United Nations E/CN.17/2011/18

1. To contribute towards improving understanding and strengthening regional consensus in terms of sustainable policy options, and technological and institutional measures that promote sustainable and low-carbon transport.

2. To address and identify opportunities for collaborative actions and partnerships, including international financial mechanisms, for implementing affordable, economically viable, socially acceptable and environmentally sound transport systems in developing countries.

3. To illustrate innovative initiatives, achievements, and good practices for improving the public transportation system, increasing fuel efficiency, and greening freight transport.

4. To facilitate international cooperation for capacity-building activities, including wider-scale adoption and proliferation of various EST measures at the local and national levels.

5. To enhance regional input to the nineteenth session of the Commission on Sustainable Development.

The Forum was attended by approximately 200 participants, comprising government representatives from 22 Asian countries, Subsidiary Expert Group Members of the Regional EST Forum,

international resource persons, representatives from various UN and international organizations, and local observers from Thailand.

The attached Meeting Summary contains the major points of the discussions and highlights the issues and options addressed towards environmentally sustainable transport in Asia, including the consensus reached among countries and participants by the adoption of the Bangkok Declaration for 2020 - Sustainable Transport Goals for 2010 - 2020, which outlines 20 voluntary goals to be addressed over the next decade.

I would be highly appreciative if the Meeting Summary and the Bangkok Declaration (attached) could be issued as official documents of the nineteenth session of the Commission on Sustainable Development.

Accept, Excellency, the renewed assurance of my highes t consideration.

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Annex

Meeting Summary

Fifth Regional Environmentally Sustainable Transport (EST) Forum in Asia

"A New Decade in Sustainable Transport"

23-25 August 2010, Bangkok, Thailand

I. Introduction

1. The United Nations Centre for Regional Development (UNCRD), Ministry of Natural Resources and Environment (MONRE) of the Kingdom of Thailand, Ministry of the Environment of the Government of Japan (MoE1), and United Nations Ec onomic and Social Commission for Asia and the Pacific (UN-ESCAP), jointly organized the Fifth Regional Environmentally Sustainable Transport (EST) Forum from 23 to 25 August 2010 in Bangkok, Thailand. The Forum was supported by various international organizations such as the World Health Organization (WHO), German Technical Cooperation (GTZ), ASEAN-German Technical Cooperation — Clean Air for Smaller Cities, Swedish International Development Agency (SIDA), Japan International Cooperation Agency (JICA), Asia n Development Bank (ADB), Clean Air Initiative for Asian Cities (CAI-Asia) Center,

Transportation and Development Policy (ITDP), AIT-UNEP Regional Resource Centre for Asia and the Pacific (RRC.AP), and VIVA. The Forum was attended by approximately 200 participants, comprising government representatives from twenty-two Asian countries including ten member countries of the Association of South East Asian Nations (ASEAN), eight member countries of the South Asia Cooperative Environment Programme (SACEP), People's Republic of China (hereinafter, China), Japan, Republic of Korea, and Mongolia, and Subsidiary Expert Group Members of the Regional EST Forum, international resource persons, representatives from various UN and international organizations, and local observers from Thailand.

2. The fifth Forum was intended to contribute towards improving understanding and strengthening regional consensus in terms of sustainable policy options, and technological and institutional measures that promote sustainable and low-carbon-transport; address and identify opportunities for collaborative actions and partnerships,

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capacity-building activities, including wider- scale adoption and

rapid motorization and economic development. EST can provide important complementary benefits, including the reduction of GHG emissions, deaths and injuries from road accidents, harmful noise levels, and traffic congestion levels. Along with various measures to reduce air pollution and GHG emissions from the transport sector, Thailand is making a significant investment towards improving surface transport-related infrastructures such as roadways, highways, highway interchanges, and expressways throughout the country. He expressed hope that the Forum would enhance awareness about sustainable transport options and measures among the participating countries which would help enhance the regional capacity to effectively deal with urban air pollution problems. The opening session was concluded with a moment of silence which was observed by the participants to mourn the untimely passing of Dr. Saksit Tridech, the Permanent Secretary of MONRE, Thailand, just before the Forum.

9. In his keynote address, Dr. Bindu Nath Lohani, Vice President of the Asian Development Bank, informed that environmentally sustainable growth is a key development agenda in ADB's Strategy 2020. Transport remains a critical development bottleneck in the region, requiring $2.5 trillion investment in infrastructure. To address such need, under the Sustainable Transport Initiative, ADB is expected to annually provide $3.4 billion to the transport sector for the 2010-

2012 period, with a good portion of this going to urban transport and railways. ADB's strategy to address five emerging urban transport trends and challenges include: (1) control urbanization and motorization through holistic approaches to urban land use, public transport, and non-motorized transport infrastructures, such as pedestrian zones, walkways, and cycle paths; (2) mitigate climate change through the "avoid-shift-

bringing about changes towards creating a more sustainable transport pathway in the coming decade.

10. Delivering the second keynote address on India's experience in implementing sustainable urban transport, Prof. Saugata Roy, Minister of State for Urban Development of India, reiterated that unless urban transport-related problems were tackled poor mobility could become a major hurdle to economic growth and cause deterioration in the quality of life. The Ministry of Urban Development has taken the leading role in planning and coordinating various urban transport measures, including laying down various guidelines and specifications, mandating various reforms, taking up capacity- building programme, and facilitating funding for a number of projects. The most significant recent achievement is the development of the National Urban Transport Policy (NUTP), which offers a complete road map of various action strategies in the field of urban transport with a strong focus on 'moving people', not vehicles. Together with this Policy, Jawaharlal Nehru National Urban Renewal Mission (JnNURM), a reform-based mission, is providing Central Financial Assistance for the improvement of urban transport infrastructure in India. Also, his Ministry, together with the international organization, States and Cities, launched the Sustainable Urban Transport Project (SUTP) in five cities. India is also taking institutional actions for addressing

climate change and air pollution. Service-level benchmarks developed in the field of urban transport have been adopted for the first time and all plans and projects are now being linked to the improvement of these benchmarks. The National Mission on Climate Change has been established which includes a total of eight sub-missions, one of which is Mission on Sustainable Habitat covering environmentally sustainable transport. Underscoring the need

development has failed to keep up with demand especially in the Asian region as well as created a number of serious problems. It is imperative to develop an urban transport system that serves the poor, young, old, and those who do not have access to transport. Space for people is continuing to decrease and about 10 per cent to 25 per cent of urban areas are taken up by road transportation infrastructure. In order to establish an environmentally sustainable transport system, it is necessary to consider urban space allocation for pedestrians, cyclists, and vehicles as appropriate.

12. Transport currently accounts for 13 per cent of global GHG emissions and about a little less than a quarter of the energy-related carbon dioxide emissions from the energy sector. Within the transport sector, road transport is responsible for the largest share of emissions. Imminent global warming requires action in developed and developing countries alike.

13. Low-carbon transportation should not be viewed as a burden but as means of enhancing livability and well-being that provide many other advantages. Low-carbon transport options that follow the principle of sustainable development will not only mitigate climate change, but also could help realize a number of co-benefits such as: (a) increased energy security as less oil needs to be imported. Resource

achieve high Human Development Indices with relatively low motorized land transport.

15. Considering the fact that only twenty-five out of the thirty-six developing countries have submitted NAMAs (Nationally Appropriate Mitigation Actions) with explicit reference to the transport sector, it was proposed to encourage developing countries to include actions in the transport sector as part of NAMAs which will help them have access to support for capacity-building, technology transfer, and new sources of funding. Some of the elements of a vision for a low carbon transport system could include: (a) dense, but green, and mixed-use cities that provide jobs, and shopping and leisure facilities close to people's residential areas; (b) modem, high quality links between the centres and good integration of long-distance hubs with local transportation; (c) high quality alternatives to individual car-use, especially efficient public transport and good non-motorized transport infrastructure and its proper integration; (d) efficient, inter-modal freight transport and smart urban logistics that also includes clean vehicles; and (e) advanced technologies such as hybrid engines, alternative fuels or even electric motorbikes and cars.

16. Low-carbon transport is at the same time confronted with a number of barriers that need to be dealt with by strategic action. These

barriers include: (a) time-lag between decisions and effects as some measures require a long-term approach that only takes effect when continuity in political decision making is achieved; (b) cross-cutting nature of transport as many decisions in other sectors influence transport demand; and (c) fragmented target group as everybody and all social groups have mobility needs and the sources of emissions are rather small. To make sustainable and low carbon transport happen, it is necessary to create wide range partnerships to realize high-efficiency transport (especially BRT, rail, NMT), phase out, as appropriate, public and private subsidies for fossil fuel, car manufacturing and use, create safer space for pedestrians and cyclists, and support people-friendly transit-oriented development. However, the current level of financing practices categorized by domestic public finances, official development assistance, private flows, and carbon finance are not adequate for supporting sustainable transport to meet 21st century needs. According to ITDP, over $1 trillion is spent annually by governments in subsidizing motor fuels and this spurs the use of cars even more. This comes at the expense of investments in more pressing human needs for modern bus rapid transit, streets safe for walking and cycling, quality public space as well as health, housing, and education. New incentives are needed to spur smart investments. A new strategy, so- called ASAP, outlined in "A Paradigm

Shift towards Sustainable Low-Carbon Transport - Financing the Vision ASAP," a ITDP report released at the Forum, provides a

strategies and operations of international development organizations. The four working groups of the partnership comprise: (I) transport data and GHG assessment, (2) post-2012 climate instruments,(3) finance, and (4) outreach and policy dialogue. Other examples of partnership include Environmentally Sustainable and Healthy Urban Transport (ESHUT), led by WHO that addresses health issues in the transport sector. It specifically aims at empowering Asian cities to promote a win-win strategy (reducing the carbon footprint and promoting and protecting health) for urban transport system. Together with UNCRD and AFHC (Alliance for Healthy Cities), ESHUT have been promoting sustainable transport activities in Asian cities, including Phnom Penh, Marikina, Changwon, Nagoya, and Seoul.

18. There was an expressed concern from the floor that the main focus of partnership and funding would be shifted from its original objectives to investment itself, especially if private investment were

challenge to realize sustainable transport given the fact that most people in developing countries have the aspiration of owning a private car. Asian countries have the option of not repeating the same mistake of becoming a car-dependent society, one made by developed countries in the past, and can take the great advantage of being second runners.

IV. Funding Mechanisms to Make It Happen

19. The provision of affordable public transport plays an important role in all aspects of sustainability -

particular, is often completely overwhelmed and bus and train services are overcrowded, unreliable, slow, and in general inconvenient. Therefore, addressing funding and financing sustainable urban transport is a crucial element for the future and economic vitality of the region. In recognition of this need, for instance, there has also been some considerable investment in public transport networks recently, in particular in China where impressive levels of investment have delivered many hundreds of kilometers of high speed rail, metro, and Bus Rapid Transit (BRT) systems within a short period of time. Another example includes the Jawaharlal Nehru National Urban Renewal Mission in India under which the central government provides a platform to coordinate significant financial support for urban transport infrastructure projects in selected cities of India, subject to the cities undertaking a set of institutional, structural, and fiscal reforms necessary to improve their urban service delivery systems. In order to support urban infrastructure development and the provision of basic services for the poor in sixty-three of the largest cities in India under this Mission, the total support of the Government was envisaged at US$ 11.1 billion, with matching contributions from states and municipalities to an overall fund of around US$ 22 billion. During 2008-09, the commitment of central government assistance

source of income for investment in transport. In the right conditions and if there are viable alternatives, they also offer the benefit of providing a "push" measure that helps to encourage a modal shift to public transport and thus increase income from public transport fares.

23. Public-private-partnerships (PPP), under which construction and/or operation riskPPP),7.4361

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include the S02/NOx market, shared savings of health and road safety benefits, and energy security markets.

25. Developing countries in Asia can take full benefit from various bilateral and multilateral development agencies. For example, JICA's financial support in urban transport is one of the key sectors of JICA's ODA. Its support for urban transport in Asia includes the Delhi Metro Project and Bangkok MRT Blue Line Project. Recipients can create a PPP with JICA's financial assistance for 'public' investment. In the case of the Delhi Metro Project, it has been registered as a CDM project, expecting to generate additional income for the project with an annual emission reduction of 41,160 tCO2. CDM methodology development for the transport sector is a matter of great urgency because the share of registered transport CDM projects is 0.1 per cent, very small compared to its share in global 01-10 emissions — 13 per cent. There was a suggestion that a survey on the actual reduction of 01-10 emissions by existing mass rapid transit systems in Asia could contribute to further discussion on CDM methodology development. There was a suggestion for RCA to help promote EST in the region by being more supportive to the integration of NMT when it funds any mass rapid transit project by adding conditions favourable to NMT.

26. Global Environment Facility (GEF) is another important source of funding for developing countries in Asia. Currently, ten GEF agencies include UNDP, UNEP, World Bank, regional development banks (Europe, Asia, Africa, and Latin America), FAO, IFAD, and UNIDO. The level of financing to the sustainable urban transport sector has been increasing as GEF develops its operational phase. Under the climate change focal area of GEF V (2010-2014), 'promote energy efficient, low-carbon transport and urban systems' is included as one of the six strategic objectives. In addition, there has been a proposal of GEF SE Asia Sustainable Urban Transport Project targeting cities in Cambodia, Lao PDR, Malaysia, the Philippines, and Viet Nam. The Forum sought the simplification of GEF procedures and shifting of focus from mitigation to adaptation.

27. The Asian Development Bank recognizes the need for sustainable transport and has aligned its transport operations with its new initiative, Sustainable Transport Initiative (ST1), towards a more accessible, safe, environmentally-friendly, and affordable transport system. Over the years, ADB's support in the road sector has focused on improving access, enhancing economic opportunities, and increasing mobility, especially for remote rural communities and farmers rather than increasing road infrastructures in the city centre to worsen motorization. STI can be one of the good funding sources for

Asian countries to turn their national environmentally sustainable transport strategies into a reality.

V. EST Progress and Achievements in Asia

28. There has been varying degrees of achievements and progress made by Asian countries in EST areas as defined in the *Aichi Statement* (2005), including provision of safe, affordable, and efficient public transport systems, non-motorized transport (NMT) such as provision of exclusive bicycle and pedestrian lanes, intelligent transport system (ITS), and expansion of railways, etc. The countries shared their initiatives and measures on GHG emission reduction from the transport sector as well as future strategies and policies, including urban transport master plans, specific goals, and targets, towards achieving sustainable transport.

29. In most developing countries of Asia, the transportation sector is characterized by rapid motorization along with high private vehicle ownership, increased transport demand due to urbanization, poor condition of transport infrastructure and related facilities, deteriorating air quality due to lack of strict vehicle emission standards, usage of old and second-hand vehicles, inadequate and unaffordable public transport, increasing number of motorcycles, high traffic fatalities and injuries, and lack of institutional capacities to deal with multi-sectoral

transport, environment, and social issues in an integrated way. In particular, even though non-motorized transport accounts for a significant part of daily trips, for example, three-fourths of the total in Bangladesh, the provision of exclusive bicycle lanes and pedestrian footpaths are still generally lacking and has not been a part of future transport development plans. As a result, many people, in particular the low-income population and transport-sensitive groups, suffer from respiratory illnesses and die from traffic accidents, which places a huge economic and social burden on the country. Issues involved in the freight sector have become forgotten elements in most of the countries.

30. However, many Asian countries either have implemented or planned a number of national plans, initiatives, and projects to address sustainable transport. For example, Viet Nam, Lao PDR, and the Philippines are finalizing their national EST strategies.

31. In Malaysia's Tenth Malaysia Plan (2011-2015), among others, a people-centred public transport system and Clean Air Action Plan are planned for implementation. In addition, the National Green Technology Council headed by the Prime Minister of Malaysia promotes low carbon technology that covers the transport sector, among others. Malaysia is promoting and developing rail-based

transportation which is more environmentally sustainable. The Maldives ambitiously announced its plans to become a carbon neutral country, replacing cars and boats from those that are diesel and petrol based to renewable electricity based. To become carbon neutral by 2020, it plans to connect all islands by public transport network. Bhutan has also established Transport Vision Plan 2040. In addition, a number of countries in the Asian region are planning to newly introduce or expand or upgrade already existing mass rapid public transport systems such as MRT, LRT, and BRT. The increase in

zone, bike sharing, and public transport only zone, and (e) integrating land-use and transport planning. The Republic of Korea is also putting considerable efforts and investments towards achieving a modal shift from road- to rail-based transport in order to realize Green Growth.

34. Despite recent efforts by Thailand to construct and provide off-road transport services such as the subway and sky train systems, Bangkok's passenger transport still largely relies on private cars, motorcycles, and buses (over 90 per cent). Roadside air pollution is a serious problem, compromising people's quality of life. The transport sector as a whole also contributed one-third of Thailand's GHG emissions. To rectify these issues, Thailand is taking a multi-pronged strategy in transport by: (a) shifting people from private vehicles to public transport by improving public transport services, such as the development of a BRT system in Bangkok, expansion of the subway/sky train system, and double-tracking of the inter-city railway; (b) tightening vehicle emission standards, and improving vehicle inspection and maintenance; (c) promoting clean fuels such as CNG and bio-diesel; (d) enhancing non-motorized transport (e.g., by providing bicycle lanes and parking); and (e) improving city planning with multimodal transport provision.

passenger cars. Sulphur dioxide, nitrogen dioxide, and carbon monoxide levels exceed air quality standards in Ulaanbaat

day, totalling 2.6 billion a year, undertakes regional connectivity with an emphasis on socioeconomic considerations, and the network continues to expand and connect large segments of the Indian population.

38. While moving towards strict vehicle and fuel emission standards, China is heavily investing in mass transit systems. For instance, China's Mid- and Long-Term Railway Network Plan projects having 110,000 km of railways in operation and over 13,000 of high-speed lines by the year 2012. The Chinese high-speed railway network is designed with the view of forming rapid and convenient passenger transport corridors with a large capacity and realizing the separation of passenger traffic from freight transport, with four North-South corridors and four East-West corridors as the backbone.

39. Some of the observations and recommendations that emerged from the country breakout sessions include: (a) the necessity for strict measures to restrain private-car use, including fuel taxes, road pricing, increased parking rates, congestion charges, low emission zone, and reduced subsidies for car-friendly infrastructure; (b) additional revenue generated from the various TDM measures as mentioned above can provide good funding sources for strengthening public transport services, including NMT infrastructure; (c) countries should

impact on transport volume. Information and public awareness are the keys to success. Mobility management has the highest potential for CO2 emission reduction; therefore, focus should be on trip avoidance, modal shift to less impacting modes, and increasing load factor.

42. Many countries in the world, including developing and developed countries, are making the effort to introduce low emission vehicles. Rather than there being only one option, there are many different alternatives available based on local circumstances. Toxic emissions can be reduced by better conventional engines, better catalysts and filters, better conventional liquid fuels, gaseous fuels, and electric vehicles. In order to find the best possible option, a comprehensive 'well-to-wheel' analysis covering the whole life cycle -- extraction of sources, production, distribution, and consumption -- of different fuels to systematically compare the overall impacts of different types of fuels, would be helpful. Alternative low emission fuels could be subsidized in the market in order to be competitive and to meet consumer demands.

VI. Need for EST Performance Indicators

43. In general, statistics allow different transport stakeholders to understand the trends in transport development, and performance indicators are statistics designed to measure progress towards

sustainable transport goals. The economic objectives of sustainable transport may include mobility, accessibility, congestion reduction, roadway cost savings, parking cost savings, consumer savings, energy conservation, economic productivity and development, tax burden, etc. Social objectives may include equity, fairness, affordability, human health, community cohesion, cultural preservation, community livability, public participation, etc. Similarly, environmental objectives may include pollution reduction, climate protection, habitat preservation, aesthetics, etc.

44. In order to measure the progress under these objectives, data quality is of prime concern. It is usually subject to accuracy, transparency, comprehensiveness, frequency, consistency, and availability. The major problem of transport statistics is that they are often incomplete, inaccurate, and based on inadequate methods or sample size, which results in transportation decision making becoming skewed in favour of easy-to-measure impacts at the expense of more-difficult-to-measure impacts. Such incomplete and unreliable transport data needs to be urgently improved since performance indicators based on reliable data are essential for good transport planning and development. Which indicators are used significantly affects how problems are defined and solutions are evaluated. Conventional transport indicators tend to reflect motor vehicle travel conditions and

thus support motor vehicle improvement. Sustainability requires a broader indicator set that reflects accessibility rather than mobility, and considers additional modes and impacts. Therefore, establishing universal transport data quality standards is essential for sustainable transport planning.

VII. Bus Rapid Transit and Urban and Regional Rail Development to Realize EST Objectives

45. BRT is one of the cheapest public transport options as compared to metro or railways. However, an obstacle for BRT promotion is that it does not carry the image or perception with officials as much as MRT does. Since it competes with private cars for road space compared to the metro, it has been more difficult to widely promote it regardless of its various advantages against metro, including cost efficiency, flexibility to future change, and much shorter construction period. Despite these bottlenecks, some of the world-class BRT developments in Asia have contributed to drawing the attention of policymakers and transport authorities as a cost-effective, high quality mass transit option. Supported by strong political leadership, Ahmedabad has successfully implemented the first fully-featured BRT system in India that accommodates 56,000 passengers per day. Bangkok also recently inaugurated its first BRT route, physically well

integrated with an existing SkyTrain station. Guangzhou in China has

transport authorities is a pre-requisite to successful implementation. Provision of a convenient feeder service, median dedicated lanes and central median stations, and high-quality pedestrian and bicycle infrastructure integrated into the design, among others, are considered important factors that decide the success of a BRT system.

46. A rail-based transport system can play a unique role in meeting many EST objectives. Due to its high capacity and fast mobility, many Asian countries have competitively developed rail-based transport

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railroad share in SOC investment from 29.3 per cent to 50 per cent by 2020.

47. In the case of China, accompanying its rapid recent development, the length of railways in operation is expected to reach over 110,000 km by 2012. China's high-speed railway network is designed with the view of forming rapid and convenient passenger transport corridors with large capacity. The length of high-speed railways put into operation has reached 6,920 km. Together with the continuous increase in intra-regional trade, these extensive railway networks in the region have accelerated the discussion on connecting regional railway networks across borders. These intermodal transport corridors can be opportunities for the region to put into place efficient intermodal transport, develop efficient logistics industries, maintain its global economic position, and finally, distribute the benefits of economic prosperity. However, with the recent success of the Guangzhou BRT it is clearly evident that a well-planned comprehensive BRT system can accommodate passenger capacity as large as that of rail services with less capital investment and in a shorter time. Thus, in regards to the development of inner city mass transit service, BRT should be considered as an alternative to rail-based transit where there are constraints in resources.

VIII. Social Equity in EST

48. Transport planning and development need to be driven less by direct economic goals, and more by social activities such as work, education, family needs, etc., based on different transport demands and values of men and women, and diverse socioeconomic households. It is expected that 60 per cent of the people in Asia will live in urban areas by 2030. As urbanization accelerates, there will be more 'urban poor,' who are often involved in the informal sector and live in slums. Those urban poor are also largely 'mobility poor' and do not have options other than NMT modes such as walking and bicycling. However, while many urban poor depend on NMT modes, NMT is the `orphan' of transport systems, and is often overlooked and considered a peripheral issue rather than core requirement. In most cases, NMT has not been well integrated with public transportation, which has led to the loss of potential passengers. Quality pedestrian facilities such as spacious, safe, and non-interrupted walkways and at-grade crossing are necessary for all people, including children, women, the elderly, and people with disabilities in order to have safe access to public transportation. Increased integration of bicycles are also required such as allowing bicycles on buses and trains, provision of safe and convenient bicycle parking, creating bicycle hubs, and introducing bicycle sharing. Replacing motor vehicle trips with walking or cycling

is a win-win in both developed and developing countries. Pedestrians and cyclists should have the right to direct, pleasant, and safe routes in order to achieve high-level social equity in the street space. Furthermore the experiences of different passengers groups such as children, students, women, elderly and persons with disabilities should be surveyed and taken into account in the planning and modernization of urban transport systems.

IX. Fuel Economy for National Energy Security

49. Another challenge facing Asia is the lack of fuel economy standards in many countries. A few countries such as Thailand have proposed fuel economy standards for ASEAN countries. Setting up fuel economy standards can significantly help towards strengthening national energy security. According to a joint report by the UNEP Global Fuel Economy Initiative (GFEI) and CAI-Asia, it is estimated that significant fuel savings can be achieved by establishing common fuel economy standards in the region. For instance, savings from 2012 to 2035 for heavy-duty vehicles (HDVs) and light-duty vehicles (LDVs) with fuel economy standards could be approximately 446 billion liters of diesel and 134 billion liters of gasoline; in other words, US$318 billion from reduced diesel consumption and US$98 billion from reduced gasoline consumption. It will also result in a significant

X. Sustainable Freight Transport

51. Freight is one of most neglected sectors related to transport. While there are a range of issues associated with the freight sector ranging from safety issues to pollution and other environmental ranging eight is 070c1d15.97d sectorbarrie37 ne

are encouraged to maintain a strict record of their driving distance and the amount of fuel used, which ultimately help them to review their performance and improve overall efficiency.

53. In order to deal with freight issues, Asian countries can consider several strategies such as the `avoid' strategy that includes minimizing the need to travel or travel, promoting local production and consumption, co-locating facilities within the supply chain and with ports, improving logistics, managing loads. 'Shift' can include more energy-efficient modes, optimization of railways and inl and waterways, and different vehicle types that better match the loads. Similarly, the `improve' strategy can include measures such as lowering speed, operational and technological improvement, usage of wind power, fuel economy standards, stricter implementation of anti-overloading laws, and other technological advancements and tools such as radio frequency identification tags (RF1D), global positioning systems (GPS), and vehicle routing software.

54. Transport and logistics infrastructure services can enha nce physical and economic access. Improved rural access can contribute to achieving the MDGs, reduce food insecurity, and help in disaster management. For example, cost-benefit ratios of rural roads in China

supply chains can significantly contribute to poverty reduction. For instance, FAO estimates that post-harvest losses of cereal crops range from 10 per cent to 37 per cent of production — 4 per cent to 16 per cent due to transport and logistics deficiencies. Similarly, an IIM (Indian Institute of Management) study in India reports that 50 per cent fresh food and vegetables are wasted on their way to the market. Improved logistics and supply chains can lead to value chain development for rural produce, and thereby contribute to poverty reduction. A number of good examples from countries in the region do exist.

55. Marine transport is another issue in the transport sector which has been relatively neglected due to greater focus on surface transport. Shipping causes various environmental impacts such as SO2, PM, NOx and CO2 emissions, ozone-depleting substances, incineration emissions, ballast water charge, antifouling paint, sewage, oily water, and cargo residues. Shipping burns about 370 million tons of low-quality residual fuels with high amounts of sulfur and heavy metals, causing serious air pollution. If global shipping were a country, it would be the fifth largest producer of GHG emissions. Asian countries need to look into appropriate strategies to improve the sustainability of shipping and port sector.

XI. Sustainable Transport Goals for 2010-2020 — Bangkok 2020 Declaration

56. With the objective of demonstrating the renewed interest and commitment of Asian countries towards realizing a promising decade (2010-2020) of sustainable actions and measures for achieving safe, secure, affordable, efficient, and people and environmentally friendly transport in rapidly urbanizing Asia, the participating countries of the Forum discussed and agreed on a goodwill declaration — "Bangkok Declaration for 2020 — Sustainable Transport Goals for 2010-2020" (see Attachment 1). Given that the theme of transport and sustainable development will be debated on by the Commission on Sustainable Development (CSD) in 2011 (CSD-19), participants hoped that the outcome of the Fifth Regional EST Forum would be considered by the Commission as one of the important inputs from the region in regards to the transport sector.

The indicators in Annex 1 of the Bangkok 2020 Declaration provide a guiding framework for countries to measure progress in EST strategy, and countries are at liberty to use any of those indicators as they deem fit.

57. It is expected that the Bangkok 2020 Declaration will provide an important basis for discussing the progress made in EST by countries

at subsequent Regional EST Forums, including the Sixth Regional EST Forum to be held in New Delhi in December 2011.

Field visits:

58. In order to showcase and demonstrate EST best practices and measures in Thailand, a field trip was jointly organized by the Ministry of Natural Resource and Environment and Ministry of Transport of Thailand and the participants were shown the Bangkok Mass Rapid Transit (MRT) system. Participants gained on-sight experience by riding the newly built MRT system. The Bangkok Metro

Bangkok. Declaration for 2020

— Sustainable Transport Goals for 2010-2020

We, the participants, who are representatives of Asian countries (Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, People's Republic of China , Indonesia, India, Japan

9) in 2001 which reached important decisions on transport sector issues concluding that improving transport systems to promote sustainable development, including improving accessibility, can foster economic and social development, help integrate developing countries into the world economy, and contribute to the eradication of poverty,

Reaffirming and building upon the *Aichi Statement* agreed upon by the participants at the First Regional EST Forum, held in Nagoya, Aichi Prefecture, Japan, on 1-2 August 2005, and its integrated approach to promoting environmentally sustainable transport will result not only in the improvement of human health through the reduction of urban air pollution, but also the reduction of greenhouse gas (GHG) emissions, deaths and injuries from road accidents, harmful noise levels, and traffic congestion,

Reaffirming and building upon the *Seoul Statement*, agreed upon by the participants at the Fourth Regional EST Forum, held in Seoul, Republic of Korea, from 24 to 26 February 2009, that urged the need to address transport issues within the context of the broader environmental aims of Green Growth to encompass the transport-energy-carbon emission nexus, to develop strategies for low-carbon transport that include a shift to energy-efficient and low carbon modes to enhance energy security, and mitigate the effects of transport on

climate as well as of climate change on transport services and other socioeconomic sectors,

Noting the findings of the 18th Session of the Commission on Sustainable Development (CSD18) held in May 2010, that basic transport infrastructure and services are still lacking or inadequate in many developing countries (both in urban and rural areas), making it difficult for the poor, including women, youth, and children, to access basic services, including those related to health and education, and for workers to have access to jobs, and that in the case of rural areas lack of adequate rural transport infrastructure perpetuates poverty, poses constraints on the marketing of agricultural produce and other income-generating opportunities, and thus hampers efforts to achieve the internationally agreed Millennium Development Goals (MDGs),

Noting that transport-related carbon dioxide emissions are projected by international bodies to increase approximately 57 per cent worldwide in the period 2005-2030, whereby the largest part of this increase would come from the increase in private motorized vehicles in Asia,

Noting the UN General Assembly Resolution (64/255)

of all road traffic fatalities and injuries occur in the Asian and Pacific region, most of which are related to vulnerable road users such as pedestrians, children, and cyclists, due to streets that lack the necessary safety infrastructure such as exclusive pedestrian and bicycle lanes, safe street crossings, kerb ramps for the disabled, and lack of post-accident care,

Recognizing the specific mobility needs of low-income groups, as well as women, children, the elderly, and persons with disabilities which must be addressed to achieve socially-equitable communities and a better quality of life for all,

Acknowledging the importance of an EST strategy based upon the concept of Avoiding unnecessary motorised transport - Shifting to more sustainable transport modes and — Improving transport practices and technologies,

We, the participants of the Fifth Regional Environmentally Sustainable Transport (EST) Forum in Shivoluntarive soci, as

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Goal 1: Formally integrate **land-use and transport planning** processes and related institutional arrangements at the local, regional, and national levels

Goal 2: Achieve **mixed-use development** and medium-to-high densities along key corridors within cities through appropriate land-use policies and provide people-oriented local access, and actively promote transit-oriented development (TOD) when introducing new public transport infrastructure

Goal 3: Institute policies, programmes, and projects supporting **Information and Communications Technologies** (ICT), such as Internet access, teleconferencing, and telecommuting, as a means to reduce unneeded travel

II. Strategies to Shift towards more sustainable modes

Goal 4: Require **Non-Motorized Transport** (NMT) components in transport master plans in all major cities and prioritize transport

Goal 9: Set progressive, appropriate, and affordable **standards** for fuel quality, fuel efficiency, and tailpipe emissions for all vehicle types, including new and in-use vehicles

Goal 10: Establish effective vehicle testing and compliance regimes, including formal vehicle registration systems and appropriate periodic vehicle **inspection and maintenance** (I/M) requirements, with particular emphasis on commercial vehicles, to enforce progressive emission and safety standards, resulting in older polluting commercial vehicles being gradually phased-out from the vehicle fleet, as well as testing and compliance regimes for vessels

Goal 11:

Goal 13: Adopt a zero-fatality policy with respect to road, rail, and waterway **safety** and implement appropriate speed control, traffic calming strategies, strict driver licensing, motor vehicle registration, insurance requirements, and better post-accident care oriented to significant reductions in accidents and injuries

Goal 14: Promote monitoring of the **health** impacts from transport emissions and noise, especially with regard to incidences of asthma, other pulmonary diseases, and heart disease in major cities, assess the economic impacts of air pollution and noise, and devise mitigation strategies, especially aiding sensitive populations near high traffic concentrations

Goal 15: Establish country-specific, progressive, health-based, cost-effective, and enforceable air **quality and noise** standards, also taking into account the WHO guidelines, and mandate monitoring and reporting in order to reduce the occurrence of days in which pollutant levels of particulate matter, nitrogen oxides, sulphur oxides, carbon monoxide, and ground

energy security, and to report the inventory of all greenhouse gases emitted from the transport sector in the National Communication to the UNFCCC

Goal 17: Adopt social **equity** as a planning and design criteria in the development and implementation of transport initiatives, leading to improved quality, safety and security for all and especially for women, universal accessibility of streets and public transport systems for persons with disabilities and elderly, affordability of transport systems for low-income groups, and up-gradation, modernization and integration of intermediate public transport

Goal 18: Encourage innovative **financing** mechanisms for sustainable transport infrastructure and operations through measures, such as parking levies, fuel pricing, time-of-day automated road user charging, and public-private partnerships such as land value capture, including consideration of carbon markets, wherever feasible

Goal 20: Develop dedicated and funded institutions that address sustainable transport-land use policies and implementation, including research and development on environmentally- sustainable transport, and promote good governance through implementation of environmental impact assessments for major transport projects

Inviting countries to voluntarily report progress by utilizing the EST Forum

Annex 1

Measuring Progress on the Bangkok Declaration for 2020

This annex outlines the type of performance indicators that countries may consider in achieving a successful EST strategy. The Bangkok Declaration for 2020 is a voluntary document, and thus countries may opt for developing a number of additional /alternative indicators and measures to monitor progress domestically.

The objective of such comprehensive list of indicators is to provide guidelines for objective measurement of the efficiency and effectiveness of the transport system to achieve the desired goals.

Strategy	Indicator
"Avoid" Strategies	**Meta Indicator:** Change in vehicle kilometres travel per person over time at the metropolitan and national levels
Integrated Land Use-Transport Planning	Number of cities in the country having formally developed integrated land use-transport plans
	Requirements for local compliance with regional integrated land use-transport plans
Mixed-Use Development	Reduction in average passenger trip length in the city
	Reduction in average freight trip distance regionally and nationally
	Number of units developed in purpose-built mixed-use

	projects
	Number of public transport projects achieving transit-oriented development (TOD) around stations
	Population and employment per square kilometre along major public transport corridors
	Number of public transport corridors achieving an increase in development and population density

	city's integrated transport master plans
	Note the existence of national and local policies requiring drop curbs at interface between footpaths and intersections
	Note the existence of national and local policies mandating minimum footpath widths, and note the minimum width
	Note the existence of national and local policies mandating dedicated pedestrian signals at major intersections
	Promote the monitoring and measurement of the quality of pedestrian facilities and the number of cities surveyed or audited for a "walkability" score
	Number of cities with dedicated cycleways
	Number of kilometres of cycleways
	Number of secure bicycle parking spaces
	Number of cities with shared bicycle programmes and number of shared bikes per programme
	Number of cities with pedicabs (cycle rickshaw) improvement programmes
	Number of public transport systems with formal integration of pedicabs (cycle rickshaws)
	Number of cities participating in a Car-Free Day programme
Public Transport	Number of cities with trunk bus corridors operating on dedicated busway lanes in the median of the roadway (Bus Rapid Transit)
	Number of kilometres of dedicated, median busways (Bus Rapid Transit)
	Number of cities with bus systems using pre-board fare verification and stations designed for at-level fast boarding

	Number of cities utilizing electronic fare cards on their public transport system
	Number of cities with a fully integrated fare structure across public transport modes
	Number of cities with elevated or underground metro systems (MRT)
	Number of kilometres of MRT
Transportation Demand Management	Number of cities or areas utilising congestion charging
	Number of cities or areas utilizing road tolls
	Number of cities employing a formal parking levy system, in which a parking levy is defined as a set land tax charged to each non-residential parking space, and is assessed regardless of whether or not the parking space is utilized
	Number of cities with active parking management programmes
	Amount of any increase in fuel levies
	Number of cities or regions which have adopted measures to discourage ownership and/or operations of private vehicles
	Amount of vehicle duties or taxes
Inter-City Passenger and Goods Transport	Increase of mode share of high quality intercity bus services
	Increase of mode share of inter4:ity conventional rail services
	Increase of mode share of high-speed inter-city rail services
	Number of kilometres of high-speed inter-city rail
	Number of kilometres of freight rail lines
	Number of inland dry ports
"Improve" Strategies	**Meta Measure**: Fuel efficiency levels of passenger and

	freight fleets
Cleaner Fuels and Technologies	Market share of alternative fuels for road transport, including renewably-generated electricity, natural gas, and sustainably managed and cultivated biofuels that do not compete with food crops
	Market share of electric vehicles, hybrid vehicles, and fuel cell vehicles
Standards	Note current fuel quality standards and the time line for attainment of EURO IV (or equivalent) fuel quality standard
	Note current vehicle emission standards for each vehicle class
	Note current fuel economy standards for each vehicle class
Inspection and Maintenance	Note the nature of commercial vehicle testing requirements, including frequency of tests, emission levels required, safety features examined, and number of vehicles retired
	Number of cities that conduct roadway spot checks on vehicle emissions
	Note the type of vehicle insurance mandated by national and local laws
	Number of persons taking driver licensing testing and provision of the pass/fail rate

Number of public transport vehicles per city with Automatic Vehicle location tracking technology53 Tw ( ) Tj ET 90.75 262.5 0.75 0.75

	Quantify changes in freight vehicle types
	Quantify network efficiency gains
"Cross-Cutting" Strategies	
Safety	Reductions in number of traffic accidents
	Reductions in number of transport-related injuries and deaths
	Adoption of a zero-accident policy framework
Health	Incidence levels of disease and illnesses related to transport emissions including asthma, other pulmonary diseases, heart disease, stroke, and flu
	Reduction in number of days with restricted outdoor activity due to health concerns of air quality
	Number of cities with policies in place to prohibit smoking in public places, including public transport systems
Air Pollution and Noise	Number of cities with ambient air quality monitoring, including monitors for particulate matter (PMIO and PM2.5, nitrogen oxides (NOx), sulphur oxides (SOx), carbon monoxide (CO), and ground-level ozone, especially with monitors in high traffic areas and ports
	Air quality levels for particulate matter (PMIO and PM2.5). nitrogen oxides (NOx), sulphur oxides (SOx), carbon monoxide (CO), and ground-level Ozone for each major city
	Number of days air quality is within local standards and WHO guidelines for all major pollutants in each major city
	Number of cities with formal noise monitoring programme
	Number of cities that spot check noise levels on vehicles
	Number of cities with time-of-day noise restrictions and noise reduction programmes

Climate Change and Energy Security	Note whether the transport sector is included as part of the Nationally Appropriate Mitigation Actions (NAMA), and note the specific transport sub-sectors in the NAMA
	Note the number of transport GEF projects approved for the country
	Amount of oil imported by the country
Social Equity	Amount and type of security measures provided on public transport systems
	Off-peak frequency of public transport systems
	Number of public transport vehicles and stations permitting full universal access for users in wheelchairs and parents with prams
	Number of public transport stations and kilometres of footpaths with tactile paving tiles for the sight impaired
	Number of kilometres of footpaths that have been upgraded to be fully accessible to persons in wheelchairs
	Relative affordability levels of public transport services for low-income groups
	Employment generated from EST projects and availability of related job training opportunities
Finance and Economics	Number of applications for greenhouse gas emission reduction credits
	Total amount of revenues generated from greenhouse gas emission reduction credits
	Total amount of revenues generated from congestion charging schemes
	Total amount of revenues generated from roadway tolls Total amount of revenues generated from parking levies

	Number of Public-Private Partnerships (PPPs) implemented
	Total amount of revenues generated from land value capture initiatives
	Number of Benefit-Cost analyses conducted on transport projects, considering, direct, indirect, and cumulative impacts
	Note the results of Benefit-Cost analyses conducted on transport projects
	Number of EST-related publications