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## Proceedings of the Seminar "Moving beyond 2012: International perspectives on future climate change policy options"

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# Proceedings of the Seminar ‘Moving beyond 2012: International perspectives on future climate change policy options’

Auditorium, Vrije Universiteit, Amsterdam, 21 October 2005

Leontien Bos, Kyla Tienhaara and Harro van Asselt



W-05/34

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It was internally reviewed by: Frans Berkhout

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## 1. Introduction

### 1.1 Background

With the entry into force of the Kyoto Protocol to the Climate Change Convention in February 2005, policy attention has shifted decisively to what will happen in the period after the first commitment period in 2008-2012. The next rounds of global climate change negotiations are likely to be dominated with the problem of how to build on Kyoto.

The recent G8 Gleneagles Summit reaffirmed a commitment to stabilizing greenhouse gas concentrations at a level preventing dangerous interference, and argued for greater action on technological innovation, investment and technology transfer to developing countries and awareness raising. Furthermore, the recent Seminar of Governmental Experts has been a fruitful exchange of experiences of different Parties and may have triggered reflection what criteria could be of use in assessing future international climate action. While the value of the Kyoto Protocol is widely accepted, and a large number of countries have ratified the Protocol, there is also recognition that it represents the first step in the construction of a more comprehensive policy regime for managing and adapting to a changing climate. There has for some time been widespread discussion about the possible benefits and disbenefits of alternative policy architectures. A wide range of alternative policy approaches have been proposed by academic researchers, think tanks and environmental organizations over the past five years or more. These proposals will form the background for climate negotiations as new modes of climate governance are developed in the coming years.

### 1.2 About the seminar

On the basis of an environmental, economic and political assessment of post-2012 policy options,<sup>1</sup> this international seminar discussed the options and provided an overview of the international perspectives on this issue. The key questions addressed in this seminar were: What do alternative policy architectures offer in terms of effectiveness in achieving stabilisation? And what are the costs, benefits and risks associated with the policy pathways they prescribe? What is the interaction between climate change mitigation and adaptation measures? And how politically feasible are alternative arrangements?

The international seminar was organised in conjunction with the awarding of an honorary doctorate to the late Ms. Joke Waller-Hunter, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC), by the Vrije Universiteit Amsterdam. Ms. Joke Waller-Hunter received her doctorate 'honoris causa' in Bonn on 28 September and she sadly passed away on 14 October 2005.

This report presents the proceedings of the international seminar 'Moving beyond 2012: International perspectives on future climate change policy options', which was held at

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<sup>1</sup> This assessment is available online at: [www.falw.vu.nl/post2012seminar](http://www.falw.vu.nl/post2012seminar).

the Auditorium of the Vrije Universiteit in Amsterdam, The Netherlands on 21 October 2005. The programme of the seminar can be found in Annex 1. Approximately 90 participants attended the seminar from a variety of backgrounds (for a list of participants, see Annex 2).

## 2. Seminar proceedings

Prof. Pier Vellinga, Dean of the Faculty of Earth and Life Sciences of the Vrije Universiteit opened the seminar. Dedicating his speech to Ms. Joke Waller-Hunter, who sadly passed away the week before the seminar, he explained that Waller-Hunter had received the honorary doctorate for her “contribution to society through her outstanding work in the field of sustainable development and protection of the global climate”.



*Prof. Pier Vellinga commemorates Dr. Joke Waller-Hunter.*

State Secretary for the Environment, **Mr. Pieter van Geel** elaborated on the view of the European Union for international post-2012 climate policy. He also commemorated Ms. Waller-Hunter, and called her death a great loss for all, for the Ministry of the Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM), where she has worked for many years, for the Netherlands, for the international community, and especially for the environment. Addressing Mr. Halldor Thorgeirsson, representative of the UNFCCC Secretariat, the State Secretary said that he hoped the UNFCCC would keep up the good work that Ms. Waller-Hunter initiated. Even though Ms. Waller-Hunter had passed away, she specifically wished for this seminar to take place.

The first priority of the next Conference of the Parties (COP-11) in Montréal is to confirm the agreements that were made after the adoption of the Kyoto Protocol. Furthermore, negotiations on a next period of international climate policy need to be initiated.

Although it is too early in the process to visualize the feasibility of different proposals for a post-2012 climate policy regime, informal discussions are useful. It gives the opportunity to elaborate on their consequences and how different parties evaluate these. The current opinions are widespread, but the more effort is made in understanding the different arguments, the easier a next step is made against global climate change.

The European Union is determined to continue the development of a middle- and long-term strategy against climate change. Therefore the mean global temperature should not rise more than two degrees Celsius compared to the pre-industrial level. In accordance with the precautionary approach, the EU aims to limit the risk that climate change will have severe or irreversible effects. Intensive reductions in greenhouse gas emission are necessary. The European Union wants to initiate, within the framework of the Kyoto Protocol, a process to achieve the objective of the UNFCCC: stabilization of the concentration of greenhouse gases at a level that prevents dangerous human interference with the climate system.



*State Secretary Pieter van Geel discusses the EU and the Netherlands position on future climate policy.*

The EU wants to talk to other developed countries about achieving reductions, relative to 1990, of fifteen to thirty percent, by 2020 and sixty to eighty percent by 2050. And as for developing countries, rapidly growing economies cannot allow their emissions to grow unchecked until 2050. These are ambitious objectives. The best strategy is to combine concrete objectives with technology. That is why we need a long-term plan for the business community, to inform investment and drive technology development and diffusion.



And the larger the coalition, the lower the costs. Emissions trading and other flexible instruments can also bring down costs significantly. These are key instruments in a global framework beyond 2012 that will enable cost-effective emission reductions and support sustainable development in developing countries.

The costs of climate policy are offset by a major benefit: fewer dangerous effects of climate change. But this benefit is undervalued in traditional economic calculations, because it lies far in the future. The costs of climate policy are not prohibitive; in fact they are small in comparison to other costs to society. Environmental spending can even benefit the economy.

Europe is open to other countries' perspectives on how to solve the climate problem. That is why we need closer diplomatic consultation about future international climate policy. The goal is to form a broad climate coalition that includes the US and developing countries, in order to tackle the problem effectively. Free riders make solutions more expensive for the countries that pay for them.

Innovation is what it is all about: how do we get everyone to use climate-friendly technology? Technology that cuts greenhouse gas emissions is used only when there is a demand for it. That is why it is so important to put a price tag on emissions. If we combine targets with emissions trading, a market price for such technologies will emerge.

The G8 summit at Gleneagles in July 2005 explicitly acknowledged the climate issue and the need to deal with it now. This is a big step forward. The G8 also acknowledged that the UNFCCC is the appropriate framework for negotiations on future action. The State Secretary believes it is vital to use the United Nations to bring all the bilateral and multilateral initiatives together.

To take the climate change agenda forward, we need to broaden the dialogue to include other subjects, such as development, energy security and air quality. This will help get the US and developing countries more involved. In Van Geel's view, our climate change strategy beyond 2012 should consist of three elements. First, we need to create a clear international framework, under the UN Framework Convention on Climate Change that has the following features:

- We need deeper reductions and targets to achieve the ultimate objective;
- The regime must be socially equitable;
- Every country needs to take measures that are conducive to sustainable economic and social development and poverty eradication.

Secondly, every country should have a national framework for integrating energy, development and climate change in their national energy plans. The third and last element, financial, fiscal and administrative resources must be focused on steering future investment towards climate-friendly activities.

In general, getting a clear view of a broad portfolio of international arrangements and the advantages and disadvantages for all countries in the world would certainly assist discussing the future. But to be realistic: no theoretic model will be applied in practice to all parties. Parties will want to negotiate to improve the outcome for their specific interests. And different groups of countries have a common interest but differentiated capabilities to deal with climate change.

**Prof. Frans Berkhout**, director of the Institute of Environmental Studies (IVM), gave a presentation on alternative proposals for post-2012 international climate policy architectures assessed by IVM, the Energy Research Centre of The Netherlands (ECN) and Plant Research International (PRI) of Wageningen University.

He summarised that 156 countries have adopted the Kyoto Protocol. Only a small number of countries do not participate in the agreement. The Kyoto Protocol is regarded as being a necessary first step towards a more stable, global climate system. In Montréal, the first formal negotiations will start about the options for international climate policy after 2012, post Kyoto. IVM assessed 45 ideas for this post-Kyoto period, including the Kyoto Protocol and 44 other proposals.<sup>2</sup>

A large number of goals for this regime are to be achieved. It is a large burden for a single objective treaty regime to bear. The high degree of uncertainty in scientific, and the social and economic impacts makes this an even greater challenge. The long list of options will provide the raw material for the post-2012 period. In broad terms, the post-2012 regime should meet four objectives: a 'safe' climate; growth and competitiveness; a rule-based world; and energy security. In addition, five policy dilemmas can be distinguished: carrots or sticks; front door or back door; markets or regulation; team player or John Wayne approach; and mitigation or adaptation.

Berkhout explained that the authors of the policy brief divided the long list of options in three categories. There are target approaches (driven by environmental targets), action approaches (which emphasise specific measures) and pathway approaches (a longer-term timetable for staged implementation of a climate management regime). The authors concluded that none of these approaches reaches all four objectives for the post-2012 regime; therefore choices need to be made. A key post-2012 requirement is the creation of an appropriate architecture for a balanced approach combining the aims of short-term static efficiency and a long-term dynamic efficiency. Creating effective issue linkages (back door) between climate policy and other policies has been and will be a key post-2012 requirement. However the history of negotiations in other arenas, the power politics and possibly different parties engaged in these negotiations imply that issue linkage may sound simple to start but can be very difficult to achieve. Markets and regulation must be viewed as mutually dependent and reinforcing, rather than alternative courses of action. Choosing between a multilateral UN-based order and a more fragmented set of arrangements depends on the worldviews that drive politics in different countries. The key is to find ways to accommodate both approaches. Many ideas exist for tackling greenhouse gas mitigation, but fewer ideas exist about tackling problems of adaptation. In the proposals investigated there is little integration.

These findings result on two overall, more tentative conclusions:

- Pathway approaches tend to score best in environmental criteria, but poorly on economic and institutional criteria. Target approaches tend to score relatively well on environmental criteria, but badly on economic criteria. Action approaches tend to

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<sup>2</sup> These 44 other proposals are listed in: Bodansky, D., Chou, S. & Jorge-Tressolini, C. (2004). *International Climate Efforts Beyond 2012: A Survey of Approaches*. Washington, D.C.: Pew Center on Global Climate Change.

score better on economic criteria, but have much greater uncertainties associated with environmental outcomes;

- Very few of the options assessed are concerned with energy security, although this will be a primary political consideration in the development of climate policies by governments.

Berkhout recommends that parties participating in the negotiations should be flexible. A window of opportunity now exists and this needs to be fully exploited. After that, parties will start making commitments and decision space will reduce quickly.



*Prof. Frans Berkhout presents the IVM policy brief.*

In the following **discussion**, it was argued that policy makers need to take note of the different options with benefits for both energy security and climate change at the national level, including hydrogen. Although some technologies, according to scientists, may only play an important role after decades, these need to be considered now already. In response, the State Secretary pointed out that the real problem concerns large developing countries, such as India, China, and South Africa. These countries will use coal because of their energy situation and the need for economic growth. These countries will in the end not accept any instrument, which could hamper economic growth. Frans Berkhout adds that the moral position of the Western countries is based on their ability to show that we can reduce CO<sub>2</sub>-emissions.

Another participant is sceptical of a possible 'window of opportunity', as it is difficult to get the United States on board. He suggests rather focusing on getting five large, grow-

ing developing countries on board, including India, Brazil, South Africa and China. These countries should be supported through technologies: carrots, not sticks. The State Secretary responds, however, that it is crucial to get the US on board first. There are positive signals coming from business and federal states within the US.

The view was expressed by another participant that the link between development, finance and energy security merits attention. The World Bank, as well as private actors through foreign direct investment have an important role to play in 'greening' development. Another participant argued that more attention to adaptation should be paid. The focus may be too much on involving the US and on new technologies. In response to the discussion on large developing countries, it was further stated by one of the participants that there is not much awareness in these countries as to the adverse effects of climate change there. Even though the national communication of India, for example, addresses these, this information does not get through to the public.

In addressing the question on development, finance and energy, the State Secretary responded that it is necessary to make power plants in, for example, China more efficient. Finance for access to energy for the poor is more difficult, as private companies are less interested.

Next, **Prof. Thomas Brewer** presented US perspectives on climate change policy options. He explained that four questions had been posed to him by the organisers of the seminar: what are the objectives, what are the architectures, what are the pathways, and what are the costs/benefits/risks of climate policy options beyond 2012? He stated that these questions had been quite helpful, and that he had also found the framing of policy options in the IVM handbook to be useful in organizing his presentation.

In his presentation Brewer tried to give a balanced view of what is going on in climate change politics in the United States. He explained that the dialogue at the moment in the US is focused on domestic politics, and that any work at the international level is focused on bilateral and regional initiatives. In terms of the objective of the US administration, according to Brewer it is to do as little (or as much) as domestic political constraints allow, while doing as little harm as possible to the economy. In terms of architectures, at the international level they will be regional and bilateral arrangements, while at the domestic level the administration will focus on how to constrain domestic federalism. In his opinion some of the most interesting issues in the coming years will revolve around how the federal government deals with state and local initiatives on climate change. In terms of pathways, in the US technological solutions are favoured over regulatory ones. In terms of costs, benefits and risks, there is some recognition that the costs of doing nothing are too high and that the risks of climate change are not acceptable, but that there was still a dominant concern that mitigation would seriously impact the American economy.

Brewer then outlined his approach, which was to distinguish four policy areas that concern either technological or regulatory approaches at the domestic or international level, arguing that each area has distinctive patterns of political economy. The first area is domestic technology research, development and diffusion. In this area he suggests that subsidies are a highly attractive policy tool in the US and that Americans love technol-

ogy, and thus it is likely that spending in this area will increase steadily from year to year.



*Prof. Thomas Brewer discusses US perspectives on future climate policy.*

He discussed briefly the recent trends in expenditures, which show a consensus in the Republican Party to spend about \$3 billion per year on climate technology. However, as a caveat, he noted that subsidies to oil and gas and other greenhouse emitting energy sectors are currently almost the same as subsidies to nuclear and renewables. He strongly encourages the framing of the climate problem as an energy security issue, which the Americans might take more seriously. He also discussed the Energy Policy Act of 2005, which requires the US trade representatives to work on barriers to trade in greenhouse gas reducing technologies. While he noted that many in the audience might not appreciate this ‘backdoor’ strategy, he explained that in the US the link between trade and climate is viewed as a ‘win-win’ situation.

The second area is international technology research development and diffusion. In this area the main issues are cost sharing and international assistance and it is likely that the US will continue at the level they have been at, more or less, although support will be focused on big international projects. The third area is domestic regulation, where he noted two interesting trends: first the split in US industry with, for example, Duke Energy and General Electric making strong statements about climate policy (because they seek a competitive advantage), and second the pressure on industries that is emerging from new areas including the religious right. The final area is international regulation, where he emphasised that not much will change before 2009 in terms of policy from the

White House, however, Brewer suggests that observers should pay attention to the House and Senate in the coming years. There have been a number of Senate votes on climate issues, for example one initiated by John Kerry, which involved a non-binding resolution on constructive participation in international negotiations such as those occurring in the UNFCCC. Unfortunately Kerry's initiative failed, and according to Brewer until there are changes in the Senate, there will be no progress at the international level.

**Prof. Christian Azar** presents on economic issues in climate policy. He focused on three main issues: abatement costs, emissions trading, and the use of cost-benefit analysis in climate policy.

In terms of abatement costs, he noted first of all that the CO<sub>2</sub> targets are based on temperature targets – for example the EU has chosen to target staying below a two degree Celsius rise in temperature compared to preindustrial levels. In order to achieve this it is likely that the CO<sub>2</sub> concentrations will have to remain below 350-450 ppm and might even need to be lower. In his opinion the best way to meet these targets was to focus on wind power, biomass energy, and energy conservation along with coal with capture and even possible biomass with capture (which gives a negative carbon emission). He discussed what efforts Sweden had made in these areas. In terms of the cost of such initiatives, he emphasised that many economists only present the numbers in absolute terms – in other words, it will cost trillions of dollars. If instead one presents the costs from a different perspective, and plots them over time against projected growth in income, then the picture that emerges is far less threatening. Azar argues that neither method of explaining costs is superior to the other, but that both perspectives should be presented to give a balanced picture.

In terms of emissions trading, Azar conceded that he would have preferred a carbon tax to the trading scheme, but that now that it is in place it has to be accepted. In terms of the technological change that can be encouraged by trading, he makes an important distinction between changes in consumer/industry choices (what you pick off the shelf) and availability of options (what is on the shelf). To ensure that there are changes in choices and increased options you need a cap and trade system plus research and development, creation of niche markets and subsidies. By itself the pricing in the current trading system is not high enough to promote investment in fuel cells and hydrogen technology. In addition, Azar is concerned that by shifting the climate debate to an energy security debate (as suggested by Prof. Brewer and others) there is a risk that people may consider coal a good option. He is also concerned that the current trading system may allow for too much 'updating' – that is companies asking for more permits whenever they need them and getting what they ask for. He suggested that there needs to be long term targets for business, which means there needs to be agenda building in government (to avoid changes every time there is an election) and that auctioning would prevent problems such as coal companies profiting off of the permit system. His final point on technology related to the amount of money going into research and development (R&D), which is certainly not enough – he compared how much the average pharmaceutical company spends on R&D versus US spending in the energy sector. Next, Azar looked at issues of competitiveness in emissions trading. He argued that it would be easier to assess the system and determine what is working and what is not if all emissions sources were covered. He also suggests that fairness required that all sectors should be priced the

same, however, there is a dilemma here – the energy intensive sectors will provide a lot of opposition to targets if this path is taken. Azar, in general, favours a strongly competitive system, even if this means that some industries (e.g. steel mills) may lose out – in the end this will mean that the EU can meet its targets more easily and cost effectively.

In the final section of his presentation, Azar discussed Cost Benefit Analysis (CBA). The basic tenet of CBA is that you should take measures, in this case the reduction of emissions, as long as the benefits of doing so are higher than the costs. While it is an intellectually attractive concept, Mr. Azar sees many problems with applying it to the issue of climate change. First, there is the issue of the choice of the discount rate (costs occur today but benefits will be felt in the future), which is a value-laden decision. Second, there are problems with the cost evaluation methods – what is the value of a life? of the Amazon? Again these are choices that relate to values and ethics. Third, there is also a large degree of uncertainty in CBA, in particular there is a difficulty when it comes to low probability but high impact events, which are usually excluded from the analysis. He concluded that in the end these questions are ethical, and cannot be accurately addressed through CBA.

In the discussion after Mr. Azar's presentation, he was asked about how these arguments played in the US. In response, Azar argued that the best way to convince the US is to show that it is possible to reduce emissions without hampering economic growth. This is the best argument to get both the US and developing countries on board. Another question that was raised was whether there were any ethical arguments that could convince the US to take action. In this regard, Mr. Brewer referred to the religious right in the US. A further question addressed the impact of hurricanes this year on US perceptions on climate change. Mr. Brewer responded that there was definitely a change in the mindsets of people in the US, but that it will take time for this shift to complete.

Finally, **Mr. Halldor Thorgeirsson**, on behalf of the UNFCCC Secretariat presented. He sees this moment as a 'turning point' for the UNFCCC and for climate policy in general. The turning point is a result of: more evident impacts of climate change that are bringing the issue home for the average person and are resulting in activity at the local level; the private sector taking on a leadership role; the links to future energy investment being discussed more openly; and the identification of the implications of climate change for development and poverty eradication. He pointed to a statement from the G8 Summit in Gleneagles – "we know enough to act now" – as evidence that there is a change in the debate – it is no longer focused on scientific uncertainty.

Mr. Thorgeirsson then turned to the future, in particular COP-11 in Montréal, and discusses why it is important (it is the first meeting of the parties of the Kyoto Protocol) and what is likely to be the focus of discussions. In addition to the discussions on the institutional infrastructure of Kyoto, important topics will be: the CDM and Joint Implementation and how their full potential can be realised; technological cooperation (how to involve the private sector), and in particular carbon capture and storage technology; the adaptation agenda, which is a high priority for all countries; and the future dialogue on climate policy (there are two tracks – Kyoto and the Convention).

The Canadian Minister of Environment has also released a list of key issues for Montreal: environmental effectiveness; advancing development goals in a sustainable manner;

broadening participation; building a strong global market; realizing the full potential of technology; and tackling adaptation.

Mr. Thorgeirsson concluded that the main challenge at Montréal is to maintain a basis for continuing dialogue on climate policy, and he is optimistic that this will be achieved.



*Mr. Halldor Thorgeirsson of the UNFCCC Secretariat provides the closing speech of the seminar.*



## Appendix I. Programme

9.00	Coffee and registration	
9.30	Chair's introduction	<i>Prof. Pier Vellinga</i> Dean, Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam, The Netherlands
9.40	The Netherlands and EU perspective	<i>Mr. Pieter van Geel</i> State Secretary for the Environment, The Netherlands
10.05	Post-2012 climate policy: Assessing the options	<i>Prof. Frans Berkhout</i> Director, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
10.20	Discussion	
10.40	Coffee break	
11.00	U.S. perspectives on climate change policy options	<i>Prof. Thomas Brewer</i> Associate Professor, Georgetown University, Washington D.C., USA Associate Fellow, Centre for European Policy Studies, Brussels, Belgium
11.25	Economic issues in climate policy	<i>Prof. Christian Azar</i> Chalmers University of Technology, Göteborg, Sweden
11.50	Discussion	
12.10	International cooperation on climate change at a turning point	<i>Mr. Halldor Thorgeirsson</i> UNFCCC Secretariat
12.30	Lunch	
13.45	Inaugural speech: Who's afraid of climate change?	<i>Prof. Joyeeta Gupta</i> Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands UNESCO-IHE Institute for Water Education, Delft, The Netherlands
15.00	Drinks and reception	

## Appendix II. Participant list

	<b>Name</b>	<b>Affiliation</b>
Mr.	Bas Amelung	ICIS/UM
Mr.	Harro van Asselt	Institute for Environmental Studies
Mr.	Christian Azar	Chalmers University of Technology
Mr.	Stefan Bakker	ECN
Ms.	Femke van Ballegoie	Institute for Environmental Studies
Mr.	Jeroen van den Bergh	Institute for Environmental Studies
Mr.	Marcel Berk	Netherlands Environmental Assessment Agency (MNP)
Mr.	Frans Berkhout	Institute for Environmental Studies
Ms.	Henriette Bersee	VROM
Mr.	Frank Biermann	Institute for Environmental Studies
Mr.	Ries Bode	Institute for Environmental Studies
Mr.	Eric Boom	Dutch Space B.V.
Ms.	Leontien Bos	Institute for Environmental Studies
Mr.	Laurens Bouwer	Institute for Environmental Studies
Mr.	Thomas Brewer	Georgetown University
Mr.	Jos J.C. Bruggink	ECN
Ms.	Kathrin Birkel	Milieu&Beleid, RU Nijmegen
Mr.	Theo Claassen	Friesland Water Authority
Ms.	Heleen de Coninck	ECN
Mr.	Edwin Dalenoord	BGP-Engineers
Mr.	Geert Dallinga	
Ms.	Rutu Dave	IPCC- WG III
Mr.	Douwe Dillingh	RWS RIKZ
Ms.	Anne Doeksen	Wageningen Universiteit
Mr.	Kees Dorland	Programmabureau Klimaat voor Ruimte
Mr.	Michel den Elzen	Netherlands Environmental Assessment Agency (MNP)
Mr.	Jasper Faber	CE Delft
Mr.	Gert de Gans	Kerkinactie
Mr.	Pieter van Geel	State Secretary for the Environment
Ms.	Betske Goinga	
Mr.	Cor Graveland	CBS
Ms.	Nicolien van der Grijp	Institute for Environmental Studies
Ms.	Aarti Gupta	Novib
Ms.	Joyeeta Gupta	Institute for Environmental Studies
Ms.	Dimmie Hendriks	Vrije Universiteit, Faculty of Earth and Life Sciences
Mr.	Jan Henselmans	Stichting Natuur en Milieu
Mr.	Matthijs Hisschemöller	Institute for Environmental Studies
Ms.	Barbera van der Hoek	WWF
Mr.	A. van der Hoeven	
Ms.	Marjan Hofkes	Institute for Environmental Studies
Ms.	Annelies Hommersom	Institute for Environmental Studies
Mr.	Pieter Huisman	Different Perspective
Mr.	Ko van Huissteden	Vrije Universiteit, Faculty of Earth and Life Sciences
Mr.	Joost Hulsbos	Wageningen Universiteit
Mr.	Wim de Jager	Province South Holland
Mr.	R.M.A. Jansweijer	WRR

Mr.	Jan P. Juffermans	De Kleine Aarde
Mr.	Marc Koene	Stichting Natuur en Milieu
Mr.	Niels Korthals Altes	GreenSeat
Ms.	Katarina Korytarova	Institute for European Environmental Policy (IEEP)
Mr.	Takeshi Kuramochi	Universiteit Utrecht
Ms.	Aline te Linde	Institute for Environmental Studies
Ms.	Sandra Louiszoon	Ministry of Foreign Affairs
Mr.	Pim Martens	ICIS
Mr.	Hans de Moel	Institute for Environmental Studies
Mr.	Julio Mosquera Losada	Wageningen UR, Agrotechnology & Food Innovations
Mr.	Jean-Pierre Moussally	Effet-de-Levier
Mr.	Ivo Mulder	Forest Trends
Mr.	Frans Oosterhuis	Institute for Environmental Studies
Ms.	Marjan Peeters	METRO, Universiteit Maastricht
Mr.	Arthur Petersen	Netherlands Environmental Assessment Agency (MNP)
Mr.	Jonatan Pinkse	Universiteit van Amsterdam
Ms.	Claudia van der Pol	
Ms.	Annemarie van der Rest	Shell Nederland B.V.
Ms.	Diana Ros Riu	
Mr.	Bjorn Sawilla	Vrije Universiteit
Mr.	Sible Schöne	Klimaatbureau
Mr.	Sjoerd Schenau	CBS
Mr.	Baud Schoenmaeckers	Synergos Communicatie
Ms.	Hanna Schösler	Vrije Universiteit
Mr.	Richard Sikkema	Ministry of Agriculture
Ms.	Laureline Smith	Different Perspective
Ms.	Marieke Soeters	VROM/DGR/NIB
Mr.	Serge Stalpers	ESA, Wageningen University
Ms.	Valentina Tassone	Wageningen University
Mr.	Halldor Thorgeirsson	UNFCCC Secretariat
Ms.	Kyla Tienhaara	Institute for Environmental Studies
Ms.	Tina Tijisma	Electrabel NL
Ms.	Lieselotte Tolk	Vrije Universiteit, Faculty of Earth and Life Sciences
Mr.	Anton Trijssenaar	Province of North Holland
Ms.	Werna Udding	Provincie Groningen
Mr.	Hans van de Veen	Bureau M&O
Mr.	Pier Vellinga	Faculty of Earth and Life Science, Vrije Universiteit
Mr.	Harmen Verbruggen	Vrije Universiteit
Ms.	Wendela de Vries	WISE
Mr.	Detlef van Vuuren	MNP
Mr.	Peter Wiers	Stichting Hart voor Klimaat
Mr.	Herman Jan Wijnants	DHV Ruimte en Mobiliteit BV
Ms.	Frans van der Woerd	Institute for Environmental Studies