SUMMARY OF THE INTERNATIONAL SEMINAR ON TRANSPORTATION AND THE CLEAN DEVELOPMENT MECHANISM:

25-27 August 2004

The international seminar on Transportation and the Clean Development Mechanism (CDM) took place at CEPAL headquarters in Santiago, Chile from August 25-27, 2004. The seminar was attended by over 100 participants representing the public, private and non-profit sectors from over 15 developed and developing countries. Throughout the seminar, participants examined how the transportation sector does and does not fit within the current modalities and procedures of the CDM.

A BRIEF HISTORY OF TRANSPORTATION AND THE CDM

The transport sector is responsible for ~ 25% of CO₂ emissions worldwide and in developing counties the growth rate of transportation sector emissions is 3.2% per year (World Energy Outlook, 2001). This rapid rise is largely attributable to increases in both vehicle ownership and vehicle kilometers traveled. With the population in developed countries expected to double by 2030, transportation emissions are a serious issue for urban centres. Increases in emissions are accompanied by augmented risks of: local air pollution, health impacts, congestion, noise pollution, traffic accidents, etc.

The CDM may represent a crucial opportunity to foster sustainable transportation sectors in developing countries through increased funding flows, enhanced capacity and expanded technology transfer opportunities. However, transportation sector CDM projects, especially demand-side projects, face significant methodological and financial barriers. In fact, of the 100+ projects in the CDM pipeline, only 5 are transportation and of those, all are technological projects. Identifying how transportation changes can impact emissions reduction from transportation was a main purpose for the workshop.

Transportation & CDM: Case Studies

The first day of the seminar focused on Chile as a test case for transportation CDM projects. Like most developing countries Chile is struggling to meet its mobility needs; funding for major transportation projects is limited and demand is high. Over one third of emissions in Chile are transport related and of these, the majority are from road-related transportation. Mobility challenges, strong modeling capacity, commitment to CDM, and vulnerability to climate change all make Chile an ideal testing ground for transportation solutions. The three projects examined in Chile were:

- **Bus Technology Switch** – exploring the potential GHG benefits from switching bus technologies from diesel to hybrid and analyzing its usefulness as a CDM project.

- **Bike Lane Development**– Outlining methodological challenges associated with developing bike lanes as a CDM project; analyzing two scales of development including a complete network at the city-wide scale and an individual bike lane.

- **Location Efficiency**– Examining GHG impacts associated with different land use patterns as a result of reduced travel demand and how the CDM might be used as an incentive for more location efficient urban development.
Presentations from day two highlighted other transportation CDM initiatives including a maintenance project in India, a bus replacement project in Indonesia, and two system-wide re-organizations including Transmilenio from Columbia and Transantiago from Chile. (Presentations are available on the project website at: http://www.iisd.org/climate/south/ctp.asp).

The following sections contain discussion and conclusions on the four main issues discussed over the three day workshop:

**BASELINES, MONITORING & DATA AVAILABILITY**

The complexities involved in developing baseline and monitoring methodologies were the focus of much of the discussion. One significant juxtaposition emerging from discussions says that if projects focus only on what can quantified with confidence, the most important emission reduction opportunities may be missed.

Specific issues in regard to baselines include:
- Baseline should reflect reality, rather than policy (de jure vs. de facto).
- It is important to clearly define baseline; the simpler the better.
- Technology changes are expected over the coming years. These improvements in technology need to be incorporated into baselines.
- Baselines need to be dynamic – taking the future into account, but also reflecting reality, whether it is a formal policy or not.
- Regional forecasts are not sufficiently sensitive to micro development issues; and there is still a lot of work occurring on using land use as a factor in travel forecasting exercises.
- Modeling does not distinguish between regular users, and fluctuating users of the system (like tourism).
- Emissions reduction projects do not include accurate measurement (or value) of co-benefits. Air quality is a greater concern (especially PM) at the local level than greenhouse gas emissions.

Specific issues in regard to monitoring methodologies include:
- Monitoring must go beyond just measuring fuel consumption, to measure if the car is idling or moving
- There is a need to track policy impacts over time to determine effectiveness
- Robustness must be balanced with practicality

The need for better data to improve the methodologies was also a problem facing many countries. For example, in Chile, the technology exists to monitor distance traveled by each bus, however the appropriate emissions factors for each technology do not exist. Agreement on emissions standards (including information on age of buses and engines) would minimize uncertainty. Another area of concern is the lack of data on short trips including non-motorized transportation. Chile undertakes a comprehensive O-D surveys every 10 years however the methodology does not adequately reflect all trips (particularly non-motorized). Minority movement in particular is generally underestimated.

**ADDITIONALITY**

Proving additionality is a difficult task for all projects. Participants expressed concern that mis-interpretation of additionality has the potential to ultimately kill the mechanism, either
Techniques discussed to reduce additionality as a barrier included:
- The existence of budget support needs to be included in additionality; if a policy is not provided for in the budgetary claims, a policy target can be used under the CDM
- One proposal suggested that all public transportation initiatives be considered as additional activities
- It is often difficult to pinpoint a single reason for projects going forward: consideration should be given to value of CDM as political incentive to leverage action
- To take legislative framework as established benchmark and then claim CERs for anything beyond.

The associated concern with additionality expressed by participants is tendency of countries to hold back on progressive emission reduction policies in order to gain anticipated potential benefits from CDM projects.

**FINANCING**

Financial barriers to CDM projects (not only in transportation) were consistently identified by participants and presenters as significant. Costs are related to project development, infrastructure, monitoring, baselines, legal fees, etc.

An important preliminary conclusion from the bus technology case study suggests while it may be possible to establish an acceptable methodological framework for the CDM, the marginal return may be too insignificant to warrant significant investments. For this type of project, the bottom line is relatively small percentages both in terms of revenues and overall emission reductions. Transactional costs oblige large investments with large GHG reductions, however there is not enough demand in the market to encourage the development of transportation projects. Additional incentive or credit for co-benefits is needed.

The bicycle component of the project concluded that individual bikeways are not economic under the CDM, and that a comprehensive network of segregated bikeways and bike lanes is more feasible.

The location efficiency case study found that internal market-mechanisms (subsidies) are the most important tools to encourage change. These mechanisms need to be more focused on transit-oriented development, corridors, location of work in relation to transportation. Vouchers for education (based on selecting a school close to home) are also an option.

Other points related to financing included:
- CDM acts as a perverse incentive that stops countries from promoting/passing positive legislative
- Transactions on the carbon market will increase in the period of 2005-2007 when the system becomes obligatory and countries draw nearer to compliance dates
- Some participants suggested too much emphasis is being placed on the price of CERs and not as much as its potential as a strategic development tool
- The need to allow funding from elsewhere e.g., use of the ODA for data collection and monitoring
- Resources for development require important investments in infrastructure
- Bottom line: what is the cost of not doing transportation projects?
IMPORTANCE OF TRANSPORTATION PROJECTS & TRAVEL DEMAND PROJECTS IN PARTICULAR

Despite continuing methodological challenges, participants agreed on the need for transportation projects to play a role in international climate policy. Some key points presented include:

- Infrastructure Policy = Climate Policy; unless GHG impacts are considered as part of infrastructure decisions it is unlikely countries will be able to slow the rapid growth in transport emissions.
- Infrastructure costs are high, however they are accompanied by many co-benefits.
- Transportation is one of the largest costs for families; the CDM should focus on bringing down the cost of transportation to the individual by reducing the number of necessary trips.

This last point about trip reduction and reducing travel demand is seen as a key issue for the future relevance of the CDM. Technology projects that involve vehicle efficiency and fuel carbon content only address a small piece of the transportation picture. Fundamental change in transportation emissions entails examination of travel demand. In Santiago, the urban area is expanding at a 70% greater rate than Chilean population growth. Influencing land patterns in urban use can have very significant implications for travel related emissions at the intra-metropolitan and neighbourhood levels; this is a “behavioral” change, NOT a technological one.

Developing as well as developed countries need an integrated approach placing transportation as part of a larger focus on sustainable development that also addresses housing and land use.

Some conclusions that were drawn about land use under the CDM:

- Represents a significant opportunity
- It is data and capacity intensive
- Monitoring is difficult, though not impossible.
- The current CER cost is unlikely to provide an incentive in comparison to overall urban development costs
- Co-benefits are significant

CONCLUSIONS & LESSONS LEARNED

The overriding conclusion from the workshop is that given the high percentage of emissions from the transportation sector in developing countries, if the CDM is in fact the ‘entry’ point for developing countries into the Kyoto Protocol, then transportation projects must fit better under the current parameters of the CDM. Following the letter of the law of current CDM rules discounts the benefits of the most important projects.

Short term however, facilitating domestic programs and fostering R&D and education at the local level will be critical for CDM preparation. Countries such as Chile need to have in place the technical and institutional capacity to develop, review, and approve CDM projects in a systematic manner; assess and remove barriers to project implementation; and market its project opportunities effectively.

For transportation CDM projects progress must be made in the following areas:

- Managing uncertainties: accounting for leakage, data collection, markets
- Simplifying methodological requirements for transportation projects
- Incorporating the value of co-benefits
- Expanding CDM capacity building efforts
- Integrating benefits from curbing travel demand into urban development planning
- Examining potential alternatives for second commitment period
- Leveraging existing bilateral agreements and relationships
- Using the CDM strategically to meet sustainable development goals

NEXT STEPS

Participants agreed that steps can be taken to better incorporate transportation into the mechanisms of the Kyoto Protocol. A number of steps were identified by project participants and organizers in support of this goal:

Executive Board
- Modifications are possible although for the short term we will continue to work within the overall framework of the CDM; one potential solution is a separate panel to address transport and CDM issues
- Uses practical experience to define the parameters of the mechanism; the more examples pushed through the better refined the modalities will become in relation to transportation projects

National Authorities
- Participants agreed the issue of transport in the CDM must reach their national authorities and it must gain more public attention

National Agreements
- Free trade agreements can be a forum for discussion of these topics; Robert Fraser will make a recommendation to include CDM and transportation in the Canada-Chile bilateral agreement

COP-10
- In preparation for COP-10 participants and governments can encourage further discussion of transportation by promoting one or more of the following:
  - Methodological Panel analysis on methodologies for transportation and the CDM (including identifying data and capacity needs.)
  - Methodological Panel analysis of urban land use initiatives and the CDM.
  - UNFCCC Workshop: Issues related to transportation and the CDM. (Eg., Integrating CDM as suite of tools to promote transportation.)
  - UNFCCC Workshop: Status of the CDM regime in meeting sustainable development priorities