**Inspectie Ontwikkelingssamenwerking en Beleidsevaluatie (IOB)**

# Evaluation of the Dutch foreign policy with respect to Latin America

## Thematic study Sustainable Development

## Case Study: Climate change emissions and international climate negotiations in Brazil and Colombia

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# Abbreviations

| | |
|---|---|
| BAU | Business As Usual |
| BASIC | Brazil, South Africa, India and China |
| BRICS | Brazil, Russia, India, China and South Africa |
| CDM | Clean Development Mechanism |
| CIVETS | Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa |
| COP | Conference of Parties |
| CSO | Civil Society Organisation |
| EC | European Commission |
| ETS | Emissions Trading Scheme |
| EU | European Union |
| EU ETS | European Union' Emissions Trading Scheme |
| G7 | Group consisting of Canada, France, Germany, Italy, Japan, UK, USA |
| G8 | The G7 plus Russia |
| G20 | Group 19 countries plus the European Union |
| G77 | Group of 77 developing countries |
| GDP | Gross Domestic Product |
| GHG | Green-House Gas emissions |
| IPCC | Inter-governmental Panel on Climate Change |
| JI | Joint Implementation |
| KP | Kyoto Protocol |
| LDC | Least Developed Countries |
| LULUCF | Land use, land use change and forestry |
| MRV | Measurement, Reporting and Verification system of the UNFCCC |
| NAMA | Nationally Appropriate Mitigation Action of developing countries |
| NAPA | National Adaptation Programme of Action |
| NL | The Netherlands |
| NGO | Non-Governmental Organisation |
| OECD | Organisation for Economic Cooperation and Development |
| SIDS | Small Island Developing States |
| UNCBD | United Nations Convention on Biological Diversity |
| UNFCCC | United Nations Framework Convention on Climate Change |

# List of people consulted / interviewed

The persons interviewed were not always directly responsible for climate issues but also related to general sustainable development issues.

| | | |
|---|---|---|
| Brazil | Kees Rade | Ambassador of the Netherlands in Brazil |
| Brazil | Jorgen Leeuwestein | Former consultant formulating CDM projects in Brazil |
| Brazil | Carlos Henrique Tomé | Legislative Consultant, Federal Senate |
| Brazil | Cristina Yumie Aoki Inoue | Professor, Institute of International Relations, University of Brasília |
| Brazil | Fabio Feldmann | Environmental attorney and President of the São Paulo Forum on Climate Change, former Federal Representative (São Paulo State) and Secretary of the Environment of São Paulo State. |
| Brazil | Fernanda Viana de Carvalho | Senior Policy Advisor for Climate Change. The Nature Conservancy |
| Brazil | Haroldo de Oliveira Machado Filho | Former Special Advisor for Climate Change, Ministry of Science and Technology. Brazilian negotiator in UNFCCC COPs since 1998 |
| Brazil | Laura Valente | Independent Consultant, former Director of ICLEI (Local Governments for Sustainability) in the City of São Paulo. |
| Brazil | Máximo Luiz Pompermayer | Superintendent of Research and Development and Energy Efficiency, Brazilian Electricity Regulatory Agency (ANEEL) |
| Colombia | Paula Caballero | Ministry of foreign Affaires |
| Colombia | Carlos Costa | Former Minister of Environment |
| Colombia | Adriana Soto | Current Vice Minister of Environment |
| Colombia | Maurice Beers | Dutch Embassy Bogota |
| Colombia | Fabio Arjona | Former Vice Minister of Environment |
| Colombia | Francisco Ocampo | Consultant, leader of a CDM forestry project |
| Netherlands | Kitty van der Heijden | Ministry of foreign Affaires, Ambassador for Sustainable Development |
| Netherlands | Aart van der Horst | Ministry of Foreign Affairs, Climate |
| Netherlands | Ralph Brieskorn | Ministry of Infrastructure and Environment |
| Netherlands | Hans de Waal | Ministry of Infrastructure and Environment |

Contact was sought with Mr. Okko van Ardenne, the co-ordinator of the Memorandum of Understanding on Biofuels with Brazil from the Ministry of Economic Affairs. Regretfully, he is now retired and could not be reached. The institutional memory on the MoU Biofuels now mainly resides with the Ministry of Environment, Hans de Waal and Ralph Brieskorn.

## Executive summary

In 2012, the Inspection and Evaluation Department of the Dutch Ministry of Foreign Affairs started the evaluation of Dutch policy in Latin America between 2004 and 2011. The current report is part of the policy evaluation on sustainable development, which focuses on enabling policies and sustainable production and trade with Latin America. This report assesses the role and efforts of the Dutch government to reach climate change objectives in Brazil and Colombia. The focus of this report is not climate change diplomacy or international negotiations conducted by the EU (incl. NL) although this forms an important part of the report. The focus of this report is on the final outcomes in Brazil and Colombia, partially as a result of UNFCCC decisions, which in turn might be influenced by the diplomatic efforts of the European Union. Therefore, the report describes the intent of the EU, the diplomatic positions by Brazil and Colombia and how this affected outcomes in those countries, rather than internal EU negotiations.

### I Policy objectives

During the last decade the political position of the EU – in line with the Dutch view – was clear: (a) the EU is firmly committed to reducing emissions within the EU, (b) strives for a legally binding international agreement, which should include countries such as China and USA, and is (c) willing to support other countries financially (but with limitations and conditions). The EU main policy objective reflects also the Dutch policy objectives and diplomatic position, i.e.:

(a) to get a post-Kyoto international binding agreement to curb global GHG emissions in order to
(b) keep global temperature below 2°C increase.

Since 2004 the embassies in Brazil and Colombia developed Multi-Annual Strategic Plans and Annual Plans. Their climate related objectives are:

*Climate-related objectives in MASP Brazil 2008-2012:*

> "Stimulate the participation of Brazil in the successor of the Kyoto-Protocol and acceptance of goals to reduce the CO2 emission of Brazil (as many and as concrete as possible)".

And objectives that have an indirect relation to climate change:

> "Maintain close contact with German GIZ and Secretary-General of ACTO on the German-Netherlands partnership supporting the Amazon co-operation ACTO".
>
> "Prepare sustainability criteria and develop certification schemes for the production of biofuels (from soy and sugarcane) within the EU and WTO frameworks and in consultation with Brazil"

*Climate-related objectives in MASP Colombia 2008-2011:*

> "Contribute to effective implementation of environment within the framework of the National Development Plan".
>
> "Strengthen the partnership between Colombia and the Netherlands on climate change and establish the use of CDM by Colombia"

Development co-operation in Brazil has stopped end 2005 and is phasing out in Colombia (as of 2011). Without development cooperation funds an embassy is limited to economic diplomacy, information gathering and sharing on national developments and the promotion of private sector involvement (e.g. through public-private partnerships, financial instruments).

### II Climate Change related outcomes 2004-2011

The main modalities and pathways used in relation to climate change (see also evaluation framework) are:

*Modalities:*

- Diplomacy
- Bilateral financing support (ODA)
- Financial instrument CDM

*Pathways:*

- International treaty i.e. UNFCCC
- Regional co-operation
- Bilateral co-operation through embassy

International diplomacy at he Conference of Parties (COP) of the UNFCC is based upon the EU diplomacy representing a common position of its member states. There were no Dutch multi-stakeholder initiatives or companies with CSR focusing on climate change supported. Indirectly, these organisations contribute through GHG-emission reductions in their operations and by promoting sustainable production and trade of natural resources. This indirect contribution has not been assessed.

### ***II.1 International diplomacy***

- Between 2004 and 2011, the evaluation period, major economic and political changes took place that also affected the political positions of many countries in international negotiations. The economic strength (and their ranking on GHG emissions) of Brazil, China and India also influences how the EU views them at the climate change convention. They are no longer viewed as developing countries and thus should under a new agreement also commit to emission reductions (as well as the United States of America). So far, there is no new binding global agreement.

- The pledged reductions in relation to the Copenhagen Accord will not be sufficient to keep global temperature increase around the goal of 2°C (compared to pre-industrial levels). Therefore, this general EU objective will not be reached.

- Traditionally, Brazil and Colombia align themselves with the G77 and they continue to do so even though their own economic profile has changed. They still defend the principle of common but differentiated responsibilities and national capabilities, expressed in non-quantified emission targets for developing countries. But this position is slowly changing. Brazil did pledge voluntary emission targets in 2009/2010 (which it had refused before) based upon its national Climate Law. Colombia now considers that developing countries also have a responsibility of playing a role in the reduction of GHG, and was very concerned about difficulties in getting consensus between countries belonging to G77 and China.

- In general, negotiations at the UNFCCC have hardened. The EU and the Netherlands have become more cynical about results that can be achieved and whether countries will reduce their emissions. Brazilian negotiators think the EU has developed a very rigid negotiation position in the last 3 COPs and that has isolated it from the rest of the main actors (this seems not to be true for the last COP in 2012 where the EU's position was supported). From the EU perspective, the unwillingness to such a binding agreement by countries like Brazil, USA and China is considered unacceptable for a new round of EU financial commitments. That inflexible position is, according to the same Brazilian sources, due to the difficulties of dealing with differences within the EU-block. Brazilian negotiators tend to see Germany, the UK and France as the most relevant actors in the climate negotiations. The Netherlands is seen as a having a secondary role in the formation of the European position.

- The embassy in Brazil had the objective to stimulate the participation of Brazil in the successor of the Kyoto-Protocol and acceptance of goals to reduce the CO2 emission of Brazil. In reality, the diplomatic efforts were limited to informal meetings with the main negotiators of Brazil (within EU-context and separate). The issue was not a priority. In the end however, Brazil did develop its Climate Law with binding targets and also presented in 2010 a voluntary emission reduction to the UNFCCC under the Copenhagen Accord. The objective of the Netherlands was achieved but they had nothing to do with it. In general, it can be attributed to the UNFCCC and raised climate awareness in Brazil.

- In 2009, Colombia pro-actively started the Cartagena Group with Peru, Chile, Costa Rica and Panama. Later, other countries such as Australia, Switzerland, Germany, the Netherlands, joined this group. Although some of Cartagena Group countries supported the Copenhagen Accord and later the Cancun Agreement, Colombia as well as other members of the Cartagena

Group support the extension of the Kyoto Protocol with mandatory commitments. It seems the support to and participation in the Cartagena Group by the Netherlands helped to create mutual understanding and common views on UNFCCC developments. The Netherlands played a very relevant role supporting this group and financed the preparation of documents and positions for UNFCCC negotiations. As such the Dutch embassy reached its objective to "strengthen the partnership between Colombia and the Netherlands on climate change".

### ***II.2 Regional co-operation***

- ACTO (Amazon Co-operation Treaty Organisation) is a regional co-operation on forests and environment. Together with Germany, the Netherlands provides significant support to ACTO. The co-operation program funds relevant pilot activities and research. Actual implementation is the responsibility of the member states and varies strongly per country. The domestic developments in Brazil and Colombia show a positive trend but this seems more related to domestic actions than the role of ACTO. That said, ACTO does contribute to sustainable forest management and reducing deforestation in a very relevant manner: its role in facilitating the exchange of enforcement and monitoring expertise from Brazil to other countries.

- Also, in June 2012, at the WSSD, the government of Brazil and ACTO reached an agreement to share Brazil's Amazon Fund (US$102.6 million) with other member states (Bolivia, Colombia, Ecuador, Guyana, Peru, Surinam and Venezuela). The Fund has so far received US$94.4 million from Norway, US$3.9 million from Germany and US$4.3 from the Brazilian oil and gas company Petrobras. The effect of this new agreement cannot yet be assessed but the development is very relevant.

- ACTO was also directly involved in UNFCCC related matters. In preparation of the 2009 COP in Copenhagen the member states used the ACTO platform to organise a meeting on climate change. At that meeting they confirmed the role of ACTO and the need to support sustainable development in the Amazon. As a result ACTO participated in the COP9. Although this marks the recognition of ACTO as regional platform, the result of this involvement cannot be assessed, as COP9 was not a huge success (see earlier chapter on the Copenhagen Accord).

- Recently, in March 2012, a high-level meeting of the environment ministers of the ACTO member countries came together and agreed to also work more closely together on climate change ('Lima Declaration). They also stated to "consider" the adoption of the Rio+20 sustainable development goals "of utility" if they are universally applied but nationally implemented. This can be considered a small success for Colombian diplomacy as they started the SDG initiative.

### ***II.3 National Climate Change developments***

- The Netherlands is the main portal for many commodities that are imported to Europe, for example soy from Brazil. The main factors related to GHG-emissions from production and trade are LULUCF (land use, land use change and deforestation as a result of agricultural expansion, burning and logging) and transport. Even worse is that climate change affects the world's capacity to produce resources (to what extent and where is still uncertain). It is thus in the interest of the EU and the Netherlands to also pay attention to the effects of climate change on the production, trade and security of commodity resources.

- In 2005, Brazil ranked 4 and Colombia ranked 41 on the global ranking of GHG emissions (WRI 2007) mainly as a result of deforestation. Deforestation is direct or macro aspect of a more sustainable production and trade of agricultural products and timber. As such reduced deforestation contributes to sustainable production.
  Brazil: After 2005, Brazil broke the deforestation trend in the Amazon: from an annual average of almost 21,000 km$^2$ in 2000-20004 to a record low (measured since 1988) of 4,656 km$^2$ in 2012. Deforestation in the Cerrado is also decreasing the last decade but now higher

than in the Amazon (app. 7,500km²). In 2011, the relative contribution by sector had changed: deforestation accounted for 35% (down from 61%) of Brazilian emissions, energy 32% (was 15%), agriculture 25% (was 19%), industry 5% (was 3%) and waste 3% (was 2%).
Colombia: The National Inventory of Greenhouse Gases sources and sinks carried out between 2000 to 2004 showed that the main contribution of greenhouse effect gases came from $CO_2$ (50%) and methane (30%). The sectors, which caused most of GHG during this period, were agriculture (38%) energy (37%), LULUCF (14%), solid waste (6%) and industrial process 5%. Agriculture and LULUCF in general contribute to 52% of total emissions. There are no national figures available for GHG-emissions between 2004-2011. Therefore the effect of policy measures and initiatives between 2004-2011 on either the emission per sector or overall emissions cannot be assessed.

- Brazil and Colombia's climate agenda are led by their national priorities although their climate agendas are directly influenced by the (voluntary) commitments they made at UNFCCC. Overall, the UNFCCC did positively stimulate the development of climate change related policies, awareness on climate issues and deforestation control in the Amazon. Also, in both countries the EU climate policies are used as a reference point and the EU can thereby 'lead by example'. Failure by EU members to reduce their emissions will therefore also be used by the more conservative groups in society not to implement measures. The last decades both Brazil as well as Colombia received significant support on environment, forests, water and climate, from EU countries including the Netherlands, which helped to build capacity at ministries and civil society organisations. This indirectly stimulated the attention in the media and general awareness on environment in society.

- Brazil is an active member at the UNFCCC and has also become more pro-active in its domestic climate change agenda since 2004. Brazilian GHG emissions have gone down as a result of the reduced deforestation in the Amazon. The reduction is explained by domestic action and enforcement and the growing influence of the Ministry of Environment. There was no direct interaction between EU (or Dutch) support on Brazilian forest and climate issues between 2006-2011. Before 2006, the Netherlands did support this agenda in a positive and relevant manner. They supported the PPG7 programme (80% of funding came from EU members), which supported forest management and monitoring. The Netherlands still supports ACTO, which contributes to sustainable forest management and reducing deforestation in a very relevant manner: it facilitates the exchange of enforcement and monitoring expertise from Brazil to other countries. Also, in June 2012, at the WSSD, the government of Brazil and ACTO reached an agreement to share Brazil's Amazon Fund (US$102.6 million) with other member states (Bolivia, Colombia, Ecuador, Guyana, Peru, Surinam and Venezuela). The Fund has so far received US$94.4 million from Norway, US$3.9 million from Germany and US$4.3 from the Brazilian oil and gas company Petrobras. The effect of this new agreement cannot yet be assessed but the development is very relevant.

- Colombia has been very proactive in the development of policies arising from decisions of the UNFCCC. Colombia developed several climate-related policies, which created an appropriate legal framework, and they were early adapters of the CDM instrument to finance projects. Colombia seems also more pre-occupied with actions to adapt to climate change (agriculture, coastal areas, water reserves and water management) rather than in curbing GHG-emissions. The Netherlands did provide positive and relevant support to the development of a national framework related to climate change in Colombia, albeit with a neutral political position. The Netherlands has financed pilot projects on mitigation and related initiatives that supported the achievement of climate change goals, creating an appropriate institutional environment for implementation at national, subnational and local levels. Through all these processes the capacity and awareness of civil society, indigenous peoples, private and public sector has been developed.

- Both countries have already a rather clean electricity matrix based upon hydropower. But in Brazil and Colombia, modern sectors of the economy (transportation, intensive agriculture

and industry) will now drive GHG emissions, not deforestation. This has implications for climate policy measures. Colombia is now working on a low carbon growth strategy and its implementation. Low carbon growth has no priority in Brazil (illustrated by the decision eliminate taxation on oil consumption on the same day as Rio+20 ended in June 2012). The implementation of the Climate Law has barely advanced and early 2012, the government responded to the international crisis with a traditional carbon intensive industrial stimulus package, focused on the car manufacturing sector and decided to eliminate taxation on oil consumption on the same day as Rio+20 ended, in June 2012. Low carbon growth means different, more high-technological measures are needed (which could be supported by CDM).

## III The CDM and other activities

- Until 2012, The Netherlands reserved approximately €458 million[1] (in 2007) for purchasing credits from CDM and app. €290 million was spent until 2011. The Netherlands was actively involved in CDM development by supporting CDM projects in an early stage and active involvement in the UNFCCC CDM Executive Board (co-chair and chair). The Netherlands has signed MoU's on CDM projects with several countries in the LAC region. In total, the Netherlands has supported until now 509 CDM projects worldwide, including 55 in the LAC region, of which the top countries are Brazil (22), Colombia (7), Argentina (5), Costa Rica (5), Peru (5), Nicaragua (4), Honduras (4) and Ecuador (4). Brazil was the first country to profit from CDM-investments. In the early years of CDM projects, i.e. 2004 to 2006, a high proportion of Dutch funded CDM projects were located in the LAC region, whereas in later years the focus has shifted to China and India, with just a few projects in the LAC region, especially in Brazil.

- Both Brazil and Colombia were early adapters of the CDM institutional framework. The Netherlands supported interesting projects in both countries at an early stage. CDM projects have a dual purpose: (1) GHG emission reduction and (2) sustainable development incl. technology transfer. The supported CDM projects did achieve their promised GHG-reductions and as long as they remain operational this will continue. This is a positive contribution to domestic developments and it helped the Netherlands to purchase credits.

- However, the overall contribution to sustainable development, poverty reduction and adoption of technology is on a project basis and cannot be assessed. Firstly, because the projects were never selected based upon an analysed and assessed contribution to non-climate sustainable development (although arguably wind power projects directly contribute to local sustainable development by providing investment and clean energy). Secondly, the projects interpreted sustainable development mostly as an implicit consequence of GHG emission reduction, the used technology, and to some extent, also as creating employment. In general, no reference is made to any sustainable or broader development outcomes in monitoring reports. New technology was also used on a project basis and did not lead to a wider adoption in the sector. Therefore, the projects had no influence on macro developments or wider adoption of mitigation technology. Brazil and Colombia are both developing and their need for modern, energy-efficient technology is growing. Within this context CDM-project could play a strategic role if they would focus on key economic sectors like transport and support /pilot renewable technology. However, because of the slow economic recovery in the EU there is no need for the Netherlands to purchase CDM credits.

- The last decade the influence of the private sector has increased. Dutch companies can and will influence their LAC partners on Corporate Social Responsibility. In the coming years the private sector – through joint ventures or multi-stakeholder partnerships - will likely be more influential than government support (because of lack of investment and different priorities) on transfer of technology and awareness on climate issues. Companies like Unilever are already

[1] This amount has fluctuated considerably between 2002 and 2011.

concerned about how climate change may affect commodities and climate change adaptation by producers will be a major issue.

### *IV.3 Coherence*

- The last decade EU has been providing more attention to its ecological footprint, resource efficiency and environmental impacts – including GHG-emissions and carbon footprint – occurring outside the EU as a result of commodity trade. The Netherlands is the main portal for many commodities that are imported to Europe. There are no studies on the impacts of climate change on the future economic availability and security of commodities for the Netherlands. The main factors related to GHG-emissions from production and trade are LULUCF (agricultural expansion, deforestation, burning) and transport. Climate change also affects the world's capacity to produce resources (to what extent and where is still uncertain). Bilateral support provided by the Netherlands focused more on the enabling environment (which was positive. See above) rather than on climate issues related to production and trade. The Dutch government does provide funding and support for the Sustainable Trade Initiative including commodities that are important to Brazil and Colombia: biomass, coffee, fruits & vegetables, palm oil, soy, and tropical timber. Climate change adaptation is not an explicit target but part of the overall endeavour to make commodities sustainable.

- It is in the interest of the EU and Netherlands to also provide attention to the effects of climate change on the production and trade of commodity resources. From the other case studies – ethanol, soy, forests – it can be derived that legislation (in the case of sustainability criteria for biofuels) and multi-stakeholder initiatives can help to promote an increased sustainable production. At the moment, there is not much convergence between international trade, national economic developments and global climate change concerns. This is however well-known to all involved and will not likely change in the near future as long as major economies like USA and China will not commit to binding commitments to curb GHG emissions.

### *IV.4 Recommendations*

*Climate diplomacy*

- The EU is the most relevant party at negotiations on climate change. Brazilian negotiators think the 'major' European countries – Germany, France and the UK – are most influential on the political positioning of the EU. Without the EU, the Netherlands would have no influence at the UNFCCC. This does not have to be a limitation as the Netherlands can often find like-minded countries and thus push its views. The Netherlands needs the EU to influence global developments.

- If the Netherlands wants a more direct and visible influence in relation to climate diplomacy, it can better co-operate directly with countries. The co-operation with Colombia in relation to the Cartagena group is a positive example. Such a co-operation should focus on sharing knowledge and insights, developing new common knowledge and build mutual understanding. The Netherlands could for example consider starting a climate dialogue with the eight member countries of ACTO, Germany (also supports ACTO), and Norway (supports the Brazilian Amazon Fund now also shared with other ACTO countries).

*Bilateral relations*

- Because bilateral development co-operation is no longer present in Brazil and Colombia, the Dutch government can no longer play a part in domestic policy developments. The Netherlands could support strategic policy-relevant projects with CSOs. This is however not feasible in the current development co-operation debate in the Netherlands (less money, focus on Africa).

- But Brazil and Colombia provides opportunities to re-define bilateral co-operation based upon existing trade relations and economic diplomacy. A bilateral MoU can be very effective in Latin

American countries as can serve as a reference framework for awareness and action. The Dutch government can contribute positively to the climate agenda by providing more attention to the role of climate adaptation and energy efficiency of production and trade of strategic commodities (including LULUCF). This will benefit local producers and Dutch companies. In Brazil and Colombia there is already an increasing attention for climate adaptation and a strong need for high, energy efficient technology (low carbon growth), which can be linked to existing trade relations. A new form of bilateral co-operation encompassing diplomacy, trade, and sustainability can facilitate new forms of co-operation between companies and CSOs.

- For example, the Sustainable Trade Initiative could support a study for selected trade chains on the long-term implications of climate change of production and commodity security. This could lead to a trade mission specifically focusing on existing trade relations to discuss climate adaptation, low carbon growth and resource security.

# 1 Introduction

## 1.1 Background

In 2012, the Inspection and Evaluation Department of the Dutch Ministry of Foreign Affairs started the evaluation of Dutch policy in Latin America between 2004 and 2011. This evaluation contains policy studies on (1) economic co-operation, (2) sustainable development, (3) economic diplomacy, and (4) human rights. The current report is part of the policy evaluation on sustainable development, which focuses on enabling policies and sustainable production and trade with Latin America.

## 1.2 The case study and methodology

The general framework for the evaluation is presented in annex 1 and distinguishes to analyse effects on (1) enabling politics and policies; and (2) sustainable production and trade. The work included a desk study of available literature and interviews with people that have been working on CDM mechanisms, climate change negotiations and implementation between 2004 and 2011, focused at Brazil and Colombia.

This study has been conducted by Mr. Peter de Koning of Mekon Ecology, Jan Joost Kessler of Aidenvironment, the Netherlands, Mr. Eduardo Viola and Mr. Matias Franchini, Instituto de Relações Internacionais Universidade de Brasília, Brazil and Ms. Angela Andrade, private consultant from Bogota, Colombia.

This report assesses the relations between the Dutch government and climate change outcomes in Brazil and Colombia. The focus of this report is not climate change diplomacy or international negotiations conducted by the EU (incl. NL) although this forms an important part of the report. The focus of this report is on the final outcomes in Brazil and Colombia, partially as a result of UNFCCC decisions, which might be influenced by the diplomatic efforts of the European Union. Therefore, the report describes rather the intent of the EU (and NL), the diplomatic positions by Brazil and Colombia and how this affected outcomes in those countries, rather than internal EU negotiations and whether or not the Dutch diplomats reached their diplomatic objectives.

The main research questions for this case study are:
*A: Enabling Politics and Policies:*

- Were Dutch climate policy objectives reflected in EU climate diplomacy and how did this affect the positions and decisions by Brazil and Colombia in international climate negotiations?
- How did this influence national policy developments in Brazil and Colombia?

*B: Sustainable Production and Trade:*

- What has been the Dutch influence on climate change mitigation in Brazil and Colombia through supported CDM projects and other activities?

# 2 Status on climate change

## 2.1 United Nation's Convention on Climate Change (UNFCCC)

Late '80s, experts warned that the emissions of certain gases cause the average temperature of the Earth's atmosphere and oceans to rise (creating a 'greenhouse'), which would change the global climate and weather patterns. The international response to the challenge of climate change was launched at the Earth Summit in Rio de Janeiro in 1992. The United Nations Framework Convention on Climate Change (UNFCCC) was signed and later ratified by the countries that signed. The Convention established the long-term objective of stabilising greenhouse gas concentrations in the atmosphere at the 1990 level for which a reduction in greenhouse gas (GHG) emissions are necessary. In 2009, this became a maximum increase of 2°C compared to pre-industrial levels, mentioned in the Copenhagen Accord.

*KP - Kyoto Protocol*
In 1997, the Kyoto Protocol was negotiated, which set binding targets to reduce emissions by 5.2% below 1990 levels in 2012 among Annex I countries (i.e. the developed countries). Three market-based implementation mechanisms were established: Emissions trading schemes (ETS) (by far the most important), Clean Development Mechanism (CDM), and Joint Implementation (JI). Early 2000, climate change adaptation and emissions from Land use, land use change and forestry received more attention.

The Kyoto Protocol distinguishes between annex-1 (industrialised countries and countries in transition) and non-annex-1 countries. The Protocol formally entered into force on February 16, 2005 and made the emissions targets binding legal commitments for those industrialised countries that ratified it. The United States of America (USA) and Australia were the only countries that did not ratify Kyoto at that time. Australia ratified Kyoto in 2008.

*LULUCF - Land use, land use change and forestry*
In 2000, the Inter-Governmental Panel on Climate Change (IPCC) presented a document calculating the carbon stock of vegetation and soil and the implications of land use change and deforestation. Land use, land use change and forestry (LULUCF) is a greenhouse gas inventory sector and is included in the Kyoto Protocol. It covers emissions and removals of greenhouse gases ($CO_2$) from direct human-induced land use, land use change and forestry activities. Land use change and deforestation is especially important for countries with an expanding agriculture and much deforestation (such as Brazil). The Kyoto targets are defined in relation to national total emissions in the base year (1990) without LULUCF. However, some LULUCF activities – emissions and removals related to afforestation, reforestation and deforestation that occurred since 1990 – must be counted towards the achievement of the target. Therefore many maps and figures discuss GHG-emissions with a reference whether LULUCF figures are included or not. The CDM allows for the implementation of LULUCF project activities in developing countries.

*NAPAs - National Adaptation Programmes of Action*
In 2001, the Conference of Parties of the UNFCCC acknowledged the specific situation of Least Developed Countries (LDCs) and they do not have the means to address problems associated with climate adaptation. They could receive support for the preparation of NAPAs and end 2008 the UNFCCC had received NAPAs from 39 countries (does not include Brazil or Colombia).

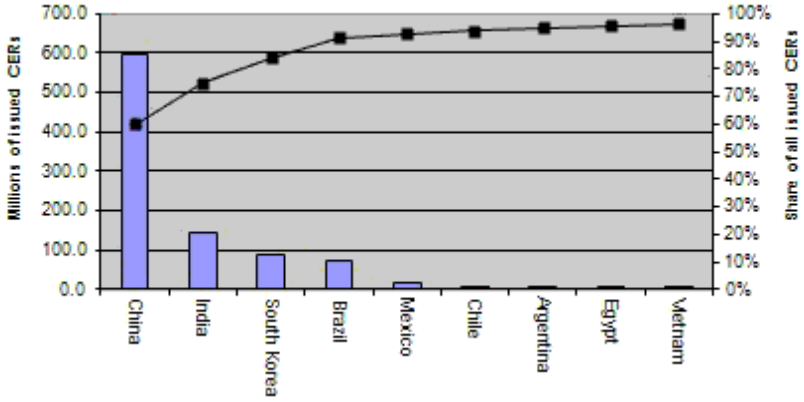
*CDM - Clean Development Mechanism*
The CDM has been established as a financial mechanism whereby Annex-1 parties assist parties not included in Annex-1 in achieving sustainable development and contribute to the climate change objectives. 'Certified Emissions Reductions' (CERs) are allocated to the CDM supported reduction projects in developing countries. The Annex-1 countries use these CERs to meet part of their emissions caps and comply with their quantified emission limitations. Expected benefits of

CDM projects include direct investment in climate change mitigation projects and transfer or diffusion of technology in the host countries, as well as improvement in the livelihood of communities through the creation of employment or increased economic activity. CDM projects create tradable, saleable Certified Emission Reduction (CER) credits. CERs can either be bought from the primary market (the party that makes the reduction) or secondary market (resold from a marketplace). Temporary CER or tCER is a CER issued for an afforestation or reforestation project activity under the CDM, which expires at the end of the commitment period following the one during which it was issued. Long-term CER or lCER is a CER issued for an afforestation or reforestation project activity, which expires at the end of its crediting period. In general, the CDM mechanism was designed to meet a dual objective:

- To help developed countries fulfil their commitments to reduce emissions, and
- To assist developing countries in achieving sustainable development.

Since early 2006, the CDM has registered more than 1,650 projects that are expected to produce CER credits for more than 2.9 billion tons of CO2 equivalent during the first commitment period of the Kyoto Protocol (from 2008 to 2012). The largest categories are greenhouse gas emissions reduction projects (CH4, HFC, N2O) and projects using renewable energy. Afforestation and reforestation projects constitute only a very small amount of projects. Most of the CERs (60%) have been issued to projects in China. The figure below shows that 8 countries cover 96% of all issued CERs, among which Brazil, Mexico, Chile and Argentina (see figure below). At the start of the carbon market, Latin America was the largest supplier of CDM projects. However, now the region has only a 15% share of all projects, whereas Asia has 79% (mainly in China, India and Korea). Five countries (Brazil, Mexico, Chile, Colombia and Peru) in the LAC-region today account for 80% of the region's CDM projects and emissions reductions. In fact, Brazil and Mexico are among the largest issuers of certified emissions reductions, covering more than 50% of all CDM projects in the LAC region.[2]

*Figure 1: Distribution of CERs among 8 countries.*

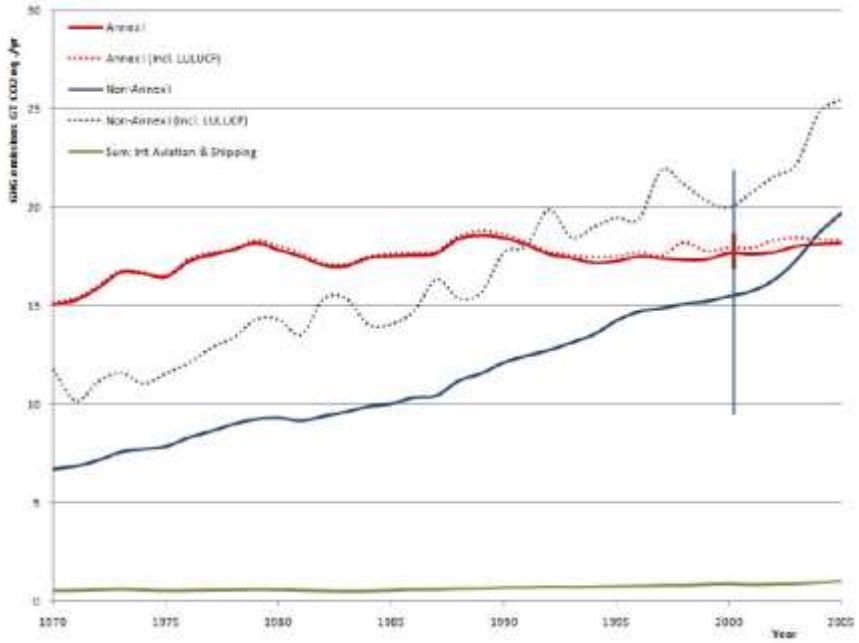



*GHG - Green House Gas emissions*

In 2005, the main GHG emitters (WRI, Climate Analysis Indicator Tool) and their share of global emissions were China (16.4%), USA (15.7%), EU27 (12.1%), Brazil (6.5%), Indonesia (4.6%), Russian Federation (4.6%), India (4.3%) and Japan (3.2%). In 2005, The Netherlands ranked 30th in the global share of GHG emissions. Countries like Brazil and Indonesia ranked high because of their emissions through land use change and deforestation. Between 2004 and 2011, the evaluation period, major economic and political changes took place. Even before the financial crises of 2008 the global economy and its associated political order was changing. It also led to an increased emission of GHG by the countries with a strong economic development, not only in absolute terms but also in comparison to the original industrialised annex-1 countries. Emissions by non-annex-1 countries now surpass those from annex-1 countries (see figure).

[2] UNFCCC and United Nations Environment Programme (UNEP)/UNEP, Risoe Centre on Energy, Climate and Sustainable Development (URC), "CDM/JI Pipeline Analysis and Database", 2011 [online] www.cdmpipeline.org.

*Figure 2: GHG emissions trend for annex-1 and non annex-1 countries.*




*Source: Joint Research Centre, results of the emission inventory EDGAR 2010.*

*Carbon Bubble*

Another very important insight is the '**Carbon Bubble'**[3], which does not yet form part of any political discussion or policy debate. The UNFCCC has actually one major objective: to keep global temperature increase below 2°C compared to pre-industrial levels for which emission reductions are needed. So far, the average temperature has increased with 0.8 °C leading to already some significant climate-related problems. However, according to several studies all of proven fossil fuel reserves (2,975 Gigatons) owned by private and public companies already exceed allowed emissions (565 Gigatons). Only 20% of the total reserves can be burned abated. These proven reserves have already been calculated in the value of the companies.

*REDD - Reduced Emissions from Deforestation and Forest Degradation*

Over the years, worldwide recognition grew that deforestation was a major contribution to GHG emissions and additional measures were needed to keep forest standing. Under the UNFCCC this became known as REDD: Reduced Emissions from Deforestation and Forest Degradation. At the moment REDD does not exist yet (and whether it will become part of a new global treaty seems under the current circumstances unlikely). At COP12 a specific decision was postponed but the COP did decide to conduct further work and establish baselines in order to measure REDD. The World Bank launched the Forest Carbon Partnership Facility in support of REDD. The EU and the Netherlands (€15 million for the period 2008-2012) support the FCPF. The REDD initiative can be considered a success for Brazil's diplomacy at the UNFCCC. Conservation organisations are positive that a new financial instrument has been developed to keep forests standing but they critically follow its implementation. REDD implementation is the responsibility of the host countries and their national laws. Various non-governmental organisations criticise REDD for infringing on the rights of local and indigenous peoples (they have the customary or formal land rights and should benefit financially from keeping forest standing, not the treasury).

[3] http://www.carbontracker.org/carbonbubble, http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719

## 2.2 EU and NL' climate change related emissions

Under the UNFCCC, the then EU-15 pledged to reduce their GHG emissions collectively with 8% by 2008-2012 compared to the Kyoto baseline of 1990. Later the EU expanded to 27 countries. Besides adopting new policies and regulations to reduce GHG emissions, the European Union also used the last decade the three Kyoto-related instruments (1) European Union Emissions Trading Scheme (ETS); (2) Joint Implementation (JI); (3) Clean Development Mechanism (CDM). The CDM projects are not financed by the EU as a whole but by the individual member countries like the Netherlands.

In 2001, the European Commission (EC) expected $CO_2$ emissions from transport to rise by 50% between 1990 and 2010 (to around 1,113 million tonnes). The main sector responsible was road transport with 84% of transport related emissions (EC/COM(2001)/370). In 2003, the European Union published its energy and transport projections till 2030 (EU, 2003). The report showed that with the growing global population and world GDP, demand for oil, gas (global demand would double) and solid fuels (90% increase) would increase significantly but prices would remain fairly stable. Based upon the 2003' existing markets trends and policies, the report projected a decline in the global share of renewable energy sources. As a result of these developments global $CO_2$-emissions would increase substantially (in the report's baseline case) by 87% between 2000 and 2030. Compared with the Kyoto-protocol baseline year 1990, global emissions would raise by 41% in 2010 and double by 2030! The 2003 forecast was that primary energy demand in the EU would grow with 18% (although GDP would double and energy intensity –energy demand/GDP – would improve considerably). By 2030, the EU25 $CO_2$-emissions would exceed the 1990 baseline by 14%.

The EU countries would miss their GHG targets and ambition to reduce fossil fuel dependency if no action was taken. In the light of its UNFCCC commitments, the EU defined additional targets and actions regarding renewable energy to reduce emissions from the main sources. Major policy developments were the 2003 EU Directive (2003/30/EC) that promoted use of biofuels and other renewable fuels for transport with (non mandatory) targets: 2% biofuels in transport 2005; 5.65% in 2010. This was later followed by new directives with mandatory targets (the Renewable Energy Directive 2009/28/EC, and Fuel Quality Directive 2009/30/EC). The 2007 EU Renewable Energy Roadmap (COM 2006/848) defined a new long-term vision on renewable energy. In 2008, the EU also reviewed its political energy security agenda (EC COM 2008/0781). As a result the EU re-enforced its "20-20-20" targets: reducing its GHG emissions by 20%, increasing the share of renewables in the share of energy consumption to 20% compared to 8.5% in 2008, and improving energy efficiency by 20%, all to be reached in 2020. Early 2011, the EU presented its 'Roadmap for moving to a competitive low-carbon economy' with ambition to achieve a climate-neutral economy in 2050. A major conclusion by the European Council of Ministers is that within EU an 80-95% reduction in GHG-emissions is needed (within the context of emissions reduction by all developed countries).

Both the EU and the Netherlands have enabling policies and regulations in place, both for domestic action as well as to support other countries. They have been able to reduce their overall GHG emissions through domestic measures and by purchasing CDM credits. As a result of the policies and legislation described earlier, GHG emissions in the EU went down: in 2010, total greenhouse gas emissions in the EU-27 were 15.4% below 1990 – a net reduction of 862 million tonnes of CO2-equivalent. In 2010, EU-15 emissions were 11% below the base year under the Kyoto Protocol. However, during the same period carbon dioxide ($CO_2$) emissions increased while emissions of other greenhouse gases decreased. In 2010, 82% of all EU greenhouse gas emissions were $CO_2$-related. The main $CO_2$-emitting sectors are energy production (30.3%), transport (19.8%), households and services (15.7%) and manufacturing and construction (11.6%).

The same pattern is observed in the Netherlands. In the period 1990 -2010, total GHG-emissions (excluding emissions from LULUCF - land use, land use change and forestry) in the Netherlands decreased with 1.5% below the base year (National Inventory Report 2010, RIVM). In this period, emissions of $CO_2$ increased by 14% (excluding LULUCF), while emissions of non-$CO_2$ greenhouse

gases decreased by 47% compared with base year emissions. In 2010, the energy industry sector is still by far the largest contributor to $CO_2$ emissions (37%), followed by 'Other sectors' (24%) and 'Transport' (19%). Transport is most closely associated with foreign import.

If the Netherlands wants to reduce its emissions further it needs to bring down the use of fossil fuels in the energy industry and transport sector. The Netherlands started implementing, the EU Renewable Energy Directive (RED) and Fuel Quality Directive (FQD), which has set renewable energy targets and blending targets for transport fuels. From Brazil, the Netherlands imports bio-ethanol and from Colombia it imports coal (see other case studies).

# 3 NL policy framework and objectives 2004 -2011

## 3.1 National policy framework

The Netherlands ratified the Kyoto Protocol in 2002. As a result of the burden share agreement within the European Union, the GHG emission reduction target for the Netherlands under the Kyoto Protocol is 6% in the period 2008-2012 compared to base year emissions. The Netherlands decided in 2000 to achieve this target through domestic measures (220 Mt CO2-eq in 2010) and by using the international Kyoto mechanisms (100 Mt CO2-eq). The National Climate Policy Implementation Plan originates from 1999 and 2000 (two parts). The Dutch efforts and concerns between 2004-2011 have been presented in the Fourth and Fifth National Communication under the UNFCCC. In 2008, The Council of Ministers decided on a government-wide approach to support sustainable development (KaDo). The approach focused on six themes defined as crucial, which included sustainable energy and biofuels. Targets included:

- 30% reduction of GHG emissions by 2020 (baseline 1990);
- Speed up energy savings from 1% to 2% per year;
- Share of sustainable energy from 2% to 20% in 2020;
- Increase availability of sustainable energy in developing countries.
- Increase sustainability of biofuel production and a stronger international cooperation.

In 2011, the Cabinet of Ministers (I&M 2011) presented their climate change approach to sector policies and measures. In general this means continuation of existing measures and initiatives and increasing norms and standards on energy efficiency in energy industry, transport, construction, and agriculture. In relation to the Kyoto targets no additional investments in CDM would be needed. At the end of 2011, they presented the 'Roadmap Climate 2050', in which the ambitions of a climate-neutral (i.e. 80% GHG emission reduction) economy is described.

## 3.2 International climate policy

In climate change policy development the Netherlands is a player in, but sub-ordinate to the climate change policy decisions made in the European Union. In preparation of EU decision-making the Netherlands defines its own position and negotiates with the other EU member states on the position the EU will take at the Conference of Parties (COP) for the UNFCC. The EU leads the negotiations. In general, the diplomatic position of the EU is in line with the Dutch position: (a) the EU is firmly committed to reducing emissions within the EU, (b) strives for a legally binding international agreement, which should include countries such as China and USA (see also the overview in annex 1), and is (c) willing to support other countries financially (but with limitations and conditions).

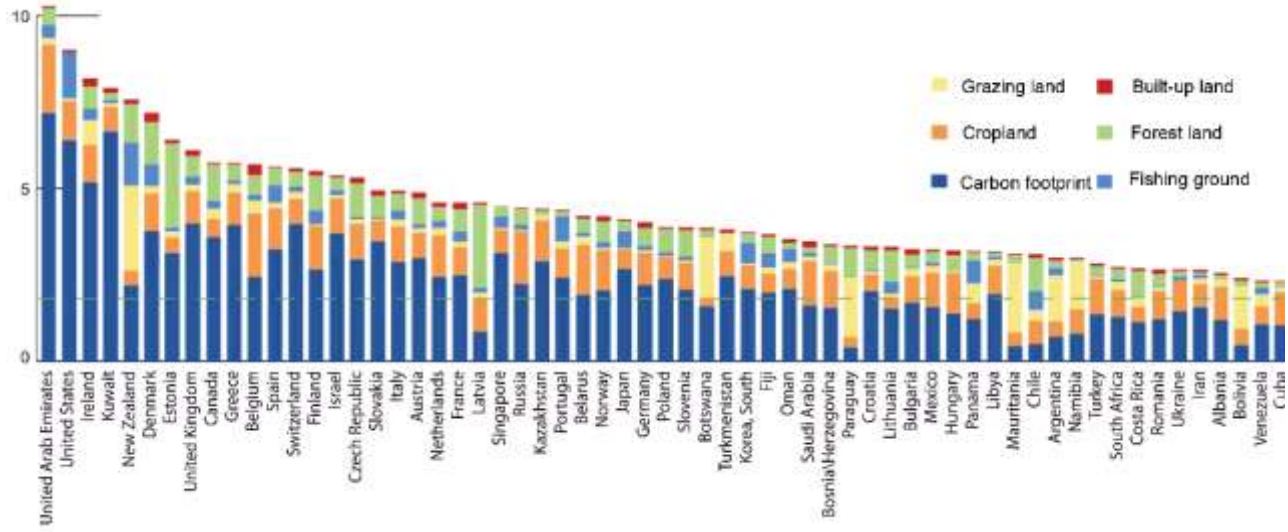
Therefore, to assess the role of the Netherlands in supporting climate change goals, the policies and diplomatic efforts of the European Union are described and analysed (next chapter). In 2004, during the period the Netherlands chaired the European Union, more action on climate change was promoted (also in preparation of the COP 2004). The Netherlands hosted for example the international conference 'Energy for Development' end 2004.

## 3.3 Trade

Trade related GHG emissions relate to the use fossil fuels in processing and transport, but also to land use changes and deforestation (see LULUCF). The latter is especially important for countries with an expanding agriculture like Brazil and Colombia. Especially in Brazil this expansion is closely related to the international demand for commodities (e.g. soy) and the last couple of years also to increasing domestic demand (e.g. ethanol from sugar cane). The Netherlands is an important gateway to Europe and a major processor of imported raw materials and agricultural commodities. Combined with its wealthy population and high consumption, it has a high ecological footprint. The ecological footprint is measured against a country's biocapacity to produce natural resources and as long as it imports more than it can produce itself there will be an ecological

deficit. The EU27 is home to around 8% of the world's population, contains around 9.5% of the world's biocapacity but accounts for 16% of the world's global footprint (WWF, 2007).

*Figure 3: Ecological footprint of various countries including the Netherlands.*




*Source: Ecological Footprint Atlas 2009.*

The last decade EU has been providing more attention to its ecological footprint[4], resource efficiency and environmental impacts – including GHG-emissions and carbon footprint – occurring outside the EU as a result of commodity trade.[5] Annex 2 presents the climate change impacts of 40 commodities. Climate change also affects the world's capacity to produce resources (to what extent and where is still uncertain). It is thus in the interest of the EU and Netherlands to also provide attention to climate adaptation in relation to production and trade of commodity resources.

The last Cabinet of Ministers in the Netherlands has defined more attention to top sectors in the economy including Agrofood. In general the Dutch government regards security of commodity supply and value chain management the primary responsibility of the companies. The Dutch government strives for an open world trade system and constructive relations with its trade partners for which a coherent economic diplomacy is needed. The role of the Dutch government in promoting sustainability in trade chains is often described as stimulating and facilitating multi-stakeholder initiatives (incl. round tables). Support is provided by dedicated financing, political support, negotiations and diplomacy and promotion.

There are no studies on the impacts of climate change on the future economic availability and security of commodities for the Netherlands. But multinational companies like Unilever and Rabobank are already concerned about these developments. Recently, more strategic attention is provided to security and sustainability of commodities by the government in its Policy Note on Raw Materials (Grondstoffennotitie 2011). The effect of climate change is mentioned but instruments or actions are not yet mentioned. Earlier, the Policy Programme on International Biodiversity was defined (first version 2002-2006 and a second version 2008-2011). The 2nd Biodiversity Policy Programme (BPP) has the following three priorities:

1. Strengthening protected areas, buffer zones and ecological networks
2. Making the use of biodiversity more sustainable
3. Reduce the negative effects of Dutch trade and consumption on biodiversity.

[4] The ecological footprint measures humanity's demand on the biosphere in terms of area of biologically productive land and sea required to provide the resources we use and need to absorb our waste.
[5] http://ec.europa.eu/environment/natres/studies.htm

The Dutch government provides funding and support for the Sustainable Trade Initiative. Through the BPP and STI, the Netherlands has defined which agricultural commodities are economically important: biomass, cacao, coffee, cotton, fish(meal)/aquaculture, flowers, fruits & vegetables, natural stone, palm oil, peat, soy, spices, tea and tropical timber.

## 3.4 CDM and bilateral co-operation

Through the Clean Development Mechanism and bilateral co-operation, the Netherlands has supported Climate Change related activities such as renewable energy programmes and climate adaptation related measures. The Netherlands reserved approximately €458 million in 2007 (the reserved budget fluctuated between €4681 mln in 2002 and €270 mln in 2012) to purchase credits from CDM. The Netherlands has signed MoU's on CDM projects with several countries in the LAC region: Bolivia, Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Uruguay.

In July 2001 in Germany (Bonn Declaration), countries confirmed their commitment to increase their annual funding for climate change activities in developing countries during 2005-2008. The Netherlands pledged an additional €18 million above 2001-levels. In 2012, Climate Change was no longer one of the main themes of development co-operation. The main focal continent for investments was and is Africa. Overall ODA support in Latin America went down (see main report of this evaluation).

The Netherlands developed in 1996 the Netherlands Climate Change Studies Assistance Programme (NCCCSAP), renamed NCAP in 2005. NCAP supported 14 countries including Bolivia, Colombia, Guatemala and Surinam on policy development (prepare, implement and evaluate). Between 2004-2011, also other climate change related activities were supported in Bolivia (4), Costa Rica (3), Colombia (8), Honduras (2) and Peru (2) for approximately €7 million. In 2008, the Netherlands committed an additional investment in sustainable energy of €500 million in order to increase to energy by the poor. Financial instruments related to this commitment include the 'Daey Ouwens Fund' and the 'Sustainable Biomass Fund'. The Ministry of Economic affairs has its own financial scheme 'Sustainable Biomass Import'. Together they supported 8 sustainable biomass related activities in Latin America. Brazil was included in 4 activities. The Global Environment Facility receives on average €30.5 million per year of which 40% is dedicated to climate change. In support of the REDD initiative (Reduced Emissions from Deforestation and Forest Degradation) the Netherlands contributes €15 million for the period 2008-2012 (through the World Bank Forest Carbon Partnership Facility). These investments however cannot be deducted as emission reductions but assist other countries –also in Latin America – to achieve their climate change goals. It should also be noted that the Netherlands provides much support to integrated water management activities in which climate change adaptation is an important subject.

Since 2004 the embassies in Brazil and Colombia developed Multi-Annual Strategic Plans and Annual Plans. The climate related objectives are:

***Climate-related objectives in MASP Brazil 2008-2012:***

> "Stimulate the participation of Brazil in the successor of the Kyoto-Protocol and acceptance of goals to reduce the CO2 emission of Brazil (as many and as concrete as possible)".

And objectives that have an indirect relation to climate change:

> "Maintain close contact with German GIZ and Secretary-General of OTCA on the German-Netherlands partnership supporting the Amazon co-operation OTCA".
>
> "Prepare sustainability criteria and develop certification schemes for the production of biofuels (from soy and sugarcane) within the EU and WTO frameworks and in consultation with Brazil"

***Climate-related objectives in MASP Colombia 2008-2011:***

> "Contribute to effective implementation of environment within the framework of the National Development Plan".
> "Strengthen the partnership between Colombia and the Netherlands on climate change and establish the use of CDM by Colombia"

The various annual plans 2004-2011 do not define concrete, quantitative bilateral climate-related goals or targets. The embassies did support CDM or other actions that affect greenhouse gas emissions (energy sector, biofuels, tackling deforestation). Without development cooperation funds like in Brazil an embassy is limited to economic diplomacy, information gathering and sharing on national developments and the promotion of private sector involvement in interesting sectors (e.g. through public-private partnerships, financial instruments). The embassy in Colombia still could support some national activities (described later) with development cooperation funds.

# 4 Modalities and pathways 2004-2011

The Evaluation Framework of this study shows that results (outputs and outcomes) can be achieved through the use of different modalities used by the Dutch government (diplomacy, policies, multi-stakeholder partnerships, financial instruments) and there are various pathways through which the intended outcomes can be facilitated. These pathways include international treaties (i.e. UNFCCC), multilateral organisations, companies and non-governmental organisations (NGOs). In addition, NGOs increasingly works together with companies in partnership initiatives without direct involved by government. Of course, government can financially and politically support the NGOs or initiatives. And, to make it more complex, there is an interaction between modalities, pathways and actors whereby its is impossible to distinguish which one came first. In this case study the choice is made to present this chapter using the modalities.

## 4.1 International diplomacy at UNFCCC

Brazil, Colombia, EU and the Netherlands ratified the Kyoto Protocol. In international climate change negotiations the European Union negotiates for its member states. In preparation of EU decision-making the Netherlands defines its own position and negotiates with the other EU member states on the position the EU will take at the Conference of Parties (COP) for the UNFCC. In general, the diplomatic position of the EU is in line with the Dutch position. Because the focus of this report is on the final outcomes in Brazil and Colombia, the diplomatic efforts of the European Union are described rather than internal EU negotiations and whether or not the Dutch diplomats reached their diplomatic objectives.

Both Brazil and the EU play prominent roles in the progress of the climate change convention and its instruments. In 1997, Brazil proposed differentiated targets for GHG emission reduction, corresponding to each individual country's historical contribution. Because industrialised countries emitted most GHG they should also bear most responsibility for emission reductions. At the beginning of the Kyoto negotiation Brazil introduced the clean development fund, which would be formed by fines that should be paid by countries that did not reach their targets; this proposal was rejected mainly by the USA, and did not receive strong support from other developed countries. The USA immediately negotiated a joint proposal with Brazil that redefined the fund into the CDM. This was accepted and became one of the three financial mechanisms.

Between 2004 and 2011, the evaluation period, major economic and political changes took place that also affected the political positions of many countries in international negotiations. Brazil, Russia, India, China (BRIC) and other countries with a strong transition economy (Colombia, Indonesia, México, Peru, South Africa) have suffered less from the economic crises than the OECD countries. The changing economic balance has resulted in important international changes such as the increasing importance of the G20 (19 countries plus the European Union, including Brazil, China and India: representing 90% of the world's economic output) instead of the G7 (Canada, France, Germany, Italy, Japan, UK, USA) or G8 (the G7 plus Russia). In September 2009 the G20 leaders announced that this group would become a new permanent council and replace the G8 as the main economic council of wealthy nations. Also in other international fora like the World Trade Organisation and Climate Change Convention the emerging economies form influential coalitions and lobbies. The economic strength (and their ranking on GHG emissions) of Brazil, China and India also influences how the EU views them at the climate change convention. They are no longer viewed as developing countries and thus should under a new agreement also commit to emission reductions (as well as the United States of America).

***(1) General COP developments***

At the 2005 Conference of Parties in Montreal, Canada (COP11) the negotiations on the Kyoto Protocol were concluded and a new round of talks was opened on the future after the Protocol. The EU wanted to start considering next steps of Kyoto (post 2012) and new commitments. Brazil and

Colombia did not oppose such a process. The process was blocked by China and the USA. Being the two largest emitters of GHG, they are both crucial for any new commitment. Costa Rica and Papua New Guinea put reducing emissions from deforestation on the agenda and Brazil called for "positive incentives" for forest conservation and other steps to reduce emissions.

In 2006 (COP22, Nairobi), the USA and developing countries strongly opposed new commitments. Parties agreed on modest steps on climate adaptation, debated approaches to reducing deforestation and accelerating technology transfer. Brazil presented a proposal to reduce emissions from deforestation in developing countries that was described as 'Reduced Emissions for Deforestation and Forest Degradation' (REDD). The COP accepted the Nairobi Work Program[6]: a 5-year project to address impacts, vulnerability and climate adaptation.

In 2007 (COP13) in Bali, Parties acknowledged the contribution of emissions from deforestation and forest degradation to overall GHG emission. Parties also reached a decision on the governance of the Adaptation Fund[7]. Developing countries agreed for the first time to consider taking "measurable, reportable and verifiable" mitigation actions. In exchange they would be supported by technology and finance. The talks on a new binding agreement went sour. The EU called for global emissions to peak in 10 to 15 years and decline "well below half" of 2000 levels by 2050, and for developed country emissions to be 25-40% below 1990 levels by 2020. The EU pushed hard to get the USA on board but did not succeed. The talks turned chaotic whereby parties disagreed fundamentally but the COP in the end agreed on a negotiation process to reach a new agreement.

At COP 14 in Poznan (Poland), discussions focused on the negotiation process to come to a new binding agreement. China and India objected to a document that implies a new legal instrument. Annex 1 parties were reluctant to renew Kyoto without the USA. But there was agreement to shift to 'full negotiating mode' to reach an agreement in 2009 at Copenhagen.

Because the Kyoto Protocol would expire in 2012, the 2009 Copenhagen COP was considered crucial to reach a post-Kyoto agreement in time. The COP can be considered a failure because any binding agreement was out of sight. The overall atmosphere was not good and the discussions were heated and bitter. In the end President Obama (USA) brokered an accord directly with the leaders of Brazil (President Lula), China, India and South Africa on the final day of the conference. The EU representatives were not present but their position was clear. They wanted a new legally binding agreement, which was strongly opposed by China and USA. The Accord acknowledges that global temperature should be kept below 2°C and action should be taken. But the Copenhagen Accord was only 'taken note of' and was not 'adopted'. There is no clear framework or treaty with binding commitments.

After Copenhagen more than 130 countries have associated themselves with the Copenhagen Accord and more than 80 countries have entered specific mitigation pledges (non-binding). This is less than the number of countries that ratified Kyoto. In January 2010, the EU formalized its support for the Accord and presented its emission reduction targets (20% by 2020 unilateral and 30% provided other countries do their fair share). The EU also stated it still wants a legally binding agreement. The major developed economies pledge to reduce emission in different proportions and different base lines. The major Non annex 1 countries were very heterogeneous in their commitment. South Korea was the only one that proposed emission reduction and Brazil made the proposal that implied a significant reduction in GHG growth compared to BAU (Business As Usual) scenario. China proposed a light commitment to reduce emissions compared to BAU, as well as India. After Copenhagen more than 130 countries have associated themselves with the Accord and more than 80 countries have entered specific mitigation pledges. However, various scientific studies show that these pledged commitments will not lead to the 2°C goal.

[6] http://unfccc.int/adaptation/nairobi_work_programme/items/3633.php
[7] http://unfccc.int/cooperation_and_support/financial_mechanism/adaptation_fund/items/3659.php

By 2010, the LAC-countries Antigua and Barbuda, Brazil, Chile, Colombia, Costa Rica, Mexico and Peru had submitted nationally appropriate mitigation actions (NAMAs). All these countries have pledged to reduce their greenhouse gas emissions over the coming years, particularly through projects and programmes for energy efficiency, renewable energy, waste management and the reduction of deforestation. Some countries have been more specific than others in their commitments.

COP16 in Cancun (2010) went by uneventful but the Cancun Adaptation Framework[8] was established (includes support for National Adaptation Plans). Also a framework for actions to reduce emissions from deforestation and forest degradation was accepted. The Green Climate Fund was formally accepted to support developing countries. Parties decided on a transition phase for the Kyoto Protocol till 2020. In the meantime talks on a new binding agreement will start. After the Copenhagen debacle, this can be considered a small success for the EU's objectives.

At COP17 in Durban 2011, the main topic was what would happen after Kyoto. Parties seem to accept that binding commitments from all countries are needed, especially from big countries like USA, China and India. The EU was adamant that it would only participate in another round of Kyoto if talks on a new binding agreement would start. This was supported by small island states and many other developing countries.

*2012 update: The latest suggests that at the on-going negotiations of COP 18 in Qatar several rich countries – the EU, Australia, Switzerland and Norway – expressed their willingness to continue a new agreement. Canada, Japan and Russia are not willing to commit without a firm commitment by China and the USA. This suggests a move forward by the EU. In the end not much was achieved. The UNFCCC notes with grace concern that the pledges will not lead to the desired objective of curbing emissions or holding global temperature below 2°C increase.*

***(2) Reconstruction of the position of Brazil at COPs 2004-2011***

Brazil's main general position is to defend the principle of common but differentiated responsibilities and national capabilities, expressed in non-quantified emission targets for developing countries. Therefore, the loyalty of Brazil lies with the G77 and the BASIC countries (Brazil, South Africa, India and China). Although, There is a perceived increasing role of BASIC in climate governance but for top Brazilian negotiators the main instrument to achieve their goals in the climate negotiations is still the G77. According to their vision, BASIC is more a discussion forum than a negotiation platform. This decade Brazil has become a strong, middle-income economy. Brazil accepted, as an emerging economy, to reduce GHG emissions (more later), but it does not accept that this kind of commitment becomes mandatory under the UNFCCC. Brazil continues to prioritize the alliance with G77 and the BASIC countries, As such, despite having a very clean / renewable energy matrix. Brazil assumes a general alliance with countries with an energy matrix heavily dependent upon fossil fuels: China, India and South Africa.

There were however two major changes in the Brazilian position between 2004-2011:

The first major change relates to carbon sinks: Until 2006, the Amazon forest was conceived as a burden because of deforestation emissions, instead of its global service of carbon sequestration. The Brazilian UNFCCC negotiators' implicitly assumed that the country would not be capable to significantly reduce deforestation in the Amazon. Brazil was therefore against the inclusion of the whole carbon cycle in the Kyoto Protocol. Talking about forests was considered as infringing on Brazil's sovereignty. In contrast, the inclusion of forests in the international climate regime was not perceived as a sovereignty threat by other big forest countries: US, Canada, Russia, Australia, Argentina, Chile, Colombia, Peru, Costa Rica and Mexico. At the COP12 in Nairobi (2006), Brazil started to change its historical position on forests by proposing the creation of a global fund for slowing down deforestation. According to the Brazilian proposal, Annex 1 countries and corporations would contribute to a fund that would distribute financial resources according to the

[8] http://unfccc.int/adaptation/cancun_adaptation_framework/items/5852.php

performance of countries in slowing down deforestation. This was the first time Brazil accepted to link curbing deforestation with global financial tools and partial and limited inclusion of avoided deforestation in the Clean Development Mechanism (CDM). This change in the Brazilian position implied a shift in their traditional discourse, which insisted in receiving large funding from developed countries for contributing to reducing emissions from deforestation and other sources. In fact, Brazil is already able to control deforestation in the Amazon – from 27,500 km² in 2005 to approximately 6,000 km² in 2011 (see figure chapter 5) - without major foreign funding. Brazil has not acknowledged yet that a globally fair architecture for climate change mitigation and adaptation would imply that most funding would have to go to the poorest countries and not middle income countries like Brazil and China. According to governmental sources, there is some division in the national administration regarding international funding to tackle residual deforestation, part of it still expects some financing, while a growing part has accepted that Brazil will not receive significant additional funding.

The second major change in Brazilian position between 2004 and 2011 was the voluntary commitment to reduce emissions and the adoption of a NAMA (Nationally Appropriate Mitigation Action plan) in the context of the Copenhagen Accord in 2009. Early 2009 there was a strong increase in public attention for the climate agenda, both domestic and international. In 2009, environment and climate became an issue in the presidential campaign agenda. Until July 2009, it looked like these issues wouldn't have any relevance in the electoral process. In August 2009 however, the presidential candidature of Marina Silva - former Minister of Environment in the Lula administration- changed this. More attention was provided to climate change, sustainability and the transition to a low carbon economy. Also, the governments from Amazon states - under the leadership of Amazonas and Mato Grosso - created the Amazon Forum in July 2009 and asked for a change in the Brazilian international position in relation to forests. They wanted Brazil to accept the inclusion of REDD+ into the CDM or any other market mechanism. Also, three corporation coalitions launched documents in September 2009 asking the political authorities to modify the Brazilian climate position. In October 2009 the Minister of the Environment Carlos Minc increased pressure to change Brazil's position at COP15. The decision by President Lula to assume a voluntary commitment had an immediate impact in the changing of the Brazilian climate policy for the Copenhagen Conference. Finally, after a long and heavy resistance from the Ministries of Foreign Affairs and Science and Technology, the new position was announced.

***(3) Reconstruction of the position of Colombia at COPs 2004-2011***

The Colombian negotiation position at UNFCCC COPs between 2004 and 2011 has been consistent with previous negotiations: supporting the G77. Colombia supports the principle of common but differentiated responsibilities, and highlights the importance of considering the vulnerability of all developing countries, not only Small Island Developing States (SIDS) or Least Developed Countries (LDCs). After 2004, Colombia considered that developing countries also have a responsibility of playing a role in the reduction of GHG. But they were very concerned about difficulties in getting consensus between countries belonging to G77 and China due to the heterogeneity of positions.

During the last decade, Colombia's efforts have been oriented to strengthening the political decisions taken since the 70's about its national commitment (described later) and highlighting the vulnerability of the country to the impacts of climate change. Colombia is very much concerned that developed countries are only supporting SIDS and LDCs for adaptation, and not other emerging economies, which are highly vulnerable. A large amount of the Colombian population lives along the Pacific and the Caribbean coast, as well as in high mountains where the impacts of climate change are very severe. These impacts are affecting not only human settlements, but also infrastructure and other productive sectors. Colombia aims to be recognized as a highly vulnerable country and included in all international cooperation mechanisms, as well as other developed countries. Colombia documented its vulnerability to climate change and the effects of extreme events such as La Niña in National Communications to the UNFCCC.

Colombia advocates for having a flexible and inclusive REDD mechanism; covering actions related to natural forest conservation, avoid deforestation and afforestation. However, Colombia had emphasized that REDD should not include current national deforestation as a base line, because it depends on subnational circumstances and unpredictable factors such as illicit crops and public order (i.e. Colombia's domestic context). This position has been strongly defended by the government, although with much criticism from civil society, and somehow it recognises that guerrillas and other groups control some areas of the country. The Colombian government considered that the establishment of REDD should be based on market mechanisms, similar to the CDM certificates for emission reduction, in order to guarantee that they reach directly the local communities who have the responsibility to protect the forest. Colombia thus advocated that resources and financing had to be channelled through projects, and the creation of a market mechanism for REDD. This strong position was accepted by few countries in the negotiations, such as Peru, but limited the possibility of having access to bilateral cooperation and preparing the country for its implementation. Since 2010, Colombia takes a more flexible position, following the so-called nested approach. Currently, the REDD strategy is being built from different projects and initiatives coming from the regions and local levels. Colombia has also asked for environmental and social safeguards in REDD, moving from REDD to REDD+.

Adaptation to climate change has been the main focus of Colombia's diplomacy in different COPs. Colombia has supported a comprehensive negotiation process that gives relevance not only to mitigation, but also to adaptation, technology transfer and financing. At the UNFCCC, Colombia has been consistently looking for the creation of a group of "Highly Vulnerable Countries" with the objective of assuring direct access to climate change adaptation funds (finance, technology and capacities). The establishment of the Adaptation Fund has been one of the main concerns of the Colombia's diplomatic position, during the last years. Colombia has been one of the lead countries of the adaptation decisions included in the Copenhagen Accord and the Cancun Agreement and now its position is being oriented to give emphasis to adaptation financing in a fast way.

In summary, Colombia's position is oriented to balance mitigation and adaptation, guaranteeing the effective implementation of the Cancun Adaptation Framework, developing a legally binding agreement, the establishment of a financial mechanism for REDD (described later), and the support to adaptation by Highly Vulnerable Countries. In general, the Colombian position has been moderate, constructive and looking for the facilitation to achieve a legally binding agreement.

## 4.2 Bilateral diplomacy and co-operation with government

The main task of the Dutch embassy is to maintain good diplomatic relations with the host country. In the context of an embassy diplomatic relations and co-operation projects with government entities are interwoven. However, because development co-operation is phased in both Brazil (since 2006) and Colombia (since 2011) an attempt is made to distinguish diplomacy and co-operation with the government from development project with third parties.

The last decade economic diplomacy is gaining importance. Climate diplomacy could be one of the subjects, either in preparation of diplomatic positions at the UNFCCC COPs or in relation to commodity trade (see paragraph 3.3). There are no climate adaptation or security goals formulated in relation to the agricultural commodities but climate change adaptation is an aspect of the overall sustainability effort. This aspect – climate change adaptation of strategic commodities - is as yet not part of economic diplomacy objectives.

***Regional co-operation***

In relation to emission reduction, the support provided by the Netherlands on forest management is also important (see also the case study on forest management). One way to remain involved after phasing out bilateral co-operation was to provide financial support to the German-Netherlands partnership for the Regional Programme of ACTO (Amazon Cooperation Treaty Organisation). Between 2006-2010, the Netherlands supported ACTO with €10 million. The programme is co-

ordinated from The Hague but used by the embassy as an entry point for discussions and involvement. Climate change is one the subject in which ACTO is involved.

There are two other regional cooperation fora in which Brazil and Colombia are involved. Mercosur (Argentina, Brazil, Paraguay and Uruguay) has been established to promote free trade between members. The EU co-operates with Mercosur on agriculture and technology. Colombia co-operates in the Andean Community (CAN), which is a customs union of Bolivia, Colombia, Ecuador and Peru. The Netherlands does not co-operate with these fora on relevant climate change actions (Germany co-operates with CAN on adaptation to climate change[9]).

***Brazil***

The bilateral support to Brazil was phased out as of 2006. Before, the embassy supported various environmental activities but did not focus on climate change. The embassy co-operated mainly with the Brazilian government through the multi-donor programme PPG7 ('Programa Piloto para Proteção das florestas tropicais do Brasil'). PPG7 received 80% of total co-financing from EU: EC, Germany, Italy, Netherlands, Spain, and UK. The PPG7 supported research and pilot projects to protect and sustainably use tropical rainforest (especially the Amazon). The Netherlands contributed US$5.25 mln to the PPG7' Rain Forest Trust Fund and US$ 2.87 mln for sustainable business management, forest management and coordination[10]. The PPG7 programme continued till 2009 after it was closed.

The embassy in Brazil had the objective to stimulate the participation of Brazil in the successor of the Kyoto-Protocol and acceptance of goals to reduce the CO2 emission of Brazil (par. 3.4). In reality, the diplomatic efforts were limited to informal meetings with the main negotiators of Brazil (within EU-context and separate). The issue was not a priority.

*MoU Biofuels Brazil – The Netherlands*

The Netherlands signed a bilateral MoU with Brazil to co-operate on biofuel production and trade. The MoU is co-ordinated from The Hague by the Ministry for Economic Affairs. The formal objective of the MoU is "to promote a mutually beneficial partnership between the signatories in the field of bioenergy, including biofuels' and identified areas of co-operation (no goals). Sustainability was not specified and no specific targets were set. Through an accepted motion from Mr. van der Ham, member of parliament, which questioned the sustainability of first-generation biofuels, the government was requested not to accept sustainability standards which were less than the one used in the Netherlands at that time (the 'Cramer criteria'). The MoU led to four workshops (both in Brazil as well as in the Netherlands) to exchange information and discuss developments in general. It led to an enhanced understanding on both sides but not to concrete activities, results or changes. On 25 June 2012, the State Secretary of Infrastructure and Environment, Mr. Atsma and Mr. Figueiredo Machado, (Ambassador at Rio+20, Director-General at the Ministry of External Relations) renewed the MoU Biofuels between Brazil and the Netherlands. The next two years this has to result in a closer cooperation on biofuels that meet the sustainability criteria and exchange of knowledge on new technology.

***Colombia***

After 2004, Colombia considered that developing countries also have a responsibility of playing a role in the reduction of GHG, and was very concerned about difficulties in getting consensus between countries belonging to G77 and China. Other countries, such as Peru, Chile, Costa Rica and Panama, shared this concern in 2005 and 2006. This was the starting point for the creation of the "Cartagena Group" in 2009. This group was not meant to be a negotiation group but rather an informal space for open discussions, aiming at achieving consensus on relevant topics under the UNFCCC. Later, other countries such as Australia, Switzerland, Germany, the Netherlands, joined this group.

[9] http://www.giz.de/themen/en/36812.htm

Based upon interviews in Colombia, The Netherlands played a very relevant role supporting this group and financed the preparation of documents and positions for UNFCCC negotiations. Some of the countries that participated in the discussions of the Cartagena Group supported the achievement of the Copenhagen Accord and later the Cancun Agreement, which endorsed most of the decisions proposed in Copenhagen. Currently Colombia, as well as other members of the Cartagena Group, is supporting the extension of the Kyoto Protocol. At COP18 (2012), Colombia, Peru, Guatemala, Costa Rica and Panama will launch the "Association of Independent Latin American and Caribbean States" (AILAC) to facilitate consensus and to propose mechanisms to achieve consensus among such a heterogeneous group.

In 2011, the government of Colombia started to promote a proposal to get in the Rio +20 meeting a series of development objectives that go beyond a political statement, given that the focus of the Rio meeting would be Green Economy, poverty eradication and environmental governance. This initiative aimed to define Sustainable Development Goals (SDG) and was initially supported by Guatemala and Peru. Gradually support grew by countries such as Mexico, Brazil, the Netherlands, Switzerland, Norway, United Kingdom and China and by multilaterals (Mercosur, Forum of Ministers of Environment, etc.). The Dutch government has supported this process, and since the beginning offered their diplomatic and financial support to make the required consultations, before the Rio meeting. The negotiating document of the Conference "The future we want" includes a reference to the SDG. These goals are meant to be universal, voluntary, become a cooperation platform at all levels, and prioritises issues of common interests. They allow the effective integration of the three dimensions of development: economic, social and environment. These SDG are conceived to be included in the post 2015 framework development agenda, and are based on government consultations, other stakeholders, experts and scientists. Given the importance of this initiative in the context of multilateral negotiations, this process has to be continued and strengthened, in order to have this process established by 2015.

## 4.3 Bilateral development co-operation projects

In the Netherlands bilateral co-operation, funding for renewable energy, climate mitigation and climate adaptation falls under the same budget line (see also the National Communications to the UNFCCC). The Global Environment Facility receives on average €30.5 million per year of which 40% is dedicated to climate change. In support of the REDD initiative (Reduced Emissions from Deforestation and Forest Degradation) the Netherlands contributes €15 million for the period 2008-2012 (through the World Bank Forest Carbon Partnership Facility). These investments however cannot be deducted as emission reductions but assist other countries –also in Latin America – to achieve their climate change goals.

***(1) Overview Latin America***

Between 2004-2011, also other climate change related activities were supported in Bolivia, Costa Rica, Colombia, Honduras but not in Brazil (see Annex 2). The bilateral programs in Bolivia, Colombia, Guatemala and Surinam supported the development of national climate change policies and programs, and the mainstreaming of climate change in sector and thematic policies. The Netherlands also cooperated with Bolivia in the Economics of Climate Adaptation study (2008-2010, Dutch contribution €3.9m). In Colombia, mainly environment sector support was provided to the Colombian government, which include climate-related activities. The Netherlands is the most important donor to environment in Guatemala with approximately €7.5m per year since 2007. This includes support for climate change although it cannot be determined specifically.

In 2008, the Netherlands committed an additional investment in sustainable energy of €500 million in order to increase access to energy by the poor (the focus is on Africa). This includes various funding mechanisms such as the Sustainable Biomass Fund (SBF). In addition the Ministry for Economic Affairs has its Sustainable Biomass Import fund (SBI). These funds supported various sustainable energy projects in Latin America (see Annex 2).

***(2) Supported initiatives in Brazil.***
During the evaluation period (2004-2011) Brazil received €6.5 mln from the Netherlands of which almost €5 mln was spent between 2004 and 2005 and after 2005, less than €400 000/year was spent. Before 2006, almost all support was allocated to sustainable development and environment (roughly 50% to PPG7 and 50% through NGOs). Through the financial instruments Sustainable Biomass Fund (SBF) and Sustainable Biomass Import (SBI) several small projects and multi-stakeholder initiatives were supported. All of these initiatives aim to produce biomass in sustainable manner and ensure a positive GHG-balance is achieved. None of these initiatives influence climate change policies but rather focus on implementation of techniques, innovation and increasing efficiency. Together the Funds supported 8 sustainable biomass related activities in Latin America. Brazil was included in 4 activities (see case study ethanol for more project details). The most influential ones seem the multi-stakeholders initiatives that promote direct co-operation between Dutch NGOs and companies with their Brazilian NGO and private sector partners. The projects are not defined nor monitored on their contribution to GHG emission reductions and can thus not be quantified.

In addition, NGOs like WWF Brazil – supported by WWF Netherlands - have been involved in promoting legal protection to Amazon forests, expansion of the protected area systems and promoting FSC-certification. WWF Netherlands did not receive ODA funding for this.

***(3) Bilateral activities and supported initiatives in Colombia.***
Between 2000-2003, the Dutch Government financed the first study on climate change vulnerability in Coastal Areas: "Vulnerability of Bio-Geophysical and socio-economic systems due to changes in sea level rise in coastal areas of the Caribbean, Insular and Pacific, and adaptation measures" implemented by INVEMAR. The results of this study were considered in the formulation of the first national adaptation pilot to Climate Change, a GEF project under SPA, which developed adaptation measures in most vulnerable areas of the country. Component C of this project was in coastal and Marine areas, and it was implemented by INVEMAR and CORALINA.

After 2004, the Dutch Government financed other projects, some of them did not focus specifically on climate change, but included climate change outcomes:

*Table 1: Climate-related bilateral activities supported by the Netherlands 2004-2011.*

| Project Title | Objective | Partners | Budget and Planning |
|---|---|---|---|
| #18803 - Conservation incentives for land management and socio environmental conflict mitigation. | Help consolidate local and regional territorial planning process by structuring a component for PSA schemes | FP, World Bank | 5,148,129 (1-12-2008 to 30-11-2012) |
| #22130 – Amazonas 2030. Partnership for livelihoods and sustainability. | New development paradigm for the Amazon, considering CC. Position the Colombian Amazon in the National and Global Climate Change Agenda. | ETNOLLANO | 889,102 (4-2010 to 10-2014) |
| #7946 - Evaluation of Carbon sequestration by pasture and forestry systems in American Tropical Forests. | Compare C storage capacity in different land uses/ socio/economic evaluation of C sinks for local owners/ development of C02 monitoring systems. | CATIE CIPAV CIAT Universidad Amazonia | 1,401,228 (1-12 01 to 30-11-06) |
| #22136 - Integrated Plan for Macarena- Phase II | To contribute to the stability, security and prosperity of the Macarena region through a | FUPAD | 3,000,000 (1-11-2010 to 31- |

| | | | |
|---|---|---|---|
| | combination of interventions in areas of local governance. (It included reduction of deforestation). | | 01-2011) |
| # 16350- Sectorial Environmental Program | Strengthening the Vice minister of Environment as national environmental authority. A specific outcome included the Climate Change office (now the Direction of Climate Change). | Government | 19,516,003 |
| #xxx- Support to the technical Secretary G24 | Support the process London/Cartagena for Climate Change | UK | 480.159.48 |
| # 22297 - Pilot project for the implementation of the Integrated management Plan of water resources. | Implementation of PGIRH in pilot areas, including watershed management, watershed plans, to prevent impacts of climate change. | PGIRG | 2,533,008<br><br>(1-12-2012 to 30-11-2013) |
| # - Strengthening responses to risks and climate change adaptation. | Reduce impact of disasters due to climate change. | Red Cross | 601,466<br><br>(2008) |

## 4.4 Financial instrument Clean Development Mechanism

Total expenditures on the Clean Development Mechanism (CDM) was €290 million. The Netherlands has supported until now 509 CDM projects worldwide, including 55 in the LAC region, of which the top countries are Brazil (22), Colombia (7), Argentina (5), Costa Rica (5), Peru (5), Nicaragua (4), Honduras (4) and Ecuador (4). In the early years of CDM projects, i.e. 2004 to 2006, a high proportion of Dutch funded CDM projects were located in the LAC region, whereas in later years the focus has shifted to China and India, with just a few projects in the LAC region, especially in Brazil.

*Table 2: Expenditures Clean Development Mechanism (€ x 1000)*

| Year | CDM | Year | CDM |
|---|---|---|---|
| 2004 | 1 481 | 2008 | 40 124 |
| 2005 | 16 513 | 2009 | 22 550 |
| 2006 | 22 529 | 2010 | 72 189 |
| 2007 | 21 150 | 2011 | 93 675 |
| ***Total*** | | | ***290 211*** |

*Source: HGIS*

In 2000, Colombia developed a National Strategy for the implementation of CDM, which identified threats and opportunities for the participation in the CDM. This study concluded that for Colombia it was very convenient to participate in this market and proposed a plan of action. Two years later, the Colombian office for Climate Change Mitigation was established at the Ministry of Environment, and the team was tasked to promote the participation in this market. A portfolio of priority projects was developed and a dialogue with different sectors started. A total of 154 projects were developed in Colombia of which 66 have national approval, 29 are registered at the UNFCCC and 10 have CERs issued (i.e. 6.5% of the total). The Netherlands contributed to 7 projects. The main reasons for the low percentage is the lack of capacity on sub-regional and local level to develop projects and the very strict approval process at national level leading to long processes and high transaction costs. On supported CDM-projects, Colombia ranks 4$^{th}$ in Latin America.

In Brazil, there have by now been in total 245 CDM projects, with a total CER credits reduction of about 80 million tonnes. According to Miguez (2011) Brazil had in 2011 499 CDM projects with the potential to reduce approximately 52 million tonnes $CO_2e$ annually (2,5%). More than half (50.2%) of CDM projects have to do with renewable energy, being this sector responsible for 40.3% of CDM related emission reduction (Miguez, 2011). Other relevant sectors are landfills (23.5% of reduction) and NO2 reduction (12,2%). Others sectors had less than 10 per cent: swine (8), fossil fuel switch (6,3), and energy efficiency (4.2). The Netherlands is the third country in CDM projects in Brazil (6%). Brazil is the fourth country in issued unit (CERs) with 8 per cent (54 million tons co2e). The main critic regarding the distribution of CDM projects in Brazil is that they are excessively focused in a sector that is already relatively low carbon - renewable energy - and they neglect sectors that are very high carbon intensive, such as transportation. This is also true for the projects supported by the Netherlands in Brazil (mostly waste management and N2O emission reduction). A good policy re-orientation would be to move the focus of CDM projects to those sectors that are more carbon intensive, such as transportation – both cargo and passengers – agriculture, cattle ranching and energy efficiency. The 22 projects in Brazil financed or co-financed by the Netherlands represent CER credits of in total 10.4 million tonnes (which is 13% of the total). The first ever CDM project in Brazil was approved on 18 November 2004 and supported the NovaGerar Landfill Gas to Energy Project. Many CDM-project are related to landfills. Five projects involved support to hydroelectric dams. In Annex V the list of projects in Brazil with Dutch funding is presented. Most projects are co-funded by other countries, and also the size of the projects varies considerably.

Both Brazil as well as Colombia were early adapters. As stated before, Brazil had an early interest and important role in creating CDM:

- Brazil was the first country in the world in establishing the normative and institutional structure to deal with CDM;
- Brazil was the first country to assign a DNA (Designated National Authority);
- A Brazilian project methodology was one of the first approved by the CDM Executive Board (landfill in Salvador);
- The Brazilian project Nova Gerar was the first ever to be registered (MIGUEZ, 2011).

Those elements could also explain in part why Brazil has been an important partner for the Netherlands in Latin America in CDM projects and also plays a role in explaining why Brazil had a bigger share of projects in the early years of the mechanism. Brazil and Colombia had the advantage of early preparation, but in structural terms, Asian countries, such as China and India are more competitive, since their energy matrix, for example, are much dirtier. So, once they entered the market, they dominated it. According to specialised government officials, what is surprising in not the fact that Brazil has been losing ground in relation to Asian countries, but the fact that the country had an important participation in the mechanism, even when it was less competitive than others.

**(1) Selected CDM projects in Brazil**

Four CDM projects in Brazil were selected, because of their size and long history: (1) the NovaGerar Landfill to Energy project in Rio de Janeiro; (2) the Salvador de Bahia Landfill Gas Management Project; (3) N2O (methane) Emission Reduction in the waste dump in Paulinia, Sao Paulo; (4) the Alta Mogiana Bagasses Co-generation Project (AMBCP).

Waste: *Brazil NovaGerar Landfill Gas to Energy Project.*

The purpose of the Brazil NovaGerar Landfill Gas to Energy Project was to capture the landfill gas (LFG) generated at the NovaGerar sites (Marambaia and Adrianópolis) and to use it for power generation and/or flaring. The Project site is located in Nova Iguacu, State of Rio de Janeiro, Brazil. The Marambaia dump-site opened in 1986 and closed in February 2003; about 700,000 tons of waste was disposed at the site. The Adrianópolis landfill started operations in February 2003, and is currently disposing about 2,700 tons of solid waste per day. The Adrianópolis and Marambaia sites are adjacent to each other located beside a densely populated section of the municipality of Nova Iguaçu, Rio de Janeiro. The project consists of two phases:

- Phase I: Collection and flaring of LFG, reducing uncontrolled release of methane
- Phase II: Generation of electricity from LFG, reducing CO2 emissions associated to the use of grid electricity.

The project has only implemented Phase I. The LFG collection and flaring systems have been in operation since 2007 for Adrianópolis and Marambaia. The conception, specifications and design of Phase II was concluded, but the current amount of the captured biogas hinders its viability. The objective is to increase the biogas flow in the following years, expecting to install the power energy plant (Phase II) when financial viability and captured biogas volume were considered acceptable. The low flow and gas quality (methane percentage) in Marambaia site indicated that operation is not economically viable and satisfactory. The LFG operation for capture gas and flaring in Marambaia site has been closed in December 2010.

*Sustainable development*. Besides generating 670,000 CERs, the project intends to improve local health and the environment. Contaminated leachate and surface run-off from existing dumpsites are affecting ground and surface water quality. The uncontrolled release of LFG is impacting the environment and leading to risks of explosions in uncontrolled open dumpsites. With the operation of the NovaGerar Landfills (NGLF), environmental health risks and the potential for explosions are reduced. The project will also have a limited, but positive impact on local employment through the recruitment of staff for day-to-day operation of the landfill facilities. The last monitoring report is a technical report with details to calculate the GHG emission reduction. No information is given about any sustainable development dimensions.

Waste: *Salvador da Bahia Landfill Gas Management Project*

The project activity is located inside the Aterro Metropolitano Centro of Salvador, state of Bahia, and consists of the capture of methane produced by waste decomposition and its complete destruction by combustion at high temperature. The "Aterro Metropolitano Centro" landfill is located in a rural area, 20 km northeast downtown Salvador. The Municipality site concession is inside Salvador metropolitan area, which includes 10 municipalities. The surroundings are residential. Although the project total area is 245 ha, the area reserved for waste disposal will be of 60 ha. The landfill has a total capacity of 18 million m3 and receives about 820,000 tons of household waste per year of which 60% is organic matter.

*Sustainable development*. In terms of sustainable development, the project intends to generate 665,000 CERs and reference is made to the health aspects of the project, capacity building aspects of introducing a new technology, and the fact that electricity will be generated. The company BATTRE managing the landfill has assumed a commitment to voluntarily allocate 5% of the net income from the sale of issued CERs to activities that would benefit the local community, environment and economy. While such capital expenditures were initially planned to occur only after issuance and commercialization of the CERs, BATTRE has already spent R$ 170,120.74 (USD 97,212) with specific projects. In monitoring reports no details are given with respect to which activities are supported.

Industry: *$N_2O$ Emission Reduction in Paulínia, SP, Brazil*

Nitrous oxide ($N_2O$) is a by-product of adipic acid production. It is of low toxicity but is a strong greenhouse gas, whose global warming potential 296x $CO_2$. Emissions of $N_2O$ are considered under the Kyoto Protocol and there are no national or regional regulations or restrictions on the emission of $N_2O$ in Brazil. In this project, the thermal decomposition process equipment has been added to the adipic acid manufacturing plant. This installation reduces the emissions, which would otherwise be released to the atmosphere if the project was not implemented. The thermal decomposition facility was installed and commissioned in the manufacturing factory site of Paulínia Rhodia Poliamida e Especialidades Ltda. during October and November 2006 and the destruction of N2O was started in November 2006. The N2O destruction unit is in continuous operation since its start-up and has only stopped for short periods due to planned and corrective maintenance operations.

*Sustainable development*. This large project will generate app. 6 million CERs. In one sentence it is stated that the project will not only contribute to sustainable development by reducing the release of GHG but also provide direct and indirect employment and transfer to new technology. In monitoring reports, no reference is made to any sustainable development benefits.

Agriculture: *Alta Mogiana Bagasse Cogeneration Project (AMBCP)*
This project activity consists of increasing the efficiency in the bagasse (a residue from sugarcane processing) cogeneration facility at Usina Alta Mogiana S/A - Açúcar e Álcool (Alta Mogiana), a Brazilian sugar mill. With the implementation of this project, the mill is able to sell electricity to the national grid, avoiding the dispatch of same amount of energy produced by fossil-fuelled thermal plants to that grid. By that, the initiative avoids CO2 emissions and contributes to the regional and national sustainable development. By investing to increase in steam efficiency in the sugar and alcohol production and increase in the efficiency of burning the bagasse (more efficient boilers), Alta Mogiana generates surplus steam and uses it exclusively for electricity production (through turbo-generators). The sponsors of the AMBCP are convinced that bagasse cogeneration is a sustainable source of energy that brings not only advantages for mitigating global warming, but also creates a sustainable competitive advantage for the agricultural production in the sugarcane industry in Brazil. Using the available natural resources in a more efficient way, the Alta Mogiana project activity helps to enhance the consumption of renewable energy.

*Sustainable development*. The project generates only 12,000 CERs but also serves as pilot to prove the technology. It is not the only CDM bagasse project. The project will contribute to sustainable development by creating employment and by electricity generation based on renewable sources of energy. The proposal also elaborates on the fact that the company involved (Alta Magiana) will develop its CSR policy. No reference to sustainable development outcomes is made in the monitoring report.

**(2) Selected CDM projects in Colombia**
The Netherlands contributes financing or co-financing 7 projects of the overall CDM Colombian portfolio. Three distinctive projects are selected as examples:

Energy: 0194-Jepirachi Wind Power Project: Financed by Canada, The Netherlands, Finland, France, Germany, UK, Japan, Norway.

The project consists of the development of a wind based generation facility with a nominal power capacity rated at 19.5 MW, located in Wayuu Indigenous Territory in the Northeastern region of the Atlantic Colombian coast, within the Municipality of Uribia in the Department of Guajira. Since commissioning in January 2004, and up till the end of 2009, the wind generators had delivered 320,963 MWh to the Colombian National Interconnected System (SIN) under a preferential dispatching scheme. The Project contributes to the sustainable development of Colombia in various ways:

- The project contributed to an increase in economic activity during the construction period, injecting $21 million in the Colombian economy.
- It demonstrates at a commercial level, the potential for wind based electricity generation in the region thereby facilitating future investments to capture the relatively large wind power potential (estimated at over 5 GW).
- It increases the share of renewable energy in the national grid, thereby contributing to the national private expertise in the installation and operation of such technology. These indirect benefits may stimulate further the development of the renewable option in the Colombian power system.
- As the project sits on land belonging to a very poor indigenous community, it contributes to the development of this community through the support of community-driven projects financed by a system of transfers and compensation agreed to by the project sponsor.

Agriculture: 1770 Incauca S.A. Fuel Switch from Coal to Green Harvest Residues. Netherlands.

Incauca S. A. is the largest sugar mill in Colombia. It has been in operation since July 29, 1963 and it is since May 1st 1980 part of the Ardilla Lülle Group. The main sugar sector activities in Colombia are undertaken in the Cauca valley region. It is the main source of economic activities in the region and offers direct and indirect employment to approximately 1 million people, which is one third of the total inhabitants of the area. On a national level, 1.6% of GDP is due to the sugar sector as a whole, which is compounded by the fact that slightly over 50% of the sugar produced is exported. A total number of 13 sugar mills are located in the region and jointly they produce most of the nation's sugar (over 95%). The objective of the "Incauca Fuel Switch Project" was to replace coal consumption (estimated 14,000 tones per year) by recollecting discarded leaves during the harvesting process. Normally, the leaves are left in the field. When the field is burned to collect the sugar cane, between a 10 to 15% rests in the field as "barbojo" (generically applied term for green foliage, and tops that rest in a harvested field). This is increased recently due to the new environmental regulations that limit the burning of the cane field previous of the collection, reaching 40 to 45 % of residues abandoned over the harvested field.

For this reason Incauca began in 2004 the process to evaluate the feasibility of recollecting those residues to use them for energy purposes. The project evaluated three different alternatives to collect the barbojo, those are:

(I) The implementation of a collecting machine used for other field collection purposes
(II) The incorporation of a local un-employed personnel through developing a social project and creating of collectors cooperatives;
(III) The use of an adapted tractor with a hydraulic hook and modified sugar cane collection wagons.

The final results of this project have been verified in 2007.[11] The project did lead to more and better use of biomass (and thus savings on the use of coal), although the project did not lead to an increase in the processing capacity of raw sugar cane. The project also led to some positive local benefits as the biomass was collected by three methods, i.e. a) collecting machine b) collection by local, previously un-employed personnel through the developing of a social project and the creation of collectors cooperatives and c) use of an adapted tractor with an hydraulic hook and modified sugar cane collection wagons.

Transport: 0672- BRT Bogota, Transmilenio II-IV. Switzerland and Netherlands.

The objective of TransMilenio was to establish a Bus Rapid Transit system (BRT): an efficient, safe, rapid, convenient, comfortable and effective modern mass transit system ensuring high ridership levels. TransMilenio is a public-private partnership (PPP), in which the public sector is responsible for investment in the required infrastructure (segregated lanes, stations, terminals, etc.), while the private sector is responsible for the investment in the bus fleet, the ticket selling and validating system, and for the operation of the trunk and feeder services. TransMilenio Phases II to IV will be implemented gradually. By 2012 it is expected that TransMilenio consist of:

- 130 km of new-dedicated lanes (trunk routes) including new bus-stations.
- Around 1'200 new articulated buses with a capacity of 160 passengers, operating on trunk routes and 500 new large buses operating on feeder lines.
- Daily 1.8 million passengers transported.
- TransMilenio has as major environmental benefit that the resource efficiency of transporting passengers in Bogotá is improved i.e. emissions per passenger trip are reduced compared to the situation without the project. This is realized through following changes: a) Improved efficiency: new and larger buses are used which have improved fuel efficiency per passenger transported; (b) The BRT system is more attractive to clients, normally using other services like taxis, due to reduced transport times, increased safety, reliability and comfort; (c) Load increase or change in occupancy: BRT systems have a centrally managed organisation dispatching vehicles. The occupancy rate of vehicles can thus be increased due to organizational measures.

[11] http://cdm.unfccc.int/Projects/DB/DNV-CUK1207388201.46/view

The project contributes to sustainable development by:

- Improved environment through less GHG and other air pollutant emissions, specifically CO2, particle matter, and NOx. This is achieved through a cleaner, efficient transport system.
- Improved social wellbeing as a result of less time lost in congestion, less respiratory diseases due to less particle matter pollution, less noise pollution and fewer accidents per passenger transported.
- Creation of more than 1,500 temporary construction jobs for unskilled workers of the surrounding communities for construction works of Phase II.
- Economic benefits mainly on a macroeconomic level. Bogotá can improve its competitive position by offering an attractive and modern transit system and can reduce the economic costs of congestion.

# 5 Enabling policy developments in Brazil and Colombia

## 5.1 Climate change policy framework in Brazil

Brazil is highly vulnerable to the impacts of climate chance (Maplecroft, 2011). According to official data (Brazil, 2010), the main expected impacts of climate change in Brazil are:

- Intensification of desertification and extreme weather events in the Semiarid Region, with negative consequences over food production, hydro energy and mining.
- Negative impacts of hydric deficit over energy production.
- Negative effects of extreme weather events in urban areas: flooding, diseases and landslides.
- Increasing exposition of the coastal line to extreme weather events.
- Negative impacts on health coming from water scarce and the growth of infectious diseases.
- Increasing rate of biodiversity lost in the Amazon and Cerrado.

***Climate policies and changes in Brazil 2004-2011***

Until recently climate mitigation and adaptation policies were very limited in Brazil. Historically, the Ministry of Science and Technology and the Ministry of Environment had minimal resources to deal with climate change. Beginning in 2003, the Lula and da Silva' administration was divided towards the issue and most of its cabinet had little or no interest in the matter. Only in 2007 the Under-secretary of Climate Change was created in the Ministry of Environment, although with limited capacities and budget. In December 2008, Brazil announced a new National Plan for Climate Change that implied a shift in its national policy framework (and with positive implications for its international position). The plan established national mandatory goals, including intermediate timetable, for dramatically reducing deforestation in the Amazon by 2017.

At the end of 2008 solid progress on climate change was made at the same time as public attention increased (see paragraph 4.1). In 2009, environment and climate became an issue in the presidential campaign because Marina Silva announced her candidacy. Immediately, more attention was provided to climate change, sustainability and the transition to a low carbon economy. Also, the governments from Amazon states - under the leadership of Amazonas and Mato Grosso - created the Amazon Forum in July 2009 and asked for a change in the Brazilian international position in relation to forests. They wanted Brazil to accept the inclusion of REDD+ into the CDM or any other market mechanism.

Although very relevant in the time it was launched, the National Plan for Climate Change was surpassed by the Climate Law in 2009 (see box below). In October 2009, the House of Representatives passed the climate change bill, after significant political pressure by the trans-party environmental block. Under the influence of the new pro-climate public atmosphere the Senate debated and approved the bill in December 2009. In January 2010 President Lula signed the climate bill. The same process that sanctioned the federal law, also resulted in the creation of the Climate Change National Fund (CCNF- law 12,114), conceived as an instrument to assure the necessary financial support for mitigation and adaptation projects. The Fund was afterwards specific regulated by President Lula da Silva in October 2010. The Fund is operational since 2011, when around US$ 130 million was approved. At the moment, no significant funds have been applied yet.

Importantly, already before formally signing the Climate Law, Brazil announced its intentions to the UNFCC. On 13 November 2009, Brazil presented its voluntary commitment with reference to NAMA (Nationally Appropriate Mitigation Actions) at the COP in Copenhagen. Brazil considers a wide range of measures to fall under the scope of the NAMA. These are same measures foreseen in the Climate Law. However, Brazil still stresses the development paradigm, i.e. mitigation should

not impede their development. In response to the Copenhagen Accord Brazil submitted a letter on 29 January 2010 to the UNFCCC COP15, presenting envisaged domestic actions to be voluntary in nature. Actions included among others reduction in deforestation in the Amazon and Cerrado by 2020 and increase use of biofuels. Brazil commits itself to reducing GHG emissions between 36-39% in 2020 within a Business-As-Usual scenario (BAU). The BAU scenario assumes that in 2020 Brazilian emissions will grow up to 2.7 billion tons of $CO_2e$. The commitment will reduce the emissions down to 1.6 billion, which implies a reduction of 20% in comparison to 2005 (baseline).

***Box 1: The 2009 Brazilian Climate Law*** (Brazilian Law, #12.187).

Establishes the National Policy of Climate Change (NPCC) with the following goals:

- Socioeconomic development consistent with the climate system protection
- Reduction of GHG anthropogenic emissions
- Anthropogenic reduction through carbon sinks
- Implementation of adaptation measures
- Preservation of natural resources
- Development of the Brazilian Emissions Reduction Market (BERM)

The country has adopted a voluntary emission reduction commitment of 36-39 % in 2020 based upon a Business-As-Usual scenario and 2005 as baseline.

The Climate Law identifies ten specific measures for which sector plans are developed[12]:

1. *Action Plan for Prevention and Control of Deforestation in the Legal Amazon (PPCDAM*) to reduce Amazon deforestation (range of estimated reduction: 564 million tons of CO2 in 2020).
2. The *National Plan for Prevention and Fight against Deforestation in Cerrado* (PPCerrado) to reduce deforestation in the Cerrado Savannah (range of estimated reduction: 104 million tons of CO2 in 2020).
3. Plan for Agriculture and Forestry includes restoration of grazing land (reduction: 83 to 104 million tons of CO2 in 2020); Integrated crop-livestock system (18 to 22 million tons of CO2e in 2020); No-Till farming (16 to 20 million tons of CO2e in 2020); Biological N2 fixation (16 to 20 million tons of CO2e in 2020)
4. The *Ten-Year Energy Expansion Plan* includes Energy efficiency (12 to 15 million tons of CO2e in 2020) and increased use of biofuels (48 to 60 million tons of CO2e in 2020); Increase in energy supply by hydroelectric power plants (79 to 99 million tons of CO2e in 2020); Alternative energy sources (26 to 33 million tons of CO2e in 2020).
5. *Iron & steel Plan* to replace coal from deforestation with coal from planted forests (8 to 10 million tons of CO2e in 2020).

Simultaneously to the elaboration of the climate legislation at the federal level, the industrial state of São Paulo – encompassing one third of Brazilian GDP - signed its own climate law. This law is even more ambitious since it establishes a reduction emissions target of 20% in 2020 (baseline year 2005) in an industrial state. This law is mandatory and will affect mostly the industrial, energy and transportation sectors. For this reason is very similar to equivalent legislation in the European Union, Japan and South Korea. It proofs more difficult to achieve emission reductions in the still growing industry and transport than in deforestation. By the end of 2012 the implementation of the law has been very poor.

*Implementation of the climate law*

In 2010, the government presented five sector plans (see box), following the directives of the Climate Law. So far, only two of them show actual results: reduced deforestation in Amazonia and Cerrado. But these trends were already visible before the Plans were made. The Energy Plan is not yet being implemented. The plan of replacing coal from deforestation with coal from planted

[12] http://unfccc.int/files/meetings/application/pdf/brazilcphaccord_app2.pdf

forests in iron and steel production will also have little impact on emissions. Plans for other sectors such as transport, construction, mining and industry have been delayed. Many uncertainties exist regarding their future, since they face difficult negotiations with the sectors and there is no major political or social force pressuring for regulation. That is why the forecast of an actual low carbon path in Brazil is negative. Despite of the fact that there is a significant number of corporations committed to the transition, most private sector actors are conservative and almost all political leadership has been opportunistic and conservative. There is a growing inconsistency between the political discourse, which broadly embrace the need of climate action, and actual policies and implementation, which focuses more on short-term carbon- intensive economic growth.

## 5.2 Climate change outcomes and trends in Brazil

In 2005 Brazil ranked fourth on the global ranking of GHG emissions (WRI). This was mainly the result of deforestation (LULUCF) and fires. Emissions from the energy sector are low since around 90% comes from renewable sources including 80% from hydropower (Schaeffer et al, 2012).

During the 1990's, global tropical deforestation contributed 15-35% of annual global GHG-emissions (Moutinho, Schwartzmann 2005). According to the Brazilian Initial National Communication (2004) in the year 1994 Brazil produced 1.4 billon tons of CO2e, 75% of those emissions came from deforestation in the Amazon and Cerrado Savannah. In 2001, Brazil still had the highest rate of deforestation and thus this was the most important source of its GHG-emissions (deforestation, forest fires, and burning of fields for land clearing). According to the Second National Communication (2010), Brazilian global emissions grew 58% between 1990 and 2005, up to 2.2 billion tons of $CO_2e$ - methane and nitrous oxide. The main sources were: land use/land use change 61%, agriculture 19%, energy 15%, industry 3% and waste management 2%. The low percentage of energy in comparison to the EU is because (i) the large contribution of LULUCF; (ii) the high use (80%) of hydropower for electricity.

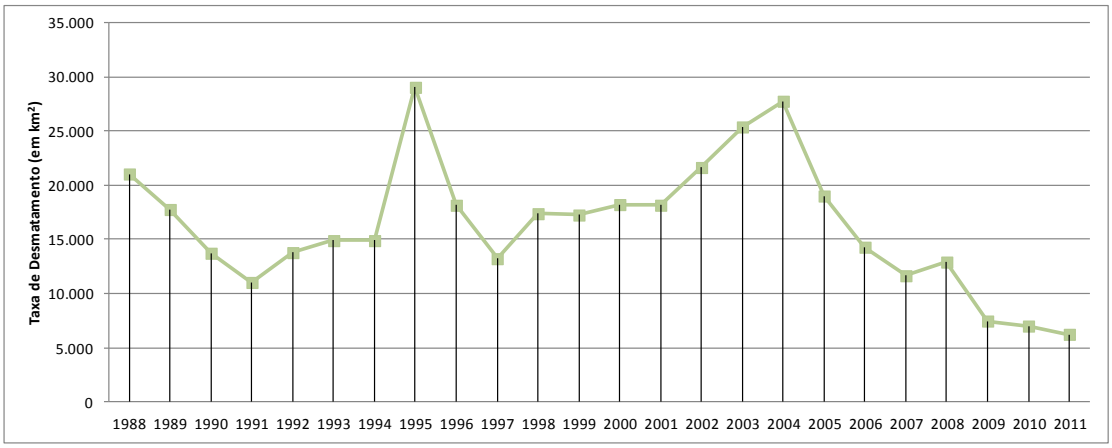
**(1) LULUCF i.e. Deforestation in Brazil 2004-2011**

The highest deforestation level in the Amazon was recorded in 1995 with 29,059 km²/yr, followed by 2004 (27,772 km²/yr)[13]. Awareness on deforestation and climate change has been growing steadily within Brazilian society and government. Much media attention was triggered by the droughts in the Western Amazon in 2005 and 2010 and the potential role of climate change[14]. Between 2005 and 2009, Brazil was able to reduce GHG emissions with approximately 20-25%. This dramatic decrease was caused by a remarkable fall in deforestation in the Amazon: from an annual average of almost 21,000 km2 in 2000-20004 to a record low (measured since 1988) of 6,418 km² per year in 2011 (see figure below) and recently to 4,656 km² in 2012 (INPE). The deforestation in the Cerrado is now higher (7,500 km² in 2009, which is also less than the 14,500 km²/yr between 2002-2008). The main drivers for deforestation reduction were:

a. An improved institutional capacity and an effective law enforcement system through coordinated monitoring, supervision and repression. This started under Minister Marina Silva (2005-2008) and was continued by Minister Carlos Minc (2008-2010);
b. The creation of extensive protected areas and ecological reserves between 2000 and 2006. Mainly by the federal government but also by state authorities:
c. The role of big national (and international) NGOs in promoting public awareness, with the participation of importing firms and traders from developed countries:
d. Improved co-operation between Amazonian state authorities and the federal government on deforestation control.

[13] INPE Brazil
[14] http://www.ox.ac.uk/media/news_stories/2013/130118.html

*Figure 4: Annual rates of deforestation in the Amazon Region, 1988-2011 in km².*




*Source: PRODES- INPE*[15].

At COP12 (Nairobi, 2006), Brazil shifted its position on forests and expected some international financing in return. In 2008 President Lula da Silva established by executive order the Amazonian Fund, with the specific purpose of capturing donations oriented to be applied in prevention, monitoring and combat deforestation; and the promotion of conservation and sustainable use of forests in the Amazon biome. In 2009, Brazil signed an agreement with Norway whereby Norway committed itself to contribute US$ 300 million between 2009 and 2011 – and potentially US$ 1 billion until 2015- to finance deforestation control and forest degradation projects. In December 2010, Germany also signed an agreement to contribute with €21 million to the Fund. The Fund is administrated by the BNDES (National Development Bank) and has already approved funding for some projects totalizing 120 million dollars in 2012[16].

**(2) Brazilian GHG emission trend and control**

The deforestation reductions also changed the carbon intensity of Brazilian economy: it fell in the Amazonian states and grew in the rest of the country. However, emissions from energy, industry and transport is still low compared to other middle-income economies that use much fossil fuel and have low energy efficiency patterns.

After the positive impulse on climate change in 2009/2010, the climate and environmental agenda has suffered considerable setbacks, like the policy support for the expansion of the oil sector and the reform of Brazilian Forest Code (see also ethanol case study). Since 2010, GHG emissions grow again, but now the modern sectors of the economy (energy, transportation, agriculture and industry) are the main drivers. In 2011, deforestation accounted for proximately 35% (down from 61%) of Brazilian emissions, energy 32% (was 15%), agriculture 25% (was 19%), industry 5% (was 3%) and waste 3% (was 2%). In 2011, Brazilian annual emissions were around 2 billion tons of $CO_2e$– 4.5% of world emissions. Brazilian emissions is expected to grow in 2012 and 2013 as the GDP grows with 1.5% in 2012 and with 3-3,5% for the period 2013-2015. In this period, a large expansion of gasoline and diesel consumption is expected because of a dramatic increase of the car and truck fleet (+8% per year) and as result a strong increase in traffic congestion. Also agriculture production will increase.

This is a relevant shift in Brazilian emission profile with important implications for climate policy, since further mitigation measures should focus on industry and transport – where the obstacles for action are far more difficult than in deforestation control, where societal resistance is relatively

[15] http://www.obt.inpe.br/prodes/prodes_1988_2011.htm
[16] Source: http://www.fundoamazonia.gov.br/FundoAmazonia/fam/site_pt/Esquerdo/Projetos_Apoiados/

low. Policies at the federal level have abandoned the focus on issues of low carbon growth and environment in general. The implementation of the Climate Law barely advanced. The government also responded to the international crisis early 2012 with a traditional carbon intensive industrial stimulus package, focused on the car-manufacturing sector. They also decided to eliminate taxation on oil consumption on the same day as Rio+20 ended, in June 2012. This setback might be explained by the removal of two stimuli: The first one was a positive international environment and Brazilian sentiment for low carbon growth measures (generated around COP15 in Copenhagen); and the second one was the political pressure generated by the presidential candidature of Marina Silva. Once these stimuli were gone, the government put less priority on environment and climate without major political costs (deforestation is still decreasing but more difficult measures are not implemented yet).

*Development of deforestation control*
The deforestation control could be enhanced further since there is yet still potential for economic attractive conversion of forest: reservoirs for hydropower, selective sustainable forestry and selective annual cropping in previously mapped areas with abundance of topsoil. Also, there is a significant potential for agro-forestry in most degraded lands that were deforested in the last two decades. However, the process and outcome of the latest reform of the Forest Code Reform – between 2010 and 2012 – have been negative for the future of deforestation control for three reasons: first, it actually lowers the level of forest protection in Brazilian law; second, since it exempted many producers from historic obligation to recover deforested areas, the new version of the Code could operate as an incentive to illegal deforestation in the future and; third, it showed how politically powerful the conservative agricultural sector is. This seems in contradiction with pledged Brazil made in 2010 as NAMA to COP15, which included among others reduction in deforestation in the Amazon and Cerrado by 2020.

*Development of the Energy sector*
With deforestation rates under control (they were approximately 2/3 of Brazilian emissions in 2005, it is 1/3 in 2012) the energy sector is central for the low carbon transition in Brazil. The most important development in the area of energy is the expansion of the oil sector, which has been significantly growing since the discovery of the pre-salt depositions in the coastal seas in 2007 (leading to US$120 billion capitalization of Petrobras). The oil findings are probably the main obstacle in Brazilian decision-making to opt for a transition to a low carbon economy. GHG emissions from oil refining and petrochemical industry are growing and the use of ethanol as transport fuel (see ethanol case study) is declining. Ethanol's decline involves both the stagnation of the production of this biofuel since 2009 (UNICA[17] and Ruralbr[18]) and the competition at the pump by petrol.

Brazil's electricity matrix is expected to be stay based upon renewable energy in the coming decade. The expansion of thermoelectric power plants based on coal and oil - a trend in the early years of Lula administration - seems to be over for now. Investments in hydropower are increasing. Two large hydropower plants in the Madeira River on the border with Bolivia are constructed and the large Belo Monte dam on the Xingu river is planned. There are some doubts regarding the feasibility due to the opposition of environmental and social movements and the fact that they were planned with little reservoirs, which make them highly vulnerable to dry conditions and consequentially their potential is reduced. There are yet no plans for large investments in solar photovoltaic power. There are some recent developments within ANEEL (National Agency of Electricity), supported by the Ministry of Environment, the Ministry of Science and Technology, the Ministry of Energy, and BNDES (a Bank and main source of investments in infrastructure) to invest in thermo-solar technology. Investments in wind power began in 2009 and are still growing (only 0.4% share in the energy matrix in 2011 (Schaeffer et al, 2012). The use of nuclear power continues as planned: the two operational plants continue, and the new plant Angra III will

[17] http://www.unica.com.br/dadosCotacao/estatistica/
[18] http://agricultura.ruralbr.com.br/noticia/2011/11/producao-de-etanol-na-safra-2011-2012-deve-cair-2-93-diz-unica-3547047.html

become operational in 2015. More uncertain is the future of four planned power plants to be constructed until the year 2030.

*Development of Transportation*
Transportation is a critical growth area and the trend is negative, even with the extensive use of ethanol by private cars. Both cargo and public transport are inefficient and carbon intensive. This is an area with remarkable and highly visible co-benefits between climate and quality of life, since the poor transportation infrastructure is central in degrading the everyday life of most urban population (traffic congestion, pollution, much time consumed in commuting). The government has been actually stimulating negative trends in terms of carbon emission. In 2009 and 2012 the federal administration reduced taxes on cars in order to stimulate the economy. They also reduced taxes on petrol and forced the state oil company Petrobras to absorb the increase of oil prices in the international market. Following strong criticism in some media the government introduced in October 2012 a small tax incentive for cars to improve their energy efficiency. At the same time, Brazilian politicians have made no significant efforts to tackle the problems of public transportation and the heavily road based cargo transportation. The government announced in 2012 to invest more in transport infrastructure (upgrade of the road network, increasing the proportion of rail, water and air transport).

*Development of Agriculture*
In the last decade the country became an agribusiness super-power. Although productivity and efficiency improved, the sheer expansion caused higher emissions. The Brazilian territory encompasses 8.5 million $Km^2$, among which 3.9 million $Km^2$ is arable land (46%). In 2005, 640,000 $Km^2$ were occupied by agriculture and 1.7 million $Km^2$ were used for livestock, with a remaining available area of 1.5 million $Km^2$ (Delgado A., Martins e Silveira Pinto, 2012; Embrapa 2009). GHG emissions from agriculture are expected to grow. A plan for low carbon agriculture has offered financial support for sustainable practices. However, Brazilian farmers have not yet been inclined to take those loans.

*The Private sector and Corporate Social Responsibility*
Because the domestic agenda dominates decision-making, Dutch influence in Brazilian low carbon path will be low and will have more to do with the Corporate Social Responsibility actions and technology of firms like Unilever, Philips or Shell (leading by example), than government policies.

## 5.3 Climate change policies in Colombia

The first National Communication (NC1) to the United Nations Framework Convention (UNFCCC) dates from 2001 and provides GHG-emission figures of 1994.[19] The second Communication dates from 2010 and provides GHG-emissions figures of 2004. The Communications indicate the high vulnerability of Colombia to the expected impacts of climate change identifying high mountain ecosystems, insular and coastal areas, and human health as the areas of primary concern. More recent studies developed as part of the 2nd NC have confirmed in more detail trends and impacts: there is an increase in the average of temperature of 0.13°C per decade. Based on models developed by IDEAM, average mean temperature would increase 1.4°C for the period 2011-2040; 2.4°C for the period 2041-2070 and 3.2°C for the period 2071-2100. This study also projected significant reductions in rainfall, particularly in the Caribbean coast and the Andes. Increase rainfall is expected in the Amazon and savannah regions.

The main vulnerabilities are:
- High Andean Ecosystems: A net increase of 0.2-0.3°C per decade and a decrease in monthly rainfall of between 2-3 mm per decade. This trend is worsening and will impact the ecosystem services provided, especially water supply, basic regulation and associated reduction in hydropower potential.

[19] http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php

- Ice melting: Glacier areas have already lost 80% of their area within the last 150 years. The country now has only 47.1 km² left. If the trend continues, by 2050 Colombia would lose 78% of its glaciers and 56% of its paramos. (IDEAM, 2001).This situation may affect water provision of many urban settlements, agriculture and productive activities, mainly in the Andean region.
- Sea level and sea surface temperature increase will affect coastal and insular areas of the country. Possible impacts of sea level rise of 2-5 mm per year, and a temperature increase between 0.7-0.9ºC for the Western Caribbean have been projected by different studies (including Universidad Nacional supported by the Netherlands Climate Change program). Sea level rise will cause loss of a land area, saline intrusion, affecting freshwater systems and major population displacement. The changes may also impact corals in the Caribbean, and are expected to affect local fisheries and therefore food security of human population.
- Natural Disasters: Colombia experiences one of the highest rates of occurrence of natural disasters in Latin America, most of them related to floods and landslides. The Andean region, also, the most densely populated and urbanized, is the one where the number of disasters is highest, followed by the Western and Caribbean Regions. The occurrence of extensive disasters fluctuates according to annual rainfall patterns, and the El Nino oscillation pattern, which exerts a strong influence on the occurrence of floods and landslides. During 2010 the country suffered a very strong La Nina, which affected more than 10% of the population.
- Increase exposure to tropical vector diseases: Mosquito-borne diseases, such as malaria and dengue, are expected to increase due to temperature changes, affecting over 20 million people living in areas were mean temperatures range between 15-26ºC, within the range of dengue and malaria vectors. Therefore, the implications for an already stressed health sector are serious.
- Agriculture: the main impacts on the agricultural sector are an increase in the desertification process. More than 90% of current irrigation districts are being impacted by climate change. Currently, it is recognized that climate variability events are extremely relevant to this sector; for example, the rainy season between 2010-2011 affected more than 1 million hectares and had a negative impact on the agricultural production. Climate change scenarios indicate affection in coffee crops as pastures, with severe impacts on the rural economy.

**Climate policies and changes in Colombia 2004-2011**

The environmental policies developed by the Ministry of Environment, before 2002 established the basis for the current climate change policies and followed the ecosystem approach proposed by the Convention on Biological Diversity, where climate change issues are considered as one of the main drivers of change. These policies gave special attention to the importance of having integrated and landscape approaches for natural resource management and considered the participation of relevant stakeholders during the process. Colombia has submitted two National Communications and is preparing the third. The period between 2004 and 2011 encompasses three governmental periods, each with its own national development plan. This is important to take this into account, because in Colombia each plan becomes a Law:

- 2002-2006: First period of President Uribe. Environmental policies towards climate change mitigation were not clear. Main objectives were oriented towards conservation and sustainable use of assets and environmental services; generation of income and green jobs: environmental sustainability of products.
- 2006-2010: Second period of Uribe: Creation of the National Climate Change System, establishing a strategy for the reduction of emissions and formulation of the National Policy of Climate Change. The policy has delivered during the following period.
- 2010-2014: The current National Development Plan, “Prosperity for All”, includes some actions specifically related to the climate change policy: Implementation of the Climate Change Policy; conformation of the National Climate Change System; Development of the Low Carbon Strategy and Formulation and implementation of the National Adaptation to Climate Change Plan, and a Disaster Risk Reduction Strategy. All these actions are under implementation. The plan includes specific indicator on the following aspects which are related to climate change: a) Hectares of deforestation avoided; b) Sector strategy low-carbon development; c) Plans incorporate sectorial adaptation policies to climate change; d) Export products identified barriers and strategies to cope; e) International resources channeled to the

country directly or indirectly to the development of REDD + national strategy, early implementation projects and issues related to forest carbon; f) Projects Clean Development Mechanism - CDM-including participation in new carbon markets.

In addition to the national development plans, the Colombian government has developed three policies related to climate change: (1) Low Carbon Development Strategy, (2) ENREDD implementation (already described) and (3) National adaptation plans. In addition, as a result of the Copenhagen Accord, Colombia is currently preparing its National Appropriate Mitigation Action plan (NAMA), as part of various initiatives that are being developed in the country for emission reduction, and will be included in the National Low Carbon Development Strategy (LDCS, see below). These actions, like CDM, will have international verification. The main purpose of this initiative is to promote economic growth, without increasing carbon emissions. The Ministry of Environment is proposing to develop sectorial mitigation plans for 2014.[20] Colombia included some preliminary commitments in three types of NAMA-related actions:

(1) Unilateral: Unilateral actions include ensuring at least the participation of renewable electric energy generation, by not less than 77% of the total yearly installed capacity of 2020, within the energy matrix.
(2) With financial support: Financial support actions are, decrease to zero deforestation in the Colombian Amazon by 2020 and encourage biofuel production increase.
(3) Guided towards carbon market: Carbon market guided actions, include: support the use of market mechanisms to contribute in GHG mitigation actions; carry out activities of emission reduction from avoided deforestation REDD; emission reduction through the CDM; encouragement of commercial reforestation through the use of the Forestry Incentive Certificate CIF.[21]

The government is looking for financing these NAMA actions with the participation of local organizations, private sector and international cooperation of carbon markets.

The *National Low Carbon Development Strategy* (LDCS) for Colombia is in the process of being formulated. The government aims to have this strategy formulated by end 2012, with the participation of key stakeholders and the implementation of sectorial actions through projects, programs, incentives, etc starting in 2013.[22] This initiative is being financed by domestic funds and 14 international donors including the USA, Germany, EU, IDB, WB.[23] The strategy has to define a baseline and low-carbon actions for sectors such as energy, mining, agriculture and transportation. The LCDS is aligned with national development objectives, such as promotion of economic growth, innovation and competitiveness and poverty reduction. The general objectives of the LDCS are: (a) to be competitive in a low carbon global economy, promoting innovation and carbon technologies; (b) To strengthen competitiveness of relevant sectors; (c) To take advantage of existing opportunities to meet carbon efficiency objectives, including resources from the Green Climate Fund; (d) To reduce carbon emissions and prevent social, economic and environmental impacts.

The LDCS already started to work with 2 sectors: waste and transport. For waste, actions have started in two pilot cities: Cali (medium size) and Sogamoso (small size). The main purpose is improving integrated waste management process, including current regulations and development of incentives. This initiative started with the support of Canada, and the government is willing to replicate the experiences in other cities of the country. Financing these feasibility studies and further implementation is required. The second action is called “Transit Oriented Development”, which aims to improve travel times, air quality and CO2 emissions. This initiative is relevant for the country, as 12% of the national emissions come from transportation.

Also foreign donors - including the European Union and the Netherlands – are involved by supporting various government initiatives:

[20] Ministry of Environment, 2012. Presentation given in NAMAs side event. Doha, Qatar.
[21] Colombia Permanent Mission UN, cited by WRI, op. cit.
[22] MINAMBIENTE, 2011. Estrategia Colombiana de Desarrollo Bajo en Carbono.
[23] MINAMBIENTE, 2011. Estrategia Colombiana de Desarrollo Bajo en Carbono. Primer taller industrial.

- Cooperation in institutional strengthening, especially between the Ministry of Environment, the Netherlands and UK.
- Cooperation programs for forest governance, payment for ecosystem services and other related issues in the Amazon. The Netherlands is involved.
- Low carbon practices in agricultural sector and industries, and carbon sequestration measurements (Netherlands).
- Support the implementation of the integrated water policy in key watersheds (Netherlands).

Colombia also defined some complementary initiatives - known as CONPES documents (Social and Economic Policy Councils) – which are approved at the highest decision making level:

- CONPES 3242. 2003: Institutional Strategy for the sale of environmental services of climate change mitigation, presented by the Ministry of Environment and the National Planning Department. The objective of this document was the promotion of the participation of Colombia in the international market of verified reductions of GHG emissions, CDM, and determined that IDEAM was the organization responsible for the coordination of the National Communications to the UNFCCC.
- CONPES 3510.2008: Policy Guidelines for the promotion of Biofuels in Colombia. The main objective of this policy is to take advantage of economic and social opportunities offered by emergent biofuels markets, in a sustainable and competitive way.
- CONPES 3700. 2011. Institutional strategy for the coordination of policies and actions related to Climate Change. Presented by all ministries and the National Planning Department, DNP. The main objective is to facilitate and promote the development and implementation of policies, plans, programs, incentives, projects and methodologies related to climate change, including climate change variables as determinants for the design and planning of development projects, through a inter-sectorial approach.

Since 2006, the Global Environment Facility (GEF) supports the Integrated National Adaptation Programme, which focuses on making information available for adoption of adaptation measures and policies. The 2010 National Development Plan mentions adaptation on several occasions as a cross-cutting issue and as part of sectors, most notably under environment. The Plan states that sectors should start to formulate their own climate change adaptation plans.

## 5.4 Climate change outcomes and trends in Colombia

In 1999, an economic depression hit Colombia and unemployment grew to 20%. Since 2004, Colombia is growing steadily (5-6% predicted in 2011) and is considered one of the business-friendliest economies in Latin America. In 2005 Colombia ranked 41 on the global ranking of GHG emissions (WRI). Colombia is now categorized as one of the CIVETS countries (with Indonesia, Vietnam, Egypt, Turkey and South Africa). A new acronym for a group of emerging and stable economies, which are bound to become more influential in the near future. The internal conflict with the guerrilla and drugs remain a major obstacle for future growth, stability and foreign investment. The USA is the main trading partner (36.9%) and a major political influence in Colombia. The Netherlands is the principal port of entry for Colombian exports to Europe (17.6%, China ranks now third with 8.4%) and the Netherlands is the 3rd export destination for Colombia in the world with 1499 mln USD in 2010 (20% growth), which includes coal (separate case study). Colombian imports from the Netherlands grew to 349 mln USD in 2010 (15% growth, ranking 5th). The Netherlands is the 12th largest investor in Colombia.

The National Inventory of Greenhouse Gases sources and sinks carried out between 2000 to 2004 showed that the main contribution of greenhouse effect gases came from $CO_2$ (50%) and methane (30%). The sectors, which caused most of GHG during this period, were agriculture (38%) energy (37%), LULUCF (14%), solid waste (6%) and industrial process 5%. Agriculture and LULUCF in general contribute to 52% of total emissions. According to the GHG inventory, for 2004, Colombia contributes with 0.37% (180,010 Gg) of world total emissions (49 Gigatonnes) and individual emissions per capita are below the world average. There are no national figures available beyond

2004. Therefore the effect of policy measures and initiatives between 2004-2011 on either the emission per sector or overall emissions cannot be assessed. However, there are no relevant changes in GHG-emission figures per sector between the first and second National Communication. It is difficult to draw conclusions because over the years LULUCF was introduced as well new methodologies and better monitoring systems. Only in very general terms one can say that deforestation seems to decrease, and the energy sector is relatively clean due to the fact that the energetic grid is mainly based on hydropower[24]. But the economy is growing fast with its associated increase in GHG-emissions as long as economic growth is not decoupled from GHG-emissions (i.e. low carbon growth).

In response to the above developments and climate change itself, Colombia is very much committed to promoting a low emission growth, as demonstrated by its clean energy grid, which includes innovative mass transport systems, energy efficient programs, forest carbon sequestration projects and the CDM portfolio.

**(1) LUCLUF and deforestation in Colombia**

Colombia has still 48% of its territory covered by forests, due to the fact that for the last 20 years the Government has taken the decision of conserving the natural forest of the Amazon and the Pacific, through the recognition of indigenous territories, collective properties of Afro-Colombian communities and the creation of National Parks. In 2011, the Ministry of Environment published a report based on the use of new technologies and a better monitoring system, which indicated that during 1990-2010, 6 million ha were forested. From 2000 till 2005, deforestation was 315,000 ha/year and in the period 2005 till 2010, deforestation rates decreased to 238,361 ha/year. The Amazon region has been excluded from oil exploration projects, but there is a lot of illegal mining that may affect the integrity of the Amazon forests in the future. The main causes of deforestation are expansion of the agricultural frontier, illegal crops, displaced population resettlement, infrastructure and mining. The government established a new target for reducing deforestation to 200,000 ha, during the period 2010 till 2014.[25] The strong position on preserved forests was included in the speech of President Uribe in Copenhagen (2009), as well as the decision of developing alternative energy sources in order to avoid the increase of GHG.

Although the REDD mechanism does not exist yet, Colombia has been working since 2007 to develop the appropriate institutional and technical conditions for its implementation. The Colombian position in the negotiations until 2010, was mainly focused on the promotion of a subnational approach, considering that large countries, with different geographies, ecological, economic, social and cultural conditions, could hardly develop a national strategy and targets to control deforestation. This subnational strategy meant that not all regions in a large country, such as Colombia, could be attended at the same time, and that the way to address this issue was through the formulation and implementation of projects, similar to CDM. Some civil society organizations in Colombia decided to create in 2009, the "REDD roundtable", with the purpose of contributing with the development of strategies, policies, plans and actions, that are aligned with community rights, the sustainable management of forests and distribution of their benefits. This initiative allowed the creation of appropriate ways of discussion with the government, and gave technical inputs for the development of a national REDD Strategy which is included in the National Climate Change Policy developed in 2011, during the government of President Santos.

The National Strategy for the establishment of a REDD+ mechanism in Colombia aims to include all sectors and stakeholders that influence the underlying causes of deforestation (mentioned above), and the coordination of public policies. Its main objectives are:

- Establishment of reliable reference levels of emissions for deforestation, at national and subnational level, and a strong Monitoring, Reporting and Verification (MRV) system.

[24] UPME, 2009.
[25] IDEAM, 2011. Memoria T'ecnica de la Cuantificacion de la Deforestacion historica nacional. Bogot,a Colombia. 2011.

- Development of an Inter sectorial approach and coordination between productive sectors that generate deforestation and forest degradation.
- Promote participative planning and inclusion of all relevant stakeholders.
- Development of appropriate governance systems, a national vision and decentralization.
- Design environmental and social safeguards, and an appropriate information system.
- Analyse opportunity costs for the implementation of eligible activities and a sustainable financing system, including international and national cooperation.

The REDD management strategy includes removing perverse incentives associated with deforestation and integration between sectors. It includes a regional approach, with emphasis on the Pacific and the Amazon. Given the importance of indigenous and Afro-Colombian groups in these areas, it proposes a moratorium to begin implementation of REDD projects in collective territories and expand consulting with communities.

This strategy was built considering the outcomes of many actions and projects developed in forested areas of the country like the Amazon and Pacific regions, where Indigenous peoples are the owners of the rights of a large amount of territory. The Colombian REDD roundtable continues its work and since 2010 the government through the Ministry of Environment and IDEAM (National Institute of Hydrology, Meteorology and Environmental Studies) joined this initiative.

IDEAM has already developed a survey to determine the status of forests at national level (1:250.000) and the underlying causes of deforestation, which contributed to build the REDD proposal for Colombia in 2011 and the first draft of the National REDD strategy (ENREDD). The development process included consultation through 20 events with 280 organisations and 700 individuals from indigenous, Afro-Colombian, peasant, non-governmental, productive sectors, regional authorities, ministries and the National Ombudsman. ENREDD includes two national pilots to test the possibility of implementation: La Macarena and Caquetá, both in the Amazon. The REDD case study in Macarena is based on the project "Integrated Plan for Macarena- Phase II" financed by the Netherlands (ended 2011). IDEAM has also improved the base line, according with international standards such as VCS (Voluntary Carbon Standards). For Macarena, a partnership of different organizations such as CI Colombia, Moore Foundation, WWF, Patrimonio Natural, (PN), Fondo para la Acción Ambiental, (FPAA) was established. This project is based on the information and achievements of the project sponsored by the Netherlands. Currently, IDEAM is adjusting the methodology for the MRV system and is making projections to determine deforestation scenarios. The Ministry of Environment has implemented capacity building activities, with stakeholders of different organizations, local communities and indigenous peoples. However, these actions have to be further developed and the benefit sharing has to be improved.

Colombia has also developed a "National Strategy of Payment for Ecosystem Services", which includes the recognition of different services, including carbon sequestration, and several projects have been implemented in different areas of the country. The Netherlands has been supporting some of these initiatives with the project: "Conservation incentives for land management and socio environmental conflict mitigation." The experiences are used to further develop and implement the REDD mechanism.

In summary, Colombia has improved the technology and national capacities to implement REDD at national and subnational levels. It has also consulted this initiative with stakeholders and communities. Colombia supports further development of the REDD mechanism as it can help to maintain forests in Colombia. However, it is crucial to further develop and clarify the benefit sharing mechanism as well as further consult local / indigenous peoples on implementation.

**(2) Colombia's emission trend and control**

Agriculture: The agricultural sector is very important in the climate change policy, first, it has a leading role as generator of greenhouse gases (GHG) and second, it is one of the most vulnerable sectors to climate change impacts, in terms of production, conservation of agro biodiversity and

rural economic development. The ministry of agriculture has been developing a set of policy guidelines aimed at climate change adaptation and mitigation, seeking a sustainable development of agriculture (MADR, 2009). Due to the high vulnerability of this sector, the national climate change policy aims to reduce the vulnerability on the overall production systems and rural areas with extreme weather events (climate variability and climate change). Main problems to be addressed are: Institutional weakness and low capacity for identification of climate risk, gaps in information management, lack of knowledge for the development of adaptation measures and technology transfer. The issue of adaptation in the agriculture sector is really important, considering its impacts on food security and wellbeing of the rural population. Regarding climate change mitigation, the government developed the Environmental Plan for the agricultural Sector (PEASA), which aims to establish a strategic frame to incorporate environmental management in productive agricultural systems, promoting competitiveness of the domestic and international markets. The actions of the plan for the reduction of GHG emissions are oriented towards the adoption of productive systems by, agroforestry and silvopastoral systems; integral soil management; good agricultural practices; ecological agriculture and banks of germoplasm vegetable, bovine and microorganism. (IDEAM, 2010) As a result, alternative silvopastoral systems to improve farming conditions are being developed. This initiative is being developed with the participation of FEDEGAN, the National Farmers Federation, CIPAV, the Center for Research on Sustainable Agricultural Production Systems and the ministries of Environment and Agriculture.

Energy: The Energy sector is fundamental for developing polices aimed at reducing GHG emissions, therefore it is essential for the CC mitigation strategy. The National Energy Plan (PEN) performed by the Mining-Energy Planning Unit (UPME), generates guiding mechanisms in the energy sector. The plan includes issues as the availability and supply of energy resources and integration, competitiveness and coverage in the market. Topics such as quality policy of petroleum fuels, biofuels, technological updating of the vehicles and emission control, environmental impact of energy use, are included in this initiative. For biofuels there is a national strategy of promotion, supported by documents such as CONPES 3510 of 2008, which provides guidelines to promote sustainable production of biofuels in Colombia. Ecopetrol, the largest producer of fuels is improving the quality of petrol and diesel produced. The company's environmental actions have become a major commitment, and for 2015 a goal to reduce 7% of their relative GHG emissions was established.[26] Additionally, a program for the Rational and efficient use of energy has been established in 2010, including specific reduction targets of consumption.

Industry: The development of the Colombian industry is one of the key pieces to continue the path of economic growth. The National Development Plan highlights the need to generate innovation that enable the improvement of industrial productivity and competitiveness. It recognizes that the growth of the industry must be accompanied by a rational and sustainable use of environmental and natural resources, contributing to social welfare, in order to achieve sustainable development. Industrial process in Colombia reaches about 5% of national emissions. The principal source is the production of metals and non-metallic minerals.

Transportation: One of the main policies, articulated with mitigation of climate change impacts and improvement of Urban Planning in Colombia, is the development of the Friendly Cities project, which includes the implementation of Strategic Systems of Public Transportation (SETP) for intermediate cities. This project incorporates also Bus Rapid Transit System (BRT) in the major cities (earlier supported through CDM). This project has generated a significant reduction in GHG emissions thanks to renovation of the fleet and achievement of greater efficiency in the use of fossil fuels represented by the increased rate of passengers per kilometer. The use of vehicles with low gas emissions is part of the environmental guidelines focused on the use of clean technologies to ensure better air quality. Other initiatives are being planed as the importation of electric taxis.

[26] WRI. 2011. Op. Cit.

# 6 Analysis of results and effects of modalities and pathways

The main modalities and pathways used in relation to climate change (see also evaluation framework) are:

| *Modalities:* | *Pathways:* |
|---|---|
| • Diplomacy<br>• Bilateral financing support (ODA)<br>• Financial instrument CDM | • International treaty i.e. UNFCCC<br>• Regional co-operation<br>• Bilateral co-operation through embassy |

There were no Dutch multi-stakeholder initiatives or companies with CSR focusing on climate change supported. Indirectly, these organisations contribute through GHG-emission reductions in their operations and by promoting sustainable production and trade of natural resources. This indirect contribution has not been assessed. From the other case studies on ethanol, soy and forests one can see that in the absence of legislation and enforcement, multi-stakeholder initiatives are quite successful in promoting sustainable production and trade and raising awareness. This enhanced the CSR policies of multi-nationals, which in turn influences CSR at partner companies in LAC countries.

## 6.1 International diplomatic interaction

### *6.1.1 Brazil*

Before 2000, the EU (as well as Brazil themselves) considered Brazil a developing country for which no binding commitment was necessary. This changed as Brazil grew in economic power and it became clear in 2000 that LULUCF was a major contributor to emissions. Additional actions were expected from countries with high LULUCF emissions (like Brazil). In relation to EU –Brazil relations between 2004 and 2011, two main periods can be identified:

The first period, between 2004 and 2009, showed an increasing convergence in positions regarding the need of a new climate deal, including commitments from all major emitters. The more cooperative interaction between EU and Brazil was expressed in negotiations regarding forests. Before 2004, every time the EU wanted to talk about forests this was perceived by Brazil as infringing their sovereignty. After 2004 relations improved. The EU welcomed and gave support to the 2006 Brazilian proposal of a global fund for slowing down deforestation that was described as 'Reduced Emissions for Deforestation and Forest Degradation' (REDD). Minister Marina Silva (2004-2008) was mainly responsible for the successful shift in deforestation control since 2003 and the biggest supporter of an enhanced Brazilian climate commitment. She has many times used EU positions as reference point on climate and environmental issues (her tenure was regarded as very good by EU country delegates in Brazil). Supported by the decreasing deforestation in the Amazon after 2004, Brazil slowly shifted its point of view regarding discussing forests at he UNFCCC. Marina Silva became the head of the Brazilian delegation in Nairobi, the first time ever someone who was not from the Ministry of Foreign Affairs led the negotiation team. Later on this raised awareness on climate change led to voluntary commitments by Brazil in 2009 at Copenhagen and the 2009/2010 NAMA and Climate Law. The highpoint of convergence – which included the negotiations of the Bali Action Plan - was the announcement in November 2009 of a strategic partnership between Brazil and France in order to achieve a substantial agreement at COP15 in Copenhagen. President Lula, along with President Sarkozy, even came to criticize the conservative standings of the USA and China.

The second period of EU/Brazil relations starts end 2009 and shows diverging positions. Just a couple of weeks after the Lula-Sarkozy announcement, and few weeks before COP15, Brazil returned to a more conservative position. In a G77 summit in Beijing the country agreed with its G77 partners to a very inflexible position regarding mitigation efforts by developing countries,

international MRV (measurement, reporting and verification), emission and carbon taxes. This was a clear contradiction to the spirit of the agreement with France. In the same period EU countries started regarding Brazil as a middle-income country and emerging global power that should adopt similar commitments as other major economies. In Copenhagen those differences became very evident when Brazil, along with the partners of BASIC and the USA, negotiated the Copenhagen Accord with no participation of the EU. Involved experts in the Netherlands regard the Brazilian position as obstructive for progress (as well as the positions taken by China and USA). In the EU and the Netherlands frustration about the failed COP ran high and people became very sceptic and cynical about the UNFCCC. In COPs 16 and 17, Brazil maintained the same basic alliance to G77 and the opposition to the main European proposals regarding mitigation efforts for developing countries. There was, however, some minimal room for convergence in Durban since Brazil confronted the most conservative forces within the G77 (including China), which were proposing the renegotiation of some agreements reached in Cancun.

This recent European - Brazilian history is a bit different from the official statements by top Brazilian (and European) climate negotiators. According to those sources, the cooperative environment between the two actors peaked in Bali in 2007, however, once the two-track negotiation procedures were set in place, some difficulties appeared in the negotiations. Those difficulties were said to stem from the EU inclination not to confront the USA and the Umbrella Group[27] (by letting the more complicated topics of the agenda of AWG-KP[28] migrate to the AWG-LCA[29]). The differences were very clear in COP15 in 2009, when the EU was isolated from the powers that broke the final accord and was also evident in Cancun and Durban, where Brazil perceived that the EU position was again isolated and no European proposals entered the Durban Platform. In this regard, the impression of senior Brazilian negotiators is that EU has developed a very rigid negotiation position in the last 3 COPs and that has isolated it from the rest of the main actors. From the EU perspective, the EU has shown its unilateral commitment to Climate Change and the UNFCCC is the only international framework for negotiations. The challenge of curbing GHG-emissions demands a binding agreement. The unwillingness to such a binding agreement by countries like Brazil, USA and China are considered unacceptable for a new round of EU financial commitments. That inflexible position is, according to the same Brazilian sources, due to the difficulties of dealing with differences within the EU-block. Along with this perceived growing inflexibility, another source of Brazilian disappointment regarding the EU has been the failure to comply with the Kyoto Protocol by some European members. This has fuelled the position of some Brazilian conservative groups in criticizing the EU, and vice versa, EU environmental groups criticizing Brazil, China and USA. In terms of member relevance, Brazilian negotiators tend to see Germany, the UK and France as the most relevant actors in the climate negotiations. The Netherlands is seen as a having a secondary role in the formation of the European position. A Brazilian negotiator (undisclosed personal view) perceived the Dutch negotiation standing as patronizing. In response, the Netherlands consider their negotiation standing as a constructive part of the negotiation process and regret this has been perceived otherwise by this person.

Another source of conflict between Brazil and the EU in recent times has been the unilateral European decision to cap $CO_2$ emissions from all flights arriving at and departing from EU airports. The aviation emissions are now included into the European Trading Scheme. The system applies to EU and non-EU airlines alike. Aviation is a major emitter and has high impact due to emissions in the higher atmosphere. The EU has been trying to reach such an agreement on $CO_2$ by

[27] The Umbrella Group is a loose coalition of non-EU developed countries, which formed following the adoption of the Kyoto Protocol. Although there is no formal list, the Group is usually made up of Australia, Canada, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the USA.

[28] In 2005, the COP established the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP). The aim of the AWG-KP is to discuss future commitments for industrialized countries under the Kyoto Protocol.

[29] The Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) is a subsidiary body under the Convention established by the Bali Action Plan to "conduct a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome to be presented to the Conference of the Parties (COP) for adoption"

aviation for 15 years through the International Civil Aviation Organisation (ICAO). Along with other affected countries – including the USA, China, India and Japan - the Brazilian government contested the initiative and signed the Moscow Declaration – in February 2012 - which includes the possibility of retaliation measures. The official narrative of Brazilian authorities is that the EU decision is illegal and unilateral; however it is also true that the government has been always against any measure that could tax Brazilian carbon emissions. In November 2012, the EU decided to defer the application of the scheme until the ICAO General Assembly in 2013 where it hopes to reach a global solution.

*Analyses*
Although there were some relevant changes in Brazilian negotiation position at UNFCCC COPs between 2004 and 2011 the main elements of the Brazilian approach to negotiations has not changed in the period: the alliance with G77 and the defence of the principle of common but differentiated responsibilities and national capabilities, expressed in non-quantified emission targets for developing countries. In this sense, the loyalty of Brazil (defined again mainly by the Ministry of Foreign Affairs) lies with the G77 and the BASIC countries (Brazil, South Africa, India and China). Brazilian negotiators see the G77 as their main instrument to achieve their goals. Brazil's UNFCCC position remained mostly unaltered even when the country saw some important changes related in its climate position: such as the drastic reduction of deforestation annual rates since 2005. A positive development is the voluntary commitment Brazil of 2009 and the climate law of early 2010. In this way, Brazil accepted to reduce GHG emissions, but it does not accept that this kind of commitment becomes mandatory for developing countries. In general, Brazil's positioning seems mostly based on its national situation, politics and interests and not influenced by international developments and global concerns.

The main channels for indirect influence by the EU and the Netherlands have been through the actions of European NGOs and bilateral support to government mainly since the 1990s. This helped to build an active and influential Brazilian civil society. For example, the EU including the Netherlands (till 2006) supported the PPG7 with 80% of funding, which helped to build capacity of the government (including on monitoring and enforcement). Some policy makers and politicians see EU policies as a reference point.[30]

Although, deforestation control is explained by domestic actions, there is an interaction with the UNFCCC. The growing attention to climate change and LULUCF within Brazil is positively correlated to the UNFCCC and international discussions. The EU is one of the countries that put LULUCF and deforestation control on the international agenda. The direct influence of EU (and Dutch) policies on Brazilian forest and climate related policies and international diplomatic positions are low. It is important to highlight, though, that there is an area of convergence between Brazil and the EU regarding the importance of REDD as a global mechanism for emission reduction, and regarding the relevance of forests in terms of environmental service. However, this proximity has not been developing into a more solid alliance, in part due to Brazilian focus on their G77/BASIC alliance, and the difficulty in defining a framework for REDD at the international level.

Despite of all the differences, it is important to note that within the BASIC group the Brazilian views and position – along with South Africa - are closer to the EU than other to India and China, which are more conservative. Brazil generally operates in COPs negotiations as a bridge between the G77/BASIC and other groups. However, its central alliance is G77.

### *6.1.2 Colombia*
Colombia signed the Kyoto Protocol in June 1993 and ratified it in 1994. Since then, the Government of Colombia has supported the development and implementation of the Protocol, through internal policies and regulations. At COPs, Colombia historically supports market

[30] Indirect influence through 'leading by example': EU policies and positions were regarded by some Brazilian Ministers and policy makers as a reference point. Sometimes European diplomats had meetings where unofficially converging views were recognized by both sides.

mechanisms to implement actions. The Government of Colombia has supported the development and implementation of the Protocol by defining internal policies and regulations. Foreign donors often support these national actions as Colombia qualifies for UNFCCC mechanisms and development cooperation. At the COPs Colombia aligns itself with the G77 even though the country is richer than most countries in the G77. During the last decade, Colombia's efforts have been oriented to strengthening the political decisions taken since the 70's about its national commitment and highlighting the vulnerability of the country to the impacts of climate change.

Colombia is very much concerned that developed countries are only supporting Small Island Developing States and Least Developed Countries for adaptation, and not other countries, which are highly vulnerable. At the UNFCCC, Colombia has been consistently looking for the creation of a group of "Highly Vulnerable Countries" with the objective of assuring direct access to climate change adaptation funds (finance, technology and capacities). So far, it has not achieved this. The establishment of the Adaptation Fund (2007, Bali) has been one of the main concerns of the Colombia's diplomatic position during the last years. Colombia has been one of the lead countries of the adaptation decisions included in the Copenhagen Accord and the Cancun Agreement and now its position is being oriented to give emphasis to adaptation financing in a fast way. Colombia advocates for having a flexible and inclusive REDD mechanism; covering actions related to natural forest conservation, avoid deforestation and afforestation. However, Colombia had emphasized that REDD should not include current national deforestation as a base line, formally because "it depends on subnational circumstances and unpredictable factors such as illicit crops and public order" (i.e. Colombia's own context). This position has been strongly defended by the government, although with much criticism from civil society, and somehow it recognises that guerrillas and other groups control some areas of the country. In general, the Colombian position has been moderate, constructive and looking for the facilitation to achieve a legally binding agreement.

After 2004, Colombia considered that developing countries also have a responsibility of playing a role in the reduction of GHG, and was very concerned about difficulties in getting consensus between countries belonging to G77 and China. In 2009, Colombia pro-actively started the Cartagena Group with Peru, Chile, Costa Rica and Panama. Later, other countries such as Australia, Switzerland, Germany, the Netherlands, joined this group. The Netherlands played a very relevant role supporting this group and financed the preparation of documents and positions for UNFCCC negotiations. Although some of Cartagena Group countries supported the Copenhagen Accord and later the Cancun Agreement, Colombia as well as other members of the Cartagena Group support the extension of the Kyoto Protocol with mandatory commitments. It seems the support to and participation in the Cartagena Group by the Netherlands helped to create mutual understanding and common views on UNFCCC developments.

In preparation of the Rio+20 meeting in 2012, the government of Colombia started an initiative in 2011 aimed to define Sustainable Development Goals (SDG). This initiative is supported by Guatemala, Peru, Mexico, Brazil, the Netherlands, Switzerland, Norway, United Kingdom and China and by multilaterals (Mercosur, Forum of Ministers of Environment, etc.). The Dutch government has supported this process, and since the beginning offered their diplomatic and financial support to make the required consultations, before the Rio meeting. These SDG are conceived to be included in the post 2015 framework development agenda. The Rio+20 negotiating document "The future we want" includes a reference to the SDG so the initiative can be considered a success.

## 6.2 Regional co-operation

There are various regional co-operation fora like Mercosur and CAN but ACTO is the only relevant co-operation on forests and environment. Together with Germany, the Netherlands provides significant support to ACTO. The co-operation program funds relevant pilot activities and research. Actual implementation is the responsibility of the member states and varies strongly per country. The domestic developments in Brazil and Colombia show a positive trend but this seems more related to domestic actions than the role of ACTO. That said, ACTO does contribute to

sustainable forest management and reducing deforestation in a very relevant manner: its role in facilitating the exchange of enforcement and monitoring expertise from Brazil to other countries.

Also, in June 2012, at the WSSD, the government of Brazil and ACTO reached an agreement to share Brazil's Amazon Fund (US$102.6 million) with other member states (Bolivia, Colombia, Ecuador, Guyana, Peru, Surinam and Venezuela). The Fund has so far received US$94.4 million from Norway, US$3.9 million from Germany and US$4.3 from the Brazilian oil and gas company Petrobras. The effect of this new agreement cannot yet be assessed but the development is very relevant.

ACTO was also directly involved in UNFCCC related matters. In preparation of the 2009 COP in Copenhagen the member states used the ACTO platform to organise a meeting on climate change. At that meeting they confirmed the role of ACTO and the need to support sustainable development in the Amazon. As a result ACTO participated in the COP9. Although this marks the recognition of ACTO as regional platform, the result of this involvement cannot be assessed, as COP9 was not a huge success (see earlier chapter on the Copenhagen Accord).

Recently, in March 2012, a high-level meeting of the environment ministers of the ACTO member countries came together and agreed to also work more closely together on climate change ('Lima Declaration). They also stated to "consider" the adoption of the Rio+20 sustainable development goals "of utility" if they are universally applied but nationally implemented. This can be considered a small success for Colombian diplomacy as they started the SDG initiative (see 4.2).

## 6.3 National policy implementation and interaction

### *6.3.1 Brazil 2004-2011*

Brazil's domestic agenda is led by its national priorities although its climate agenda is directly influenced by the (voluntary) commitments it made at UNFCCC. In the last five years, Brazil made significant progress with its climate agenda. This transition had three main pillars: a) drastic reduction in deforestation rates between 2005 and 2012; b) a voluntary commitment to reduce emissions in November 2009 and; c) the approval of the Climate Law (#12,187) at the beginning of 2010. Also the Climate Change National Fund (CCNF- law #12,114) was established to assure the necessary financial support for mitigation and adaptation projects.

In 2005 Brazil ranked fourth on the global ranking of GHG emissions (WRI). This was mainly the result of deforestation (LULUCF) and fires (for logging and agricultural expansion). The main causes for deforestation were agricultural expansion and illegal timber extraction. After 2005 however, Brazil broke the deforestation trend in the Amazon: from an annual average of almost 21,000 km² in 2000-20004 to a record low (measured since 1988) of 4,656 km² in 2012. Deforestation in the Cerrado is also decreasing the last decade but now higher than in the Amazon (app. 7,500km²). After 2008, Brazil received direct international funding to reduce deforestation from Norway and Germany. These funds are however irrelevant in current Brazilian deforestation trend. The dramatic reduction in annual deforestation rates in Brazil already began in 2005 and is explained completely by domestic actions and especially relates to enforcement of illegal deforestation.

Deforestation is one general aspect of a more sustainable production and trade of agricultural products and timber. As such, the reduced deforestation has contributed to a more sustainable production and trade. In 2011, deforestation accounted for proximately 35% (down from 61%) of Brazilian emissions, energy 32% (was 15%), agriculture 25% (was 19%), industry 5% (was 3%) and waste 3% (was 2%). As a result of the reduction in deforestation other sectors of the modern economy become more important in emission control. Effective emission control of agriculture, transport and energy has yet to take shape. In this respect the private sector will grow in importance through transfer of technology and Corporate Social Responsibility actions, for

example by multinational companies like Unilever, Philips or Shell.

The Climate Change Adaptation Fund is operational since 2011, when around US$ 130 million was approved. At the moment, no significant funds have been applied yet. Since 2009, Brazil seems lees committed to climate change, although Brazil has already a clean energy matrix, has reduced deforestation and is considering energy efficiency measures in its modern economic sectors.

In climate change mitigation and adaptation, domestic politics and concerns dominate the agenda. Overall, the direct influence of EU (and Dutch) policies on Brazilian forest and climate related policies and international diplomatic positions have been low between 2004-2011. Before 2006, the Netherlands supported the PPG7 programme (80% of funding came from EU members). This programme helped to build knowledge, capacity and influence of the federal Ministries of Environment and the Ministry of Science and Technology. The strong Brazilian civil society as well as more influence by the mentioned Ministries led to better deforestation monitoring and enforcement. The main channels for influencing development have thus been indirect and mainly relates to building an influential Brazilian civil society since the 1990s. Also, the Ministry of Environment use the EU climate policies and positions as a reference point.

The embassy in Brazil had the objective to stimulate the participation of Brazil in the successor of the Kyoto-Protocol and acceptance of goals to reduce the CO2 emission of Brazil (par. 3.4). In reality, the diplomatic efforts were limited to informal meetings with the main negotiators of Brazil (within EU-context and separate). The issue was not a priority. In the end however, Brazil did develop its Climate Law with binding targets and also presented in 2010 a voluntary emission reduction to the UNFCCC under the Copenhagen Accord. The objective of the Netherlands was achieved but they had nothing to do with it.

Both the Netherlands as well as Brazil were very interested to increase sustainable biofuel production and trade and signed a bilateral MoU on Biofuels to co-operate further. The MoU is co-ordinated from The Hague by the Ministry for Economic Affairs. The formal objective of the MoU is “to promote a mutually beneficial partnership between the signatories in the field of bioenergy, including biofuels’ and identified areas of co-operation (no goals). Sustainability was not specified and no specific targets were set. The Brazilians regard the MoU Biofuels as an important framework for bilateral discussions between high-level government staff. At political level, the Dutch seem to have underestimated this importance of the MoU to Brazil. For example, they did not send a Minister to the high-level International Conference on Biofuels organised by Brazil six months after signing the MoU, which would have emphasized its importance. On the other hand organisations and parliamentarians in the Netherlands sometimes over-estimate the importance of the MoU and the influence the Netherlands has in Brazil. With regard to ethanol production, the domestic situation is far more important and with regard to trade the USA is more important. The MoU led to four workshops (both in Brazil as well as in the Netherlands) to exchange information and discuss developments in general. It led to an enhanced understanding on both sides but not to concrete activities, results or changes. The MoU and discussions have not yet led to more ethanol trade. During this period also an intense debate developed in Europe about ‘Food versus Fuel’ and ‘indirect destruction of the Amazon’. In 2009, the Prime Minister Balkenende, in light of these concerns, did not want to promise to increase ethanol import from Brazil.

### *6.3.2 Colombia 2004-2011*

The Colombian government has developed three policies related to climate change: (1) Low Carbon Development Strategy, (2) ENREDD implementation (already described) and (3) National adaptation plans. The country's high vulnerability to climate change impacts makes adaptation necessary to play a prominent role in the climate change policy of the country. For this, local joint integrated actions for mitigation and adaptation are being promoted for agriculture that are not only sustainable, but also generate income for local communities. Therefore, the government is currently working on mainstreaming climate change issues into both sectorial and territorial policies. Regional climate change networks are being developed in order to downscale climate

change to the subnational and local level, and mainstream climate change in land use planning and regional development.

There are no national figures available for GHG-emissions between 2004-2011. Therefore the effect of policy measures and initiatives between 2004-2011 on either the emission per sector or overall emissions cannot be assessed. However, there are no relevant changes in GHG-emission figures per sector between the first (2001, figures of 1994) and second National Communication (2010, figures of 2004). Only in very general terms one can say that emissions may have stabilised, deforestation seems to decrease, and the energy sector is relatively clean due to the fact that the energy grid is mainly based on hydropower and the remaining is co-generation (coal and biomass). But the economy is growing fast with its associated increase in GHG-emissions as long as economic growth is not decoupled from GHG-emissions (i.e. low carbon growth).

Agriculture and forestry (incl. LULUCF) are the sectors that produce most $CO_2$ emissions. The Netherlands has supported various projects related to sustainable forest management and environment. The country has strengthened its technical and professional capacity to ensure appropriate measurement of emissions by land use changes and deforestation, based on international standards. The capacity for implementation of REDD projects is being evaluated in pilot areas. The main lessons are that the consultation of local communities and clear benefit sharing needs to improve. The national strategy and specific goals are being developed based upon these local experiences. The forest conservation policies, especially in the Colombian Amazon not only have important effects on the conservation of biodiversity, water supply (to the middle and lower basins of the Amazon), but also on the maintenance of indigenous territories and reduction of emissions from deforestation. For Amazon, the government is setting specific deforestation goals for 2020. The models derived from Payment for Environmental Services (incl. REDD+) are innovative schemes aimed at ensuring the conservation and recovery of forest areas as well as improving the living conditions of the communities living in these territories.

Although Colombia has formulated a biofuel policy (which includes sugarcane, palm oil, soy bean as feed stocks) there seems no follow-up of this policy.

In general, Colombia has been very proactive in the development of policies arising from decisions of the UNFCCC. Colombia developed several climate-related policies, which created an appropriate legal framework, and were early adapters of the CDM instrument to finance projects. Colombia also pioneered in the formulation and implementation of pilot projects for adaptation to climate change. In 2006 Colombia formulated the first GEF project under the SAP (Special Fund for Adaptation), which was implemented from 2007 to 2011. This pilot project has had wide implications on public policy, and has been the basis for the formulation of National Adaptation Plan. As a result of the Copenhagen Accord, Colombia is currently preparing its National Appropriate Mitigation Action plan (NAMA). Given the economic growth of Colombia, an interesting new process is the development of the National Low Carbon Development Strategy (LDCS), which should start in 2013. Important economic sectors are supposed to develop sectorial climate adaptation plans and low carbon actions for their sector.

The EU and the Netherlands supported the development of a national framework related to climate change in Colombia, albeit with a neutral political position. The supported projects (par. 4.3) by the Netherlands cover different areas related with climate change: institutional strengthening to the Ministry of Environment (through sector support), support to international climate change negotiations, climate change adaptation and disaster risk reduction, watershed management and REDD. These projects contributed with the development of Climate Change concepts and other related policies that are currently implemented in the country. The provided support was politically neutral and as such did not influence the direction or principles of Colombia's climate change policies.

## 6.4 The CDM financial instrument

Until 2012, The Netherlands reserved approximately €458 million[31] (in 2007) for purchasing credits from CDM and app. €290 million was spent until 2011. The Netherlands was actively involved in CDM development by supporting CDM projects in an early stage and active involvement in the UNFCCC CDM Executive Board (co-chair and chair). The Netherlands has signed MoU's on CDM projects with several countries in the LAC region. In total, the Netherlands has supported until now 509 CDM projects worldwide, including 55 in the LAC region, of which the top countries are Brazil (22), Colombia (7), Argentina (5), Costa Rica (5), Peru (5), Nicaragua (4), Honduras (4) and Ecuador (4). Brazil was the first country to profit from CDM-investments. In the early years of CDM projects, i.e. 2004 to 2006, a high proportion of Dutch funded CDM projects were located in the LAC region, whereas in later years the focus has shifted to China and India, with just a few projects in the LAC region, especially in Brazil.

CDM projects are supposed to contribute to a dual purpose: (1) GHG emission reduction and (2) sustainable development incl. technology transfer.

In relation to CDM there are always questions regarding 'additionality' (whether the project would have been realised if not for the CDM support) and how much reduction is realised vis-à-vis the baseline. We could not do an in-depth CDM assessment and based ourselves on the formal reporting. According to the CDM project evaluations, GHG reductions are reached by most CDM projects and most projects remain operational and thus less GHG are emitted. In Brazil, the Netherlands financed or co-financed 22 projects representing of in total 10.4 million tonnes CER credits (13% of the total). In Colombia, a total of 154 projects were developed in Colombia of which 66 have national approval, 29 are registered at the UNFCCC and 10 have CERs issued (i.e. 6.5% of the total). According to Colombian experts the national approval process is slow and cumbersome. The Netherlands contributed to 7 projects. None of the supported CDM-projects relate to sustainable trade or cleaner transport of commodities. Various projects are related to waste management (only responsible for a small percentage of national emissions). The energy sector projects that support the development of a cleaner electricity production may contribute indirectly to a more sustainable production.

The support to sustainable development cannot be assessed. Firstly, because the projects were never selected based upon an analysed and assessed contribution to non-climate sustainable development (although arguably wind power projects directly contribute to local sustainable development by providing investment and clean energy). Secondly, the projects interpreted sustainable development mostly as an implicit consequence of GHG emission reduction, the used technology, and to some extent, also as creating employment. In general, no reference is made to any sustainable or broader development outcomes in monitoring reports. New technology was also used on a project basis and did not lead to a wider adoption in the sector. Thus, it seems that non-climate development issues are a rather neglected side-effect of CDM projects. Lastly, it is unclear to what extent the project helped to generate corporate social responsibility in the companies.

The Dutch Ministry of Foreign Affairs also reviewed in 2008 (MoFA, 2008) the supported CDM project and their contribution to sustainable development and poverty reduction. The authors also concluded the contribution was limited and they provided some recommendations. These have not been used in Brazil or Colombia.

Our observations are also in line with those from the recent report "*Benefits of the Clean Development Mechanisms 2011"* by the UNFCCC. It states that most CDM projects claim several sustainable development benefits such as employment creation, the reduction of noise and pollution, and the protection of the natural resources. Certain claims on environmental and social benefits appear to be made true, such as efficient utilisation of natural resources, the reduction in noise, odours, dust or pollutants, the improvement and/or protection of natural resources, clean and available utilities, the promotion of renewable energy, health and safety) are almost always

[31] This amount has fluctuated considerably between 2002 and 2011.

solely attributed by the participants to the CDM project and would not have occurred in its absence. This indicates that the CDM may indeed contribute to assisting developing countries in sustainable development. However, the evidence is weak and monitoring of these benefits hardly takes place. Overall, the main contribution is that CDM-financing makes technology transfer, innovation and piloting possible and viable.

The vast majority of developing countries involved in the CDM currently remain at the stage at which substantial levels of technology transfer still need to be, and are being, received. Brazil and Colombia can no longer be qualified as developing countries. For them, CDM financing makes certain modern technology affordable. For example, the introduction of the Bus Rapid Transit system in Bogota. CDM also helps early adapters of existing technology, like bagasse co-generation, a technology already widely known in Brazil. Today, bagasse co-generation is widely used but proof of a correlation between CDM bagasse projects and later widely adoption is absent.

Overall, CDM projects supported by the Netherlands helped to reduce GHG-emissions and facilitated the introduction or adoption of modern technology. There is no proof that the projects supported a wider sustainable development or facilitated a fast introduction and wider adoption of modern technology. This remained on a project basis.

# 7 Conclusions

## 7.1 Enabling politics and policies

In international diplomacy at the UNFCCC the EU negotiates on behalf of its member states. Because the focus of this report is on the final outcomes in Brazil and Colombia, the diplomatic efforts of the European Union are described rather than internal EU negotiations and whether or not the Dutch diplomats reached their diplomatic objectives.

*(1) Were Dutch climate policy objectives reflected in EU climate diplomacy and how did this affect the positions and decisions by Brazil and Colombia in international climate negotiations?*

- The EU main policy objective reflects also the Dutch position, i.e. (a) to get a post-Kyoto international binding agreement to curb global GHG emissions in order to (b) keep global temperature below 2°C increase. The economic strength (and their ranking on GHG emissions) of Brazil, China and India influences how the EU views them at the climate change convention. They are no longer viewed as developing countries and thus should under a new agreement also commit to emission reductions (as well as the United States of America). The EU did not succeed in getting a new binding agreement. The pledged reductions in relation to the Copenhagen Accord will not be sufficient to keep global temperature increase around the goal of 2°C (compared to pre-industrial levels).

- Traditionally, Brazil and Colombia align themselves with the G77 and they continue to do so even though their own economic profile has changed. They still defend the principle of common but differentiated responsibilities and national capabilities, expressed in non-quantified emission targets for developing countries. But this position is slowly changing. Brazil did pledge voluntary emission targets in 2009/2010 (which it had refused before) based upon its national Climate Law. Colombia now considers that developing countries also have a responsibility of playing a role in the reduction of GHG, and was very concerned about difficulties in getting consensus between countries belonging to G77 and China.

- In general, negotiations at the UNFCCC have hardened. The EU and the Netherlands have become more cynical about results that can be achieved and whether countries will reduce their emissions. Brazilian negotiators think the EU has developed a very rigid negotiation position in the last 3 COPs and that has isolated it from the rest of the main actors (this seems not to be true for the last COP in 2012 where the EU's position was supported). From the EU perspective, the unwillingness to such a binding agreement by countries like Brazil, USA and China is considered unacceptable for a new round of EU financial commitments. That inflexible position is, according to the same Brazilian sources, due to the difficulties of dealing with differences within the EU-block. Brazilian negotiators tend to see Germany, the UK and France as the most relevant actors in the climate negotiations. The Netherlands is seen as a having a secondary role in the formation of the European position.

- The embassy in Brazil had the objective to stimulate the participation of Brazil in the successor of the Kyoto-Protocol and acceptance of goals to reduce the CO2 emission of Brazil (par. 3.4). In reality, the diplomatic efforts were limited to informal meetings with the main negotiators of Brazil (within EU-context and separate). The issue was not a priority. In the end however, Brazil did develop its Climate Law with binding targets and also presented in 2010 a voluntary emission reduction to the UNFCCC under the Copenhagen Accord. The objective of the Netherlands was achieved but they had nothing to do with it. In general, it can be attributed to the UNFCCC and raised climate awareness in Brazil.

- In 2009, Colombia pro-actively started the Cartagena Group with Peru, Chile, Costa Rica and Panama. Later, other countries such as Australia, Switzerland, Germany, the Netherlands, joined this group. Although some of Cartagena Group countries supported the Copenhagen Accord and later the Cancun Agreement, Colombia as well as other members of the Cartagena Group support the extension of the Kyoto Protocol with mandatory commitments. It seems the support to and participation in the Cartagena Group by the Netherlands helped to create mutual understanding and common views on UNFCCC developments. The Netherlands played a very relevant role supporting this group and financed the preparation of documents and positions for UNFCCC negotiations. As such the Dutch embassy reached its objective to "strengthen the partnership between Colombia and the Netherlands on climate change".

*(2) How did this influence national policy developments in Brazil and Colombia?*

- Brazil and Colombia's climate agenda are led by their national priorities although their climate agendas are directly influenced by the (voluntary) commitments they made at UNFCCC. Overall, the UNFCCC did positively stimulate the development of climate change related policies, awareness on climate issues and deforestation control in the Amazon. Also, in both countries the EU climate policies are used as a reference point and the EU can thereby 'lead by example'. Failure by EU members to reduce their emissions will therefore also be used by the more conservative groups in society not to implement measures. The last decades both Brazil as well as Colombia received significant support on environment, forests, water and climate, from EU countries including the Netherlands, which helped to build capacity at ministries and vocal civil society organisations. This indirectly stimulated the attention in the media and general awareness on environment in society.

- Brazil is an active member at the UNFCCC and has also become more pro-active in its domestic climate change agenda since 2004. Brazilian GHG emissions have gone down as a result of the reduced deforestation in the Amazon. The reduction is explained by domestic action and enforcement and the growing influence of the Ministry of Environment. There was no direct interaction between EU (or Dutch) support on Brazilian forest and climate issues between 2006-2011. Before 2006, the Netherlands did support this agenda in a positive and relevant manner. They supported the PPG7 programme (80% of funding came from EU members), which supported forest management and monitoring. The Netherlands still supports ACTO which contributes to sustainable forest management and reducing deforestation in a very relevant manner: it facilitates the exchange of enforcement and monitoring expertise from Brazil to other countries. Also, in June 2012, at the WSSD, the government of Brazil and ACTO reached an agreement to share Brazil's Amazon Fund (US$102.6 million) with other member states (Bolivia, Colombia, Ecuador, Guyana, Peru, Surinam and Venezuela). The Fund has so far received US$94.4 million from Norway, US$3.9 million from Germany and US$4.3 from the Brazilian oil and gas company Petrobras. The effect of this new agreement cannot yet be assessed but the development is very relevant.

- Colombia has been very proactive in the development of policies arising from decisions of the UNFCCC. Colombia developed several climate-related policies, which created an appropriate legal framework, and they were early adapters of the CDM instrument to finance projects. Colombia seems also more pre-occupied with actions to adapt to climate change (agriculture, coastal areas, water reserves and water management) rather than in curbing GHG-emissions. The Netherlands did provide positive and relevant support to the development of a national framework related to climate change in Colombia, albeit with a neutral political position. The Netherlands has financed pilot projects on mitigation and related initiatives that supported the achievement of climate change goals, creating an appropriate institutional environment for implementation at national, subnational and local levels. Through all these processes more social awareness, including civil society, indigenous peoples, private and public sector, has been developed.

- Both countries have already a rather clean electricity matrix based upon hydropower. But in Brazil and Colombia, modern sectors of the economy (transportation, intensive agriculture and industry) will drive GHG emissions, not deforestation. This has important implications for climate policy measures. Colombia is now working on a low carbon growth strategy and its implementation. Low carbon growth has no priority in Brazil (illustrated by the decision eliminate taxation on oil consumption on the same day as Rio+20 ended in June 2012). The implementation of the Climate Law has barely advanced and early 2012, the government responded to the international crisis with a traditional carbon intensive industrial stimulus package, focused on the car manufacturing sector and decided to eliminate taxation on oil consumption on the same day as Rio+20 ended, in June 2012. Low carbon growth means different, more high-technological measures are needed (which could be supported by CDM).

## 7.2 Sustainable production and trade

*(3) What has been the Dutch influence on climate change mitigation in Brazil and Colombia through supported CDM projects and other activities?*

- Both countries were early adapters of the CDM institutional framework. The Netherlands supported interesting projects in both countries at an early stage. The supported CDM projects did achieve their promised GHG-reductions and as long as they remain operational this will continue. This is a positive contribution to domestic developments and it helped the Netherlands to purchase credits.

- However, the overall contribution to sustainable development, poverty reduction and adoption of technology is on a project basis. The projects had no influence on macro developments or wider adoption of mitigation technology. Brazil and Colombia are both developing and their need for modern, energy-efficient technology is growing. Within this context CDM-project could play a strategic role if they would focus on key economic sectors like transport and support /pilot renewable technology. However, because of the slow economic recovery in the EU there is no need for the Netherlands to purchase CDM credits.

- The last decade the influence of the private sector has increased. Dutch companies can and will influence their LAC partners on Corporate Social Responsibility. In the coming years the private sector – through joint ventures or multi-stakeholder partnerships - will likely be more influential than government support (because of lack of investment and different priorities) on transfer of technology and awareness on climate issues. Companies like Unilever are already concerned about how climate change may affect commodities and climate change adaptation by producers will be a major issue.

## 7.3 Coherence

- The last decade EU has been providing more attention to its ecological footprint, resource efficiency and environmental impacts – including GHG-emissions and carbon footprint – occurring outside the EU as a result of commodity trade. The Netherlands is the main portal for many commodities that are imported to Europe. There are no studies on the impacts of climate change on the future economic availability and security of commodities for the Netherlands. The main factors related to GHG-emissions from production and trade are LULUCF (agricultural expansion, deforestation, burning) and transport. Climate change also affects the world's capacity to produce resources (to what extent and where is still uncertain). Bilateral support provided by the Netherlands focused more on the enabling environment (which was positive. See above) rather than on climate issues related to production and trade. The Dutch government does provide funding and support for the Sustainable Trade Initiative including commodities that are important to Brazil and Colombia: biomass, coffee,

fruits & vegetables, palm oil, soy, and tropical timber. Climate change adaptation is not an explicit target but part of the overall endeavour to make commodities sustainable.

- It is in the interest of the EU and Netherlands to also provide attention to the effects of climate change on the production and trade of commodity resources. From the other case studies – ethanol, soy, forests – it can be derived that legislation (in the case of sustainability criteria for biofuels) and multi-stakeholder initiatives can help to promote an increased sustainable production. At the moment, there is not much convergence between international trade, national economic developments and global climate change concerns. This is however well-known to all involved and will not likely change in the near future as long as major economies like USA and China will not commit to binding commitments to curb GHG emissions.

## 7.4 Recommendations

**(1) Climate diplomacy**

- The EU is the most relevant party at negotiations on climate change. Brazilian negotiators think the 'major' European countries – Germany, France and the UK – are most influential on the political positioning of the EU. Without the EU, the Netherlands would have no influence at the UNFCCC. This does not have to be a limitation as the Netherlands can often find like-minded countries and thus push its views. The Netherlands needs the EU to influence global developments.

- If the Netherlands wants a more direct and visible influence in relation to climate diplomacy, it can better co-operate directly with countries (regional or bilateral). The co-operation with Colombia in relation to the Cartagena group is a positive example. Such a co-operation should focus on sharing knowledge and insights, developing new common knowledge and build mutual understanding. The Netherlands could for example consider starting a climate dialogue with the eight member countries of ACTO, Germany (also supports ACTO), and Norway (supports the Brazilian Amazon Fund now also shared with other ACTO countries).

**(2) Bilateral relations**

- Because bilateral development co-operation is no longer present in Brazil and Colombia, the Dutch government can no longer play a part in domestic policy developments. The Netherlands could support strategic policy-relevant projects with CSOs. This is however not feasible in the current development co-operation debate in the Netherlands (less money, focus on Africa).

- But Brazil and Colombia provides opportunities to re-define bilateral co-operation based upon existing trade relations and economic diplomacy. A bilateral MoU can be very effective in Latin American countries as can serve as a reference framework for awareness and action. The Dutch government can contribute positively to the climate agenda by providing more attention to the role of climate adaptation and energy efficiency of production and trade of strategic commodities (including LULUCF). This will benefit local producers and Dutch companies. In Brazil and Colombia there is already an increasing attention for climate adaptation and a strong need for high, energy efficient technology (low carbon growth), which can be linked to existing trade relations. A new form of bilateral co-operation encompassing diplomacy, trade, and sustainability can facilitate new forms of co-operation between companies and CSOs.

- For example, the Sustainable Trade Initiative could support a study for selected trade chains on the long-term implications of climate change of production and commodity security. This could lead to a trade mission specifically focusing on existing trade relations to discuss climate adaptation, low carbon growth and resource security.

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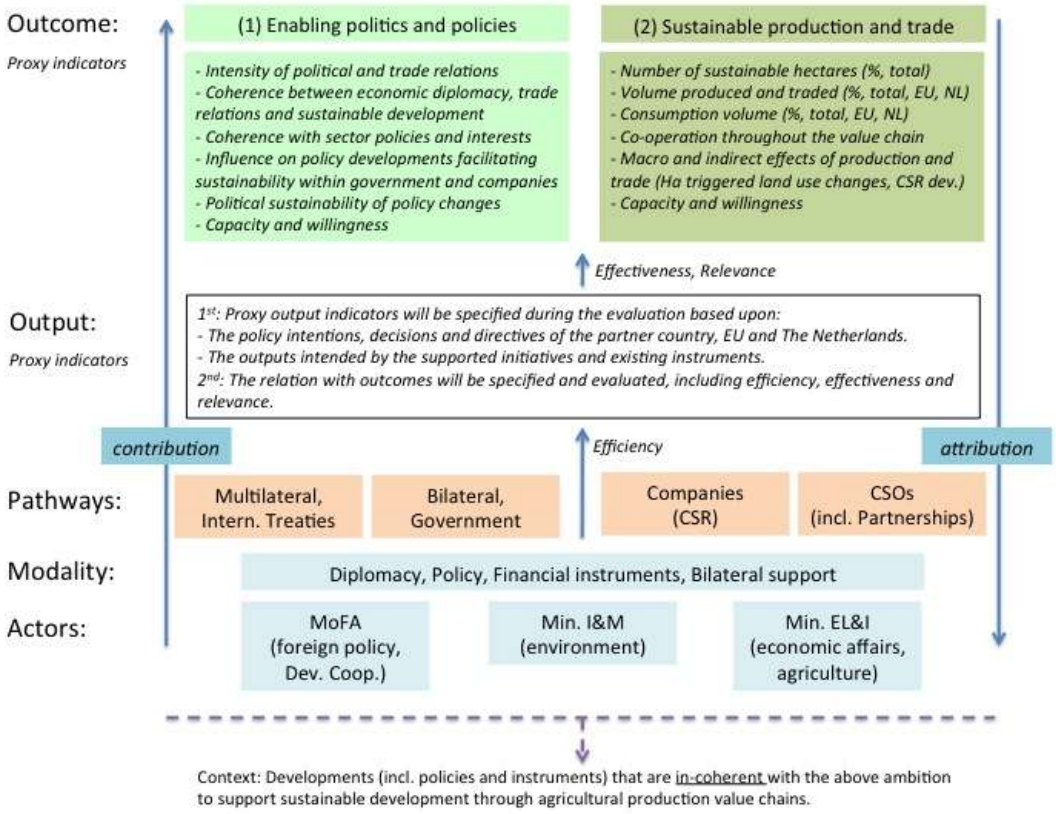
## ANNEX I: Evaluation Framework




**Definitions used**

The definitions to be used are based upon the definitions used by OECD/DAC and are in line with the guidelines of IOB:

Output = The products, capital goods, knowledge and services, which result from a development intervention.

Outcome =A result of the organisation's activities (outputs) that represents a potential contribution to the achievement of changes (e.g. in policies and practices). Usually, outcomes coincide with a counterpart's one, two or three year objectives.

Efficiency = Doelmatigheid = from input to outputs: measure of how economically resources and the way they are applied are converted to direct results (p.17, IOB Evaluation Guidelines)

Effectiveness = Efficacy = Doeltreffendheid = from outputs to outcomes: relates to the extent to which the direct results of the intervention contribute to the sustainable achievement of policy objectives (p.18, IOB Evaluation Guidelines).

## ANNEX II: Impact Ratings for Commodities

| | Climate Change | Bio-diversity | Human Health | Natural Resources |
|---|---|---|---|---|
| ***Agricultural Food Products*** | | | | |
| Bananas | ** | ** | ** | ** |
| Bovine meat | *** | *** | - | ** |
| Cocoa | * | * | - | - / * |
| Coffee | ** | ** | * | ** |
| Crustaceans | *** | *** | * / ** | - / ** |
| Fish, fresh, chilled, frozen | ** | ** / *** | - | *** |
| Maize | ** | * / ** | * | * / ** |
| Milk products | *** | * | - | * / ** |
| Rice | *** | * | ** | ** |
| Soybeans | ** / *** | *** | * | * / ** |
| Sugar | * | * / ** | * | ** |
| Tea | ** | ** | * | ** |
| Wheat and wheat flour | ** | * | * | * / ** |
| ***Non-food agricultural products*** | | | | |
| Bioethanol | ** | ** | * | * |
| Cotton lint | ** | *** | *** | *** |
| Cotton fabrics, woven | ** | *** | *** | *** |
| Leather | * / ** | * | * | ** |
| Natural rubber | * / ** | * / ** | * | * |
| Palm oil | *** | *** | * | * |
| Tobacco | *** | ** / *** | ** | ** |
| Wood, simply worked | * / ** | ** | - / * | * |
| Chemical wood pulp | ** | ** | - / * | ** |
| ***Minerals and metals*** | | | | |
| Aggregates | - | * / ** | ** | * |
| Aluminium | *** | * / ** | ** | ** |
| Bauxite and other aluminium ores | - | * / ** | * | ** |
| Cadmium | - | ** | ** | - |
| Cement | *** | * | ** | ** |
| Copper ores and concentrates | * / ** | * / ** | * | ** |
| Gold | *** | * | * / *** | ** |
| Iron and steel | *** | * / ** | * | * / ** |
| Iron ores and concentrates | - | * / ** | * | ** |
| Mercury | * | ** | ** | * |
| Phosphate rock | * | * / ** | * | * |
| Zinc ore and concentrates | * / ** | * / ** | * | ** |
| ***Fossil fuels*** | | | | |
| Coal | * / ** | ** | *** | *** |
| Crude petroleum | * / ** | ** | *** | ** |
| Gas, natural and manufactured | ** | ** | *** | ** |
| Liquefied propane and butane gas | ** | ** | *** | *** |
| Petroleum oils other than crude | ** | ** | *** | *** |
| Synthetic rubber | *** | ** | *** | *** |

*Source: AEA Energy & Environment (2008) "Environmental Impacts of Significant Resource Trade Flows into the EU".*

## ANNEX III: Climate change related Initiatives supported by the Dutch government.

*Source: Ministry of Foreign Affairs, the Netherlands database.*

*Table III-1: Dutch bilateral climate change related initiatives in Latin America*

| Country | # | Responsible org. | Project | Period | Budget |
|---|---|---|---|---|---|
| Bolivia | 3326 | Serv. Ambientais SA | Monitoring JI San Ramon project | 2002-2006 | 47,000 |
| Bolivia | 3327 | Gem. Arnhem | JI Solid waste | 2002-2004 | 209,000 |
| Bolivia | 3328 | ECN | CNG | 2004 | 16,000 |
| Bolivia | 15439 | FoE Bolivia | REDD base line | 2006-2009 | 196,000 |
| Bolivia | 15696 | DHV ltd | Gas project | 2007-2008 | 72,000 |
| Bolivia | 15837 | Dutch embassy | Energy Cooperation Fund | 2007-2009 | 187,000 |
| Bolivia | 14346 | Energy Delta Inst. | Energy missions | 2006 | 144,000 |
| Bolivia | 21029 | FoE Bolivia | REDD base line 2 | 2009 | 12,000 |
| Bolivia | 22033 | Univ. de la Cordillera | Climate negotiations capacity | 2010-2011 | 70,000 |
| Colombia | 7946 | CIPAW | Capacity for carbon capture | 2002-2007 | 1,401,000 |
| Colombia | 12149 | Promigas Ltd, IOM | PPP natural gas Colombia | 2005-2009 | 1,029,000 |
| Colombia | 14615 | NU Planet Ltd | Introducing prepaid meters | 2006-2009 | 931,000 |
| Colombia | 16681 | IDEA | Financial mechanism electricity | 2007- >2011 | 12,000,000 |
| Colombia | 19528 | Dutch embassy | Small energy projects | 2009-2010 | 36,000 |
| Colombia | 22729 | Patrimonia Natural | REDD+ Colombian Amazon | 2011 - … | 1,091,000 |
| Costa Rica | 3337 | ICECR | Establishing JI Tejona Wind park | 2000-2006 | 198,000 |
| Costa Rica | 3338 | KEMA | Monitoring JI Tejona Wind park | 2003-2005 | 38,000 |
| Costa Rica | 3339 | CEGESTI | Anaerobic reactors coffee waste | 2002-2006 | 8,700 |
| Honduras | 3345 | Eurotrade, MENR | Introducing CFLs lightning | 1999-2006 | |
| Honduras | 3347 | ETC | Monitoring and marketing of CFLs | 2003-2006 | 26,000 |
| Surinam | | Dutch embassy | Capacity development CDM | | |
| Surinam | | | Analysis climate action plan | | |
| Surinam | | | Wind power in Northeast Surinam | | |
| Surinam | | | CO2 emission trading for reforestation | | |

*Table III-2: Climate Change related initiatives supported by the Netherlands in Latin America*

| Country | Scheme | Partners | Project | Crop | Budget |
|---|---|---|---|---|---|
| Brazil | SBF | Solidaridad, Vd Sluijs Group Ltd, WWF, Utz Certified | Real benefit sharing: improving sustainability of cane ethanol through mainstream marketing | Sugar cane | |
| Brazil, Indonesia, Mozambique, South Africa | SBF | WWF, RSB, Univ. Sao Paolo, IESR, WWF Moz., Biogreen, Ecofys, WUR, certification body,WWF Indonesia | CIIB: certification system addressing indirect impacts of biofuels | | |
| Colombia | SBF | CI Tequendama SA, Palma Allianza | Generation and application of biogas from POME | Palm oil | |
| Colombia | SBF | CNPMLTA, Coop. Trapiche La Avencion, Fund Sudamericana, TO&MMA, GMSP | Sustainability for small trapiches (facility to produce sugar) | Sugar cane | |
| Brazil, Indonesia | SBF | NCIV, APIB, AMAN, Oxfam-Novib | Improving the social-economic impact of biomass production for local communities and indigenous people. | Palm oil, soy | |
| Nicaragua, Honduras, Guatemala | SBF | Utz Certified, Fund. Utz Kapeh, Climate Neutral group Ltd. | Energy from coffee waste in Central America | Coffee | |
| Panama | SBF | Agro2, Clyayuca, EcoEnergy | Sustainable ethanol production from cassava. | Cassave | |
| Brazil | DBI | Biopower International Ltd | Combining two biomass flows and optimizing logistics for export purposes | Sugar cane bagasse and cashew | |

*SBF = Sustainable Biomass Fund*
*SBI = Sustainable Biomass Import*

## ANNEX IV: UNFCCC Policy Development Matrix 2004-2011

*Source: Center for Climate and Energy solutions (C2ES) and interviews.*

| **United Nations Framework Convention on Climate Change (UNFCCC)** | | | |
|---|---|---|---|
| **Year, COP** | **General description** | **Specific developments** | **EU Position** |
| 2004 : COP10 Buenos Aires, Argentina | Russia ratified the Kyoto Protocol and it could now enter into force with legally binding targets. COP10 mainly assessed progress and next steps, taking into account USA's refusal of Kyoto in 2001. | The COP agreed on some technical details of the Protocol. Main subject was the process for post-Kyoto Protocol in 2012. The second main subject was adaptation and some modest steps were agreed (Buenos Aires Work Programme). | EU supports next steps post-2012. In general, developing countries (incl. China) of G77 opposed commitments from their side (as well as USA) and are unwilling to discuss post-2012. |
| 2005 : COP11 Montreal, Canada | The negotiations on Kyoto were concluded and parties started talks on next steps (via two parallel processes). A debate on deforestation and climate change was started. | The Kyoto 'rulebook' was finalised and CDM was strengthened. A new process was discussed to start considering new commitments, which was opposed by the USA. Engagement of the USA was considered crucial. There was a greater willingness of developing countries to consider commitments. A coalition of 15 rainforest nations led by Papua New Guinea floated a proposal to allow CDM-type credits for reduced deforestation. | The EU wanted a process to start considering new commitments. Brazil was not against and called for "positive incentives" for forest conservation and other steps to reduce emissions. |
| 2006 : COP12 Nairobi, Kenya | Processes considering next steps were continued incl. review of the Kyoto Protocol. Economic and business issues became more prominent with the presentation of the Stern Review: costs of climate impact are higher than to avert them. Adaptation received more attention and the Nairobi Work Programme was accepted. Also the (lack of) geographic distribution of the CDM received attention (now mostly in Brazil, China, India). | Parties agreed on modest steps on adaptation, debated approaches to reducing deforestation and accelerating technology transfer. USA and developing countries strongly oppose new commitments. Brazil presented a proposal to reduce emissions from deforestation in developing countries. Under Brazil's approach, countries reducing their deforestation rates would not get credits that could be sold on the emissions trading market, but payments from an international | Brazil lobbied for its new proposal on the issue that was described as 'Reduced Emissions for Deforestation and Forest Degradation' (REDD). The World Bank launched the Forest Carbon Partnership Facility in support of REDD. The FCPF is supported financially by the EU and the Netherlands. |

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| | | fund supported by donor country contributions. Brazil argues that its approach would result in greater environmental benefit because the resulting emission reductions would be above and beyond – rather than substituting for – those of developed countries. A specific decision was postponed but the COP decided to conduct further work and establish baselines. | |
| 2007 : COP13 Bali, Indonesia | The COP was tense and chaotic. In the end parties agreed on a loosely framed negotiating process for a new global agreement in 2009. The event was marked by the USA becoming isolated as they rejected all proposals. Developing countries demanded that the USA either lead or get out of the way. The EU and other non-EU developed countries remained silent. In the end, the USA backed down. | The urgency and action needed was clear but no important decisions for next steps were made. Australia had ratified Kyoto leaving the USA as the only country not ratifying Kyoto. A decision on the governance of the Adaptation Fund was reached. Developing countries pushed for more financial assistance while resisting commitments for themselves. However, in the final compromise, developing countries agreed for the first time to consider taking "measurable, reportable and verifiable" mitigation actions. In exchange they would be supported by technology and finance. | The EU called for global emissions to peak in 10 to 15 years and decline "well below half" of 2000 levels by 2050, and for developed country emissions to be 25-40% below 1990 levels by 2020. The EU pushed hard to get the USA on board but did not succeed. |
| 2008 : COP14 Poznan, Poland | Discussions focused on the negotiation process to come to a new binding agreement. China and India objected to a document that implies a new legal instrument. Annex 1 parties are reluctant to renew Kyoto without the USA. But there was agreement to shift to 'full negotiating mode' to reach an agreement in 2009 at Copenhagen. Governance of the Adaptation Fund was made an issue again by developing countries. | A conflict arose between developing countries pushing for additional funding by setting a levy all three Kyoto mechanism (CDM, JI and trading schemes), which is opposed by developed countries if not part of a new binding agreement and considering the full range of options. | The EU called on developed countries to reduce their emissions 30% below 1990 levels by 2020, and developing countries to reduce theirs 15-30% below business as usual. |
| 2009 : COP15, Copenhagen, Denmark | The COP is considered a failure because no binding agreement was reached and the discussions were heated and bitter. A new political accord was struck for explicit pledges for emissions reductions, including from China and other major developing countries. There are no binding commitments. | Key elements of the Copenhagen Accord include: *an aspirational goal of limiting global temperature increase to 2°C*; a process for countries to enter their specific mitigation pledges by January 31, 2010; broad terms for the reporting and verification | The EU position was clear: they wanted a new binding agreement. However, the basic terms of the Copenhagen Accord were brokered directly by President Obama and the leaders of Brazil, China, India and |

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| | After Copenhagen more than 130 countries have associated themselves with the Accord and more than 80 countries have entered specific mitigation pledges. | of countries' actions; a collective commitment by developed countries for $30 billion in "new and additional" resources in 2010-2012 to help developing countries reduce emissions, preserve forests, and adapt to climate change; and a goal of mobilizing $100 billion a year in public and private finance by 2020 to address developing county needs. The Accord also calls for the establishment of a Copenhagen Green Climate Fund, a High Level Panel to examine ways of meeting the 2020 finance goal, a new Technology Mechanism, and a mechanism to channel incentives for reduced deforestation. | South Africa on the final day of the conference. The COP took note of this accord. In January 2010, the EU formalized its support for the Accord and presented its emission reduction targets (20% by 2020 unilateral and 30% provided other countries do their fair share). The EU also stated it wants a legally binding agreement. |
| 2010 : COP16 Cancun, Mexico | Countries agreed to put aside for now issues that have stalled international climate talks for years. Governments approved a set of decisions anchoring national mitigation pledges, and taking initial steps to strengthen finance, transparency, and other elements of the multilateral climate framework (e.g. the Green Climate Fund). | Cancun produced mostly diplomatic, non-binding documents. The pledges of developed countries are listed in a different document as the nationally appropriate mitigation action (NAMA) of developing countries. Background scientific documents show these voluntary commitments are not sufficient to reach the 2°C goal. The Cancun Adaptation Framework was accepted to help countries to implement their adaptation programmes. | |
| 2011 : COP17 Durban, South Africa | Parties decided on a transition phase for the Kyoto Protocol till 2020. In the mean time talks on a new binding agreement will start. | The subject of the COP was post-2012. Parties seem to accept that binding commitments from all countries are needed, especially from big countries like USA, China and India. The Green Climate Fund was formally established. | The EU was adamant that it would only participate in another round of Kyoto if talks on a new binding agreement would start. This was supported by small island states and many other developing countries. |
| *2012* | *The binding commitments of the original Kyoto Protocol expire and the transition phase starts (as agreed in 2011).* | | |

**ANNEX V: CDM supported projects in Brazil by the Netherlands.**

| # | Registered | Project title | Host Party | Other parties | CERs |
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| 1 | Nov 04 | Brazil NovaGerar Landfill Gas to Energy Project | Brazil | NL | 670, 000 |
| 2 | Aug 05 | Salvador da Bahia Landfill Gas Management Project | Brazil | NL, Japan, UK | 665, 000 |
| 3 | Nov 05 | Onyx Landfill Gas Recovery Project – Trémembé, Brazil | Brazil | NL, France | 70, 000 |
| 4 | Dec 05 | N2O Emission Reduction in Paulínia, SP, Brazil | Brazil | NL, Switzerland, Japan, UK and France | 5,961, 000 |
| 5 | Feb 06 | CAMIL Itaqui Biomass Electricity Generation Project | Brazil | NL, Switzerland, Germany | 57, 000 |
| 6 | Feb 06 | Alta Mogiana Bagasse Cogeneration Project (AMBCP) | Brazil | NL, Canada, Finland, France, Sweden, Germany, UK, Japan, Norway | 12, 000 |
| 7 | Feb 06 | Bandeirantes Landfill Gas to Energy Project (BLFGE) | Brazil | NL, Switzerland, Germany | 1,071, 000 |
| 8 | March 06 | Colombo Bagasse Cogeneration Project (CBCP) | Brazil | NL, Switzerland, Sweden | 28, 000 |
| 9 | March 06 | Jalles Machado Bagasse Cogeneration Project (JMBCP) | Brazil | NL | 9, 000 |
| 10 | March 06 | Central Energética do Rio Pardo Cogeneration Project (CERPA) | Brazil | NL, Switzerland, UK | 16, 000 |
| 11 | March 06 | Termoelétrica Santa Adélia Cogeneration Project (TSACP) | Brazil | NL, Switzerland, UK | 22, 000 |
| 12 | April 06 | Lages Methane Avoidance Project | Brazil | NL, Canada, Finland, France, Sweden, Germany, UK, Norway, Switzerland, Japan | 220, 000 |
| 13 | April 06 | Landfill Gas to Energy Project at Lara Landfill, Mauá, Brazil | Brazil | NL, Switzerland | 751, 000 |
| 14 | Sept 06 | Rickli Biomass electricity generation project | Brazil | NL, UK | 122, 000 |
| 15 | Oct. 06 | Passo do Meio, Salto Natal, Pedrinho I, Granada, Ponte and Salto Corgão Small Hydroelectric Power Plants - Brascan Energética S.A. | Brazil | NL | 156, 000 |
| 16 | Nov. 06 | Braço Norte III Small Hydro Plant | Brazil | NL, Switzerland | 40, 000 |
| 17 | Nov. 06 | Braço Norte IV Small Hydro Plant | Brazil | NL, Switzerland | 46, 000 |
| 18 | Aug. 07 | Mitigation of Methane Emissions in the Charcoal Production of Plantar, Brazil | Brazil | NL, Canada, Finland, France, Sweden, Norway, Germany, UK, Japan | 16, 000 |
| 19 | Oct. 08 | Primavera Small Hydroelectric Project | Brazil | NL | 82, 000 |

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| 20 | March 09 | Saldanha Small Hydroelectric Project | Brazil | NL | 28, 000 |
| 21 | July 09 | Conversion of SF6 to the alternative cover gas SO2 at RIMA magnesium production | Brazil | NL | 275, 000 |
| 22 | Jul 10 | Reforestation as Renewable Source of Wood Supplies for Industrial Use in Brazil | Brazil | NL , Luxembourg, France, Ireland, Japan, Spain | 76, 000 |