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## **Economic Commission for Europe**

### **Inland Transport Committee**

#### **Seventy-eighth session**

Geneva, 23–26 February 2016

Item 4 (d) (ii) of the provisional agenda

#### **Strategic questions of a horizontal policy nature:**

**Environment, climate change and transport –**

**Mitigation of environmentally harmful effects of inland transport**

## **Transport and Environment in the UNECE Environmental Performance Reviews**

### **Note by the secretariat**

#### *Summary*

This document provides information about the recent cooperation between the UNECE Environment and Sustainable Transport Divisions in Environmental Performance Reviews (EPRs). As part of this cooperation, Sustainable Transport Division staff have been actively involved in the preparation, fact-finding mission and authoring of the transport chapter in the third EPR Reviews of Georgia and Belarus. A third EPR is ongoing for the country of Tajikistan. The Committee may wish to reflect on ways in which the analytical work of the Division can be strengthened, especially in light of the Committee's role and contribution to the implementation of the transport-related Sustainable Development Goals and the 2030 Agenda for Sustainable Development.

## **I. Background**

1. Since 2014 the Sustainable Transport Division cooperates with the Environmental Performance Reviews (EPR) Programme of the Environment Division of UNECE embedding division staff in the EPR teams of international experts.
2. The EPR programme was first launched by the OECD in 1991 for its member countries. In 1993, the environment ministers of the UNECE member States requested UNECE to extend this approach to countries in the UNECE region that are not OECD members. Two cycles of EPR have already been carried out by UNECE and the third one has started in 2012.

3. An Environmental Performance Review (EPR) is an external assessment of the progress a country has made in reconciling its environmental and economic targets and in meeting its international environmental commitments. The EPR Programme assists countries to improve their environmental management and performance; promotes information exchange among countries on policies and experiences; helps integrating environmental policies into economic sectors; promotes greater accountability to the public and strengthens cooperation with the international community.
4. EPRs reports are addressed primarily to governmental officials, international financing institutions, intergovernmental and non-governmental organisations, civil society, researchers and the business sector.

## II. Purpose of the cooperation

5. The purpose of the cooperation is to draft the chapter of the EPR report on transport and environment. More specifically, the chapter provides for each topic covered, (1) a description of the development of the issue within the country during the period covered by the EPR, (2) an assessment of its current status, and (3) an evaluation of environmental performance in the Transport Sector, especially in terms of achieving the objectives set by the country itself.
6. The chapter covers all transport modes (road, railway, air, inland water and maritime transport) and all types of transport (passengers, freight, including transport of dangerous goods). The chapter covers the following areas, also noting changes since the country's previous EPRs, if applicable:
7. The chapter also applies the For Future Inland Transport Systems (ForFITS) tool to assess the country's CO<sub>2</sub> emissions by transport. ForFITS is a software developed by UNECE to evaluate transport activity, energy use, and CO<sub>2</sub> emissions in a range of possible policy contexts. Sustainable transport can be assessed in ForFITS by creating simulations of Avoid-Shift-Improve policies which take into account the expected evolution of relevant macroeconomic parameters. Fuel taxation schemes, subsidies for cleaner vehicle technologies, road pricing, modal shift assessment, structural changes in the transport system and introduction of sustainable biofuels are only some of the policy options that are addressed by ForFITS. The tool allows users to easily visualize and compare the results of multiple runs of the model. The requirements for the model are presented at the annex of this ToR.
8. The executive summaries of the Georgia and Belarus chapters together with the corresponding recommendations can be found in Annexes I and II respectively.
9. The endorsement of the chapters and recommendations by the Committee of Environmental Policy was followed by a high level panel discussion on "Addressing air quality -working across the environment, transport and energy sectors: 2015 Environmental Performance Reviews of Belarus, Georgia and the Netherlands" (brochure can be found at: [www.unece.org/fileadmin/DAM/env/epr/Roundtable/2015/Poster\\_EPR\\_Rountable.pdf](http://www.unece.org/fileadmin/DAM/env/epr/Roundtable/2015/Poster_EPR_Rountable.pdf)).
10. The panel consisted of Ms. Iya Malkina, First Deputy Minister of Natural Resources and Environmental Protection, Belarus, Ms. Ekaterine Grigalava, Deputy Minister of Environment and Natural Resources Protection, Georgia, and Ms. Hester de Boer, Ministry of Infrastructure and the Environment the Netherlands. The Panel was moderated by Mr. Christian Friis Bach, UNECE Executive Secretary, followed by comments by the Directors of the involved UNECE divisions (Sustainable Transport, Sustainable Energy and Environment Divisions).
11. Annex III contains the agreed outcomes and decisions by CEP on this topic at its 21st session (Geneva, 27–30 October 2015).

### **III. Future work**

12. The Committee may wish to reflect on ways in which the analytical work of the Division can be strengthened, especially in light of the Committee's role and contribution to the implementation of the transport-related Sustainable Development Goals and the 2030 Agenda for Sustainable Development.

## Annex I

### Third Environmental Performance Review of Georgia

#### Transport and Environment: Executive Summary

*The development of Georgia's transport sector is determined to a large extent by its strategic position for energy imports by the EU from neighbouring Azerbaijan, and for east-west and north-south trade flows. In response to its strategic position as a transit country, Georgia has invested in important infrastructure projects to increase the effectiveness of its transport system.*

*Since 2004, the number of wheeled vehicles has increased three times, from 319,461 in 2004 to 1,021,261 in 2014. The steep increase is primarily due to the increase in road passenger transport with eight seats; which increased by 220 per cent from 256,153 in 2004 to 820,819 in 2014. About 531,000 vehicles, i.e. 70 per cent of the vehicle fleet, are older than 15 years.*

*Georgia has invested heavily in modernizing and upgrading its rail network since 2004. The rail network in 2004 was 1,565 km, 4 per cent of which was included in the Trans-Caucasian Corridor (TRACECA) rail corridor. Today, the network has reached 2,344 km.*

*The transport sector accounts for 87 per cent of CO, 70 per cent of NO<sub>x</sub>, 50 per cent of SO and 40 per cent of VOCs emissions in the country. According to NEAP-2, factors exacerbating the emission of air pollutants by the sector include the age, poor quality and high number of the vehicle fleet. Furthermore, even though most cars are imported from Europe, the catalytic converters are outdated, thus dramatically increasing the amount of emitted harmful substances.*

*In recent years, efforts have been made to promote public transport in Georgia. In recent years, it has received considerable investments. The underground system extends to a total of 57 km, corresponding to two lines and 22 stations. In 2012, aerial tram/cable car from Rike Park to Narikala Fortress was built. The funicular railway that runs up to Mtatsminda Mountain was opened in 1905 and was recently reconstructed.*

*From 1 January 2014, regulations and standards on fuel quality in force have become more strict. In particular, those concerning lead content standards in Georgia are as stringent as those in the EU. However, there is no inspection system in place to control the quality of fuel at the distribution points.*

*Despite the fact that the new standards for sulphur content are considerably more stringent than their predecessors, they remain a clear outlier from equivalent standards in the EU. In petrol, maximum sulphur concentrations in Georgia are 15 times higher than those allowed in the EU. In diesel, the same concentrations are 20 times higher than those allowed in the EU. Given the adverse environmental and health effects of sulphur emissions, this is an area of concern with considerable room for improvement.*

#### Conclusions and recommendations

There is no overarching strategic policy document governing the development of all modes of transport, to ensure that the sector, and individual modes within it, develop in a coherent, efficient and sustainable way. Experience across countries and over time shows that the existence of a national strategy for sustainable transport is a prerequisite for achieving synergies, avoiding overlaps and implementing well-assessed national priorities in the pursuit of sustainable transport.

*Recommendation 10.1:*

*The Government should adopt a national strategy on transport, integrating all modes of transport, with the achievement of sustainable transport as its main focus.*

Georgia is not yet a party to UN transport agreements on the transport of dangerous goods and special cargoes, including perishable foodstuffs. Given the impact of accidents involving such cargoes on the environment and human health, Georgia would strengthen its position as a transit country with its accession to such legal instruments. Furthermore, Georgia has not yet ratified the ECE agreement on periodical technical inspections, although it signed it in 1997, almost 20 years ago.

*Recommendation 10.2:*

*The Government should accede to or ratify the following United Nations transport agreements, in order to improve the environmental performance of the transport sector and the country's competitiveness as a transit country:*

*(a) The 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections;*

*(b) The 1957 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), and the related Protocols;*

*(c) The 1970 Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP).*

Because of the specific circumstances affecting the vehicle fleet in Georgia, transport can be identified as the number one cause of environmental impacts on the quality of air in Tbilisi. The situation keeps getting worse due to the constant increase in vehicle numbers. To reverse this trend and check the environmental impacts of the sector, drastic measures are needed in multiple directions affecting the efficiency of vehicles, travel and the transport system as a whole. Equally needed are regulations defining the technical characteristics of vehicles, to limit, for example, the use of right-hand-drive vehicles among the registered cars within Georgia.

*Recommendation 10.3:*

*The Ministry of Economy and Sustainable Development, with a view to improving the situation concerning road vehicles, should:*

*(a) Reinstate mandatory inspections of roadworthiness and vehicle emissions and use these inspections to assess the presence of catalytic converters and unregulated retrofitting of vehicles to burn natural gas; (b) Consider regularizing retrofitting for conversion of cars to natural gas by setting up safety regulations and certification schemes for qualified technicians;*

*(c) Adopt emission standards for vehicles and technical specifications;*

*(d) Together with the environmental authorities, tighten fuel quality standards, especially vis-à-vis the sulphur content of liquid fuel;*

*(e) Adopt regulations defining the technical characteristics of vehicles, inter alia, to limit the use of right-hand-drive vehicles that has risen considerably in recent years;*

*(f) Make car insurance obligatory.*

Official statistics show a potential deterioration in road safety in Georgia. Current statistics may underreport fatalities and injuries while not offering adequately detailed information as to the causes of accidents. Given the gaps in the existing legal and institutional framework of ensuring the roadworthiness of vehicles, because of the absence of compulsory vehicle inspections, statistics on road safety do not reflect the sources of accidents in order to

sensitize public opinion and mobilize political actors to reinforce the roadworthiness inspections regime in the country.

*Recommendation 10.4:*

*The Ministry of Internal Affairs should improve statistics on road accidents and their causes, while taking active measures, including training of drivers and information campaigns, to raise awareness of the need to improve the country's road safety record.*

Despite improvements in the urban transport performance of Tbilisi, it is necessary to further develop solutions to improve the traffic situation and mitigate the negative environmental, health, economic and social impacts of motorized transport, for example through the deployment of Intelligent Transport Systems (ITS) solutions. Electrified transport in the form of trolleybuses and trams has been discontinued, despite the fact that these are some of the more economical and ecological means of transport (producing fewer emissions and less noise than fuel combustion). As recent policy studies and empirical evidence have shown, the promotion of active (i.e. nonmotorized) mobility for passengers is a source of considerable benefits in that direction.

*Recommendation 10.5:*

*The Ministry of Economy and Sustainable Development, in cooperation with the municipalities of Tbilisi and other big cities, should:*

*(a) Consider the deployment of Intelligent Transport Systems solutions in order to improve traffic demand management and mitigate the negative externalities caused by urban transport;*

*(b) Promote active (non-motorized) mobility in the cities and assess the possible benefits of such a transformation.*

*Recommendation 10.6:*

*The Government should introduce supportive policies to promote the development of electrified transportation.*

## Annex II

### Third Environmental Performance Review of Belarus

#### Transport and environment: Executive summary

*The impact of the transport sector on air pollution has stabilized and, in recent years, even reversed.* Compared with 2009, emissions of air pollutants from transport in 2013 have declined by some 20 per cent, from 1.14 million tons to 0.93 million tons. As a percentage, their share in total air polluting emissions has declined, from 72 per cent in 2005 to 68 per cent in 2014. These developments are significant because they are occurring against the backdrop of a sharp increase in the vehicle fleet.

*The country has invested in electrifying public transport in major cities.* At the same time, greening urban transport in this way has not yet resulted in equivalent increases in passenger turnover, with the notable exception of metro passengers in Minsk. There has been a steep rise in the use of metro – available only in the capital – by more than 31.1 per cent, from around 250 million passengers in 2009 to 328 million passengers in 2013.

*The quality of fuel remarkably improved.* As of January 2015, Euro 5 standard for diesel is applied (sulphur 10 ppm), a quality level to be attained by the petrol as of 2016. Currently, the Euro 4 standard for petrol is used (sulphur 50 ppm).

*The urban traffic performance of Minsk is improving through the application of domestically developed intelligent transportation system (ITS) solutions.* However, the application of ITS solutions to improve the traffic situation and mitigate the negative environmental, health, economic and social impacts of motorized transport is not widely practised.

*The country participates in several transport agreements which are important from an environmental point of view.* However Belarus does not yet participate in the 1993 Protocol to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) and the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN).

#### Conclusions and recommendations

Belarus invests heavily in the promotion of sustainable transport, including through the promotion of electrified public transport. However, these investments are not yet based on a solid financial footing with adequate levels of cost recovery. Sustainable transport can be achieved through having a solid financial basis.

##### Recommendation 9.1:

*The Government, together with local authorities, should ensure the financial sustainability of its transport policy by:*

- (a) *Improving the cost recovery of public transport;*
- (b) *Prioritizing investments in types of transport where passenger loads justify them and taking measures aimed at increasing passenger demand.*

Because of the slow pace of vehicle renewal in Belarus, transport can still be identified as the number one cause of impacts on the quality of air in Minsk. The situation has improved in recent years, despite the constant increase in the number of vehicles, due to more stringent vehicle and fuel standards having been adopted nationwide.

##### Recommendation 9.2:

*The Government should introduce economic incentives to facilitate the renewal of the country's aging fleet with a view to improving the situation regarding motor vehicles.*

The urban traffic performance of Minsk is improving through the application of domestically developed intelligent transportation system (ITS) solutions. However, the application of these solutions to improve the traffic situation and mitigate the negative environmental, health, economic and social impacts of motorized transport is not widely practised.

*Recommendation 9.3:*

*The Government should ensure that the local executive and administrative bodies continue to deploy intelligent transportation system (ITS) solutions in order to improve traffic demand management and mitigate the negative externalities caused by urban transport.*

Belarus is a party to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), which is intended to ensure the safety, security and facilitation of transport operations. Carriers from one country can carry dangerous goods through and to any other country that is a contracting party without additional safety requirements imposed by transit or destination countries. The ADR also allows mutual recognition of certificates, that is, packaging certificates, vehicle certificates, tank certificates and driver training certificates. The ADR is regularly updated and kept in line with the UN Recommendations on the Transport of Dangerous Goods, that is, with international regulations for the transport of dangerous goods by sea and air. The entry into force of the 1993 Protocol of amendment to the ADR would strengthen the ADR (accession by all ADR contracting parties is required).

Belarus is not yet a party to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN). The goals of the ADN are to increase the safety of the international carriage of dangerous goods by inland waterways; contribute effectively to the protection of the environment, by preventing any pollution resulting from accidents or incidents during such carriage; and facilitate transport operations and promote international trade. Given the impact of accidents involving such cargoes on the environment and human health, Belarus would benefit as a transit country through participation in such agreements.

*Recommendation 9.4:*

*The Government should consider accession to the following United Nations transport agreements, in order to improve the environmental performance of the transport sector and its competitiveness as a transit country:*

- (a) The 1993 Protocol amending article 1 (a), article 14 (1) and article 14 (3)(b) of the European Agreement of 30 September 1957 concerning the International Carriage of Dangerous Goods by Road (ADR);*
- (b) The 2000 European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN).*



## Annex III

### **Outcomes and decisions by CEP at its 21st session (Geneva, 27-30 October 2015)**

*The Committee on Environmental Policy:*

[...]

(q) Welcomes the information provided during the high-level round table, “Addressing air quality — working across the environment, transport and energy sectors: 2015 Environmental Performance Reviews of Belarus, Georgia and the Netherlands”, and expresses appreciation to the panellists for their contributions, and:

(i) Acknowledges the importance of the effective cooperation between the environment, transport and energy sectors for improving air quality;

(ii) Also acknowledges the importance of intersectoral cooperation to ensure an integrated approach for the achievement of SDGs, and in particular those related to air quality;

(iii) Recognizes the importance of EPRs as a mechanism for review, exchange of experiences and transfer of good practices, which may be useful in reviewing the implementation of SDGs;

(iv) Welcomes the information provided by Belarus and Georgia on their plans to join the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone to the ECE Air Convention by mid-2018 and by the end of 2019, respectively;

(v) Expresses appreciation of the contribution of the ECE Transport and Sustainable Energy Divisions to the preparation of the EPRs of Georgia and Belarus and for their contributions to the round table;