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NAMAs, MRV and Technology - Ensuring a Role for Land Transport in the Post-2012 Framework

Daniel Bongardt (German Technical Cooperation, GTZ, daniel.bongardt@gtz.de)
Ko Sakamoto (Transport Research Laboratory, ksakamoto@trl.co.uk)

The transport sector is highly dependent on combustible energy. The sector as a whole consumes approximately 20% of global energy demand, of which 80% is derived from fossil fuels (IEA, 2008). Correspondingly, the sector is responsible for approximately 13% of global greenhouse gas (GHG) emissions and 23% of global CO₂ emissions from fuel consumption (IEA, 2008). The global transport energy-related CO₂ emissions are predicted to increase by an average of 1.7% a year from 2004 to 2030 (IEA, 2006b). The road transport sector in particular is predicted to grow at a higher rate of 2.8% a year over the same period due to the increasing demand for mobility in developing countries. Coupled with rapid urbanisation and other economic and societal factors, transport related emissions especially from urban areas are set to rise significantly.

To date, efforts towards holistic, sustainable transport solutions have met various challenges. High level political attention and appropriate financial mechanisms to mobilize global efforts are still lacking. For example, the CDM, a key mechanism under the Kyoto Protocol, has to date only approved 2 projects specific to land transport since COP 10 in 2004, constituting a mere 0.2% of the total carbon credits (CERs) generated. These figures do not correlate with the levels of transport related CO₂ emissions, which accounted for 7 giga tonnes in 2005 (the second highest after the energy sector) and are predicted to rise to 18 giga tonnes by 2050. Most of this growth is related to road transport in developing countries. Therefore, the transport sector must play a crucial role for an effective outcome of any post-2012 agreement.

Thus far, the current negotiation texts from the Chairs of the AWG LCA and AWG KP do not address this at all. Urgent action is needed now - as developing countries make decisions on transport infrastructure with long lasting consequences, they have the opportunity to develop low-carbon transport systems and avoid the lock-in to a system dominated by the private car, which industrialized countries are now facing major difficulties escaping from.

1 Background

To encourage international action to make transport more climate friendly, GTZ, UITP, Veolia Transport and TRL have decided to join forces to encourage the recognition that transport can and should play under the Post-2012 framework. Our work is supported by many other institutions, including UNEP, who has supported the production of a Discussion Paper. We aim to "Bridge the Gap" between transport and climate policy, through expert workshops to formulate key strategies, side events at UNFCCC meetings, supporting submission papers to the UNFCCC, and dissemination of key information on transport and climate change, for example through our website: <http://www.sutp.org/bridgingthegap> Our work focuses primarily on land transport in developing countries, which will also constitute the focus of this article.

This article is partly based on a discussion paper of which a draft was published in the beginning of June by UITP, GTZ, TRL, UNEP and Veolia Transport. The paper was presented at an official side event on co-operative sectoral approaches and sector-specific actions during sessions of the AWG-KP and AWG-LCA, and the SB meetings in Bonn (June 10th). The paper also considers the recommendations of the UNEP submission paper on land transport to the AWG-LCA (<http://unfccc.int/resource/docs/2009/smsn/igo/045.pdf>). Furthermore, this article builds upon a study of the Wuppertal Institute for Climate, Environment and Energy, published in May 2009 (http://www.wupperinst.org/uploads/tx_wibeitrag/WP179.pdf).

The article briefly summarizes the recommendations from both papers and the side event and develops recommendations with respect to mitigation actions, measuring GHG reduction, providing finance and enabling transfer of low-carbon technologies and skills.

2 NAMAs for land transport in developing countries

Much of the discussion on mitigating greenhouse emissions in developing countries is currently focused on, or related to, the concept of Nationally Appropriate Mitigation Actions (NAMAs) which must be Measurable, Reportable and Verifiable (MRV). The AWG-LCA negotiation text (paragraph 70) discusses NAMAs in relation to mitigation, which "should be country-driven, undertaken on a voluntary basis in the context of sustainable development (...)". To ensure that actions in the transport sector are compatible with the concept and requirements of NAMAs, it is important to initiate discussions around the design of transport NAMAs.

When designing transport NAMAs, it may be useful to distinguish between national and local activities: While actions on the national level can better focus on technology support and long distance transport, those on the local level can include targeted, behavior-related measures for both goods and passenger transport mainly by planning and building infrastructure. Taking these issues into account, three areas of advanced action can be identified (see table):

Table 1 Possible Transport NAMAs (Sustainable development policy packages)

	Technology	Infrastructure / Behavior (reduce distances and shift to low carbon modes)
<i>National level</i>	Energy efficiency policy package (e.g. fuel efficiency standards, fuel taxation, vehicle standards)	Long distance reduce and shift policy package (Freight/Passenger) (e.g. national transport network planning, multimodal integration)
<i>Local level</i>	<i>only supportive measures</i>	Support programs for local reduce and shift policies, e.g. urban transport plans; (e.g. including parking policy, road tolls, local public transport provision, infrastructure for non motorized modes)

Even if others will be added or the scope defined differently, such a categorization helps to outline lists of policies and measures that contribute to GHG emission reductions and can be the basis for appropriate policy packages. Policy packages shall be designed to be actor specific and to overcome country specific barriers for implementation. Thus they may vary from one country to the other but include similar elements. E.g. urban transport plans may include parking policies, road tolls, public transport, infrastructure for non-motorized modes, etc. At the international level a systematic approach to provide such information is needed.

3 The MRV Challenge

For each of these policy packages (areas), methodologies to establish a baseline and evaluate its climate impact would have to be elaborated and agreed on. Even if the concrete policies summarized in one package are different from country to country, the methodology to measure the emission reductions would need to be consistent and based on the same principles. This approach would facilitate measuring, reporting and verification of NAMAs to a great extent.

In relation to MRV the largest challenge for the transport sector is the definition of the baseline as well as the gathering of reliable data on GHG emissions. This is particularly true for developing countries, where basic data on transport activity is missing. Assistance could be provided by the international community to develop data collection and monitoring capacity.

Furthermore, key indicators could be developed to monitor progress and overcome methodological barriers responsible (among others) for the currently low numbers of CDM projects. There already are a number of high profile global indicator initiatives that could be built upon or from which lessons could be learnt. Examples include the Global City Indicators Program, which has established a set of city level indicators using a globally standardized methodology (Global Cities Indicators Facility, 2007). Other high profile initiatives include the Commission on Sustainable Development (CSD) national indicators for sustainable development, which again uses a standardized methodology for comparability (UN ESD, 2009), and the ICLEI process (ICLEI, 2008). The ICLEI methodology is a fairly straightforward standardized means of monitoring, measuring and reporting performance. It has been developed as part of its Cities for Climate Protection campaign.

4 Financing Transport NAMAs

Financing, together with technology and capacity building, is listed as a supporter and enabler of enhanced actions on mitigation (paragraph 9 and 15 of the AWG-LCA negotiation text). There are continued discussions on how the required levels of finance are to be raised. There are mainly two main options discussed: (a) Public finance as the major source of funds or (b) private funding with public resources used to leverage private investments and provide incentives for additional efforts by the private sector (Paragraph 167-168 of the AWG-LCA negotiation text)

In any case, it is likely that both public and private investment streams would be needed. A crediting of NAMAs that leads to offsetting of emissions from industrialized countries might be difficult for the transport sector. The methodological difficulties of the CDM to prove additionality might persist, albeit at an upscaled level. From a transport perspective, a post 2012 agreement could instead include different options that might work for the transport sector:

- An upscaled, programmatic CDM that might also include a sectoral crediting below a no-lose target on a city level. Ecofys and the Chinese Energy Research Institute are currently testing the application of such an approach for Beijing.
- A mitigation fund or a 'multilateral climate technology fund.' (paragraph 175 of the AWG-LCA negotiation text) that supports NAMAs.
- A 'Low Carbon Transport Facility'. Such a funding arrangement under the Post-2012 framework would work specifically for the transport sector by addressing the key barriers that are currently experienced in relation to other more generic funding mechanisms (See: <http://unfccc.int/resource/docs/2009/smsn/igo/045.pdf>).

Any of the above would need to be developed with close consideration of other climate related funds made available from the UNFCCC (e.g. the GEF) and multilateral agencies (e.g.

the CIF of the World Bank), and bilateral mechanisms (e.g. the Japan Cool Earth Partnership).

5 Requirements for Technology Transfer

The Bali Action Plan emphasised the importance of technology transfer and capacity-building for realising effective implementation of the Convention. This has also been reflected in the AWG- LCA negotiation text. Technology transfer is a broad concept that can be used to refer to a wide range of technologies but which also embraces knowledge transfer in relation to the transport sector in its widest sense. Technology transfer can therefore take many forms, including techniques, research, and skills. Although financing is a key enabler of technology transfer, supporting sustainable transport technologies does not necessarily involve large investments. There is also a need for intelligent economic and regulative incentives to promote the most effective and appropriate technologies to be transferred and further developed. In this sense, parties should agree on a close co-operation and exchange of experience of North and South on how to strengthen sustainable mobility patterns, especially for infrastructure/behaviour-centred strategies.

Including the principles of sustainable transport systems into land-use planning and infrastructure requires careful planning and advanced knowledge. Because infrastructure determines to a large extent the future behaviour of people to travel and move goods, it is crucial to act soon and to quickly adopt the principles of sustainable development and low-carbon infrastructure into planning processes. Such low-carbon infrastructure means that people are encouraged to adopt, and benefit from mobility routines with low CO₂ emissions. Even if vehicle energy-efficiency technologies such as hybrid cars and low-carbon fuels play an important role, the specific situation of developing countries with growing cities and still low rates of individual car traffic leads to two important issues with respect to technology transfer in the transport sector:

1. Assess transportation efficiency and include network and system improvements with affordable technologies, e.g. passenger information, road & urban tolling, electronic ticketing and mass transit priority, rather than placing a narrow focus on private vehicles.
2. Provide capacity building in all modes of sustainable transport, including education, strengthening institutions for policy implementation and expert networks on the local, national or regional level. Sustainable development in the transport sector requires intelligently combining measures and designing efficient, integrated systems. This requires significant investment in planning, assessment and appraisal skills.

6 Conclusion

Starting implementation of low-carbon transport in developing countries requires careful preparation by transport stakeholders. It is necessary to develop NAMA packages or model NAMAs and demonstrate in pilot projects that it is possible to substantially reduce carbon emissions. It is also necessary to develop MRV methodologies that do not endanger the environmental integrity of climate policy. Nevertheless, there are key-issues to be included in the upcoming climate agreement. From a transport perspective the agreement should trigger, enable and facilitate implementation of low carbon transport in developing countries. To achieve this, we propose an (open) list containing 5 elements:

1. In general, the sector's importance should be highlighted in the negotiation text and a significant contribution to cut emissions should be required.

2. The climate regime should foster the establishment of policy packages or strategies rather than single, stand alone mitigation actions. A NAMA registry at the UNFCCC should be used to trigger south-south transfer of appropriate measures. Needs assessments would be helpful to develop transport related strategies.
3. As developing GHG reduction methodologies will be possible to justify finance from (public) funds, developing methodologies for demonstrating that transport NAMA packages are additional will be difficult. This should be considered when a crediting of NAMAs for offsetting industrialized countries is discussed.
4. Nevertheless, the carbon market should be reformed in order to ensure that sustainable transport projects become more attractive investments. Market correcting factors could increase the attractiveness of sustainable transport projects. Furthermore, up-scaling the carbon market (PoAs, sectoral crediting) to especially foster city-related activities would correspond to the fact that the transport sector is very much policy driven.
5. A technology fund (e.g. as proposed by the G77 and China) could provide adequate finance for capacity development in the transport sector. Together with other funds (or even a transport window) the total volume of funding available for transportation measures (all funds) should correspond to the significance of the sector.

More information: www.sutp.org/bridgingthegap

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