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**Economic Commission for Europe**

**Food and Agriculture Organization**

**Committee on Forests and the Forest Industry**

**European Forestry Commission**

**Joint ECE/FAO Working Party on Forest Statistics,  
Economics and Management**

**Forty-fifth session**

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Item 3 of the provisional agenda

**Thematic focus: Climate change and forests**

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### **Note by the secretariat**

#### *Summary*

This document provides background information for the discussion on climate change and forests in the Economic Commission for Europe region and the urgent need for accelerated action to achieve the targets of the Paris Agreement.

Delegations are invited to highlight the current and anticipated future threats that climate change poses to their forest resources and showcase the actions they are taking to respond to these various challenges. The outcome of the discussion may feed into a substantive document to be presented at the November 2024 session of the Economic Commission for Europe Committee on Forests and which could be potentially used in the preparations for the 29th and 30th Convention of the Parties of the United Nations Framework Convention on Climate Change by the Economic Commission for Europe and member States.

Key points for guidance and discussion.

Members of the Joint Working Party are invited to:

(a) Present climate change impacts on their national forests and on trees in urban spaces (for example issues related to an increase of biotic and abiotic disturbances; adaptation measures, risk mitigation, future availability of wood, a balance between protection and use, including legislation, events, projects, research and mitigating measures taken or planned).

(b) Provide guidance and support to the secretariat on next steps and the preparation of a substantive document as well as further outputs and activities including policy briefs, events, etc.



## I. Background

1. Climate change is a global emergency that goes beyond national borders. It is an issue that requires international cooperation and coordinated solutions at all levels. To tackle climate change and its negative impacts, world leaders at the twenty-first meeting of Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris reached a breakthrough on 12 December 2015: the historic Paris Agreement. The Agreement sets long-term goals to guide all nations to:

(a) substantially reduce global greenhouse gas emissions to hold global temperature increase to well below 2°C above pre-industrial levels and pursue efforts to limit it to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

(b) periodically assess the collective progress towards achieving the purpose of this agreement and its long-term goals;

(c) provide financing to developing countries to mitigate climate change, strengthen resilience and enhance abilities to adapt to climate impacts.

2. The UNFCCC COP26 in Glasgow (2021) made pivotal progress on the sustainable management and conservation of forests. Over 130 leaders, representing more than 90 per cent of the world's forests, committed to work together to halt and reverse forest loss and land degradation by 2030.

3. COP28 held in 2023 in Dubai was particularly momentous as it marked the conclusion of the first 'global stocktake' of the world's efforts to address climate change under the Paris Agreement. Having shown that progress was too slow across all areas of climate action – from reducing greenhouse gas emissions, to strengthening resilience to a changing climate, to getting the financial and technological support to vulnerable nations – countries responded with a decision on how to accelerate action across all areas by 2030.

## II. Forests and climate change

4. Over 420 million ha of forest were lost to deforestation from 1990 to 2020. In 2019, approximately 79 per cent of global greenhouse gas (GHG) emissions came from the of energy, industry, transport, and buildings sectors together and 22 per cent from agriculture, forestry and other land use (AFOLU). About half of total net GHG emissions from AFOLU are from Land Use, Land-use Change and Forestry (LULUCF), predominantly from deforestation.

5. At the same time, forests are under immense pressure from the changing climate. Climate change is significantly increasing the likelihood of biotic and abiotic disturbances of forests, which may jeopardize their ability to deliver on their goods and services.

6. The sixth Assessment Report of the Intergovernmental Panel on Climate Change's (IPCC) finds that forests are under severe threat, while sustainably managed forests play a key role in both reducing GHG emissions and adapting to the impacts of climate change. Only sustainably managed forests can provide wood, a key low emission raw material for a low carbon future, non-wood forest products, and many ecosystem goods and services, such as protecting biodiversity and maintaining water supply and soil quality for years to come and thus contribute to the sustainable livelihoods of millions of people around the world.

## III. Forests and climate change in the Economic Commission for Europe region

7. The global total carbon stock in forests decreased from 668 gigatonnes in 1990 to 662 gigatonnes in 2020; carbon density increased slightly over the same period, from 159 tonnes to 163 tonnes per ha. Almost half of the global forest carbon (311 gigatonnes) originates from forests in the Economic Commission for Europe (ECE) region, with most of the carbon being stored in soil and litter (55% and 10% respectively), while only 24% is sequestered in the

living biomass. The total volume of carbon stored, as well as its density, increased in the ECE region in the last three decades (from 174 tonnes to 182 tonnes per ha), primarily because of growth of above ground living biomass.

8. Climate change in the ECE region impacts its forests and forest ecosystems, the Northern forests, in multiple ways. The ECE region had struggled with forest damage caused by droughts, fires, storms and insect infestations for the past three decades. These had caused large-scale tree mortality in forest ecosystems and the consequences of these vitality and health losses are striking and very apparent today. Forests landscapes are altered by the massive mortality of forests causing timber markets to show economic distress because of the massive accumulation of salvage timber. The strongest and most direct climate change related impacts on the Northern forests are likely to be caused by increases in temperature, changes in precipitation and higher carbon dioxide concentration. These can cause further and accelerated changes to ecological conditions that affect tree growth. There are also anticipated effects related to the modification in the frequency and intensity of wildfires, insect and disease outbreaks as well as extreme weather events.

9. Climate change could also have some beneficial collateral effects and increase timber production in some regions through accelerated growth because of a warmer climate. The forest covered area could expand in latitude and altitude (northwards toward the north pole, and higher tree lines in mountainous regions), longer growing seasons and higher carbon dioxide concentrations. However, it is uncertain if an increase in tree growth rates would offset adverse climate change-induced impacts on ecosystems in Northern forests.

10. The IPCC found robust evidence that provisioning services of boreal and temperate forests are affected negatively by forest disturbances, while for cultural services only limited evidence exists. This particularly impacts negatively vulnerable groups, such as women, children, low-income households, Indigenous or other minority groups and small-scale producers, who derive an income and their livelihoods from healthy forest ecosystems.

#### **IV. Integration of Near-Term Actions<sup>1</sup>**

11. The IPCC highlights that the feasibility, effectiveness and benefits of mitigation and adaptation actions are increased when multi-sectoral solutions are undertaken that cut across systems. When such options are combined with broader sustainable development objectives, they can yield greater benefits for human well-being, social equity and justice, and ecosystem and planetary health.

12. The range of such positive interactions is significant in the landscape of near-term climate policies across regions, sectors and systems. For example, mitigation actions in land-use change and forestry, when sustainably implemented, can provide large-scale greenhouse gas emission reductions and removals that simultaneously benefit biodiversity, food security, wood supply and other ecosystem services but cannot fully compensate for delayed mitigation action in other sectors.

#### **V. Accelerated action in forests in the Economic Commission for Europe region**

13. Forests in the ECE region, the Northern forests, include boreal and temperate forests and represent about 40 per cent of the world's global forests. Three countries, Canada, the Russian Federation, and the United States account for 86 per cent of all Northern forests. Adding the European Union countries to this group brings the total to 96 per cent.

14. Forest area in the ECE region has been constantly increasing in area and growing stock since 1990. About 75 per cent of all forests are certified for sustainable management by third-party certification schemes. At the same time, the ECE region provided about 60 per cent of the industrial roundwood (wood used for material use) worldwide.

<sup>1</sup> From present up to 2030.

15. An increasing number of countries in the ECE region are taking actions to mitigate the risks to ensure that future forests will be able to continue delivering the expected goods and services to society, including:

- (a) Improving the assessment of the state of their forests including disturbances and potential future developments linked to changing climate conditions;
- (b) Assessing impacts on their forests' services and products in the short-, medium- and long-term;
- (c) Assessing resource availability and related consumption needs;
- (d) Identifying accelerated actions in mitigating these impacts in the future;
- (e) Implementing protection measure whenever necessary.

## **VI. Discussing climate change and Northern forests**

16. The discussion under the thematic focus session on climate change offers member States the opportunity to highlight the current and anticipated future threats that climate change poses to their forest resources and to showcase the actions they are taking to respond.

17. The discussion is expected to focus on the many aspects of an active, multifunctional management of forests, its mitigation effects and its positive contribution to a future climate change regime.

18. The examples presented from the Northern forests can help raise their profile in ongoing processes including the climate COPs of the UNFCCC and showcase the benefits of their sustainable management in adapting to, and mitigating, climate change worldwide.

19. The presentations and discussion of this session could be the starting point for developing a substantive document that the secretariat will present at the November 2024 COFFI session. It may potentially guide the secretariat and member States as reference in their preparations for the UNFCCC COP 29 and 30.

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