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## **Economic Commission for Europe**

### **Inland Transport Committee**

#### **Working Party on Transport Trends and Economics**

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

###### **Twenty fourth session**

Geneva, 9 and 10 March 2023

Item 2 of the provisional agenda

###### **Initiatives in climate change impact assessment and adaptation for inland transport**

### **Annotated outline for the final report**

#### **Note by the Chairs and the secretariat**

## **I. Introduction**

1. At its twenty-third session, the Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland Transport (GE.3) requested the Chair and Vice-Chairs supported by the secretariat to prepare an annotated draft outline for the final report based on the recommendations made.
2. This document contains the draft annotated outline. GE.3 is invited to consider and modify it further as appropriate. GE.3 may also agree on allocating the responsibilities for specific chapters among experts as well as assess number of pages.

## **II. Outline for the final report**

3. It is proposed to include the following main chapters and sections in the final report. The report could be titled: "Towards climate change resilient transport systems".

### **I. Background:**

*This section is to describe the 2020-25 mandate given to GE.3 and summarize the Group's activities, including conferences and events held during the mandate.*

### **II. Introduction:**

*This section is to set the scene for this report. It will briefly explain why resilience of transport systems needs to be acted upon now. It will then introduce this report and the subsequent chapters to clarify how the information contained in this report is to help transport community to help act on making transport system resilient to climate change.*

III. Climate Variability and Change – observed changes and projected trends:

*This chapter in section one is to briefly update on the current state of knowledge with regard to observed changes and trends of climate change. It should refer action/inaction in terms of climate change mitigation and discuss the GHG concentration trajectories which need to be considered in understanding future conditions in which transport system would operate. This chapter should refer to the science included in the latest IPCC reports and state of climate reports.*

*In section two, this chapter will present analysis carried out for climate impacts on transport networks and nodes projected for temperature, precipitation, and wind gust. Particular attention will be given to various thresholds of weather phenomena.*

IV. Business case for adaptation: costs related to climate change inaction and action:

*This chapter will present concrete examples of various costs/losses incurred by transport due to incidents caused by climate change and extreme weather events. As far as possible, both direct and indirect costs should be presented. It will then discuss how these costs may change in the future taking into account the future conditions in which transport is predicated to operate and compare them to costs of adaptation.*

V. Methodologies for assessing climate change hazards on transport systems:

*This chapter, in section one, will summarize the methods and methodologies for assessing climate hazards and systems' vulnerabilities. It will advise on which methods and methodologies are most suitable depending on asset, circumstances, or resilience goals. It will present a flowchart that will provide references to recommended methodologies, among them those developed by GE.3 and those made available by cooperating partners/initiatives. It will refer [in the box] the framework for stress tests as well as the guide on criticality assessment as developed by GE.3 which will be issued as separate resource material. This material can be also annexed to this report, as deemed appropriate.*

*In part two, it will contain a few case studies showcasing the application of some of the methodologies.*

VI. Effective adaptation of transport systems to climate change hazards

*This chapter in part one will discuss categories of measures for adapting transport to climate change. It will explain when these measures should be used so that they can be effective. It will provide an insight on the changing thresholds of weather phenomena and how this needs to be taken into account in revising infrastructure standards. It will explain the notion of adaptation pathways. It will refer [in the box] the guidance on adaptation pathways which will be issued as separate resource material. This material can be also annexed to this report, as deemed appropriate.*

*In part two, this chapter will present case studies on the application of concrete adaptation measures at specific assets.*

VII. Lessons learned and recommendations:

*This chapter will present the lessons learned and recommendations by GE.3.*