UN Forum on Climate Change Mitigation, Fuel Efficiency and Sustainable Urban Transport

Summary on Conclusions and Recommendations

The ***United Nations Forum on Climate Change Mitigation, Fuel Efficiency and Sustainable Urban Transport*** was held at the Korea Press Center in Seoul, Republic of Korea, 16-17 March 2010, and was attended by 170 participants from 24 countries, including senior officials, experts and policy makers of national and local Governments, representatives of the United Nations and other international organizations, including international financing organizations, executives from the public and private sectors, business associations, academia and non-governmental organizations.

The Forum was hosted by the Government of the Republic of Korea through the Ministry of Knowledge Economy, the Ministry of Land, Transport and Maritime Affairs, and the Korea Energy Management Corporation. It was co-organized by the Korea Energy Economics Institute, the Korea Transport Institute and the United Nations Department of Economic and Social Affairs, in collaboration with the United Nations Centre for Regional Development (UNCRD) and the Sustainable Low Carbon Transport Partnership Council (SLOCAT).

The Forum was convened to provide concerned experts, policymakers, and other stakeholders from both developed and developing countries an opportunity for a multi-disciplinary discussion on challenges, progress, and policy options for making urban transport systems more economically, socially and environmentally sustainable.

The presentations and discussions at the Forum were also intended to review technical background information that could contribute to the work of the United Nations Commission on Sustainable Development, which is scheduled to deliberate sustainable development of transport as one of the five thematic areas at its up-coming eighteenth and nineteenth session in May 2010 and May 2011.

Following the presentations and discussion, the participants adopted the following summary of conclusions and recommendations.

Trends and issues in urban transport: Increasing challenges

Sustainable development requires adequate and efficient, economically viable, socially acceptable and environmentally sound transport systems, as envisaged in decision 9/3 adopted by the Commission on Sustainable Development at its ninth session in 2001 and reiterated by the World Summit on Sustainable Development (WSSD) in 2002.

Urban population is growing rapidly, in particular in the developing countries. By 2050, two-thirds of humankind will live in mega-cities and other urban areas. Cities in developing countries urgently need better and affordable public urban transport systems.

With increasing income and prosperity many city dwellers aspire to own their own motor vehicles. Rapidly growing use of private motor vehicles and of freight transport, limited space and inadequate infrastructure result in urban traffic congestion, lost time, wasted

resources, polluted air and negative health impacts through emissions of sulfur oxide, nitrogen oxide, volatile organic compounds and particulates, including black carbon.

Motorized transport depends almost entirely on oil products for its energy needs. Many developing countries are energy importers. Inefficient use of motor fuel in congested urban transport imposes unnecessary costs on countries, which can contribute to foreign trade imbalances and hamper economic development.

At present, the transport sector is responsible for almost a quarter of greenhouse gas emission from fossil fuel sources worldwide. It is the fastest growing sector with respect to GHG emissions, yet is has received so far little attention from international climate initiatives and support programmes. The participants observed that many good examples of sustainable transport urban transport systems including bus rapid transit (BRT) are emerging.

For increasing resource productivity in transport, both for passenger and freight transport, a comprehensive approach is required that seeks (i) to avoid or reduce transport demand, where possible, (ii) to encourage a shift towards less polluting and more efficient transport modes, and (iii) to improve and deploy clean transport technologies.

Public transport in urban areas: Practical experiences, challenges, opportunities

Subway and light-rail systems have formed the basis for rapid, cost-effective and environmentally benign urban passenger transport. However, the construction of subways in existing cities poses major challenges and is often very costly, and thus not easily affordable for developing countries. To the extent they generate global benefits, there is a justification for identifying international support to offset incremental costs in developing countries.

A growing number of cities have embarked on bus rapid transit (BRT) systems, which are relatively less costly whilst still achieving high transport efficiency and quality. Participants shared interesting information on city-level and national experiences. Some modern BRT systems can move ten times more passengers per hour along a single route direction than mixed traffic.

Studies have estimated and monetized system costs and system benefits of well designed integrated public transport networks, especially BRT systems, concluding that the sum of public benefits, including economic time saved and avoided health and fuel costs, by far exceed the operational costs of public transport systems.

Financing of public transport in developing countries

Sustainable development requires both very substantial investments in transport infrastructure as well as an accelerated transition towards low-carbon transport systems.

International financing institutions and private banks have an important role to play in the development and financing of sustainable urban transport projects.

The promotion of public transport can only be successful if fares remain affordable, including for the urban poor. Where appropriate, operators of public transport services may require to be subsidized for the public health, socio-economic and environmental benefits they generate.

The International Partnership for Sustainable Low Carbon Transport (SLoCaT) which was launched recently is exploring the eventual inclusion of BRT and other transport projects as nationally appropriate mitigation actions (NAMAs) in a future climate change agreement and emission trading system. This is in addition to other measures to finance sustainable, low carbon passenger and freight transport.

Climate-based finance mechanisms offered through the multi-lateral development banks have been evolving and are becoming more suited to supporting low-carbon growth in the urban transport sector.

Social and safety concerns

Road safety concerns need to be fully integrated into urban transport planning. Separating different modes of transport through appropriate infrastructure and, where possible, through crossing-free intersections can greatly reduce accidents.

Speeds limits, driver safety and eco-training programmes, mandatory seat-belt or cycling-helmet requirements and public awareness campaigns are all proven tools for preventing accidents and serious injuries.

In many countries, transport planners have initiated projects to provide both gender, persons with disabilities, youth and the elderly better, equal and affordable transport access and personal mobility, in particular in the urban public transport systems.

The role of city administrations in the development of urban public transport

Cities are the level of government with the main responsibility and opportunity to enable access to goods and services for the majority. The participants welcomed the participation of Mayors and senior officials of 10 Asian cities in the Forum and noted with appreciation their commitment to the implementation of the principles enshrined in the Kyoto Declaration on the Promotion of Environmentally Sustainable Transport in Cities. The expert presentations at the Forum can assist the Honorable Mayors in translating their commitments into results.

The participants welcomed that a copy of the Declaration and a complete list of all signatories will be made available though the webpage of the United Nations Center for Regional Development (UNCRD). The participants encouraged the launching of similar initiatives in other regions.

The participants called for continued sharing of experiences in the promotion of environmentally sustainable urban transport, in particular also among practitioners and city-level transport policy makers.

Curbing growth of emissions from motor vehicles: Technologies

The current total worldwide stock of private light-duty vehicles is estimated at 800 to 900 million, and is widely projected to continue to increase to between 1.8 and 2.5 billion by 2020. Significant improvements in transport technologies and ground-breaking innovations are urgently needed to address the sustainable transport challenge.

Considerable potential exists for increasing fuel efficiency and reducing CO2 emissions with existing motor vehicle technologies by reducing vehicle size and weight, and rolling and air resistance as well as accessory loads.

Fuel efficiency standards have an important role to play in reducing environmental impacts of motor vehicles. Participants welcomed initiatives to introduce fuel efficiency standards for trucks.

High emissions from older vehicles are largely due to poor maintenance. Mandatory periodical technical inspections can significantly contribute to road safety and reduce noise and air pollution. Effective enforcement of existing regulations and adoption of adequate air quality, fuel quality and emission control standards can offer low-cost options for enhancing sustainability of transport.

Poor quality fuels, including fuels with high sulfur content, also contribute to poor performance and negative environmental impacts. Adding lead to fuel was banned in most countries after it was found to have serious implications for human health. Fuels with lower sulfur content, preferably below 50 ppm, are a prerequisite for the introduction of advanced emission control devices required to achieve current emission standards[1].

HFC-134a refrigerants currently widely used in mobile air conditioning (MAC) are known to have a high global warming potential (GWP). Inadequate handling and leakage of such refrigerants poses a considerable threat to the environment. Better training programmes, certification of service professionals, as well as adequate disposal practices are urgently needed, in particular in the developing countries, to reduce environmental impacts. Comprehensive evaluation methods must take into account the lifetime cycle impacts of refrigerant in energy and net total global warming potential. Comprehensive evaluation methods must take into account the impacts of refrigerant choice on life cycle energy use and global warming potential. The participants called for more research and testing to help promote better alternatives.

Electric vehicle propulsion technologies are widely expected to play a greater role. When assessing GHG mitigation options it is important to consider lifecycle impacts. This is especially true for choices among alternative fuels or technologies. Electricity and hydrogen can offer important opportunities to de-carbonize the transport energy system but the realization of full-cycle carbon reduction depends upon the way that the electricity and hydrogen are produced. Greater use of electricity or hydrogen in private motor vehicles can only be sustainable if such future systems are increasingly based on renewable sources of energy. The participants welcomed initiatives of the Government of Portugal and other countries to harness local renewable energy sources to provide power for electric mobility. Participants noted that alternative vehicle propulsion technologies remain unaffordable for many developing countries.

Innovative transport business models and green growth

Models of car sharing, short-term car rentals and bicycle rentals have been introduced and become popular in a growing number of cities. Vehicle regulations need to recognize the benefits of car-sharing.

[1] e.g. Euro 4 or Tier 2

In some OECD countries innovative business models have been introduced to offer private motorists the voluntary purchase of carbon off-sets which can provide (co)financing for environmental conservation and GHG reduction projects.

Curbing growth of emissions from motor vehicles: Policy options

Motor vehicle fuel efficiency and GHG emission standards offer important policy options for mitigating climate change. In many countries, the average fuel economy has gradually improved since standards were first introduced in the mid-1970s. However, significant further review of these regulations will be required if the projected increase in global CO2 emission is to be curbed. In order to make transport sustainable, policies and measures may be used to dissuade private car use where they are the least efficient mode.

Various fiscal policy tools and options exist to promote sustainability in transport. One of the challenges faced by fiscal policy makers is the design and implementation of fuel and motor vehicle taxes and subsidies in a manner such that negative external effects, including emissions and their impacts, can be internalized and reduced.

Countries, which subsidize motor fuels, may consider alternative options in order to more directly support eligible industries or the poor. Higher fuel taxes can discourage wasteful use of energy, lower levels of emissions, and generate revenues to finance public transport projects. However, such policies may require ancillary actions to protect low income households against price increases.

Privately operated taxi fleets provide important urban transport services, but also contribute considerably to congestion and urban air pollution if not regulated effectively.

A number of countries have mandated consumer information and fuel economy labels for cars to create greater consumer preference for fuel economy. However, as long as the majority of affluent consumers associate big cars and high resource use with high social status, the marketing of small fuel-efficient vehicles will continue to face formidable challenges.

Some countries have passed legislation including obligations for car manufacturers to increase the rate of recycling of motor vehicle parts and materials. It is important to ensure that used vehicles exported to developing countries meet all relevant environmental and safety standards of the recipient countries.

Urban planning and measures to promote sustainable urban transport

Urban planners face the challenge of balancing an appropriate separation and mix of residential, industrial, commercial and recreations zones so that jobs, markets and residences are not separated by long distances.

Policies to support walking as a prime mode of transport through the provision and maintenance of walkways can also be effective in urban areas. Many European cities and towns have successfully restricted motor vehicle use in commercial centers by introducing pedestrian-only shopping zones.

Some cities have implemented temporary restrictions on the use of cars, e.g. by day of week, number plate or minimum occupancy. Public information and public health campaigns advocating car free days or temporary road closures for biking, walking or street markets have also become increasingly popular.

Adequate provision of safe cycle routes and bicycle parking facilities can enhance sustainability in urban transport systems.

Enhancing policy coherence to address the transport challenges

There is no "one size fits all" standard approach or easy solution to address the challenges in urban transport and sustainable development. Each country and each city will have to formulate its own approach, taking into account local circumstances, conditions and opportunities.

A comprehensive and integrated approach, including inter-disciplinary and inter-institutional collaboration, is needed to more effectively address the growing challenges.

At the institutional level close cooperation and a coherent policy approach will be needed, involving all concerned Ministries, including Transport, Urban Planning, Finance, and Environment Ministries, and other authorities.

Policies to promote the development and use of urban public transport systems and policies governing private motor vehicle use in urban areas should be coherent and mutually supportive.

The effective implementation of sustainable, low carbon transport policies will require good quality transport data and methodologies to assess the economic, social and environmental sustainability of transport policies, programs and projects. The participants welcomed the initiative taken by the SLoCaT Partnership in this regard.

Potential policy measures that promote more sustainable transport solutions are often opposed by concerned groups who see their vested interests as negatively affected. Experience has shown that enhancing active public participation of all stakeholders and the identification of possible win-win-win approaches are essential prerequisites for the implementation of successful policies.

The participants encouraged concerned stakeholders to report to the eighteenth session of the Commission on Sustainable Development in May 2010 on their actions to promote sustainable development of urban transport.

With effective regulatory frameworks and active public policy intervention, a more sustainable transport future for all is achievable. The Commission may wish to consider seizing the opportunity to map out a new vision and action plan on transport for sustainable development as an outcome of its policy debate in 2011.

The participants recommended that the Government of the Republic of Korea consider the submission of this report of the Forum to the eighteenth session of the Commission on Sustainable Development.

Participants expressed their gratitude to the Government of the Republic of Korea for co-organization the Forum together with the United Nations Department of Economic and Social Affairs and to Government and people of the Republic of Korea for the hospitality and warm welcome extended to all participants.