



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**
Seventeenth session

Geneva, 24 and 25 April 2019

**Report of the Group of Experts on Climate Change Impacts
and Adaptation for Transport Networks and Nodes on its
seventeenth session**
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I. Attendance

1. The Group of Experts (hereafter called GE.3) on Climate Change Impacts and Adaptation for Transport Networks and Nodes held its seventeenth session on 24 and 25 April 2019. The session was chaired by Mr. J. Kleniewski (Poland).
2. Representatives of the following United Nations Economic Commission for Europe (ECE) member States participated: Canada, Denmark, Finland, France, Germany, Netherlands, Poland and Romania.
3. Representatives of the following United Nations organizations or specialized agencies attended the meeting: United Nations Conference on Trade and Development (UNCTAD) and World Meteorological Organization (WMO).
4. At the invitation of the secretariat, experts from the following organization participated: Climate Service Centre Germany and University of the Aegean.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.5/GE.3/33

5. GE.3 adopted its agenda.

III. Climate Change and Transport Networks and Nodes: Presentations of initiatives at national and international levels (agenda item 2)

Documentation: ECE/TRANS/WP.5/GE.3/2019/1, ECE/TRANS/WP.5/GE.3/2019/2, ECE/TRANS/WP.5/GE.3/2019/3, ECE/TRANS/WP.5/GE.3/2019/4, Informal document No.1, Informal document No.2, Informal document No.3

6. GE.3 took note of the case studies issued as official documents ECE/TRANS/WP.5/GE.3/2019/1, ECE/TRANS/WP.5/GE.3/2019/2, ECE/TRANS/WP.5/GE.3/2019/3, ECE/TRANS/WP.5/GE.3/2019/4. It further discussed proposals for additional case studies from Canada - Informal documents No.1 and No.2 – and Germany – Informal document No.3 – for their inclusion in the final report. GE.3 accepted these case studies. It requested Germany, when possible, to add to its case study also information on the process required to modify regulations and standards targeted for such modifications through the review process and to update figure 2 by showing links between climate change parameters and the categories of the railway infrastructure.
7. The secretariat informed GE.3 that experts from Australia, Iceland and UNCTAD have been working on additional case studies for inclusion in the final report. It was expected that these case studies would be submitted to the eighteenth session for review. GE.3 took note of this information.

IV. Partners and expected contributions (agenda item 3)

8. WMO informed GE.3 about upcoming international meetings and conferences at which the outputs of the work of GE.3 could be shared and promoted. These were the Eleventh meeting of the Research Dialogue (RD11) to be held on 20 June 2019 in Bonn (Germany) and the United Nations Secretary-General's Climate Summit to be held on 23 September 2019 in New York. WMO would be cooperating with the secretariat on preparing contributions to these meetings. It appeared especially pertinent to inform the meetings about the practical utilization of the climate knowledge to the identification of inventories of transport infrastructure which may be sensitive to climate changes, as well as the utilization of the Geographical Information System (GIS) for demonstrating and disseminating the results of this work.

9. UNCTAD informed GE.3 about its hosting of an informal ad hoc expert meeting on “Climate Change Adaptation for International Transport: Preparing for the Future” (Geneva, 16 and 17 April 2019). The meeting brought together key transport industry stakeholders across modes, as well as experts from international organizations and academia to: (a) exchange information, (b) develop substantive policy recommendations on climate change adaptation for transportation, with a view to informing the upcoming United Nations Climate Summit in New York, and (c) explore options for continuity of the process, to raise greater awareness about the importance of work on climate change adaptation for transportation. Further information and meeting outputs can be found at unctad.org/en/pages/MeetingDetails.aspx?meetingid=2092.

10. GE.3 took note of the information provided. It requested the secretariat to work with WMO and seize the opportunities offered by the Bonn and New York meetings for promoting the outputs of its work.

V. Discussions on the final report of the Group of Experts (agenda item 4)

Documentation: ECE/TRANS/WP.5/GE.3/2019/7, ECE/TRANS/WP.5/GE.3/2019/8, ECE/TRANS/WP.5/GE.3/2019/9, Informal document No. 5, Informal document No. 6, Informal document No. 7

11. GE.3 continued to discuss inputs to its final report. It reviewed ECE/TRANS/WP.5/GE.3/2019/7 and requested the secretariat to better explain what the E roads, E railways and E waterways are to readers not acquainted with these terms and to make a reference to the One Belt One Road initiative under Euro-Asian Transport Links section. Canada informed GE.3 that the data for its main infrastructure networks and nodes was ready to be shared with the secretariat, and that Canada would be working closely with the secretariat to have the data uploaded to the GIS managed by the secretariat and to prepare figures presenting the main transport networks and nodes in Canada for the final report.

12. GE.3 discussed ECE/TRANS/WP.5/GE.3/2019/8 and agreed that further examples to the summary table on climate impacts on transport infrastructure and operations should be added. Canada agreed to send such further examples to the secretariat.

13. GE.3 also discussed ECE/TRANS/WP.5/GE.3/2019/9. In the discussion, it appreciated the work done in preparing this document by Prof. Velegrakis of the University of Aegean. At the same time, some experts believed that information on climate variability and change, trends and projections, as contained in the document, may come across as too specific and broad for the final report. To this end, GE.3 agreed that experts should send their proposals to the secretariat by 3 May 2019 highlighting text for possible omission in the final report.

14. GE.3 reviewed then Informal documents No. 6 and No. 7. For the former one, it agreed that the document should clarify the terms used, especially such as climate sensitivity, vulnerability and exposure. It should have the information in the sections on emission scenarios and quantification of uncertainty in the climate projections expanded. Moreover, the table listing regional climate models in the multi-model ensemble should be redrawn and simplified. When this document would be transferred to the final report, the table should possibly be placed in the appendix to the report.

15. For the Informal document No. 7, GE.3 agreed on its structure. It however requested that sections 7 and 8 would be better separated from the rest of the document. The figures for the appropriate climate variables should not only present E roads, E railways and E waterways but also the nodes such as rail-road terminals and inland ports. Figures presenting climate projections for Canada based on data available for the relevant indices should be added and Canada committed to work with the secretariat in this regard. The existing figures should be further improved on the selection of colours and by providing the same class-intervals for maps presenting spatial distribution for both scenarios analysed. GE.3 agreed with the suggestions from the secretariat to add information and figures on

quantification of uncertainty with the figures presenting results of the analysis for the 10th and 90th percentile values from the multi-model ensemble. GE.3 also agreed to demonstrate through the analysis of results how the analysed impacts may further affect transport priorities such as road safety and to include information listing specific E railways subject to climate impacts like it was done for E roads. For the section on downpours and flashfloods, the secretariat was requested to revisit the analysis, as the results may suggest rather significant changes in extreme events. The changes may be also assessed in relative terms. Section on Permafrost thaw should be renamed to Icing days. In addition, Canada agreed to provide information for this section explaining the importance of considering the underlying permafrost when assessing vulnerabilities to transportation systems in northern regions. The section on Heat on rail should refer to very hot days rather than summer days. Sections 7 and 8 should explain the methodologies with which the climate impacts were analysed. They should include figures with transport networks and nodes. Also, analysis for the figures should be added similar to other sections of the document. Section 8 should be renamed to changes in total water level.

16. Finally, GE.3 considered Informal document No.5. It agreed to re-arrange the order of sections in chapter 2 to move the section on the main transport networks and nodes after the section on the general climate information while bringing together the sections describing the methodology used and that analysing the potential transport infrastructure exposure to climate change based on the methodology. GE.3 asked the secretariat to add introductions to chapters 2 and 3 which would briefly inform about the content of these chapters and their authors. It requested the secretariat to prepare the background section of the chapter 1 which would inform about the Group's mandate and methods of work and the overall scope of the report being focused primarily on inland transportation. The latter should also include the explanation on the approach adopted by GE.3, i.e. the work did not result in identification of specific inland transport inventories but rather areas in which such inventories may be found. It should also elaborate on what other steps may need to be taken for the identification of the specific inventories. Moreover, GE.3 requested the secretariat to prepare a draft conclusions and recommendations chapter. The conclusions should elaborate, among others, on how the outputs provided in the final report could be utilized, so that ECE countries as well as other countries could advance on their adaptation work in the transport sector. The chapter should also suggest possible way forward at international level in supporting the countries' effort. Finally, GE.3 requested experts, authors of the various case studies in chapter 3, to supplement these studies with additional figures.

17. GE.3 agreed on the following deadlines in preparations of the final outputs for discussion at the eighteenth and last session:

- (a) 3 May: experts to send inputs and suggestions to the secretariat for: possible conclusions and recommendations, further changes to ECE/TRANS/WP.5/GE.3/2019/9 and structure of Informal document No. 5, as well as other agreed inputs,
- (b) not later than 15 May: experts to submit additional case studies,
- (c) 17 May: the secretariat to send to experts an advanced version of the final report for the final round of comments before the eighteenth session,
- (d) 24 May: experts to send their comments on the advance draft of the final report,
- (e) 31 May: the secretariat to circulate the advance draft of the final report compiling all the comments received.

VI. Other business (agenda item 5)

18. There was no issue reported under this item.

VII. Date and place of next meeting (agenda item 6)

19. GE.3 was informed that its eighteenth and last meeting within the current mandate was scheduled to be held in Geneva on 6 and 7 June 2019.

VIII. Summary of main decisions (agenda item 7)

20. The Chair with the support of the secretariat summarized the main decisions taken at the seventeenth session.
