

Who does what in the field of transport and Climate Change

André Sceia

November 1, 2009

1 Introduction

Climate change is internationally recognized by both the scientific and political communities as an alarming issue. The United Nations' Secretary General, Mr. Ban Ki-moon, referred to it as "the greatest collective challenge we face as a human family". Indeed, it will be a challenge to combat the global financial crises and accomplish of the MDG while preserving the earth's climate, knowing that, to date, our main sources of energy are the fossil fuels responsible for the major share of the anthropogenic greenhouse gas (GHG) emissions. The challenge referred to by Mr. Ban is actually twofold. On the one hand, actions need to be taken in order mitigate the GHG emission and on the other hand, it is essential to adapt to the changes we have started to witness and to those that are unavoidable.

Transport is and will remain at the heart of the climate change debate for various reasons. It not only contributes today to a large share of GHG emission but transport emissions are expected to further increase in the future. The collective awareness of this fact gave rise to a great number of initiatives by organization, governments, companies and individuals.

This paper does not aim at listing and analyzing all initiatives dealing with climate change and transport but rather providing general information about some key organizations dealing with climate change issues and their specific activities in the field of Transport and Climate Change¹. It also aims at providing non exhaustive information on national initiatives on the subject. The information presented in this paper is mainly a compilation of extracts from the websites of those national and international agencies.

¹The work of the UNECE in the field of climate change is not presented in this document.

2 International organizations

2.1 United Nations Framework Convention on Climate Change (UNFCCC)

The Convention on Climate Change sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. The Convention enjoys near universal membership, with 192 countries having ratified.

Under the Convention, governments:

- gather and share information on greenhouse gas emissions, national policies and best practices
- launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries
- cooperate in preparing for adaptation to the impacts of climate change

The Convention entered into force on 21 March 1994 and was complemented by the 1997 Kyoto Protocol, which has 184 Parties. Under this treaty, 37 industrialized countries and the European Community have committed to reducing their emissions by an average of 5 percent by 2012 against 1990 levels. Industrialized countries must first and foremost take domestic action against climate change. But the Protocol also allows them to meet their emission reduction commitments abroad through so-called "market-based mechanisms".

Both the UNFCCC and the Kyoto Protocol are serviced by a secretariat which main functions are to:

- make practical arrangements for sessions of the Convention and Protocol bodies
- monitor implementation of the commitments under the Convention and the Protocol through collection, analysis and review of information and data provided by Parties
- assist Parties in implementing their commitments
- support negotiations, including through the provision of substantive analysis

- maintain registries for the issuance of emission credits and for the assigned amounts of emissions of Parties that are traded under emission trading schemes
- provide support to the compliance regime of the Kyoto Protocol
- coordinate with the secretariats of other relevant international bodies, notably the Global Environment Facility (GEF) and its implementing agencies (UNDP, UNEP and the World Bank), the Intergovernmental Panel on Climate Change (IPCC), and other relevant conventions.

In the framework of the UNFCCC, Contracting Parties report periodically their national GHG inventories following detailed guidelines². In the reports transport emissions (international transport excluded) should be broken down in civil aviation, road transportation, railways, navigation and other. The UNFCCC also provides specific guidelines regarding the separate reporting of emissions from international aviation and maritime transport³.

2.2 Intergovernmental panel on Climate Change (IPCC)

The Intergovernmental Panel of Climate Change is the leading body for the assessment of climate change, established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences.

The IPCC is a scientific body. It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change. It does not conduct any research nor does it monitor climate related data or parameters. Thousands of scientists from all over the world contribute to the work of the IPCC on a voluntary basis. Review is an essential part of the IPCC process, to ensure an objective and complete assessment of current information. Differing viewpoints existing within the scientific community are reflected in the IPCC reports.

The IPCC is currently organized in 3 Working Groups. Working Group I deals with “The Physical Science Basis of Climate Change”, Working Group II with “Climate Change Impacts, Adaptation and Vulnerability” and Working Group III with “Mitigation of Climate Change”. They are assisted by a Technical Support Unit, which is hosted and financially supported by the government of the country who offered to do so.

²<http://unfccc.int/resource/docs/cop5/07.pdf>

³http://unfccc.int/methods_and_science/emissions_from_intl_transport/items/1057.php

The IPCC has also a Task Force on National Greenhouse Gas Inventories. The main objective of the Task Force is to develop and refine a methodology for the calculation and reporting of national GHG emissions and removals. In addition to the Working Groups and Task Force, further Task Groups and Steering Groups may be established for a limited or longer duration to consider a specific topic or question.

The IPCC Working Group 3 dedicated a full chapter of its contribution to the 4th assessment report to the aspects of climate change related to transport⁴.

2.3 United Nations Environmental Program (UNEP)

UNEP mission statement is “To provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.”

Not surprisingly, UNEP is very involved in the climate change debate in both adaptation and mitigation aspects. Examples of UNEP’s work in mitigation are:

- UNEP is building capacity in 25 developing countries which will allow them to participate in the Clean Development Mechanism and global carbon markets.
- UNEP is also working with UNDP and the World Bank to expand coverage of these activities.
- The UNEP-facilitated Global Network on Energy for Sustainable Development engages more than 20 centres of excellence in developing and industrialized countries to provide policy solutions for clean and efficient energy sources for the world’s poor.
- UNEP renewable energy activities include supporting the development of criteria for the sustainable production of biofuels, and ensuring that these contribute to climate, energy and environmental goals.⁵
- The Sustainable Buildings and Construction Initiative is promoting energy efficiency in different building sectors and investigating how market mechanisms can support energy efficiency investments.
- The Sustainable Transport Programme is promoting less polluting transport systems and mobility options.

⁴<http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter5.pdf>

⁵<http://www.unep.fr/shared/publications/pdf/WEBx0149xPA-AssessingBiofuelsSummary.pdf>

- The Rural Energy Enterprise Development (REED) initiative nurtures new, clean energy enterprises in developing countries by providing enterprise development services and early stage seed finance.
- The UNEP World Conservation Monitoring Centre has reviewed the impact on livelihoods of reducing emissions from deforestation

On 24 April 2009, UNEP provided a submission on transport to the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention (AWG-LCA)⁶. It addresses issues from mitigation to adaptation and includes recommendations on technology transfers and financing mechanisms. In the concluding remarks it states that “a post-2012 agreement must therefore include a combination of instruments that, together with local, regional and national applications of transport policies, work for all sectors including transport”.

2.4 United Nations Conference on Trade and Development (UNCTAD)

UNCTAD present its role on climate change as follows.

“Concerns about climate change have placed this threat to development prospects high on the international agenda, particularly in terms of its economic, trade and social impacts. UNCTAD’s main role in addressing this global challenge is to help developing countries master the trade and development implications and take advantage of emerging trade and investment opportunities.”

In this framework UNCTAD undertakes and plans the following activities:

- Economic analysis on trade and climate change interface, for example by assessing trade and development impacts of specific emission reduction proposals;
- Development of training material on the rules of the Clean Development Mechanism (CDM), so that a considerable number of developing nations can attract investment via CDM towards energy development projects;
- Organize international policy fora to discuss the interface and mutually supportiveness of trade and climate change policy at the international, regional and national levels;

⁶<http://unfccc.int/resource/docs/2009/smsn/igo/045.pdf>

- Participation in intergovernmental and technical meetings to showcase UNCTAD's activities related to biofuels production, domestic use and trade, including assessment of NTBs related to trade in biofuels.

Their activities on biofuels are directly related with transport and those on the impact of emissions reduction on trade and development might indirectly concern the transport sector.

2.5 The World Bank (WB)

Working with partner organizations and using a variety of mechanisms, the World Bank Group helps client countries mobilize the financing needed to combat the causes and consequences of climate change. This includes support through innovative mechanisms, such as the Bank-administered Clean Technology Fund, as well as direct World Bank lending⁷.

Among the active projects, 28 respond to the research criteria "transport climate change" and their commitment amounts sum up to approximately 3.5 billion USD.

Furthermore, the Climate Investment Funds (CIF), approved by the Board of Directors of the World Bank on July 1, 2008, are comprised of two trust funds, the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF). The CTF will promote investments in clean technologies and the SCF will serve as an overarching fund that can support targeted programs with dedicated funding to provide financing to pilot new approaches with potential for scaled-up, transformational action aimed at a specific climate change challenge or sectoral response.

The CIFs are managed by the World Bank and implemented jointly with the Regional Development Banks (the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development and the Inter-American Development Bank).

The WB is also one of the implementing agencies of the GEF.

2.6 Global Environment Facility (GEF)

The Global Environment Facility (GEF), established in 1991, helps developing countries fund projects and programs that protect the global environment. GEF grants support projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants.

⁷<http://beta.worldbank.org/climatechange/>

The GEF is fundamentally a partnership for mainstreaming global environmental concerns into national sustainable development agendas. Its governance structure is centered around a Council composed of 32 representatives from member states who meet biannually to review GEF projects, future business plans, work programmes, and policies.

The GEF Assembly, composed of all 176 GEF member states, meets every 3 or 4 years to review and approve general policies, operations, and amendments to the founding GEF Instrument. The Conventions provide guidance to the GEF, and the Science and Technology Advisory Panel (STAP) reviews every project and provides advice regarding GEF policies. The GEF Office of Monitoring and Evaluation (GEFME) reports on results and lessons from GEF programs and projects directly to the GEF Council.

GEF operations are coordinated by a Secretariat in Washington, D.C that is headed by a Chief Executive Officer (CEO). Operations are carried out by a tripartite partnership composed of the UNDP, the WB, and the UNEP, which are referred to as the three Implementing Agencies. Each Implementing Agency brings its own particular comparative advantage to the GEF. As stated in the GEF Instrument, UNDP will play the primary role in ensuring the development and management of capacity building programs and technical assistance projects. In 1999, the GEF Council expanded opportunities for seven organizations to contribute to the implementation of GEF projects. These organizations are known as Executing Agencies under the GEF's expanded opportunities policy, and comprise four regional development banks (AsDB, AfDB, EBRD, IDB) and three UN bodies (FAO, IFAD, UNIDO), some with full access to GEF funding.

GEF projects in climate change help developing countries and economies in transition to contribute to the overall objective of the United Nations Framework Convention on Climate Change (UNFCCC) "to achieve [...] stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner" (from the text of the UNFCCC, Art.2).

As the financial mechanism of the UNFCCC, GEF allocates and disburses about \$250 million dollars per year in projects in energy efficiency, renewable energies, and sustainable transportation. Moreover, it manages two special funds under the UNFCCC: the Least Developed Countries Fund and the Special Climate Change Fund.

The GEF supports projects in:

- Climate Change Mitigation: Reducing or avoiding greenhouse gas emissions in the areas of renewable energy, energy efficiency, and sustainable transport
- Climate Change Adaptation: Aiming at increasing resilience to the adverse impacts of climate change of vulnerable countries, sectors, and communities

2.6.1 Sustainable transportation projects

Throughout the world, the transportation sector is the fastest growing source of greenhouse gas emissions. GEF supports projects that promote a long-term shift towards low emission and sustainable forms of transportation. Eligible activities include the following: public rapid transit, which encompasses bus rapid transit, light rail transit, and trolley electric buses; transport- and traffic-demand management; non-motorized transport, and land-use planning.

2.7 Asian Development Bank (ADB)

The Asia Pacific Region will require billions of dollars to transition to low-carbon growth paths and adapt to the unavoidable impacts of climate change.

To respond to this challenge, ADB's climate change initiatives are creating access and incentives for financing and investment to help make mitigation and adaptation actions more competitive and affordable to developing countries.

On top of being the implementing partner of a GEF and CIF funds, the ADB also manages specific funds related to climate change mitigation and adaptation⁸. Moreover, the ADB addresses climate change mitigation and adaptation in the Asian region through 2 programs. The mitigation program contains element specifically targeted at transport⁹.

2.8 Organisation for economic co-operation and development (OECD)

The OECD dedicates the *Climate Change, Energy and Transport*¹⁰ section of their web site to present news, documents as well as country specific information the the subject.

⁸<http://www.adb.org/Climate-Change/mitigation-funds.asp>

⁹<http://www.adb.org/climate-change/cc-mitigation-transport.asp>

¹⁰http://www.oecd.org/topic/0,3373,en_2649_34359_1_1_1_1_37465,00.html

2.8.1 International Transport Forum (ITF)

Transformed from the European Conference of Ministers of Transport, the International Transport Forum is an inter-governmental organisation within the OECD family. Its members include all OECD countries, as well as many countries in Central and Eastern Europe, and India. In addition, China and Brazil are being invited to participate in the Forum. The involvement of more than 50 Ministers of Transport ensures direct links and strong relevance to policy making at both national and international levels.

Climate change was the theme of the 2008 Forum. Among the results of the forum, the ministerial session came out with the Key Messages addressing the challenges of climate change¹¹.

Among the ongoing research activities undertaken by the IFT, the Greenhouse Gas Reduction Strategies in the Transport Sector Project is of great interest.

2.8.2 International Energy Agency (IEA)

The IEA has been created in 1974 as an autonomous body within the framework of the OECD. In 2002-2004 the IEA collaborated with the World Business Council on Sustainable Development (WBCSD) on the Sustainable Mobility Project (SMP) which resulted in the Mobility 2030 report of the WBCSD published in 2004. A foundation for the analysis in this project was the SMP model, developed at the IEA. After the completion of the project, several of the companies involved (BP, Honda, Nissan, Shell, StatoilHydro and Toyota) continued working with the IEA and in 2004 started the Mobility Modelling (MoMo) effort, allowing the Agency to further develop the SMP model into what is now called the "MoMo model". This has contributed to on-going improvements in the IEA's ability to characterise and project transport sector activity, efficiency and energy use around the world. The project is expected to continue, with on-going efforts to improve data and modeling capability, particularly with respect to developing countries.

The IEA, together with the ITF, UNEP and the FIA foundation also launched the 50by50: Global Fuel Economy Initiative (GFEI) which aims at improving fuel efficiency by:

- 50% by 2050 for the world car fleet;
- 50% by 2030 for new cars worldwide;
- 30% by 2020 for new cars in OECD countries.

¹¹<http://www.internationaltransportforum.org/Topics/pdf/KeyMessages2008.pdf>

2.9 European Commission (EC)

The EC deals extensively with issues related to transport and climate change through strategies as those included in the “Greening transport package” and also coordinates numerous projects under the different research framework programs. Among those, launched in May 2007 under the European Union’s Sixth Framework Programme for research (FP6), iTREN 2030¹² introduced a modelling system to assess the likely future impacts of policies in the related fields of transport, energy and technology .

2.10 European Environment Agency (EEA)

The European Environment Agency (EEA) is an agency of the European Union. Its task is to provide sound, independent information on the environment. They are a major information source for those involved in developing, adopting, implementing and evaluating environmental policy, and also the general public. Currently, the EEA has 32 member countries.

The regulation establishing the EEA was adopted by the European Union in 1990. It came into force in late 1993 immediately after the decision was taken to locate the EEA in Copenhagen. Work started in earnest in 1994. The regulation also established the European environment information and observation network (Eionet).

EEA’s mandate is:

- To help the Community and member countries make informed decisions about improving the environment, integrating environmental considerations into economic policies and moving towards sustainability
- To coordinate the European environment information and observation network (Eionet)

Transport and climate change are two of the themes covered by the EEA¹³.

The transport and environment reporting mechanism (TERM) was set up on request of the EU transport ministers in 1998. The main aim of TERM is to monitor the progress and effectiveness of transport and environment integration strategies on the basis of a core set of indicators. The latest TERM report (published on 31

¹²http://ec.europa.eu/research/fp6/ssp/itren_2030_en.htm

¹³<http://www.eea.europa.eu/themes/transport> & <http://www.eea.europa.eu/themes/climate>

March 2009)¹⁴ examines the performance of the transport sector vis-a-vis potential future targets for greenhouse gas emission reductions and concludes that technology measures are insufficient to meet likely targets. Policy-makers have to address the growth in transport demand.

3 National administrations

3.1 United Kingdom

3.1.1 Department of transportation

A section of their web site¹⁵ provides information on climate change as well as links to sites with information on how people individually can reduce the environmental impacts of their transport choices.

3.1.2 Commissions for integrated transport

The Commissions for integrated transport provided a report as well as some supporting documents¹⁶ regarding the issue of transport and climate change.

3.2 United States of America

3.2.1 Environmental Protection Agency (EPA)

The EPA has a special part of their web site on Transportation and Climate¹⁷, providing information ranging from advice to car users to detailed analysis of the measurement of emission.

3.2.2 Department of Energy (DOE)

The DOE provides extensive information and data related to climate change and transport on their web site¹⁸.

¹⁴<http://www.eea.europa.eu/publications/transport-at-a-crossroads>

¹⁵<http://www.dft.gov.uk/pgr/sustainable/climatechange/climatechangeandtransport>

¹⁶<http://www.cfit.gov.uk/docs/2007/climatechange/index.htm>

¹⁷<http://www.epa.gov/otaq/climate/index.htm>

¹⁸<http://www.eia.doe.gov/environment.html>

3.2.3 Department of Transportation (DOT)

The DOT maintains a Transportation and Climate Change Clearinghouse¹⁹, which aims to serve as a one-stop source of information for the transportation community on transportation and climate change issues. It is intended for use by the transportation community—from all levels of government, to private industry and non-profits, and provides a forum to share information, learn about new research, and understand practices and approaches that are being used to address the linkages between transportation and climate change.

4 Other initiatives

4.1 Roundtable on Sustainable Biofuels

The Roundtable on Sustainable Biofuels is an international initiative bringing together farmers, companies, non-governmental organizations, experts, governments, and inter-governmental agencies concerned with ensuring the sustainability of biofuels production and processing. The Roundtable is hosting a series of meetings, teleconferences, and online discussions with the aim of achieving global, multistakeholder consensus around the principles and criteria of sustainable biofuels production²⁰.

4.2 Eco-driving

Numerous initiatives (national and international) promote eco-driving. The www.ecodrive.org, www.ecodriving-online.eu and www.ecodrivingusa.com present and promote eco-driving in Europe and the United States.

5 Conclusion

In view of the magnitude of the climate change problem, it is not surprising that numerous programs and initiatives have been launched to tackle the problem. As a major contributor to the problem, transport is obviously included in most of the general programs aimed at solving the climate change problem. On top of that, as shown in this paper, there are also numerous initiatives focusing directly at the transport sectors.

¹⁹<http://climate.dot.gov/>

²⁰<http://cgse.epfl.ch/page65660.html>