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Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport

Twenty-first session
Geneva, 2 and 3 September 2021

Report of the Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport at its twenty-first session

Contents

I. Attendance

1. The Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (hereafter called GE.3) held its twenty-first session (third session under its new mandate) on 2 and 3 September 2021. The session was chaired by Ms. S. Haensel (Germany) and Ms. E. Smalley (Canada) and held as a hybrid meeting with virtual participation through Interprefy (mornings)/Webex (afternoon) and in-person participation. The morning sessions were held in all three languages of the United Nations Economic Commission for Europe (ECE) while the afternoon sessions were held in English only due to existing capacity constraints in providing interpretation service by the Conference Services of the United Nations Office in Geneva.

2. Representatives of the following United Nations Economic Commission for Europe (ECE) member States participated: Albania, Canada, France, Germany, Iceland, Ireland, Latvia, Poland, Portugal, Romania, Russian Federation, Turkey.

3. Representatives of the following international organizations participated: World Association for Waterborne Transport Infrastructure (PIANC).

4. The following non-governmental organization was represented: International Union of Railways (UIC).

5. At the invitation of the secretariat, experts from the following organizations participated: Climate Sense, Climate Service Centre Germany, European Environment Agency, European Union Road Federation, Federal Autonomous Institute ROSDORNII, National Center for Atmospheric Research - Research Applications Laboratory, PKP Polish Railway Lines (PKP PLK), Swiss Federal Institute of Technology in Zürich, University of Birmingham.

II. Adoption of the agenda (agenda item 1)

6. GE.3 adopted its agenda as contained in ECE/TRANS/WP.5/GE.3/41.

Documentation

ECE/TRANS/WP.5/GE.3/41

III. Initiatives in climate change impact assessment and adaptation for inland transport (agenda item 2)

7. GE.3 continued its discussion on initiatives in climate change impact assessment and adaptation for inland transport with a view to understand if any new approaches, tools and/or methodologies exists or are being developed that could be integrated by GE.3 in its work. In particular GE.3 considered (a) adaptation guidelines for inland waterways of PIANC, and (b) FORESEE Project aiming at the improvement of transport infrastructure resilience systems to reduce the magnitude and/or duration of disruptive events.

8. In addition, UIC informed GE.3 about its initiative to start a new project on making railways resilient to climate change with focus on the impacts of flooding on railways (RERA RAIN). This project would offer an opportunity for collaboration with GE.3 in working out joint resource material and in organising joint activities.

9. GE.3 appreciated the information shared respectively by representative of PIANC, ETH Zurich (on behalf of the FORESEE project) and UIC. In the discussion following the presentations, GE.3 agreed to: (a) invite a representative of the British Standard Institution to make a presentation at the next session on the application of adaptation pathways for addressing uncertainty in climate projections, (b) review the FORESEE project guidance with the view to make proposals as to whether GE.3 can make any recommendations to transport professionals on stress tests of networks to extreme weather events, and (c) request the secretariat to work with UIC on preparation of joint events in the context of RERA RAIN.

10. GE.3 further requested that the planned presentation from Eurocontrol be presented at the next session.

11. GE.3 considered then a presentation from the University of Birmingham through which experience and knowledge gathered around economic losses due to damages and disruptions to transport caused by extreme weather events was discussed. This presentation was recommended by a small group of experts (University of Birmingham, Climate Sense and the secretariat) who had met in intersessional work on 26 June 2021 to brainstorm on this issue. The small group had agreed that a starting point to the GE.3 discussion on economic losses should be the knowledge already gathered in this area.

12. While the presentation gave a good insight around the existing knowledge, in particular from two earlier European Union-financed projects – EWENT and WEATHR – it was recommended that effort should be made, in particular, to improve damage cost estimates. GE.3 concluded that such improvement requires collection of data on monetized direct damages as well as collection and review of methodologies for calculating indirect costs from damages and disruptions, including social costs. In this regard, GE.3 requested the small group to (a) explore ways for direct damage data collection, and (b) collect and review methodologies available in countries for indirect costs estimates. For task (a), the small group was invited to work with UIC to learn UIC experience in collecting business sensitive data.

13. Finally, GE.3 called upon experts to send their ideas to the secretariat on which could be the structure of the future final report and how the developed and presented material should be integrated in it.

IV. Climate change and transport assets data (agenda item 3)

14. GE.3 had considered at its twentieth session responses to the survey on interests in climate change impact analysis. This survey had been constructed, disseminated and its responses had been analysed by a small group consisting of experts from Canada, Germany and Climate Service Germany. GE.3 had requested the small group to prepare for and carry out interviews with some of the respondents who had indicated interest in an interview, to further clarify and elaborate on the information received concerning thresholds. GE.3 had also invited the small group to make suggestions on which of the climate change impacts analysis should be performed at the ECE regional scale.

15. The small group consisting of experts from Canada, Germany, Climate Service Germany and the University of Birmingham informed that they had discussed the interviews at the intersessional work on 28 June 2021. The group was only able to provide first insights from the interviews, since due to summertime many interviewees could not have been reached.

16. GE.3 appreciated the effort undertaken by the experts. It requested the group to continue with the interviews in autumn to possibly collect more insights for presentation at the next session.

17. GE.3 also requested that the presentation from the University of Birmingham is reviewed with regard to thresholds presented therein so that these thresholds are taken into account along information gathered from the interviews on how GE.3 can possibly work around thresholds to facilitate climate change considerations by transport professionals and the needs for adaptation.

18. Regarding the analysis of climate change impacts at the ECE regional scale, GE.3 requested the small group to review the presentations from (a) Germany on “Climate change in Germany: the Federal Climate Impact and Risk Assessment (KWRA)”, (b) the Russian Federation on the work on climate change adaptation in the Russian Federation, and (c) Canada on “Fostering climate resilience in the transportation sector: user-driven climate information on climatedata.ca” on information therein concerning impacts of interest to the countries and take this information into consideration for making possible recommendations at the next session.

V. National and sub-national projects on climate change impact assessment and transport asset adaptation needs (agenda item 4)

19. Experts from Germany, Poland, Russian Federation and the United States of America (USA) made presentations at the current session on projects relevant to the work of GE.3. Germany presented on (a) its recurrent work in assessing climate impacts and risk analysis and the newly issued 2021 reports in this area, and (b) on the progress made in Germany to assessing criticality of the national trunk road network. Poland presented work undertaken on assessing climate change impacts and adaptation needs and solutions in 44 major Polish urban areas. The Russian Federation discussed its activities in the area of adaptation of transport to climate change. Finally, USA discussed the various activities undertaken in the USA to better understand and predict extreme weather events as well as insights on how dynamically changing transport and mobility (vehicle autonomy and electrification) needs to be considered in adapting future transport to future climate.

20. GE.3 thanked the speakers for excellent presentations providing valuable input to the Group's work. GE.3 agreed then to continue discussion on the assessment of transport system criticality and, to this end, consider specific criticality indicators which could be recommended to countries for making their own network criticality assessments. GE.3 requested experts to share information on specific criticality indicators which they may be exploring on in their countries.

21. GE.3 also continued its discussion started at the previous session on the various methods and methodologies used across countries to assess future impacts on transport systems from climate change to understand what role GE.3 could play in systematizing the information on these various methods so that transport community could use them more efficiently. The discussion made GE 3 conclude that elaboration of an inventory with the various methods would be too challenging. GE.3 further concluded, it may be most helpful to transport community, if it could prepare guidance around thresholds to facilitate climate change considerations by transport professionals and the needs for adaptation (see also item IV). In this regard, Canada was asked to present at the next session its review/inventory of transport thresholds.

VI. Database on adaptation measures (agenda item 5)

22. At its previous session, GE.3 had acknowledged the fact that profiles/fact sheets of transport assets and assessed adaptation needs for the assets to retain their initial functions may present an input required to create databases on asset specific adaptation measures. GE.3 had also agreed to explore demand for such asset profiles as well as assess the value of availability of such profiles.

23. GE.3 had also requested interested experts and the secretariat to develop a concept note with considerations on what type of adaptation measures database would still bring added value, to whom such a database should be targeted, how it should be structured and which would be the requirements for its development and maintenance so that it could stay up-to-date over the long-term.

24. Experts from Germany, Ireland, the Russian Federation, Climate Sense, World Road Association (PIARC) and PIANC met in the intersessional work on 6 July 2021 to discuss about various practices to create resource material/fact sheets for transport asset adaptation. They agreed that these practices need to be considered before any type of adaptation measures database be proposed, let alone requirements for its development or maintenance. The Informal document WP.5/GE.3 (2021) No. 5 prepared by the experts with the support of the secretariat provides examples of resources and fact sheets for transport asset adaptation.

25. EEA made a detailed presentation about the European Climate Adaptation Platform Climate-ADAPT. Climate-ADAPT aims to support European Union countries and regions in adapting to climate change helping the European users to access and share data and information on: (a) expected climate change in Europe, (b) current and future vulnerability

of regions and sectors in Europe, (c) EU, national and transnational adaptation strategies and actions, (d) adaptation case studies and potential adaptation options, and (e) tools that support adaptation planning. EEA also called upon experts from the European Union countries to contact EEA should they wish to include adaptation case studies in the field of transport in Climate-ADAPT.

26. Canada presented the national experience in fostering climate resilience in the transport sector through provision of climate data tools, products and services at national and regional levels for climate impact assessment by transport professionals.

27. GE.3 appreciated the information prepared by experts in the informal document and the presentations from EEA and Canada. It then requested interested experts to continue reviewing asset factsheets, transport adaptation case studies and the worked out lists of adaptation measures to typical hazards for selected assets or modes and, if feasible, make a gap assessment and present its results at the next session.

Documentation

Informal document WP.5/GE.3 (2021) No. 5

VII. Guidelines for integrating climate change considerations in planning and operational processes (agenda item 6)

28. At its previous session, GE.3 had appreciated the work of a small group of experts and congratulated the group on the organisation of a successful workshop on consideration of physical climate change risks in transport planning and operational processes. It had further requested this group to prepare and hold further workshops with the aim to raise awareness on the importance of adaptation of transport systems to climate change and collect more information on the needs for the guidelines, before any work on the elaboration of the guidelines is started.

29. In this context the secretariat and the Russian Federation informed GE.3 on the joint effort undertaken to organize an awareness raising event for countries of Eastern Europe, Caucasus and Central Asia, as well as other interested countries about the urgency of work on transport adaption to climate change. The event should take place in late November 2021 in the framework of Transport Week hosted annually by the Ministry of Transport of Russian Federation.

30. GE.3 welcomed the information and the preparation to the awareness-raising event in the Russian Federation.

VIII. Other business (agenda item 7)

31. The secretariat informed GE.3 about its ongoing fundraising efforts to support GE.3 activities, in particular linked to awareness raising.

32. The secretariat also reported on the preparations to holding a session by GE.3 at the PIARC Congers in Calgary (Canada) on Road Resilience.

33. The secretariat thanked then experts, especially those profoundly involved in the intersessional work, for their efforts, which constitute in-kind contribution to the work of GE.3.

IX. Date and place of next meeting (agenda item 8)

34. The secretariat informed GE.3 about the scheduled date for its twenty-second session on 28 and 29 March 2022.

X. Summary of main decisions (agenda item 9)

35. The secretariat summarized the decisions taken by GE.3. The full report of the session, prepared by the secretariat in consultation with the Chair and Vice-Chairs, would be shared electronically after the session for adoption.