

Financial Impacts of Climate Change: An Overview of Climate Change-related Actions in the European Commission's Development Cooperation

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Abstract

This paper analyses the variety of different external aid initiatives and financing mechanisms of the European Commission addressing climate change and development objectives, such as those stemming from the 2004 EU Action Plan on Climate Change and Development, from the Global Climate Change Alliance (GCCA) and those under the Thematic Programme for Environment and Sustainable Management of Natural Resources (ENRTP). The paper also outlines related Commission commitments with the European Investment Bank (EIB), the World Bank and the United Nations. While the European Commission has advanced a number of new initiatives, it seems that the complexity of responsibilities in the management of the current financing instruments requires organisational restructuring, a more transparent reporting mechanism and the development of better indicators to evaluate the impacts of those initiatives. Overall it appears that the Commission is just at the beginning of taking full account of climate change in development cooperation. Its contribution is rather limited in view of the financing mechanisms should be sought together with member states and the private sector.

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This paper presents and analyses the variety of different external aid initiatives and financing mechanisms of the European Commission, addressing climate change and development objectives, such as those stemming from the 2004 EU Action Plan on Climate Change and Development, from the Global Climate Change Alliance (GCCA) and those under the Thematic Programme for Environment and Sustainable Management of Natural Resources (ENRTP). The paper also outlines related Commission commitments with the European Investment Bank (EIB), the World Bank and the United Nations.

The paper suggests that the current complexity of responsibility in the management of those different initiatives (managed by various Directorate Generals under various thematic programmes and budget lines), would require organisational restructuring, a more transparent and clearer reporting mechanism (taking into account all funds for external aid) and the development of better indicators to evaluate the impacts of those initiatives.

Overall it appears that the Commission is just at the beginning of taking full account of climate change in development cooperation. The Commission is still in early stages regarding the development of ex-ante climate-proofing tools, but is more successful in promoting clean technologies in developing countries, particularly in the energy sector. The paper concludes that achieving the aim of consistently integrating climate change into development policies will require more than adding new funds and merging existing funding instruments under a new heading (such as the GCCA), and that the Commission should also focus on improving tools for climate-proofing all other current development cooperation.

Finally, given the global financing needs related to climate change in developing countries, the Commission contribution is considered rather limited. The Commission, Member States and – first and foremost – the private sector would need to step up commitments to fill the financing gap as well as launch innovative financing mechanisms as soon as possible. The paper concludes that the Commission's proposal for a Global Climate Finance Mechanism, a frontloading mechanism whose funds could be channelled to existing initiatives and funds, has the potential to raise substantial amounts of funding within a short period of time.

^{*} Extracted from the Introduction drafted by the European Parliament to accompany the original report (European Parliament, 2008a, p. vi).

FINANCIAL IMPACTS OF CLIMATE CHANGE AN OVERVIEW OF CLIMATE CHANGE-RELATED ACTIONS IN THE EUROPEAN COMMISSION'S DEVELOPMENT COOPERATION CEPS Working Document No. 305/September 2008 ARNO BEHRENS^{*}

1. Introduction

Climate change is a massive threat to human development, both in industrialised countries and in developing ones. While industrialised countries are largely responsible for the high concentration of greenhouse gases in the atmosphere, it is in the developing world where people are most vulnerable and least adaptive to the consequences of global warming.¹ This is not only due to the geographical location of most developing countries in the global south, but also because of their limited capacity to cope with changes, such as lower agricultural yields, growing water stress, flooding of low-lying lands and the spread of infectious diseases to new, warmer areas.² However, developing countries will not just be faced with the challenge of adapting to climate change. There will also need to be considerable efforts to mitigate global warming, especially by combating deforestation – which is responsible for about 20% of global CO_2 emissions. If not consistently addressed in development programmes, climate change will undermine international efforts to fight poverty and exacerbate existing inequalities between the rich and the poor.

In 2007, the UNFCCC published an analysis of existing and potential investment and capital flows regarding the international response to climate change.³ Investment and financial flows directed to developing countries are estimated to amount to an additional \pounds 1-62 billion⁴ (\$76-77 billion) for mitigation and at least another \pounds 3-54 billion (\$28-67 billion) for adaptation in the year 2030. According to the report, the most costly sectors for mitigation efforts will be transport, forestry and industry. Funds for adaptation will mainly be focused on infrastructure, water supply, and agriculture, forestry and fisheries. The magnitude of these financial transfers may be explained by the fact that developing countries will be especially vulnerable to the impacts of climate change while offering most of the cost-effective opportunities for reducing emissions. The additional investment needs stated in the report refer to both private- and public-

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¹ See, for example, UNDP (2007), Stern Review (2006), Working Group on Climate Change and Development (2007), Oxfam (2007).

² See European Commission (2008a), DG Development information website (http://ec.europa.eu/development/policies/9interventionareas/environment/climate/climate_en.cfm, accessed on 5 June 2008).

³ UNFCCC (2007), Report on the analysis of existing and potential investment and financial flows relevant to the development of an effective and appropriate response to climate change, Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention, Dialogue Working Paper 8.

⁴ Financial data originally quoted in 2005 USD were converted into euro using the average 2005 USD/EUR exchange rate (1.2441). Source: Eurostat.

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sector investments. However, the role of private investors is stressed as they contribute 86% to investments and financial flows.

Estimates of annual adaptation costs in developing countries vary greatly, ranging from C-32 billion (\$10-40 billion)⁵ to \$50-80 billion⁶ per annum. The main issue is climate-proofing future development investments. Regarding such financial estimates, the World Bank⁷ stresses that "it is not possible to make an accurate direct calculation of the additional costs associated with adaptation", because they partly depend on the effectiveness of mitigation efforts. Furthermore, the experience in mainstreaming adaptation into development projects is limited. Associated incremental cost estimates range from 5% to 20%, including "additional project preparation costs to assess climate risks, costs associated with instigating new activities more appropriate to the changing climate, and some direct costs in modified infrastructure".⁸

The European Union is at the forefront of promoting international action on climate change and has repeatedly called for alliance-building with developing countries, in particular enhanced cooperation with least developed countries (LDCs).⁹ In its Green Paper on adaptation options for Europe,¹⁰ the European Commission underlined the need to integrate climate change into "existing external policies and funding instruments, and where appropriate design new policies". Within this context, the European Commission has advanced a number of initiatives to support developing countries in their efforts to mitigate and adapt to climate change. These include, for example, the 2004 EU Action Plan on Climate Change and Development and the Global Climate Change Alliance. These and others will be presented in this study, as well as their financial implications. The paper will also outline related Commission commitments with the European Investment Bank (EIB), the World Bank and the United Nations.

2. EC Policy Context

2.1 The EU Action Plan on Climate Change and Development

The growing understanding that climate change needs to be consistently integrated into development policies encouraged the European Commission to adopt a Communication in May 2003, which dealt with climate change in the context of development cooperation.¹¹ In its ambition to assist partner countries in the fight against poverty, the fulfilment of the Millennium Development Goals (MDGs) and the promotion of sustainable development, the Commission concluded that climate change needs to be an integral part of EU development cooperation.

⁵ World Bank (2006a), Clean Energy and Development: Towards an Investment Framework, Development Committee, 5 April 2006.

⁶ See European Parliament (2008b), Report on building a Global Climate Change Alliance between the European Union and poor developing countries most vulnerable to climate change, Rapporteur Anders Wijkman, adopted by the Committee on Development on 19 September 2008.

⁷ World Bank (2006b), An Investment Framework for Clean Energy and Development: A Progress Report, Development Committee, 5 September 2006.

⁸ Ibid.

⁹ See, for example, Council of the European Union (2007), Presidency Conclusions of the Brussels European Council (8/9 March 2007), 7224/1/07 REV 1.

¹⁰ European Commission (2007a), Adapting to climate change in Europe – options for EU action, Green Paper from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, COM(2007) 354.

¹¹ European Commission (2003), Climate Change in the Context of Development Cooperation, Communication from the Commission to the Council and the European Parliament, COM(2003) 85.

activities. The Communication includes a proposal for an Action Plan to support partner countries, including four strategic priorities, namely i) raising the profile of climate change, ii) support for adaptation to climate change, iii) support for mitigation of climate change and iv) capacity development. The European Council agreed on pursuing the Commission's climate change strategy in December 2003¹² and adopted the Action Plan 2004-2008 in November 2004.¹³ The Council Conclusions of November 2004 include a concrete set of actions for each of the four strategic priorities, to be implemented by the Commission, member states, national and local governments in partner countries, NGOs and other agents.

Funding from the Commission will mainly come from the Environment and Natural Resources Thematic Programme (ENRTP) and through geographical funds at country and regional level. The ENRTP foresees a total of \pounds 23.3 million for the period 2007-10 for the implementation of the EU Action Plan.¹⁴ However, according to the 2007 and 2008 Annual Action Programmes implementing the ENRTP (see section 4.3), funding over these two years will be limited, as the EU Action Plan will only benefit from a certain share of the \pounds 2.5-7.4 million allocated to the call for proposals related to promoting the implementation of EU initiatives in the area of climate change.

Under current arrangements, the implementation of the EU Action Plan will come to an end in 2008. However, as the recommendations of the EU Action Plan remain valid it will still be relevant to the Commissions's work beyond that year. In terms of implementation, the Global Climate Change Alliance will become the main tool (see section 2.2), but, it will not be able to cover all priorities of the EU Action Plan.

2.2 The Global Climate Change Alliance (GCCA)

The GCCA¹⁵ will be the key element of the EU's external development action in the area of climate change, possibly eventually replacing the EU Action Plan mentioned above. It will provide a platform for dialogue and exchange as well as practical cooperation between the EU and those developing countries that are most vulnerable to climate change, in particular the least developed countries (LDCs) and small island developing states (SIDS). The Alliance aims to increase developing countries' capacities to adapt to climate change and to support their participation in global mitigation efforts.

The GCCA renews the commitment of the EU Action Plan on Climate Change and Development to systematically integrate climate change into development cooperation. As a platform for dialogue and exchange, the GCCA will support developing countries to realise the integration of development strategies and climate change by providing regular opportunities for meetings between the EU and participating countries. Beyond dialogue and exchange, the GCCA will provide technical and financial support for adaptation and mitigation measures, and for the integration of climate change into development strategies. Assistance provided under the GCCA will focus on five areas: i) developing and implementing concrete adaptation strategies, ii) reducing emissions from deforestation, iii) helping poor countries to take advantage of the Clean Development Mechanism (CDM), iv) helping developing countries to be better prepared

¹² Council of the European Union (2003), Document 15498/03.

¹³ Council of the European Union (2004), Document 15164/04.

¹⁴ European Commission (2007b), Thematic Strategy for the Environment and Sustainable Management of Natural Resources, including Energy (ENRTP), Commission Decision of 20 June 2007.

¹⁵ See European Commission (2007c), Building a Global Climate Change Alliance between the European Union and poor developing countries most vulnerable to climate change, Communication from the Commission to the Council and the European Parliament, COM(2007) 540.

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for natural disasters and (v) integrating climate change into development cooperation and poverty strategies. Priority will be given to adaptation, disaster risk reduction (DRR) and climate change integration.

The GCCA became fully operational in 2008, with a first call for proposals in January (under the climate and forest headings of the ENRTP). In the 2008 Annual Action Plan, the Commission committed $\textcircledarrow 10$ million to the GCCA for this year some $\textcircledarrow 3$ million of which will be used to set up a facility to supply support, hold events and conduct analyses and studies, which is likely to be done via tender procedure. The other $\textcircledarrow 7$ million will be used to support pilot actions in 3-6 pilot countries addressing adaptation and/or mitigation measures linked to climate change, in principle directly with identified partner governments.

Total Commission funding for the GCCA will be around €300 million over the coming few years. For the period 2008 to 2010, this amount includes €60 million under the GCCA heading of the ENRTP (€10 million in 2008, €25 million each in 2009 and 2010), around €35 million under the forests heading of the ENRTP, and about €15 million under the heading of the EU Action Plan. The intra-(African, Caribbean and Pacific – ACP) envelope of the 10th European Development Fund (EDF) could contribute about €40 million to the GCCA strict, up to €180 million for DRR – one of the priority areas of the GCCA – and a tentative amount of €200 for renewable energy between 2008 and 2013. As the EDF only applies to ACP countries, similar options for the Development Cooperation Instrument (DCI) will be assessed, which would benefit Asia, Latin America and other regions. The Commission is also looking for other GCCA-related finance in national and regional programmes. Appeals to member states have only had limited impact so far, with only Sweden willing to commit an additional €.5 million. The preferred aid modality will be budget support, but project support will not be excluded.

A report recently adopted by the EP Committee on Development¹⁶ welcomed the GCCA initiative, but noted – amongst others – that the 60 million devoted under the GCCA heading of the ENRTP so far are "woefully inadequate". It thus called on the Commission "to establish a long-term financing goal for the GCCA of at least 62 billion annually by 2010 and 65-10 billion annually by 2020".

The Commission stressed that the GCCA is strictly complementary to and supportive of the ongoing process within the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. Participation in the GCCA is intended for those countries that are effectively committed to taking measures to respond to climate change.

2.3 The Global Energy Efficiency and Renewable Energy Fund (GEEREF)

The Global Energy Efficiency and Renewable Energy Fund (GEEREF)¹⁷ is a fund of funds structure proposed by the European Commission, to support small- and medium-sized energy projects designed to support sustainable development in developing economies and economies in transition. It aims to maximise the leverage of public funds in raising finance for investment in energy efficiency and renewable energy projects. Its priority will be on the ACP region. As such, GEEREF constitutes a development tool as well as a contribution to global efforts to combat climate change. As a global public-private partnership, it aims to overcome existing barriers for investment in clean energy technologies by offering new risk-sharing and co-

¹⁶ European Parliament (2008b), op. cit.

¹⁷ See also European Commission (2006a), Mobilising public and private finance towards global access to climate-friendly, affordable and secure energy services: The Global Energy Efficiency and Renewable Energy Fund, Communication of the Commission to the Council and the European Parliament, COM(2006) 583.

funding options for various commercial and non-commercial investors. This will also help CDM projects to take off. The technical emphasis will be on technologies with a proven track record, including mainly small hydro, biomass and on-shore wind. The focus will be on projects below €10 million, as these are largely ignored by commercial investors.

GEEREF is presently in its final phase of approval and should become operational at the latest by the end of October 2008. It would be set up for an unlimited period, but can be dissolved by the shareholder Assembly. The initial funding target for the GEEREF is €100 million, but the Commission expects additional private risk capital of at least €300 million up to €1 billion to be mobilised through regional sub-funds and at the project and SME level. With (indicative) funding of about €80 million from the European Commission¹⁸ until 2010 and additional pledges by the German (€24 million) and Norwegian (€10 million) governments, the fund is already "well above"¹⁹ €100 million.

The 2007 Annual Action Programme implementing the ENRTP indicates total Commission commitments of 30 million in 2007. 25 million have been committed to the Fund itself, and another $\oiint{5}$ million to a Support Facility of the GEEREF, which will support the creation and operation of Regional Funds. These regional sub-funds will ensure that GEEREF will be flexible to take the specificities of regional energy efficiency and renewable energy markets into account.

Once 70% of the initial commitment to GEEREF proper have been invested (i.e. \triangleleft 7.5 million out of the initial instalment of \triangleleft 25 million), the Commission will pay a second instalment of \triangleleft 20 million (most likely in 2009, it is included in the 2008 Annual Action Programme). The third (2009) and fourth (2010) instalments will amount to \triangleleft 15 million each.

3. Climate change-related commitments to development cooperation by the European Commission

The European Commission is developing a financial reporting tool, which summarises all funds committed to climate change-related projects in development cooperation managed by DG Aidco between the years 2002 and 2007. The methodology used has been based on the 2002 OECD Development Assistance Committee (DAC) report on aid targeting the objectives of the Rio Conventions (FCCC, CCD, CBD), using the so-called 'Rio markers'.²⁰ These markers allow for a differentiation between climate-related funding and funding focused on desertification and biodiversity. They are thus intended to improve the comparability of reported data. The Rio marker 'Climate Change' is based on mitigation and is used to identify projects that contribute to one or more of the following objectives:

- The mitigation of climate change by limiting anthropogenic emissions of GHGs, including gases regulated by the Montreal Protocol;
- The protection and/or enhancement of GHG sinks and reservoirs;

¹⁸ \notin 75 million have been committed under the ENRTP 2007-2010 and another \notin million have been financed by an ad-hoc Budget Line (21.04.05) created by the EP with a special aim to support pilot actions and preparatory actions.

¹⁹ Dimas, Stavros, speech by the European Commissioner for the Environment, "GEEREF – Innovative Financing for Clean Energy", UN Climate Change Conference, Bali: Side-event on Global Energy Efficiency and Renewable Energy Fund (GEEREF), 13 December 2007.

²⁰ OECD-DAC (2002), Aid Activities Targeting the Objectives of the Rio Conventions 1998-2000, Paris.

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- The integration of climate change concerns with the recipient countries' development objectives through institution-building, capacity development, strengthening the regulatory and policy framework, or research; and
- Developing countries' efforts to meet their obligations under the Convention.

The Commission requested desk officers and delegations to review projects in their domain as to the relevance for the climate change Rio marker, while also taking adaptation projects into account. This methodology ensures the absence of 'false positives' (i.e. projects that are not related to climate change), but cannot guarantee completeness of the results. The preliminary figures below should thus be taken with care as some mitigation-related projects may be missing.

With respect to adaptation, the European Commission was faced with definition difficulties. In its broadest sense, the fight against poverty – and thus every development project – is always an effort to increase the local population's abilities to cope with vulnerability and thus also climate extremes. However, in order to get a meaningful collection of projects, the financial reporting tool only takes into account those projects that focus mainly on increasing the adaptation capacity to climate change – either because the project clearly defines adaptation as an objective, or because the project contributes to reducing the impacts of clearly identified consequences of climate change. The amounts stated in the preliminary results below are thus merely indicative estimations of the real impact of European Commission funding to improve adaptation in developing countries.

Figure 1 shows the reported total climate change-related commitments of the European Commission in development cooperation managed by DG Aidco between the years 2002 and 2007. Total commitments increased from about €161.9 million in 2002 to about €402.8 million in 2007. Total commitments reported for 2006 (€307.3 million) represent about 7% of total funds managed by DG Aidco in that year (€4.2 billion). The largest increase of total commitments can be observed between 2005 and 2007.²¹ In addition, the figure for 2007 is expected to increase further, as it does not yet include programmes committed to in 2007 where project selection is ongoing and the share of funding directed to climate change-related projects is thus still unclear.

 $^{^{21}}$ This may also be due to the fact that 2007 was the last commitment year under the 9th EDF and some funds *had* to be committed.



Figure 1. Climate change commitments (adaptation and mitigation) by the European Commission in development cooperation programmes, 2002-07

Data source: Preliminary results of a financial reporting tool designed by the European Commission to improve reporting on climate change-related commitments in development cooperation.

Over the entire period between 2002 and 2007, total commitments amounted to some $\textcircledarrow1.35$ billion, with the bulk of $\textcircledarrow1.15$ billion directed to mitigation projects, and about $\textcircledarrow2.04.6$ million to projects related directly to adaptation. The main beneficiary of these funds was Africa with $\pounds436.5$ million for mitigation and $\textcircledarrow3.66$ million for adaptation. Latin America, the countries participating in the European Neighbourhood Policy (ENP) and Asia each received less than half of the funds dedicated to Africa. The share of different regions in total commitments did not significantly differ between the years 2002 and 2006.





Data source: Preliminary results of a financial reporting tool designed by the European Commission to improve reporting on climate change-related commitments in development cooperation.

The sectoral analysis shows that Commission funding managed by DG Aidco between 2002 and 2007 was primarily directed to projects related to mitigation in the forestry, renewable energy, and biodiversity sectors. Forestry was supported with about ≤ 282.9 million for projects dealing with the preservation of tropical and other forests, sustainable management of forests, the fight against illegal forestry and against deforestation for land use change, reforestation, rehabilitation of areas affected by desertification and institutional support. Support for renewable energies of ≤ 73.8 million concentrated on wind and solar energy facilities, energy generation from biomass and waste, hydropower, geothermal power, and institutional support. Almost the same amount (≤ 71.9 million) was spent on biodiversity and the protection of protected areas (forests, coastal ecosystems, mangroves and wetlands).





Data source: Preliminary results of a financial reporting tool designed by the European Commission to improve reporting on climate change-related commitments in development cooperation.

With regard to adaptation, the European Commission committed about €204.6 million managed by DG Aidco for the period between 2002 and 2007. As noted above, this figure is purely indicative as it only takes into account projects that are most evidently and directly linked with adaptation. Such projects relate to disaster risk reduction (e.g. early warning systems, sea defences and other infrastructure for extreme weather events), rural development and food security (e.g. promotion of drought resistant crops and water efficient agriculture), sustainable water management and health issues (e.g. improvement of health systems to cope with outbreaks of malaria, dengue and other infectious diseases).

4. The Thematic Programme for Environment and Sustainable Management of Natural Resources including Energy (ENRTP)

4.1 Overview

The Thematic Programme for Environment and Sustainable Management of Natural Resources, including Energy (ENRTP) addresses the environmental dimension of development and other

external policies and helps to promote the EU's environmental and energy policies abroad.²² It is currently the main instrument for climate change related funding in European Commission development cooperation.

The ENRTP is legally based on the Development Cooperation Instrument (DCI), which allocates a total (indicative) amount of €04 million to the ENRTP for the period 2007-2013 and €469.7 million for the period 2007-2010.

4.2 Multi-Annual Strategy 2007-2010

The Thematic Strategy for the Environment and Sustainable Management of Natural Resources, including Energy (ENRTP)²³ is a guide to the implementation of the Thematic Programme for the period 2007-2010. It includes the 2007-2010 Multi-Annual Indicative Programme (MAIP) which breaks down financial allocations to five priority themes as indicated in Table 1.

Table 1. ENRTP indicative funding allocations for 2007-10

Priority Theme	
1. Working upstream on MDG7: Promoting environmental sustainability	14.2
2. Promoting implementation of EU initiatives and internationally agreed commitments (incl. EU Action Plan, GCCA, etc.)	273.8
3. Improving expertise for integration and coherence	8.2
4. Strengthening environmental governance and EU leadership	38.5
5. Support for sustainable energy options in partner countries and regions, and GEEREF	
Total programmed funds (excl. administrative management)	
Total programme (incl. administrative management)	

While most of the priority themes could be somehow indirectly linked to the climate change agenda, it is mostly Priorities 2 & 5 that are directly relevant to it.

Priority 2 includes 23.3 million for the implementation of the EU Action Plan on Climate Change in Development (see section 2.1) and originally 50 million for support to the GCCA (see section 2.2). According to Commission information, about half of the 71.8 million dedicated to forests could be climate change-related, as they contribute to reducing emissions from deforestation in developing countries. In addition, an allocation of 22.3 million is foreseen for climate change and biodiversity in regions benefiting from the European Neighbourhood and Partnership Instrument (ENPI).

Funding for Priority 5 initiatives mainly consists of €75 million for GEEREF (see section 2.3). Some of the remaining €40.4 million will also benefit (mainly) mitigation activities.

In addition to the amounts indicated above, the Annual Policy Strategy (APS) 2009 of the European Commission allocated another €70 million for ENRTP from the budget margins.

²² See European Commission (2006b), External Action: Thematic Programme For Environment and Sustainable Management of Natural Resources including Energy, Communication from the Commission to the Council and the European Parliament, COM(2006) 20.

²³ European Commission (2007b), Thematic Strategy for the Environment and Sustainable Management of Natural Resources, including Energy (ENRTP), Commission Decision of 20 June 2007.

These are, of course, not yet included in the Thematic Strategy and must be added to the total programme volume. The largest part of this sum (i.e. $\notin 0$ million) will be used for clean technology transfer activities between 2009 and 2013 (following up on the Bali Roadmap and the EU-China Near Zero Emissions coal project). However, only $\notin 10$ million have been committed for 2009 and 2010, with the rest committed for 2011-13. The remaining $\notin 10$ million will be used to increase GCCA allocations in 2009 and 2010.

To conclude, around $\notin 200$ million allocated to the ENRTP between 2007 and 2010 can directly be related to climate change initiatives. This represents roughly 40% of total programme funds for that period. In addition, there are some $\notin 0$ million that have at least partly been allocated to climate-related programmes. It may thus be sensible to conclude that roughly half of the funds allocated to the ENRTP between 2007 and 2010 will be spent on climate change-related projects.

4.3 Annual Action Programme 2008

The 2008 Annual Action Programme²⁴ is the annual implementation document under the ENRTP for the year 2008. As compared to 2007, total commitments have increased to O9.6 million. They are divided over six Action Fiches, each covering one or more of the five priorities of the ENRTP. Together with total commitments, the share of funds allocated to climate change-related initiatives in the AAP 2008 has increased considerably to roughly C7 million, or almost 60%.

In terms of climate change-related commitments, Action Fiche A plays the biggest role. It deals with "promoting implementation of EU initiatives and helping developing countries to meet internationally agreed environmental commitments" (Priority 2 of the ENRTP). Some ≤ 10 million are committed to the GCCA, of which ≤ 7 million will be used to support pilot actions in a limited number of pilot countries. Another ≤ 5 million have been committed to the Forest Carbon Partnership Facility (FCPF) aimed at Reducing Emissions from Deforestation and Degradation (REDD) in developing countries. In addition, some ≤ 2.5 million have been allocated to the improvement of the ability of developing countries to develop adaptation measures and to plan mitigation strategies. Other climate change-related commitments include ≤ 1.5 million for capacity development in the Middle East and in North Africa, some ≤ 1.3 million to support local adaptation and mitigation policies in China, and ≤ 1.3 million for "understanding the findings of the IPCC Fourth Assessment Report". Integrated water resource management under the EU Water Initiative (EUWI) will be supported with ≤ 2 million.

Action Fiche E plays the second largest role with respect to climate change, allocating €20 million to the GEEREF under Priority 5 of the ENRTP 2007-2010.

Action Fiche F allocates 7.8 million to calls for proposals regarding the support for sustainable energy options (plus $\oiint{5.1}$ million from the 2007 budget) and 26.35 million (plus 22.87 million from the 2007 budget) to calls for proposals for "promoting the implementation of EU initiatives and internationally agreed commitments", of which 5-10% (roughly 2 million) will be dedicated to climate change. In total, Action Fiche F will contribute about 9.78 million to climate change related activities.

²⁴ European Commission (2008b), 2008 Annual Action Programme implementing the "Thematic Strategy Paper for the Environment and Sustainable Management of Natural Resources, including Energy (ENRTP) for the period 2007-2010" for the Development Cooperation Instrument, decision of 7 August 2008.

In addition, some 2.62 million have been allocated to climate change-related components of "strengthening international environmental governance and policy development", which includes – amonst others – climate policy outreach in Annex 1 countries, support for climate change negotiations within the UNFCCC and the OECD, and improving developing countries' reporting on climate change policies and measuring greenhouse gas emissions.

Finally, Action Fiche D supports sustainable energy options in partner countries with €1 million aimed at strengthening Africa-EU dialogue on access to energy and energy security, and scaling up investment in renewable energy in Africa.

5. Other Commission funding in climate change-related areas

This section will only give a very broad overview of European Commission development aid programmes in other areas that are directly or indirectly affected by climate change. Given the scope of this paper, the list is not exhaustive. In addition, it should be noted that estimations about the climate-related share of European Commission funding is not possible for most of the areas described below without conducting a detailed analysis of each of the initiatives.

5.1 Food security

Changing climatic conditions and the increased occurrence of extreme-wheather events have direct consequences on agriculture and food production, especially in LDCs. Poverty is the main reason for the vulnerability of farmers to climate change. The continuing degradation of soil, water, forests and other plant resources increases the hardship of livelihoods, especially in rural areas. To decrease the agricultural vulnerability in LDCs, the European Commission in mid-2008 has agreed on supporting the new CGIAR Challenge Programme on Agriculture and Climate Change with €6 million for the period 2009-10.

The Consultative Group on International Agricultural Research (CGIAR) will use this money "to seek ways to protect water and other natural resources under extreme weather conditions and other pressures, to develop crop varieties that are adapted to harsh climates, and to identify policy and institutional innovations that better enable countries and communities to cope with these conditions".²⁵

5.2 Deforestation and tropical forests

According to the EuropeAid Annual Report 2007, the European Commission approved 67 new projects worldwide in 2006 representing a total Commission contribution of $\bigcirc 103.7$ million. This amount includes $\Huge{\sub{P}9.8}$ million under the programme for forests, mainly supporting local efforts to develop participatory models of resource utilisation. Projects relating to forests and governance received $\Huge{\Huge{C}31}$ million, of which $\Huge{\Huge{\complement{C}3.3}}$ million were directly linked to the development cooperation component of the EU Forest Law Enforcement Governance and Trade (FLEGT) Action Plan.²⁶

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²⁵ CGIAR (2008), "CGIAR & climate change, Global climate change: Can agriculture cope?" (available at http://www.cgiar.org/impact/global/climate.html, accessed on 20 June 2008).

²⁶ Ibid.

The total European Commission contribution also includes 23.9 million under the programme for Environment.²⁷ These projects mainly focus on capacity-building in developing countries for implementing Multilateral Environmental Agreements (MEAs), in particular the UNFCCC.

5.3 Water

Water and sanitation are priority areas in EU development policy. According to the EuropeAid Annual Report 2007, €475 million were allocated under the 9th EDF for water and sanitation in 14 ACP countries and a further €500 million through the ACP-EU Water Facility.²⁸ This Facility provides funds towards the objectives of the EU Water Initiative (EUWI) which was launched at the 2002 World Summit for Sustainable Development in Johannesburg (WSSD) with the aim to boost the sustainable delivery of water and sanitation services and to improve integrated water resources management practices.

However, the EuropeAid Annual Report 2007 criticises the slow and regional differentiated progress of the EUWI three years after its launch and calls for greater commitment on behalf of the member states.²⁹

5.4 Energy

Access to affordable energy is a principal component of the MDGs. The EU's framework for dialogue and partnerships with developing countries is the EU Energy Initiative for Poverty Eradication and Sustainable Development (EUEI). The EUEI is a joint commitment by EU member states and the European Commission aimed at supporting improved access to sustainable energy services through more efficient use of fossil fuels and traditional biomass and by increasing the use of renewable energy. The EUEI thus also contributes to climate change mitigation.³⁰ The initiative mobilises public and/or private resources for specific actions and instruments, both from domestic and international sources. The EUEI and its specific actions, including the Energy Facility, the COOPENER programme and the Partnership and Dialogue Facility (PDF) funded by member states are signs of a significant increase in the attention paid to energy issues in EU and Commission development cooperation programmes.

The ACP-EU Energy Facility is one if the EUEI instruments to support the supply of energy services in rural areas. 75 projects have been selected for funding with a total volume of $\notin 220$ million, 40% of which will support renewable energy.³¹

The COOPENER programme is another vehicle to implement the EUEI. As part of the Intelligent Energy – Europe programme, it will help to alleviate poverty through the promotion of sustainable energy.³² It includes 40 projects in Asia, sub-Saharan Africa and Latin America. Asian projects include REEPRO (Cambodia, Laos), RENDEV (Bangladesh and Indonesia) and RESIREA (Vietnam, Laos, Cambodia). Finally, the European Commission committed €21.5

²⁷ European Commission (2007b), EuropeAid Annual Report 2007, EuropeAid Co-operation Office.

²⁸ Ibid.

²⁹ Ibid.

³⁰ See also European Commission (2007e), EU action against climate change – Working with developing countries to tackle climate change.

³¹ Ibid.

³² Ibid.

million to the European Commission-ASEAN Energy Facility (EAEF) between 2002 and 2007 with a focus on renewable energy and energy efficiency.³³

Please also refer to section 2.3 for more information on GEEREF, the main funding instrument set up by the Commission to support the use of clean, affordable energy in developing countries.

6. The European Investment Bank

The European Investment Bank (EIB) is the long-term lending bank of the EU and "aims to contribute, by financing sound investment, to the policy objectives of the European Union".³⁴ While the EIB is mainly lending in the EU and candidate countries, it has some climate change-related initiatives in its portfolio directed towards developing countries.

As a general principle, the EIB screens all its projects for their potential to mitigate climate change and generate carbon credits. By calculating with a shadow price for CO_2 emissions of up to &45/tonne, some of the worst-performing projects are eliminated and are not taken into consideration for financing. The same is true for adaptation requirements, which are taken into consideration at the design stage of projects to make them 'climate proof'.

Apart from its normal lending mandate for countries outside the EU, in which climate change is essentially referred to as part of the eligibility criteria, the EIB has recently set up a Facility for Energy Sustainability and Security of Supply, which amounts to \textcircled billion for the period 2007-13. Eligible projects include wind, biomass, solar, geothermal and small/medium-sized hydro, energy efficiency, carbon capture and storage (CCS), etc. The Facility also includes projects that contribute to EU security of energy supply, including the extension of transportation infrastructure in producer and transit countries, enhancing physical and environmental security, and upstream oil and gas developments directly related to EU supply. Climate change is thus not necessarily the main focus of all projects under this Facility. So far, however, 600 million have been committed to a climate change-related framework loan to China, which was signed in November 2007. Projects under this loan are currently under consideration, including four projects related to wind energy and two related to forestry.

In order to facilitate small and medium-sized projects aimed at promoting climate changerelated investments in developing countries (Mediterranean countries, ACP, South Africa and Latin America), the EIB has set up a Global Authorisation (GA) mechanism with a volume of up to $\triangleleft 100$ million for the period between 2006 and 2008. Special emphasis of the GA is on carbon credit-generating projects, which may be financed with a minimum of \oiint million to a maximum of $\triangleleft 12.5$ million and a total of 75% of the total project costs.

In addition, the EIB has launched the Climate Change Technical Assistance Facility (CCTAF), which provides upfront finance in the form of conditional loans for technical expertise associated with the development of project-based carbon assets (credits) under the Clean Development Mechanism (CDM) and Joint Implementation (JI) instruments of the Kyoto Protocol. The CCTAF has a budget of €5 million and aims to promote CDM and JI projects by providing assistance throughout the whole project cycle "from the initial project assessment

³³ Ibid.

³⁴ EIB (2008a), Corporate Operational Plan 2008-2010, Luxembourg.

through to the certification and commercialization of carbon credits".³⁵ The grant needs to be paid back once the project yields appropriate carbon credits. In case the project fails, the EIB takes care of the CCTAF costs. The EIB thus "aims to help develop projects that would otherwise not be implemented".³⁶

Finally, the EIB (in collaboration with other IFIs) has set up four 'Carbon Funds' in 2007 with the aim to facilitate the exchange between demand and supply on the carbon market. The Multilateral Carbon Credit Fund (MCCF) has been launched in collaboration with the European Bank for Reconstruction and Development (EBRD) to support EBRD and EIB shareholders as well as other parties "to meet their mandatory or voluntary greenhouse gas emission reduction targets".³⁷ The MCCF buys carbon credits from eligible projects in transition countries from Central Europe to Central Asia and thus increases their internal rate of return (e.g. by 1-7% for renewable energy projects). Initial commitments to the fund total €190 million until 2013. The EIB is linked to the EBRD through a co-management agreement.

Another fund, the Post-2012 Carbon Credit Fund, was set up in March 2008 by the EIB and four other leading European public financing institutions. It is based on the fact that in the absence of an international policy regime for emissions reductions and carbon trading after 2012, "it is difficult for new climate-friendly projects to monetise their future reductions in greenhouse gas emissions".³⁸ The Fund thus focuses on purchasing Kyoto-compliant carbon credits generated after 2012, potentially until 2020, by entering into forward agreements with project owners for the delivery of certified emission reductions (CERs) and emissions reduction units (ERUs) generated under the CDM and JI. Once the shape of the post-2012 regime emerges, the Fund will on-sell to compliance and other buyers of carbon credits. The EIB contributes 60 million to the total volume of 125 million. The Fund may continue until 2024 but is expected to end by 2013 with the sale of emissions reduction purchase agreements (ERPAs).

In collaboration with the World Bank, the EIB in 2007 launched the Carbon Fund for Europe (CFE). This Fund is intended to help European countries to meet their Kyoto commitments. At the same time, it supports investment in clean technology projects in developing countries and thus helps them to achieve sustainable development. The volume of the CFE is 50 million until 2017. The EIB contributes to the Fund in terms of management, knowledge about the European economy and a large project pipeline in developing countries.

Finally, the EIB/Kreditanstalt für Wiederaufbau (KfW) Carbon Programme focuses on assisting EU-based small and medium-sized enterprises which are commonly excluded from such risk-sharing arrangements to access carbon credits for voluntary or statutory compliance purposes. Initial commitments of €100 million are shared between the two institutions. The fund is expected to be dissolved in June 2013.

With respect to the general climate change policy of the EIB, the Corporate Operational Plan (COP) for 2008-10 calls for all approved climate change financing initiatives to be fully operational by 2008 and for the existing carbon funds to start to fulfil their targets. While the COP includes a target of 000 million for renewable energy activities within the EU in 2008, it does not contain a similar target for developing countries. In the absence of such a target, the EIB expects to sign projects worth 000 million for renewable energy initiatives outside of the EU in 2008.

³⁵ EIB (2007a), Climate Change Mitigation and Adaptation Activities - Global Authorisation for the financing of small and medium scale climate change projects – Marketing Prospectus, Louxemburg.

³⁶ EIB (2007b), Climate Change Technical Assistance Facility, Louxemburg.

³⁷ EIB (2008a), Corporate Operational Plan 2008-2010, Luxembourg.

³⁸ EIB (2008b), Post-2012 Carbon Credit Fund: Looking beyond the Kyoto Protocol, Luxembourg.

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7. World Bank initiatives

European Commission funding of World Bank initiatives related to climate change is negligible. This has been confirmed by DG Development and is also reflected in the EuropeAid annual report on financial contributions to the World Bank.³⁹ The latter allocates a mere \textcircledlefthildelta . 6 million of the total amount of \textcircledlefthildelta 40.8 million pledged by the European Commission to Trust Funds of the World Bank signed in 2007 to MDG 7 (environmental sustainability). As regards climate change, the Commission's contribution may be slightly higher taking into account the following concrete trust funds signed in 2007:

- Coastal and biodiversity management project in Guinea Bissau (€0.75 million paid in 2007 out of €1.5 million planned),
- Drought management initiative in Kenya (€4.25 million paid in 2007 out of €3.5 million planned) and
- Agricultural value chain development and diversification in ACP countries (€1.25 million paid in 2007 out of €2.5 million planned).

Other relevant trust funds the Commission is committed to but towards which no money has yet been paid include:

- Conference on poverty reduction, environment and growth in Africa (€0.15 million planned),
- Addressing climate change in the Middle East and North Africa (MENA) region (€1.5 million planned) and
- Forest Carbon Partnership Facility (FCPF) (€ million planned).

The European Commission is not financially involved with the Global Environment Facility (GEF) and does not contribute to other initiatives of the World Bank, such as the Clean Technology Fund or the Strategic Climate Fund. The latter represents an umbrella fund, which will include the Pilot Programme for Climate Resilience (PPCR), an initiative regarded to be very similar to the European GCCA (see section 2.2). Although the Commission will collaborate with the PPCR by exchanging information and coordinating pilot projects, it gives priority the GCCA and invites member states to contribute to the Commission initiative before turning towards the PPCR.

8. European Commission contributions to UN initiatives

The European Commission is cooperating with the United Nations on a broad range of issues and provides substantial funding to UN initiatives. Total financial contributions of the Commission have increased from less than €200 million in 1999 to about €1.4 billion in 2006.⁴⁰ Commission support to the UN is scattered throughout the whole Commission system, with the bulk provided by the so called RELEX family consisting of the Directorates General for Development, Enlargement, External Relations, Humanitarian Aid, Trade and the EuropeAid Co-operation Office. The latter alone (EuropeAid) provided some €1.01 billion in 2006.

³⁹ European Commission (2008c), Financial Contributions of EuropeAid to the WB in 2007, EuropeAid.

⁴⁰ UN (2007), Improving Lives – Results from the partnership of the United Nations and the European Commission in 2006, United Nations System in Brussels, Brussels.

It is extremely difficult to determine how much of these funds are climate change-related. Commission assistance in this area covers a wide variety of policy areas including food security, agricultural development, health, environment-security linkages, humanitarian coordination for immediate response and (natural) disaster prevention and mitigation. An indication of relevant Commission spending may be given by EuropeAid, which estimated that about 11%, or about €100 million, of its total financial contributions are related to MDG 7⁴¹ and thus to efforts directed at ensuring environmental sustainability (i.e. protecting environmental resources, biodiversity, access to drinking water, etc.). This share remained constant in 2007,⁴² although EuropeAid's contribution to the UN had decreased considerably to €719 million (mainly due to reasons related to a reform of the external cooperation instruments and a reduction of contracts signed in Iraq).

In addition to EuropeAid, the Directorate General for Humanitarian Aid spent some $\in 18.9$ million on thematic funding for UN agencies dealing with responses to humanitarian crises in 2007.⁴³ Some natural disasters may – at least indirectly – be attributed to global climate change (e.g. hurricanes, droughts, floods and other extreme weather events), and parts of this $\in 18.9$ million need thus to be considered for the purpose of this study. Again, it is difficult to assign a concrete amount due to classification problems.

Other contributions to UN agencies are referred to in the ENRTP 2007 Annual Action Programme, which includes €0.65 million for the UNFCCC and €1.37 million to UNEP, some of which will also benefit the Bali Strategic Plan for Technology Support and Capacity Building in developing countries (see section 4.3).

9. Conclusions

Reporting on climate change-related financing in European Commission development cooperation is certainly not a straightforward exercise. One problem is the definition of 'climate change-related financing'. As noted above in section 3, a broad definition could include almost all development projects because they aim to reduce poverty – the prime cause for vulnerability to climate change. Of course, such a definition is not helpful for the purpose of a paper like this, which is thus restricted to an analysis of thematic areas such as energy, clean technology, forestry, water management, food security, etc. Another challenge arises from the fact that a variety of different initiatives are managed by various different DGs under various thematic programmes and budget lines. Without the cooperation of Commission officials (especially in DG Development, DG Aidco and DG Environment), it would have been extremely difficult to get a picture beyond the most visible initiatives. In order to facilitate future financial overviews about climate-related development cooperation, the Commission should establish a transparent, publicly available reporting mechanism. The financial reporting tool as presented in section 3 is a first step in the right direction, but its preliminary results do not yet allow for robust conclusions as to the amount and development of climate-related commitments. It is in the interest of the European Commission to refine the tool and to sharpen its results to take into account all funds for external aid, not just those managed by DG Aidco.

⁴¹ European Commission (2007f), Financial Contributions of EuropeAid to the UN Funds, Programmes and specialized Agencies in 2006, EuropeAid.

⁴² European Commission (2008d), Financial Contributions of EuropeAid to the UN Funds, Programmes and specialized Agencies in 2007, EuropeAid.

⁴³ European Commission (2008e), Annual Review 2007, DG for Humanitarian Aid (ECHO).

On the other hand, it should be noted that a purely financial analysis of European Commission commitments may not be able to illustrate the impacts of Commission initiatives on local communities. The most costly initiatives may not be the ones with the highest impact. Similarly, not all impacts are measurable in financial terms. Other indicators should be taken into account to evaluate the full impact of development cooperation undertaken by the Commission on climate change mitigation and adaptation.

The complexity of responsibilities within the Commission system calls for a clarification of structural responsibilities, especially within the DG RELEX (External Relation) system. It may thus be worthwhile to consider merging some of the DGs responsible for development cooperation into one entity managing *all* aid programmes. While this may be politically difficult to achieve, it would increase efficiency, transparency and visibility of Commission development cooperation and would also facilitate standardised climate mainstreaming of development projects and related reporting.

As to the initiatives presented above, it is clear that the European Commission is just beginning to take full account of climate change in development cooperation. This has also been concluded by a recent review of the EU Action Plan (see section 2.1), which found that "climate change concerns remain to be integrated into EU external and internal policies impacting partner countries" and that "[c]limate change has not yet been mainstreamed into EU development cooperation".⁴⁴ The Commission is still in early stages regarding the development of ex-ante climate-proofing tools, but is more successful in promoting clean technologies in developing countries, particularly in the energy sector. Achieving the aim of consistently integrating climate change into development policies will require more than adding new funds such as the GCCA and the merging of existing funding instruments under a new heading. This may be effective for increasing visibility but may not necessarily help to integrate climate climate climate proofing all other current development cooperation.

Finally, given the global financing needs related to climate change in developing countries (see section 1), the Commission contribution is indeed rather limited. However, it is not just the Commission that is required to increase funding substantially. Member states and – first and foremost – the private sector will need to step up commitments to fill the financing gap. Innovative financing mechanisms need to be explored further and launched as soon as possible. The Commission's proposal for a Global Climate Finance Mechanism, a frontloading mechanism whose funds could be channelled to existing initiatives and funds, has the potential to raise substantial amounts of funding in a short period of time.

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⁴⁴ ECORYS-NEI (2007), *EU Action Plan on Climate Change and Development: 1st Bi-annual Progress Report (2004-2006)*, Rotterdam.

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List of Abbreviations

AAP	Annual Action Programme
ACP	African, Caribbean, and Pacific countries
APS	Annual Policy Strategy
CBD	Convention on Biological Diversity
CCD	Convention to Combat Desertification
CCS	Carbon Capture and Storage
CCTAF	Climate Change Technical Assistance Facility
CDM	Clean Development Mechanism
CEPS	Centre for European Policy Studies
CER	Certified Emissions Reductions
CFE	Carbon Fund for Europe
CGIAR	Consultative Group on International Agricultural Research
CO_2	Carbon dioxide
COP	Corporate Operational Plan
CSP	Country Strategy Papers
DCI	Development Cooperation Instrument
DG Aidco	EuropeAid Co-operation Office
DG DEV	DG Development
DRR	Disaster Risk Reduction
EAEF	EC-ASEAN Energy Facility
EBRD	European Bank for Reconstruction and Development
EDF	European Development Fund
EECCA	Eastern Europe, Caucasus and Central Asia
EIB	European Investment Bank
ENPI	European Neighbourhood and Partnership Instrument
ENRTP	Environment and Natural Resources Thematic Programme
ERPA	Emissions Reduction Purchase Agreement
ERU	Emissions Reduction Units
EU	European Union
EUEI	EU Energy Initiative for Poverty Eradication and Sustainable Development
EU-ETS	European Union Emissions Trading System
EUR	Euro (€)
EUWI	EU Water Initiative
FCCC	Framework Convention on Climate Change
FCPF	Forest Carbon Partnership Facility
FLEGT	Forest Law Enforcement, Governance, and Trade
FSTP	Food Security Thematic Programme

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GA	Global Authorisation Mechanism
GCCA	Global Climate Change Alliance
GEEREF	Global Energy Efficiency and Renewable Energies Fund
GEF	Global Environmental Facility
GGFR	Global Gas Flaring Reduction
GHG	Greenhouse gases
IFI	International Financing Institutions
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
KfW	Kreditanstalt für Wiederaufbau
LDC	Least Developed Countries
M2M	Methane to market
MAIP	Multi-Annual Indicative Programme
MCCF	Multilateral Carbon Credit Fund
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreement
MENA	Middle East and North Africa
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PPCR	Pilot Programme for Climate Resilience
R&D	Research and Development
REC	Regional Economic Communities
REEPRO	Promotion of the Efficient Use of Renewable Energies in Developing Countries
RENDEV	Reinforcing Provision of Sustainable Energy Services in Bangladesh and Indonesia for Poverty Alleviation and Sustainable Development
RESIREA	Renewable Energy Sustainable Programs for Intelligent Rural Electrification and Poverty Alleviation
SBS	Sector Budget Support
SID	Small Island Developing States
SME	Small and medium enterprises
SSATP	Sub-Saharan Africa Transport Programme
UN	United Nations
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WSSD	World Summit for Sustainable Development

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