

Berlin High-level Dialogue on Implementing Rio+20 Decisions on Sustainable Cities and Urban Transport, 19.-21. June 2013

Rede von Jochen Flasbarth, Präsident Umweltbundesamt

Ladies and Gentlemen,

Mobility is an important prerequisite for development and prosperity. It connects cultures and economies, rural areas with cities, and opens up new horizons. Mobility and transport are closely interlinked. Global trade, the building of communication links across the entire globe, people's growing flexibility and mobility, all this generates growth in transport. Transport in turn has serious impacts on people and the environment. We cannot do without transport due to its great importance for development, hence we must do everything to enhance its sustainability.

The UN Conference on Sustainable Development in Rio de Janeiro last year – known as Rio+20 – also dealt with transport, among many other topics, and emphasized in its final declaration the importance of transport as a field of action. I am very grateful for this, for it is especially the transport sector where too little has been done so far to come closer to the goal of sustainability. Transport is a global issue - mainly because of climate concerns. But most of all, transport is an important issue in the local and regional context. This is true for all countries, and in many cases countries are faced with very similar problems in that regard. Rio+20 rightly emphasized the key role which cities play for achieving virtually all sustainability objectives. The United Nations are the place to discuss these issues, to raise awareness of relevant problems and to discuss solutions. I am confident that the right instruments can be found to achieve urgently needed progress in future.

From the viewpoint of environmental protection, the transport sector worries us a great deal. Take climate change mitigation, for example: Whilst in Europe emissions in other sectors fell in the last two decades, they increased in the transport sector.

Transport accounts for about 20 percent of global greenhouse gas emissions. Since 1971, climate-damaging emissions from transport have more than doubled. But not only that, emissions will continue to increase because transport is still seeing strong growth. The efficiency improvements achieved for vehicles could not, so far, compensate for the emission increases from traffic growth. Success stories in this regard cannot be expected any time soon.

For decades, the growth in transport has been driven mainly by the OECD countries. In these countries the growth in passenger transport is now slowing a bit, while growth in freight transport is becoming even more dynamic, reflecting the increasing interconnectedness of trade relations. International aviation and navigation are the main drivers. Developing countries are quickly catching up in terms of traffic growth.

The International Energy Agency has estimated that under current conditions global CO₂ emissions from transport will rise by 50 percent by 2030 and by 80 percent by 2050.

Today, energy supply for transport is still based almost completely on oil. In the future, the transport sector, too, must get its energy in very large part from renewable resources. Otherwise we will miss the goal of limiting the global temperature rise to not more than 2° C, the need for which was recognized by the participants of the UN Climate Conference held in Cancún in December 2010. We have not made much headway in developing post-fossil, greenhouse-gas-neutral energy supply options, and we need to step up work in this area. This will not, however, eliminate the need for concepts for reducing transport demand wherever possible and shifting it as far as possible to the most environmentally friendly modes, because the availability of renewable energies, as well, will be limited. Especially over long distances, cars and trucks should be used less and the use of rail and buses stepped up. In urban transport, transport on foot, by bike and by public modes should be promoted more strongly and better links between these modes established. Furthermore, the efficiency of cars and trucks should be increased through improved engine technology and a consistent light-weight design.

Post-fossil energy supply systems for the transport sector will often use renewable electricity, whether directly or indirectly. We currently see three options for a greenhouse-gas-neutral energy supply in transport:

Biofuels are the solution that first comes to mind. However, a closer look shows this option to be problematic. We must take into account the fact that biomass is a scarce resource. Demand for biomass for production of food, energy or building materials is on the rise. At the same time, global land use is characterized by serious environmental and social problems. Hunger and food insecurity are an unsolved problem, soil degradation is progressing, water resources are becoming scarcer. Soils are overused, nature is being destroyed, and one billion people are starving. I therefore believe that the use of biomass crops, including raw timber, for the production of energy should not be expanded any further. Biofuels should therefore be produced from waste and residual materials that are first recycled and only then used for the production of energy.

The second option for GHG-neutral energy supply in transport are battery electric or grid-bound vehicles. These are greenhouse-gas-neutral if the electricity comes from renewable sources.

The third option are liquid fuels or gas produced using renewable electricity (power to gas, power to liquid). Since the use of biofuels is problematic, we have high hopes for power-to-gas and power-to liquid energy supply options. It is key to develop them now so that the transport sector with its infrastructure and vehicles can adjust in time.

Each transport mode makes different demands. Therefore, the right energy option must be found for each. It is especially aviation and navigation where alternatives are very few in number.

The global perspective is one thing, Ladies and Gentlemen, but it is especially the cities which suffer from the impacts of transport.

One trend we can see across the world is people migrating from rural areas to cities. We are seeing this trend in the traditional developed countries, but it is much more pronounced in developing and newly industrialized countries. In 2050, 70 percent of the global population will live in cities. This large-scale in-migration over a short period causes huge problems for cities. Their infrastructures usually cannot handle the growing traffic volumes. Agglomerations with many millions of inhabitants and high population density cannot cope with the traffic growth if they opt for private motorized transport. The Greater Paris area has 10 million inhabitants, the Greater Delhi area has 24 million and the Greater Tokyo area 34 million. The population

density in large cities is high. An average major city in Europe has 70 inhabitants per hectare. In North America, the figure is significantly lower. In the megacities of Asia, in contrast, it is 200 people or more per hectare. This means that the large cities do not have enough space to absorb the growth in car traffic. Transport by car requires ten times as much space as transport by local public transport or bicycle for the same transport performance. That is not even counting space for parking. All this space could be used better by devoting it to building development. Or to the extension of scarce recreational space for residents, by creating areas where people like to spend time and children can move about safely. In many cities around the world, there are encouraging examples of good public transport services, attractive infrastructures for bicycle traffic or car-free zones which can be replicated.

For the growing cities, supplying housing presents a major challenge. They must make land available for this purpose while leaving surrounding natural areas as little impaired as possible. In the cities themselves, there must be recreational areas for residents. Distances between home and work, schools, health services, shops and so on must be as short as possible. Strong institutions are needed to tackle this, especially one responsible for urban and transport planning which is well equipped with expertise and competences. A research report recently prepared for us highlights the Chinese city Kunming as a good-practice example. Encouraged and supported by the city of Zurich, the plans of the Kunming municipal authorities show that even fast-growing cities can successfully create land-saving and low-traffic structures. Forums for the exchange of experience such as this meeting in Berlin are extremely helpful for encouraging others to follow suit.

Clean air is part of a good quality of life in cities. We in Germany and Europe have undertaken great efforts to improve air quality and have therefore achieved successes in this area. For example, smog episodes in winter with high sulphur concentrations are a thing of the past. Emissions of dust and carbon monoxide have fallen significantly. Emissions of heavy metals and persistent organic pollutants to the environment have also decreased. The picture is less favourable for emissions of fine particulate matter and nitrogen oxides, which have fallen in Germany but far less than those of the other pollutants.

The foundation for clean air in Europe was laid by the Geneva Convention on Long-range Transboundary Air Pollution, which took up the issue of transboundary air pollution as early as 1979 with a reach transcending the then iron curtain. The establishment of national emission ceilings in the EU and the restructuring of the economic system in Eastern Europe after 1990 were further milestones. Sulphur-rich lignite was increasingly replaced by fuels with lower emissions such as hard coal and natural gas, and power plants were equipped with flue gas treatment systems. Emission standards for industrial plants were tightened.

In the area of road transport, the establishment of so-called Euro standards (1 to 5 for passenger cars and I to V for heavy-duty vehicles) significantly reduced exhaust gas emissions. Further measures are planned for the future – like the Euro 6/VI standard for passenger cars and heavy-duty vehicles – which will bring an additional reduction of nitrogen oxide emissions. Looking at heavy metal emissions, the ban on leaded petrol played a key role in bringing them down. In 1990 leaded petrol could still be bought at every filling station. Since its sale was banned in 1998, significant emission reductions have been observed; between 1990 and 2010, lead emissions in Germany fell by nearly 91 percent.

Despite advances in exhaust gas treatment, the current air quality standards for fine particulate matter and nitrogen dioxide are still being exceeded in some cities in Germany, and these exceedances are found predominantly at locations with large volumes of traffic. However, if we compare the situation with that of other cities worldwide, we can see that in many countries, particularly in Asia and South America, the problem is much more pressing. The World Health Organization (WHO) has collected measurement data worldwide and is alarmed. For example, in many Asian cities, concentrations of fine particulate matter in ambient air exceed the WHO's guideline value tenfold or more. Exposure to fine particulate matter presents a high health risk, affecting the respiratory tract as well as the cardiovascular system. There is also evidence of carcinogenic effects. The WHO has emphasized that fine particulate matter has no threshold below which health risks can be ruled out. Where the recommended guideline value is complied with, health impairments are unlikely at least for the average population.

Health and quality of life are adversely affected not only by air pollution but also by noise. Noise today exists virtually everywhere and around the clock – in urban and

rural areas, day and night. Large infrastructure projects such as new airports or airport expansions have made noise become a focus of attention of policymakers, scientists and the public. Noise abatement is therefore a priority topic for environmental and health protection. The German Federal Environment Agency has worked on this issue since its inception, develops the necessary know-how on noise abatement and gives impetus towards a substantial improvement of the noise situation. We have, for example, carried out various model projects on extensive traffic calming in cooperation with other institutions. Following initial opposition and doubts, these projects convincingly demonstrated the advantages of this concept in practice: Not only did noise levels in these areas drop, they also experienced a substantial improvement in traffic safety and quality of life. The knowledge and valuable practical experience from these projects is utilized in the implementation of noise action planning under the European Environmental Noise Directive currently ongoing in towns and municipalities. The targeted implementation of specific noise abatement measures has improved the noise situation in many places. Nevertheless, large efforts must continue to be made in future to achieve substantial improvements for those parts of the population which are affected by noise.

The Federal Environment Agency has initiated a research project called “Silent City” to support municipalities in their day-to-day work in fighting noise under the EU Environmental Noise Directive. As part of the project, the contractor, the European Academy of the Urban Environment, has prepared a handbook on noise abatement planning, which helps local authorities to effectively implement the Environmental Noise Directive in practice. In addition, it explains to citizens the requirements of the Environmental Noise Directive, provides guidance on public participation and encourages citizens to participate. Using the model town “Silent City” as an example, the handbook describes in a practice-oriented way the procedure to be followed in noise abatement planning.

In the implementation of noise action plans, synergies can be utilized. As already mentioned, many noise abatement measures also have an impact on traffic safety, the quality of traffic flow or the capacity of the road network. Traffic management measures often have a positive impact on exposure concentrations of fine particulate matter or nitrogen oxide. It is therefore important that town and transport planners and environmentalists cooperate even more closely across borders.

Broad public participation is a key element of a modern, transparent noise abatement strategy. People have detailed knowledge of the noise problems in their towns and often have good suggestions on how to solve them. This knowledge potential must be utilized more strongly. Greater participation of the people affected can also significantly enhance awareness of noise problems and the motivation for quiet behaviour. In addition, we have learnt from noise impact research that participation influences the evaluation of a noise nuisance – those involved in decision-making rate the noise as less noisy.

Mutual trust between those involved in the decision-making process is also very important. A number of studies show that there is a link between trust or distrust in the goodwill of those responsible, and annoyance reactions. Trust, therefore, is important for the acceptance and successful implementation of noise abatement measures. Measures will very likely be more effective if the trust of those affected can be won.

Ladies and Gentlemen,

As the last topic of my talk, I would like to address the question of what we can do in an international context to make transport more sustainable.

- First of all we need strong institutions and good instruments. In this context I welcome the agreement reached in Rio and endorsed by the UN General Assembly that the role of the United Nations Environment Programme (UNEP) should be strengthened. I am very happy that meanwhile these decisions have been implemented by establishing the universal membership for UNEP and replacing the governing council as UNEPs governing body by the UN Environment Assembly.
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- Second point: The transport issue is not, in the global framework, paid the attention it deserves in view of the pressures it causes and the difficulty of finding adequate solutions. There is not yet general awareness of the fact that the growth in transport involves huge problems. Efforts to find solutions

are still far from satisfactory in terms of consistency and intensity. To set such a process in motion, I hope that the traffic and transport sector will be appropriately addressed under the set of Sustainable Development Goals. Reaching agreement on quantifiable goals and indicators would be the first step to this end. Regular reporting and continuous monitoring of the development would reveal the problems for everybody to see and clearly show the need for action.

- Third point: Transport does not play a separate role in the context of international climate negotiations such as those under the Framework Convention on Climate Change, since sectoral approaches are discussed only in exceptional cases. The only such exception in the transport sector is international aviation and navigation. Since Kyoto, a transnational instrument for emissions abatement has been in place - the Clean Development Mechanism (CDM) – which is designed at the same time to enable developing countries to develop along environmentally sustainable lines through inflow of money and technology. However, this instrument cannot be easily applied in the transport sector. The fact that little use has been made of it reflects this.

In 2010 the Climate Conference in Cancún accepted a new instrument: Nationally Appropriate Mitigation Actions (NAMAs). This new approach of using NAMAs to develop mitigation plans in developing and newly industrialized countries is promising. The short time since the official adoption of this mechanism has already shown that it can set in motion developments towards emissions abatement in the transport sector. Three years ago the German Federal Ministry for the Environment initiated a comprehensive programme which is being carried out by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) under the name of Transfer. As part of this programme, a handbook for NAMAs in the transport sector was prepared and mitigation plans for the transport sector developed in South Africa, Indonesia and Colombia. The programme has shown that there is widespread interest in such projects and that they can actually be carried out. Countries interested together with development banks are prepared to fund these projects. NAMAs in transport could thus

play a key role for emissions abatement in newly industrialized and developing countries.

- Fourth point: In concluding, let me say that I see an urgent need for action in the fields of aviation and shipping. Perhaps as early as 2020, these two transport modes could each account for over 10 percent of the global climate impact of all emission sources. I consider it vital that in the negotiations of the International Civil Aviation Organization (ICAO) in September/October a breakthrough be achieved, absolute emission reduction objectives be agreed for aviation and appropriate economic instruments be established. The same goes for shipping. Otherwise even the aviation sector alone threatens to undo the reductions achieved in other sectors.

Ladies and Gentlemen,

I hope I could show the magnitude of the challenges we face if we want to make transport sustainable. Given the dynamics in this sector, what has been achieved so far is not enough. The intense debate which has already begun is an important step. However, much remains to be done to implement the knowledge gained. My suggestion in that regard is that the public should be involved in the process right from the start, especially where large-scale projects are concerned, because this leads to greater public acceptance and better, fit-for-purpose solutions. I am confident that we can do it.

Thank you.