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## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on Transport Trends and Economics

##### Group of Experts on Climate Change impacts and adaptation for transport networks and nodes

###### Seventh session

Geneva, 3–5 June 2015

## Report of the Group of Experts on Climate Change impacts and adaptation for transport networks and nodes on its seventh session

### Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Attendance.....	1–5	2
II. Introduction – The work of the Group in first phase (agenda item 1).....	6–8	2
III. Election of Officers (agenda item 2).....	9	3
IV. Adoption of the agenda (agenda item 3).....	10	3
V. Climate Change and Transport Networks and nodes: Overview of main concerns and considerations (agenda item 4).....	11–17	3
VI. Programme of work (agenda item 5).....	17–18	4
VII. Partners and expected contributions (agenda item 6).....	19–20	4
VIII. Preliminary discussion on the structure of the final report of the Group of Experts (agenda item 7).....	21–23	5
IX. Other business (agenda item 8).....	24	5
X. Date of next session (agenda item 9).....	25	5
XI. Summary of main decisions (agenda item 10).....	26	6

### Annex

Programme of Work and Terms of Reference of the UNECE Group of Experts on Climate Change impacts and adaptation for transport networks and nodes.....	7
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## I. Attendance

1. The Group of Experts (hereafter called the Group) on Climate Change impacts and adaptation for transport networks and nodes held its seventh session from 3 to 5 June 2015.
2. Representatives of the following United Nations Economic Commission for Europe (UNECE) member States participated: Belgium, France, Netherlands, Poland, the former Yugoslav Republic of Macedonia.
3. Representatives of the following United Nations organizations and specialized agencies attended the meeting: United Nations Conference on Trade and Development (UNCTAD).
4. The following non-governmental organization was represented: International Union of Railways (UIC).
5. Representatives of the following bodies attended the meeting at the invitation of the secretariat: Association for Metropolitan Mobility, Institute for ubiquitous Meteorology (UBIMET), University of Rhode Island.

## II. Introduction – The work of the Group in first phase (agenda item 1)

*Documentation:* ECE/TRANS/WP.5/GE.3/2011/1, ECE/TRANS/WP.5/GE.3/12, ECE/TRANS/238

6. The Group of Experts recalled that the Group had completed its work in 2013 and had submitted a full report of its accomplishments. This report included policy-oriented recommendations to improve the long-term sustainability of transport infrastructure with an emphasis on international connections. It also included best practices of different national policies which address the issues of transport network resilience from climate change impacts. The final report of the Group issued a publication (ECE/TRANS/238) to raise awareness on the importance of climate change adaptation. It also provided a set of best and good practices for adaptation measures.
7. Following the approval of the establishment of the Group of Experts by EXCOM in May 2011, the Group met in September and November of 2011; in April, October and December of 2012; and in March of 2013 when its objectives were considered accomplished. The meetings were attended by twenty-two governments, intergovernmental and non-governmental organizations, e.g. the European Union, World Meteorological Organization, Eurasian Economic Community, International Union of Railways, International Road Federation, International Road Transport Union and academia.
8. The Inland Transport Committee at its seventy-sixth session (25 February 2014) welcomed the outcome of activities undertaken by the Group of Experts; endorsed the main recommendations of the report according to which effective climate change adaptation strategies should be based on a clear understanding and systematic mapping of the vulnerabilities of the transport sector to climate change and the capacity required to adapt to changes; and invited UNECE to strengthen cooperation with, in particular, the United Nations Framework Convention on Climate Change (UNFCCC) and the Global Framework for Climate Services (GFCS) of the World Meteorological Organization (WMO).

### **III. Election of Officers (agenda item 2)**

9. The Group elected its officers, Mr. Jerzy Kleniewski (Poland) as Chair and Mr. André Leuxe (France) as Vice-Chair for the period of its establishment.

### **IV. Adoption of the agenda (agenda item 3)**

*Documentation:* ECE/TRANS/WP.5/GE.3/13

10. The Group adopted the agenda.

### **V. Climate Change and International Transport Networks: Overview of main concerns and considerations (agenda item 4)**

*Documentation:* ECE/TRANS/WP.5/GE.3/2015/2

11. The Group considered ECE/TRANS/WP.5/GE.3/2015/2 and additional information provided by the secretariat on the main issues and concerns related to the impacts of climate change on inland transport networks and adaptation requirements for different modes of transport.

12. The Group noted a number of initiatives being developed by various stakeholders and asked its members to communicate any relevant information to the secretariat.

13. Mr. Piet de Wildt, Ministry of Infrastructure and the Environment, the Netherlands, highlighted the challenges that his country faces with climate change, mainly with global temperature rise and change in local wind regime. He pointed out the impacts of sea level rise on port infrastructure, of river discharges in inland water transport and of heavy precipitation on road safety and road capacity. He stated the effects of technology as well as of human behaviour. Awareness raising on climate change adaptation is a long lasting key message.

14. Mr. André Leuxe (DGITM), Ministère de l'écologie, du développement durable et de l'énergie, France, focused his presentation on adaptation measures taken in France to impacts of climate change. He pointed out that adapting to climate change is a necessity and he provided a detailed analysis on different risks as well as adaptation measures taken. He provided information on the potential vulnerability of French coastal infrastructures as well as on the tentative cost estimate of the impact on French coastal roads. He presented the National Adaptation Approach (the French NAPCC and its "transport" component). The first national adaptation plan to climate change focused on the period 2011–2015. A report was made public in January 2014 to the National Council of the ecological transition.

15. Mr. Andrea Braschi, (UIC) presented the Adaptation of Railway Infrastructure to Climate Change (ARISCC) project with as main objectives to find good examples of how railways are assessing infrastructure vulnerability; understand how railways can incorporate longer term climate predictions into infrastructure management and planning process; and propose new management approaches to bring these issues together. He also provided information on the ad hoc dedicated adaptation working group which prepared the Sector Position Paper (2012) that concluded that no changes in the present regulatory framework are considered necessary to deal with foreseeable climate changes. He also provided information on the RailTopoModel & GRIDS which is a railway model standardized to solve transport issues connected to railways.

16. Mr. Ștefan Roșeanu, Club Feroviar, presented the extreme weather events impact on Romanian railway transport. He presented the Romanian climate change policy, and he provided information on floods and blizzards impacts on railway network.

## VI. Programme of work (agenda item 5)

*Documentation:* ECE/TRANS/WP.5/GE.3/2015/1

17. The Group considered document ECE/TRANS/WP.5/GE.3/2015/1 prepared by the secretariat containing the proposed programme of work of the Group and scheduled activities. The experts, after discussions, provided concrete amendments to the proposed programme of work to make it more concrete with tangible results. The Group of Experts provided the following amendments – bold new text, strikethrough deletion of text – to the draft programme of work of the Group:

(a) New small (e) , page 2

Take stock of the results of relevant climate change models;

(b). Old (j) new (k), page 2

**(k)(j)** If critical for ~~the dissemination of~~ Group of Experts' work, convene an international conference **or take any other relevant action** on adaptation of transport networks to climate change **in order** to raise awareness possibly under the auspices of WP.5;

(c). Small (a), page 2

(a) ~~Review the geographical scope of the work;~~ **The work should be carried out in the ECE region. However, the Group of experts will welcome inputs from any other interested to its program of work and outside the ECE region countries;**

(d). Small (b), page 2

(b) Identify potential partners in the public or private sector and on the national, regional and international level, with whom the Group of Experts may wish to collaborate, with a view to take stock, **inter alia**, of existing projections of climate change impacts, awareness-raising and exchange of best practices, as well as ensuring extra budgetary funding in support of its activities;

18. The Group approved its programme of work (ECE/TRANS/WP.5/GE.3/2015/1), as amended. The approved final programme is annexed to the present report.

## VII. Partners and expected contributions (agenda item 6)

19. The Group discussed potential partners for its work and possible collaboration efforts with other United Nations bodies, governments, international and regional organizations, NGOs, academia and the private sector and possibilities of ensuring financial support. It also noted that some countries and international organizations are taking initiatives towards policy oriented responses that may be useful for the work of the Group.

20. The Group, recognizing that climate change impacts and adaptation on transport networks and nodes is a global issue that concerns countries from all over the world and not only the UNECE member states, the unique character of the work of this Group, and the importance of the issues at stake invited:

- The secretariat to consider ways and means that the work of the Group could be aligned with and or benefit from other related UN activities, particularly the

processes and mechanisms developed under UNFCCC, the reports and researches undertaken by WMO and of the Intergovernmental Panel on Climate Change (IPCC) as well as of work undertaken under GFCS and the European Commission;

- The Steering Committees of the Trans-European Motorway (TEM) and Trans-European Railway (TER) Projects, The Euro-Asian Transport Links (EATL) project and UNECE secretariat to explore practical ways of ensuring operational interaction of the TEM and TER and EATL Projects with the work of the Group for developing joint activities, elaborating studies and organizing joint events aimed at promoting common objectives for the benefit of the projects and their member countries;
- Other United Nations regional commissions to consider their active participation and contribution to the work of the Group in close cooperation with the UNECE secretariat;
- Governments, international governmental and non-governmental organization, international financial institutions, businesses and donors to consider co-funding future project activities as they may be proposed by the Group.

## **VIII. Preliminary discussion on the structure of the final report of the Group of Experts (agenda item 7)**

21. The Group exchanged views on the possible structure of its final report, including recommendations and proposals to the UNECE members on improving the adaptability of transport networks and nodes to climate change in the areas of: transport infrastructure; cost benefits assessment methodology of adaptation measures; evaluation of adaptive measures; risk management; training tools and cross-border information sharing by national transport authorities, information on GIS environments.

22. The Group requested the secretariat to prepare questionnaire for consideration at the next session of the Group on issues that should be included in the report.

23. Following the first exchange of views on the possible structure of the final report of the Group, the Group requested the secretariat to prepare an outline of the contents of the final report to be considered at its next session.

## **IX. Other business (agenda item 8)**

24. There were no other items.

## **X. Date of next session (agenda item 9)**

25. The Group of Experts eighth session is tentatively scheduled to take place in Geneva on 2–4 December 2015. The experts requested the secretariat to take action to change the dates since they coincide with the UNFCCC CoP 21 (Paris, December 2015).

## **XI. Summary of main decisions (agenda item 10)**

26. The Group adopted the list of main decisions of its first session and requested the secretariat and the Chair to prepare the full and complete report to be circulated to the members of the Group for comments on items other than those contained in the list of main decisions.

## Annex

### **Programme of Work and Terms of Reference of the UNECE Group of Experts on Climate Change impacts and adaptation for transport networks and nodes**

Note by the secretariat

#### **I. Programme of Work**

##### **A. Objectives of Work**

1. In accordance with its Terms of Reference, the Group of Experts is expected to complete its work within two years (2015–2017) and to submit a full report of its accomplishments. The Group of Experts should base its considerations on the previous work of United Nations Economic Commission for Europe (UNECE) in this field, in particular, the output of the Group of Experts on Climate Change Impacts and Adaption for International Transport Networks and its final report (ECE/TRANS/238) and recommendations published in 2013 and adopted by the Inland Transport Committee at its seventy-sixth session (ECE/TRANS/240, para. 20).

2. The Group of Experts shall assist in:

(a) Identify and establish, if possible, inventories of transport networks in the ECE region which are vulnerable to climate change impacts, if possible in a geographic information system (GIS) environment;

(b) Use/develop models, methodologies, tools and good practices to address potential extreme hazards (e.g. high temperatures and floods) to selected inland transport infrastructure in the ECE region under different scenarios of climate change;

(c) Identification and analysis of case studies on the potential economic, social, and environmental consequences of the climate change impacts and provide a cost/benefit analysis of the adaptation options.

##### **B. Activities**

3. The Group of Experts will undertake the following main tasks, which are further defined in the Terms of Reference and will be further elaborated, as required, throughout the whole period of its work, with the support of the secretariat:

(a) Adopt its work plan (objectives, activities, time schedule);

(b) Take stock of transport networks – road, rail, inland waterways – in the ECE region of international importance and, whenever, needed because of connections with ports and intermodal transport centres of national importance;

(c) Identify, if possible, points of high criticality of these networks and nodes by taking into consideration their degree of international/national importance as well as cargo and passenger flows;

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- (d) Display, if possible, these transport networks and nodes in a GIS environment;
  - (e) Take stock of the results of climate change models;
  - (f) Take stock and use of existing projections – if possible in a GIS environment – on different climate change impacts such as floods, heat waves and droughts (temperature), sea level, strong winds and permafrost;
  - (g) Match, if possible in a GIS environment, the inventories of transport networks and nodes with the climate change impacts projections with the objective to identify any “hot spots” in the ECE region as well as to address potential extreme hazards to selected inland transport infrastructure;
  - (h) Select, based on concrete criteria that have to be decided — for instance selection of different transport modes and climate impacts combinations such as rail — floods, road-heat waves, etc. or selection of specific corridors that concentrate the most of the hot spots — case studies with the objective to analyze potential economic, social, and environmental consequences and to provide cost/benefit analysis of the adaptation options;
  - (i) Prepare and present a final report of its work to be published by UNECE which, if the work has been undertaken in a GIS environment, should include a GIS application uploaded on the web which will illustrate all work done and scenarios analysed;
  - (j) Make proposals on the scope of related activities of its parent body, the Working Party on Transport Trends and Economics (WP.5);
  - (k) If critical for Group of Experts’ work, convene an international conference or take any other relevant action on adaptation of transport networks to climate change in order to raise awareness possibly under the auspices of WP.5;
4. In carrying out its main tasks, the Group of Experts will, among others, also:
- (a) The work should be carried out in the UNECE region. However, the Group of Experts will welcome inputs from any other interested to its programme of work and outside the UNECE region countries;
  - (b) Identify potential partners in the public or private sector and on the national, regional and international level, with whom the Group of Experts may wish to collaborate, with a view to take stock, *inter alia*, of existing projections of climate change impacts, awareness-raising and exchange of best practices, as well as ensuring extra budgetary funding in support of its activities;
  - (c) Identify suitable methodological approaches, models and tools for gathering and disseminating information, i.e. conducting studies, distributing questionnaires, using existing studies and national strategies, existing best practices in risk management and financing of adaptation measures, among others;
  - (d) Identify any necessary data (including specific geological or meteorological data elements as well as transport networks and nodes) that the Expert Group may require on regions or countries that run a higher risk of impact, that are particularly vulnerable, or are already experiencing the effects of climate change on their transport networks.

### C. Time Schedule

5. At its seventh session on 3 June 2015, the Expert Group will review its schedule of activities which is planned as follows:

<i>Session</i>	<i>Date</i>
Seventh session	3–5 June 2015
Eighth session	14–15 January 2016
Ninth session	11–12 April 2016
Tenth session	6–8 July 2016
Eleventh session	October / November 2016 (date to be confirmed)
Twelfth / Thirteenth session	2017 (date to be confirmed) if needed two meetings will take place during 2017
Report: thirtieth session of Working Party on Transport Trends and Economics (WP.5)	September 2017, Geneva
International Conference on Adaptation of Transport Networks to Climate Change	(If decided date to be confirmed)

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## II. Terms of Reference

6. The Terms of Reference of the Group of Experts on Climate Change impacts and adaptation for transport networks and nodes are in document ECE/TRANS/WP.5/2014/3 and amended and adopted by WP.5 at its twenty-seventh session (Geneva, 8–10 September 2014) as reflected in its report (ECE/TRANS/WP.5/56, paras. 43–46), endorsed by the Inland Transport Committee in its seventy-seventh session (24–26 February 2015) and approved by the UNECE Executive Committee (March 2015).

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