarkably fast: the threshold was reached as early as 5 October 2016, so that the Agreement could take effect on 4 November 2016, right before the 2016 Climate Change Conference in Marrakech.¹¹

⁸ Being carbon-neutral means that your actions or a company's actions do not adversely impact the climate (source: Climate Neutral Group).

⁹ 'Given the present trend in emissions and scientific analyses of required reductions, action needs to be taken urgently to increase the level of mitigation action so that emissions peak before 2020. This is necessary to ensure that emission levels by 2020 are consistent with mid- to long-term technologically and economically feasible pathways to hold warming below 2 degrees Celsius, and ultimately leave open the option of limiting warming to 1.5 degrees Celsius in the longer term.' From: Closing the 2020 emissions gap: Issues, options and strategies, August 2012: p. 1.

¹⁰ http://unfccc.int/paris_agreement/items/9485.php

¹¹ http://unfccc.int/paris_agreement/items/9444.php

As from 2023, there will be a Global Stocktake every five years to assess the reduction of emissions [3].

In our view, the problem of climate change is a very urgent matter. It requires all of us to do our utmost to contribute to a solution. As a bank, we intend to do so by personally contributing as much as we can and being a role model for other organisations.

We have therefore replaced our former goal of carbon neutrality by 2030 with a more ambitious one: we want our investments to be net carbon positive by 2030¹².

Today, some banks occasionally measure their climate impact. Yet as far as we are aware, not a single bank in the world has formulated a goal like ours. We, however, believe that this is necessary. Moreover, many studies have revealed that the transition to a carbon-neutral economy is feasible [see text box; 29] – as early as 2030, in fact.

Strategies for a carbon-neutral society

- There are various well-substantiated, feasible strategies to meet our energy needs in a way that prevents dangerous climate change. The Melbourne Sustainable Society Institute, for example, has collected the most promising strategies in the Post Carbon Pathways project [29]. Examples include:
- A Plan to Power 100 Percent of the Planet with Renewables by Jacobson, M.A. and Delucchi [30];
- Zero Carbon Britain 2030: A New Energy Strategy, The second report of the Zero Carbon Britain project by the Centre for Alternative Technology [31];
- The Energy Report: 100% renewable energy by 2050, Ecofys & WWF [32];
- Global Energy Assessment: toward a sustainable future, International Institute for Applied Systems Analysis, 2012 [33];
- Roadmap 2050: a practical guide to a prosperous, low carbon Europe. www.roadmap2050.eu/attachments/files/Volume1_fullreport_PressPack.pdf [34].

In the years ahead, we will discuss with our stakeholders how exactly we will do this (see section A.4, Our role). We already have a variety of instruments at our disposal to achieve that goal. For example, we do not invest a penny in fossil energy, but we do invest as much as possible in renewable energy. In addition, we are collaborating with partners to accelerate the introduction of solar energy in the Netherlands and introduce energy saving measures in residential construction. Going forward, we will develop and deploy new instruments. One such example is the method we have developed to measure the carbon footprint of all of our loans and investments.

Customer perspective

We guarantee our customers that we continually aim to increase our contribution to reducing the climate change problem per euro saved or invested. We are also committed to creating a safe climate in every other way open to a bank. At the same time, we want to achieve returns that will safeguard a healthy future for our organisation. This is our way of showing that profitability and an ambitious climate change policy go together very well. At the same time, we also recognise the necessity of managing the funds entrusted to us by our customers in a manner that does justice to their expectations.

¹² <https://www.asnbank.nl/nieuws-pers/ambitie-nieuwe-directie-asn-bank-klimaatpositief-in-2030-.html>

A.4 Our role

We seek to contribute to solving the climate change problem, primarily as an investor but also in other ways.

Our role as an investor

In relation to our core business, we have a role as a financier and an investor. We use three strategies to achieve our mitigation and adaptation goals:

- A **Selection**: we avoid financing and investing in activities that are major contributors to greenhouse gas emissions. Instead, we invest in low-emission activities.
- B **Engagement**: we engage with companies with lagging climate change performance to encourage them to improve their performance. We also seek to encourage companies to utilise opportunities for adaptation. Sometimes interim investment evaluations reveal that a company's climate change performance lags behind the performance of its peers. This may ultimately lead us to withdraw the investment. Before we do so, we will approach the relevant company and ask it to improve its climate change performance or step up its efforts in the area of adaptation. See also the Engagement Policy [35].
- C **Voting**: at shareholders' meetings, we vote in favour of companies' measures to improve their climate change performance, in favour of linking remuneration to climate change performance, and in favour of the implementation of adaptation measures. In the United States in particular, and elsewhere as well, shareholder proposals are regularly included on the agendas of shareholders' meetings. They often concern climate change. Shareholders may ask the company, for example, to improve its climate change performance by investing in renewable energy or by improving its energy efficiency. We then vote in favour of such motions, in favour of linking the board's variable remuneration to climate change targets or, for example, in favour of enhanced transparency in and targets for climate change performance, as well as adaptation measures. See also the Voting Policy [36].

Our role as a driving force

We are also working on our climate change policy by promoting climate-saving measures among all sorts of target groups, for example:

- We enter into discussions with stakeholders and make choices in the area of climate change.
- We are initiators of the Platform Carbon Accounting Financials (PCAF).
- Via the ASN Foundation and by sponsorship, we support projects that contribute to climate protection, such as renewable energy.
- We support civil society organisations that share our view on the climate by creating publicity for them or contributing to their campaigns.
- We get people on board and involve them in our climate change activities, for example through our partners and the website voordewereldvanmorgen.nl ('for the world of tomorrow'), our online platform for people who take sustainability to heart and our crowdfunding platform.
- We launch campaigns targeting the government and companies for the purpose of contributing to a carbon-neutral economy.

Our role as advocate

We also implement our Climate Change Policy by acting as an advocate in domestic and international forums such as:

- Climate Change Working Group of the Sustainability Platform of the Dutch Banking Association (NVB);
- Carbon Disclosure Project;
- UNEP FI;
- Global Compact Caring for Climate Initiative;
- Dutch Renewable Energy Association (NVDE).

Our role as an employer

Our climate change investment policy is reflected in how we tackle our immediate climate impact. Our objective is to continue to be a fully carbon-neutral office organisation. To that end, we have taken the following measures, or will take them some time in the future:

- We continually reduce our carbon emissions per FTE compared to 2006;
- We only use green energy;
- We fully offset all other carbon emissions;¹³
- We have a climate-conscious company car policy;

¹³ Carbon offsetting projects must meet the gold standard. See: <https://www.goldstandard.org/>

- We are located in an energy-efficient renovated building.

B Application of the sustainability policy

We use our climate change criteria when analysing the sustainability of companies and countries. On this basis, we determine which companies and countries will be accepted into our balance sheet or universe, which is the pool of companies and countries eligible for investment. We also use the criteria to re-analyse companies and countries that have already been accepted into our balance sheet or universe. They also provide guidance in our discussions with companies and the substance of our voting policy.¹⁴

Based on our initial analysis of a loan or investment, we determine whether it meets our criteria and can be accepted into our balance sheet or universe. If a company has been accepted, we review every four years whether it still meets our criteria. If there is reason to, we bring the assessment forward, for example if controversial activities have come to light. Our analysis is a snapshot: the outcomes depend on the information that is available at that moment. Of course, we do our very best to obtain as much information as possible. We have in-house sustainability experts at our disposal and we make use of detailed information from specialised, international agencies, information from the businesses themselves and information from NGOs (local or otherwise), trade unions, local media, etc.

The climate-related criteria apply to all of our investments and activities.

¹⁴ For more information, please visit www.asnbank.nl.

C Selection criteria for companies, institutions and projects

We strive for a maximum contribution to both mitigation and adaptation per euro invested. Based on the relative criterion 'climate change performance' we will first describe the activities in which we do invest, followed by a description of activities that we avoid: those that directly and indirectly emit large quantities of greenhouse gases.

We only discuss climate change performance in this document, and not the environmental and human rights aspects that are also considered in our assessments. For these latter aspects, we refer to our policies on human rights and biodiversity.

C.1 Activities to be approved

Mitigation activities

Our key priority is mitigation. In this context, we invest in activities that contribute to creating a carbon-neutral society. We select investments on the basis of their 'climate change performance'. Energy-saving measures, or energy efficiency, play an important part here. Many sources refer to energy-saving measures and energy efficiency as the most cost-effective way to curb greenhouse gas emissions [7; 8; 12; 32; 33]. First and foremost, we select investments that contribute relatively little to the emission of greenhouse gases. In addition, we invest in all sorts of energy-saving technologies, such as LED lighting, thermal insulation, heat pumps and thermal storage.

The natural gas industry contributes substantially less to the emission of greenhouse gases than the rest of the fossil fuel industry. Moreover, natural gas is the only fossil energy source that can ensure a 'low-CO₂' transition to a fully renewable energy supply. Still, we prefer not to invest in the natural gas industry. However, we can make an exception for cogeneration and natural gas fuelled CCGTs (dimensioned heat requirement) because they emit far fewer greenhouse gases across the entire supply chain. This means we avoid coal gasification and shale gas.

Renewable energy production contributes significantly to reducing greenhouse gas emissions. The following types of renewable energy production are eligible for investment:

- Solar CSP (concentrated solar power);
- Wind energy;
- Solar PV (photovoltaic solar cells);
- Geothermal energy, heat pumps, tidal power, etc.;
- Hydropower.¹⁵

Although hydropower is currently the largest renewable energy source in the world, we are cautious with investments in this source. Hydropower can help reduce greenhouse gas emissions, but generally the drawbacks outweigh the benefits.

In respect of human rights, the construction of large dams often forces people to move away. In respect of the environment, protected areas of natural beauty disappear or greenhouse gas emissions (methane) actually increase. For these reasons, investments in dams and all other water infrastructure projects and in dam construction or management companies must satisfy the recommendations issued by the World Commission on Dams (see: <http://www.internationalrivers.org/campaigns/the-world-commission-on-dams> or <http://www.internationalrivers.org/resources/dams-and-development-a-new-framework-for-decision-making-3939>). See our Dams Memorandum and our Sustainability Research Guide. Furthermore, all investments in dams and all other water infrastructure projects must satisfy our policies on biodiversity and human rights;

- Bioenergy and biofuels.

We regard the use of biofuels as a technology with limited application options and a chance of new sustainability risks¹⁶.

We do see possibilities in demonstrably sustainable biomass supply chains. We invest in those supply chains under specific sustainability conditions, including requirements regarding the contribution to CO₂ reduction. It is important here that guarantees of sustainability are given as to the origin of the raw materials used, the conversion technology used and the application of the biofuels. The conditions for bioenergy and biofuels can be found in our Biofuels Memorandum.

¹⁵ Scientific research has revealed that hydropower plants produce a lot of methane gas. This highly powerful greenhouse gas is produced by, for example, rotting of the growth on the reservoir bottom. The methane gas is released when the water is channelled through the turbines. As a result, some hydropower plants produce more greenhouse gas than similar-sized power plants fuelled with fossil fuels. We take this aspect into account when assessing small-scale hydropower plants. Source: Why Hydropower is Not Clean Energy, Philip M. Fearnside (National Institute for Research in the Amazon), Scitizen, 9 January 2007.

¹⁶ Until 2050, all available agricultural land will still be insufficient to meet the growing demand for food. This is what the United Nations Food and Agriculture Organization (FAO) indicated in a study. The FAO therefore qualifies the large-scale production of biofuels as a potential threat to food security. The remaining potential of sustainable biomass (including agricultural and forestry residues) can provide for up to 10% of worldwide energy demand. For the Netherlands to meet 10% of its own energy needs with biomass in the future, it will have to import at least three-quarters of the biomass required.

Adaptation activities

The second priority in our climate change policy is adaptation. Our objective is to invest more in activities that absorb the negative effects of global warming. It has been demonstrated that these negative effects have now become inevitable and are even already manifesting themselves:

- The number and intensity of periods of drought are increasing;
- Floods are becoming more frequent;
- Less food is being produced;
- Certain diseases are spreading;
- Biodiversity is decreasing.

The regions where these changes concentrate and that have limited adaptation options are the most vulnerable to these negative effects. These are mainly the poorer regions around the lower latitudes.

We preferably invest in activities specifically focusing on adaptation as they anticipate the aforementioned negative effects. These include investments in [26]:

- Water management (Dutch water boards and water board banks, water companies and water distribution companies) and coastal protection;
- Fighting poverty via microcredit and other methods – especially in the poorer regions, microcredit creates more prosperity and, as a result, better possibilities for adaptation;
- Adjusting food production to new climatological conditions;
- Economic development based on greater independence from climatological conditions;
- Development of affordable, effective medicines for poorer regions;
- Activities aimed at conserving and expanding woodlands and at sustainable fisheries management.

C.2 Activities to be avoided

In order to achieve our mitigation objective, we avoid or refuse to invest in activities that directly and indirectly emit large quantities of greenhouse gases and thus strongly contribute to climate change¹⁷:

1. Electricity production by means of lignite, coal, oil (including tar sands oil) and gas (including shale gas)

The various types of electricity production require additional explanation. Electricity production is the activity with the largest emission of greenhouse gases and is very diverse in itself. We apply the following criteria when selecting the various energy sources used for electricity production:

1. The energy source, including its entire production chain, is one of the smallest contributors to greenhouse gas emissions.
2. The energy source's undesired side effects are minimal, including those relating to safety, other environmental effects and human rights.

We do not invest in electricity production that directly and indirectly emits large quantities of greenhouse gases and has many undesired side effects. In other words, electricity production by means of:

- A lignite, coal, shale gas and oil (including tar sands oil);
- B natural gas in which the heat released is not utilised (based on heat requirement);
- C first-generation biofuels.

Re A: Lignite, coal, shale gas and oil (including tar sands oil)

This form of electricity production creates the greatest amount of greenhouse gas emissions, which can be reduced by efficiency improvements. However, for us this is not enough. Nor do we believe in the existence of 'clean coal-fired power plants', not even if the CO₂ is collected in gas fields, for example (CCS: Carbon Capture and Storage). Leading to additional energy consumption, this technology is still at an experimental stage.

Re B: Natural gas in which the heat released is not utilised

We also avoid gas-fuelled electricity production. Still, from a climate perspective, this type of electricity production is markedly better than electricity production from any other fossil source. That is why we do not altogether rule out investments in gas-fuelled cogeneration plants and natural gas fuelled CCGTs (so not fuelled by fossil gas with a worse CO₂ balance, such as gas from coal gasification or shale gas).

¹⁷ These activities are jointly responsible for approximately 70% of the world's total greenhouse gas emissions (see also the figure in the appendix).

Re C: First-generation biofuels

Biofuels, or organic matter, can be used to generate electricity and to produce biodiesel and biopetrol. There are many kinds of biofuel. Not all of them contribute to reducing greenhouse gas emissions in equal measure. So-called first-generation biofuels can reduce carbon emissions throughout the production chain by half at most. The reduction is often even less. Due to the sustainability risks, we avoid investments in these first-generation biofuels. See our Biofuels Memorandum.

2. Activities involving a high consumption of fossil energy

Activities such as mining, the extraction and production of lignite, coal, oil (including tar sands oil) and gas (including shale gas), basic chemicals (including petrochemicals), base metals and the production of cement.

A. Extraction and production of lignite, coal, gas (including shale gas) and oil (including tar sands oil)

The extraction and production of lignite, coal, gas and oil are major contributors to greenhouse gas emissions. Shale gas and tar sands are known as non-conventional fossil energy sources. They not only strongly contribute to greenhouse gas emissions, but also create new sustainability risks for people and planet.

B. Mining

We avoid investments in mining companies and mining activities, for two reasons. First of all, almost without exception these companies create major environmental problems. They emit greenhouse gases and hazardous substances into the soil, water and air, or conduct mining operations in protected natural areas. Secondly, almost all mining activities involve serious violations of human rights. In countries with weak government control, mining companies often abuse their power to pay little or no tax at all on the raw materials they extract in that country. The local population often experiences only the drawbacks of mining.

C. Basic chemicals (including petrochemicals) and base metals

We avoid the base metals and basic chemicals industry, mainly because of the substantial emission of greenhouse gases and all sorts of other hazardous substances.

D. Cement production

The production of cement involves disproportionately high greenhouse gas emissions. That is why we cannot qualify current production as sustainable.

3 Deforestation

The climate is impacted by peatland drainage and by deforestation involving the large-scale logging or burning of old-growth forests, tropical rainforests or mangrove forests. As trees grow, they absorb CO₂ from the air. Especially forests with high carbon stocks (HCS) can absorb and hold a lot of CO₂. If these forests are cut down and the wood is used as fuel, the majority of the CO₂ stored returns to the air. Approximately 11% of the CO₂ that people emit into the atmosphere is the result of logging¹⁸. In addition, trees create a water buffer, ensuring continuity in ground water levels. They also protect the soil against erosion and limit temperature differences. The loss of forests furthermore leads to desertification. Forests are logged both legally and illegally for the sale of wood, as well as for mining, gas and petroleum extraction, and the construction of palm oil plantations, soy farming and livestock farming.

4 Products involving a high consumption of fossil energy while in use

Products such as road and air transport carried out with combustion engines.

5 The production (including reuse) of combustion engines

The production of combustion engines is contrary to our view of a sustainable society without the use of fossil fuels. There is no place for combustion engines in a carbon-neutral society. Here, we draw a clear line at the production of combustion engines, as we likewise exclude coal-fuelled and gas-fuelled power plants, for example. However, we do not exclude the use of combustion engines in public transport buses, for example. We do apply strict criteria on carbon emissions in that regard. See also our Policy on Transport and Mobility for specific criteria regarding climate change performance.

Lastly, we also want to avoid being indirectly (via financial institutions, for example) involved in investments in any of the aforementioned activities. With some emphasis, we note here that only the performance on climate change is discussed in this document, and not all the other environmental and human rights aspects that we consider in our assessments.

¹⁸ See: <http://www.globalcarbonproject.org/carbonbudget/12/data.htm>

Nuclear energy

In view of its sustainability risks, the nuclear energy sector actually belongs in our biodiversity and human rights policies. Nevertheless, for the sake of completeness we will briefly discuss this subject in this document as well. After all, some consider nuclear energy to be part of the solution to the problem of climate change.

However, nuclear energy involves the following sustainability risks:

- A. The safety of nuclear power plants is still not guaranteed, despite the lessons learned from Harrisburg, Chernobyl and Fukushima. None of the existing power plants and the power plants under construction (all of the so-called Type III or III+) are entirely safe. Even in respect of the 'inherently safe' nuclear power plants, there is no 100% guarantee that nothing serious will ever happen with them.
- B. There are currently no final storage facilities for radioactive waste, which is stored in such a way that it can also be reached again. However, we consider permanent final storage necessary, as the current interim storage is not a solution for the long term (in other words, for more than 10,000 years).
- C. Uranium extraction does not meet the criteria from our biodiversity policy. The key environmental aspects of uranium extraction are: damage to the landscape (especially with open-pit mining); the release of radon gas and heavy metals; and soil pollution due to acids used in solution mining. Especially in the past, uranium was extracted irresponsibly. It is not clear to us whether that situation has sufficiently improved.
- D. Even if the Nuclear Non-Proliferation Treaty is fully observed worldwide, five countries (US, China, Russia, France, UK) retain the right to produce nuclear weapons. India, Pakistan, North Korea and Israel are also known to be able to produce nuclear weapons. Nuclear power plants play an important part in the production of radioactive material used for manufacturing nuclear weapons.
- E. Not all the costs are internalised. This means that some costs associated with the entire nuclear energy supply chain, such as costs incurred in the event of disasters, are not factored into the price of electricity.
- F. No general statements can be made about the influence of stakeholders. They must be consulted extensively and be given sufficient opportunity to have their say before the decision is made to construct a nuclear facility. This is a local matter, which must be assessed locally [37; 38].

That is why we exclude companies that generate nuclear energy, operate nuclear power plants, or distribute or trade in nuclear products. We also exclude companies that focus specifically on this sector as suppliers, or that supply vital services or products for the realisation or construction of nuclear power plants.

D Selection criteria for government bonds

In addition, we assess countries as to their climate change performance, and that performance carries weight in our selection of government bonds. First of all, we exclude countries if they do not actively contribute to protecting the climate because of an unwillingness to endorse international treaties on climate change. We accept countries that actively contribute to protecting the climate by being frontrunners as regards their greenhouse gas emissions per capita and the share of renewable energy in electricity production.

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