



**Stockholm  
Resilience  
Centre**



## **Getting into the Right Lane for 2050**

### **A primer for EU debate**

Summary of the launch of a study

by the Netherlands Environmental Assessment Agency in cooperation with  
the Stockholm Resilience Centre

An event hosted by the Permanent Representation of Sweden to the EU  
and co-organised by the Centre for European Policy Studies (CEPS)

Friday, 30 October 2009

#### **Introduction**

*Getting into the Right Lane for 2050* is a study on the long-term challenges facing the EU in a vision of Europe for 2050. It focuses on three key areas: (i) land resources, food and biodiversity; (ii) climate change and energy security; and (iii) transport and mobility. The starting point of the study was to develop an ambitious long-term vision for 2050, and to work back to identify the pathways towards achieving this vision, as well as the challenges and opportunities on the way. By considering maximum rates of change, longevity of infrastructure, slow moving factors and institutional aspects, the study identifies what needs to be done in the near and medium term, to achieve the long-term vision. One of the main conclusions of the study is that the long-term strategy of the next European Commission should be based on a backcasting approach from 2050, and not from 2020, in particular to avoid the risk of lock-ins and deadlocks in the case of capital goods, infrastructure and institutions. The report is available from <http://www.rivm.nl/bibliotheek/rapporten/500150001.pdf>.

The launch of *Right Lane* report took place at the Swedish Permanent Representation in Brussels on October 30<sup>th</sup>2009. with an audience of over 75 representatives of the

European Commission and other European governments, industry and professional associations and non-governmental organisations. The event included several presentations by Europeans from various states and with a variety of backgrounds, but all of whom reflected upon the future of Europe, and in particular, the prospects for a sustainable Europe in 2050. The presentations are summarised in this document. The biographies of the presenters are available in an appendix to this report.

### **Introduction by Dr. David Baldock**

*Executive Director, Institute for European Environmental Policy*

Mr. Baldock, chair of the meeting, welcomed the timely launch of the report, that arrives at a time when “the gates are open toward the future of Europe”. He noted that Europe was in a transformational period, given various policy reviews (sustainable development strategy, Lisbon strategy, environmental action programme etc.), the upcoming negotiations of the EU budget, as well as a set of new institutions and people to guide Europe, including the new Commission to take office early in 2010.



### **Opening by Mr. Rolf Eriksson**

*State Secretary, Agriculture, Sweden*

The Swedish State Secretary portrayed a world where one sixth of the population does not have access to sufficient food and called for urgent action to improve food security in the face of global population growth. To meet increasing demand for food, however, agricultural production would need to increase, without destroying terrestrial or aquatic ecosystems. This challenge could only be met by a transition towards an eco-efficient economy with sustainable energy systems. This requires better policy integration as well



as better cooperation between public and private sectors.

Mr Eriksson reiterated that the effort to mitigate climate change was a priority for the Swedish presidency of the Council of the EU and noted that

the results of the Copenhagen climate change summit would set the framework for all future strategic decisions. He underlined the role of agriculture in climate change mitigation and adaptation. In terms of mitigation, he called for land use changes, including a reduction of gross tropical deforestation. In terms of adaptation, he stressed the vulnerability of the agricultural sector to climate change – both in the EU and in developing countries. Even the two-degrees target requires considerable levels of adaptation worldwide.

Turning to the link between transport and energy, Mr Eriksson stressed the potential win-win situations that could arise from reduced use of fossil fuels, including a reduction of greenhouse gas emissions, energy imports, costs and other environmental problems.

In terms of land use, he questioned whether there would be enough land available in the face of growing populations, increasing levels of wealth and expanding urban areas, and he called for an improvement of the use of land. Research and development could play an important role in increasing the productivity of land, especially in sub-Saharan Africa. This required better cooperation between rural agricultural development programmes and R&D, as well as an improved transfer of research to end users, farmers and forest owners. Similarly, Mr Eriksson pointed out the link between agriculture and water use. The latter could be negatively influenced by increasing scarcity of water, droughts, but also by flooding. It was thus an imperative to use the available water wisely. Finally, Mr Eriksson highlighted climate change as a major threat to biodiversity and emphasised the need for a strategy beyond the 2010 biodiversity target of the EU.

**Presentation by Prof. Maarten Hajer**  
*Director, Netherlands Environmental Assessment Agency*

Mr. Hajer presented the key messages of the report “Getting into the Right Lane for 2050”. The focus of the study was to outline strategic near-term EU action in order to tackle long-term issues related to (i) global land resources, food and biodiversity, (ii) energy and climate change, in combination with energy security issues, and (iii) transport and mobility.



Mr Hajer noted that feeding nine billion people in a sustainable way while minimising biodiversity loss requires a new green revolution aimed at improving productivity and resilience in agriculture. In addition, food consumption patterns need to change, which requires lifestyle changes and in particular changes in diets. Biodiversity and related ecosystem functions should be prioritised, protected and paid for. Mr Hajer stressed that

climate change poses a tremendous challenge for agricultural practises, that need to be restructured. In this respect and related to the EU context, Mediterranean countries would represent a logical pilot area for robust new EU land management policies.

In terms of energy and climate change, Mr Hajer reminded participants that by 2050 global greenhouse gas emissions need to decrease by 50% (compared to 1990-levels) which, in turn, requires emissions reductions of 80-95% in industrialised countries. He demonstrated that these reductions are possible with currently available and emerging technologies, but required a considerable reduction in the use of oil and coal and a manifold increase of non-carbon technologies. The future energy system needs several components, including the centralised use of fossil fuels with carbon capture and storage, large-scale centralised power production (renewable energy farms, CCS, nuclear), as well as small-scale energy production by end-users (solar PV, urban wind, geothermal). In order to get to such a system, the EU needed to build the electricity grid for 2050, raise substantial R&D funding for a broad range of energy technologies and develop a long-term vision with a low-carbon EU economy as a strategic goal.

On the third major issue, transport and mobility, Mr. Hajer called for 80% less carbon dioxide emissions from EU transport by 2050 (compared to 1990 levels). This can be achieved with a substantially increased share of biofuels in road freight, aviation and navigation (together with efficiency increases and volume shift), as well as by an electrification of the road passenger sector. The uncertain potential of biofuels was stressed, but they were considered an important ingredient to the future transport fuel mix, especially if properly allocated. Increasing sustainability of the transport sector required an integrated approach for the transport and energy sectors, as well as global agreements to start reducing carbon emissions from aviation and shipping. At the EU level, Mr. Hajer recommended the creation of a renewed TEN-E (Trans-European Energy Network) with explicitly integrated climate goals.

Finally, Mr. Hajer commented on the inertia of man-made capital, such as the energy system or road networks . Due to the fact that lifetimes of for man-made capital could be anywhere between several years (e.g. consumer electronics and appliances) to many decades (e.g. building stock), realising a long-term strategy on resource use requires action now.

**Presentation by Prof. Katarina Eckerberg**  
*Deputy Director Research, Stockholm Resilience Centre*

Ms. Eckerberg started her presentation with several indicators demonstrating how human activity has increased between the years 1750 and 2000 and how this has impacted the world in several ways. She drew on nine “planetary boundaries”, three of which had already been transgressed, possibly with irreversible trends (i.e. biodiversity, climate change, and the nitrogen cycle). In addition, she pointed to inequity between different regions of the world, noting that economic growth in the context of finite resources and



limited planetary capacity was incompatible with sustainable development. This also applied to the phenomenon of over-consumption in many rich countries, which has led to resource depletion, breaches of the planetary absorptive capacity, and a disruption of ecosystem functions and services. Within this context, Ms. Eckerberg stressed that there was a conflict in EU policy between the Lisbon strategy for Growth and Jobs on the one hand, and the sustainable development strategy on the other.



On a more positive note, Ms. Eckerberg held that due to scientific consensus about climate change and the awareness and readiness of citizens and politicians to act, there was now a window of opportunity to act in climate change policy. She is of the opinion that the EU has the necessary declaratory intent, the strategies and plans, as well as the targets for a policy response. However, the structural causes of climate change need to be addressed by focussing all investments on removing barriers for low-carbon energy, by using Environmental/Sustainable Impact Assessments in decision-making, and by implementing Environmental Policy Integration both horizontally and vertically among economic sectors. Finally, Ms. Eckerberg noted that several of the existing EU policies and strategies overlapped and that there was a need for better streamlining and policy cooperation.

**Presentation by Prof. Žiga Turk**

*University of Ljubljana and Secretary General of the Reflection Group on the Future of the EU*



Mr Turk criticised our current civilisation that is losing touch with the real and with the present, increasingly living in virtual worlds, and borrowing from the future in terms of profits, resources and the capacity to absorb carbon dioxide. According to Mr Turk, who spoke on his own behalf and did not represent the Reflection Group at this event, the financial crisis of 2008/2009 demonstrates that many people are live beyond

their means and that financial markets are detaching themselves from the real economy.

However, there were four challenges that were more serious than the crisis, for which he used the acronym “ABCD”: (A) abundance, referring to unsustainable consumption patterns, (B) BRICS (rapidly developing economies), globalisation and the impossibility of the EU sustaining its dominant role in the world, (C) climate change, and (D) demographic structures in the EU (e.g. ageing and the reduction in working-age population).

However, the EU has the means to address these challenges in the form of “people, sun and the Union”. “People” refers to the European values and the care for nature and other humans. “Sun” refers to the need to step up R&D in new renewable energy technology and energy efficiency. “Union” refers to the added value of the EU and a unified strategy, including the size and power of the common market, economies of scale, synergies in R&D, as well as its impact on member states and the world. However, the scale and time horizon of these challenges requires urgent action now.

**Intervention by Mr. Jason Anderson**  
*Head of European Climate Change and Energy Policy, WWF*

In his opening, Mr. Anderson criticised the fact that internationally there were several grand statements about climate change policy leading up to 2050, but that there was much less stated about 2020 targets. However, he noted that GHG emissions needed to peak before 2020 to avoid additional and more costly reduction later. The costs of achieving this peak were manageable, being around 3% of GDP.



Focussing on specific sectors, Mr. Anderson underlined the extreme importance of decarbonising freight transport, which – unlike personal transport – is not able to be electrified. Transport issues were closely linked to lifestyle issues and efficiency needs to be addressed, together with energy sources and volume shift.

In terms of the power sector, he emphasised the role of CCS in a centralised power system. He also underscored the enormous importance of energy efficiency and a super-smart grid that combines upstream and downstream sources.

Finally, Mr Anderson called for planning of appropriate policies today to ensure that they deliver on EU targets in a timely way. Among other things, decarbonisation strategies need to focus on a ban of unabated coal after 2020, as well as the use of biofuels for the electrification of vehicles. The ETS (Emission Trading System) needs larger emissions reduction measures in order to achieve decarbonisation of associated sectors earlier than 2070. However, consideration should also be given to policies to address emissions that are almost irreducible (e.g. methane from agriculture).

**Intervention by Mr. Claude Turmes**  
*MEP, Vice-Chair, Greens/European Free Alliance*

Mr. Turmes provided an overview of the historic development of environmental policy and how it has been held off at several occasions in the past, including most recently in the Treaty of Lisbon, which excluded environmental and energy taxes from qualified majority voting (thus leaving them subject to unanimity). He then criticised the current economic model based on growth, which requires energy and resource efficiency improvements of a factor 30-45 to achieve sustainability in the long-run. Since efficiency improvements of such a scale are not possible, the EU should abort its “low carbon growth strategy” in favour of a “high energy and resource efficiency, high renewables strategy”. Such a strategy would need to focus on several issues, including a mandatory minimum 20% energy efficiency target for 2020, electricity savings (e.g. by phasing out electric heating and introducing standards for electric boilers), new business models for utilities (e.g. based on energy efficiency), a stronger focus on emissions from buildings, aiming for 100% electricity from renewables by 2050, and transport infrastructure (including smart and super grids, high speed systems and a general focus on reurbanising Europe).



Finally, Mr. Turmes commented on the revision of the Lisbon strategy which needs to pay more attention to the concept of ecological space, other indicators than GDP (i.e. “beyond GDP”), the abolishment of labour productivity in favour of a focus on resource intelligence, and the important role of regions and cities (e.g. the Covenant of Cities).

**Closing remarks by Dr. Miguel Castroviejo**  
*Environmental Attaché of the Permanent Representation of Spain to the European Union*

In his outlook to the incoming Spanish presidency of the Council of the EU, Mr. Castroviejo first commented on the uncertainties related to the new institutional framework, which the Spanish presidency would need to deal with. He specifically referred to a new situation arising from the entry into force of the Lisbon treaty, the “new ways” of working in the Council and the new Commission.

He then presented some preliminary priorities of the incoming presidency in the field of environment, including climate change, biodiversity, environmental quality (e.g. in the context of the soil directive), and water and the marine environment (e.g. adaptation to climate change). In terms of climate change he mentioned three priorities, (a) to ensure the combination of energy and climate change in transversal policies (e.g. in the context of the review of the Lisbon strategy), (b) the implementation of a Copenhagen agreement, and (c) to facilitate international cooperation with a focus on financial flows and environmental technologies (e.g. in the context of the EU-Latin America, EU-US and EU-Mediterranean summits).



With regard to biodiversity, Mr. Castroviejo noted that 2010 will be the “year of biodiversity”, but that the 2010 objective would not be met. The Spanish presidency will thus aim to adopt a post-2010 objective for the EU. Another emphasis will be forest protection.



## Appendix



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Launch of the  
“Getting into the Right Lane for 2050” Study  
Brussels  
30 October, 2009

### BIOGRAPHIES of the PRESENTERS

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**Jason Anderson** is the head of European climate change and energy policy at the WWF European Policy Office, leading a team in Brussels and coordinating European policy among a network of offices, and contributing to WWF’s international climate and energy efforts. He has written numerous studies analysing European and international energy and climate policy, and is a frequent invited speaker on climate and energy issues. He was a member of several European Climate Change Programme working groups and other advisory bodies, and was a lead author of the IPCC special reports on ozone and climate interactions and on carbon dioxide capture and storage. Previously he was a senior Fellow at the Institute for European Environmental Policy (IEEP), and head of the climate change programme, and prior to that an energy policy analyst at Climate Action Network Europe. He has developed solar energy projects in Central America, and was an energy efficiency and renewable energy specialist at the US Department of Energy. Mr. Anderson has degrees in energy resources and public policy from the University of California, Berkeley, and in evolutionary biology from Harvard University.

**David Baldock** (Chair) is the Executive Director of the Institute for European Environmental Policy (IEEP). Dr. Baldock’s background is in philosophy and economics. He joined the Institute in the mid 1980s to establish a programme of work on agricultural and rural environmental issues. He became Deputy Director in 1992 and Director in 1998. As well as being an authority on European agricultural policy and the environment, his specialist areas include the implementation of environmental legislation and EU strategy with regard to environmental integration. He has an active interest in sustainable development and the external dimension of European policy. Other current commitments include membership of the Commission’s high-level group on the competitiveness of the car industry in Europe.

**Miguel Castroviejo Bolivar** is Environmental Attaché for the Permanent Representation of Spain to the European Commission. He holds a doctorate in forest engineering from the Polytechnical University of Madrid. He is member of the governing Council of National Parks in Spain. He was previously the director of the National Park, *Teide y Jefe del Icona*, on the Canary Islands. He has been a member of the scientific council of the "European Centre for Nature Conservation" and is a patron of the national parks *Teide* and the *Islas Atlánticas de Galicia*

(Atlantic Islands of Galicia). As author of several books and articles on this subject, his professional path has led him to earn distinctions like the national Prize Pedro Pidal for publications on national parks in 2003.

**Katarina Eckerberg** is the joint Theme Leader of Multilevel Institutions and Governance of Social-ecological Systems at the Stockholm Resilience Centre. She is also Deputy Director Research at the Stockholm Environment Institute and Professor in Public Administration at the Department of Political Science, Umeå University in Sweden. Her research includes policy analysis and implementation studies of the social, political and institutional aspects of sustainability governance, including comparisons across multiple levels in Sweden and Europe. She is the author of over 100 publications and member of many research committees and policy bodies in the field of environment and sustainable development. She has 29 years of research, teaching and development work experience, with a professional background in forestry combined with a PhD in political science.

**Rolf Eriksson** has been State Secretary for Agriculture since 2006. Within his portfolio, Mr. Eriksson is also responsible for, among other things, animals, fisheries, forestry, international cooperation, natural resources and the environment, and organic production and consumption. Prior to his current assignment, he was head of the Brussels office for the Federation of Swedish Farmers. From 1993 to 1994 he was political adviser to the Ministry of Agriculture, Food and Consumer Affairs, and before this press secretary for the Ministry of Agriculture, Food and Consumer Affairs. He has also been a member of the EU Committee of the Royal Swedish Academy of Agriculture and Forestry. Mr. Eriksson holds a Master of Science in Agriculture, from the Swedish University of Agricultural Sciences, Uppsala and has studied economics at Stockholm University.

**Maarten Hajer** is the director of the Netherlands Environmental Assessment Agency, the Dutch government's assessment and policy analysis agency on environment, nature conservation and land use planning. He has been professor of Political Science and Public Policy in the Department of Political Science at the University of Amsterdam since 1998. He is one of the founders of the Amsterdam Centre for Conflict Studies. He is a member of the Amsterdam School for Social science Research and of the Amsterdam Institute of Metropolitan and International Development Studies. He is also a member of the *VROMraad*, the advisory board to the Ministry of Public Housing, Spatial Planning and the Environment, in The Hague. Before taking up the Chair, he worked as senior researcher at the Scientific Council for Government Policy (WRR), The Hague (1996-1998); as 'wissenschaftlicher Mitarbeiter' with Ulrich Beck at the Ludwig-Maximilians-Universität in Munich (1993-1996); and as researcher at the Leyden Institute for Law and Public Policy (1991- 1993). He holds MA degrees in Urban and Regional Planning and in Political Science (University of Amsterdam), as well as a D.Phil. in Politics (University of Oxford).

**Žiga Turk** is a Professor and Chair in Construction Informatics at the Faculty of Civil and Geodetic Engineering at the University of Ljubljana and Secretary General of the Reflection Group on the Future of Europe, chaired by Felipe Gonzales. In 2007 and 2008, Dr. Turk was a Minister for Growth with the government of Slovenia, national coordinator for the Lisbon Strategy, chief negotiator for the Slovenia's accession to the OECD, chairman of the national Sustainable Development Council and Chairman of the Competitiveness Council. His other activities outside of the academia include: Chairman of the Supervisory Board, Telekom Slovenia

and Mobitel, member of the Reform Council, Vice Chair of the Strategic Council for Culture, Education and Science.

During the Slovenian presidency to the EU, he was in charge of the updates to the Lisbon Strategy and involved in the management of the energy and climate change package and R&D policy. He holds a B.Sc. in Civil Engineering, M.Sc. in Computer Science and Ph.D. in technical sciences.

**Claude Turmes** has been a Member of European Parliament since 1999 and vice-president of the Greens/European Free Alliance Group since 2002. He is a member of the Committee on Industry, Research and Energy and the delegation for relations with the United States. He holds a degree in physical and sports education from the University of Louvain-la-Neuve. In his early career, he was a physical education and sports teacher. Since 1989, he has held various offices in the Luxembourg Ecology Movement. He was a member of the Executive Committee of the European Environmental Bureau from 1989 to 1991.