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### Economic Commission for Europe

Committee on Forests and the Forest Industry

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

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### Food and Agriculture Organization

European Forestry Commission

## Forests and the Circular Economy

### Note by the secretariat

#### *Summary*

This information document is prepared to facilitate discussion among member States on the past, current and future work of the Joint ECE/FAO Forestry and Timber Section (Joint Section) on forests and the circular economy (Agenda Item 4).

The secretariat will inform the Joint Working Party on Forest Statistics, Economics and Management on the progress of work since its March 2021 session and the ongoing work in line with the mandate given by the United Nations Economic Commission for Europe (UNECE) Committee on Forests and the Forest Industry (COFFI) and the European Forestry Commission (EFC) of the Food and Agriculture Organization of the United Nations (FAO) during their Joint Session in 2021 (ECE/TIM/2021/2 FO:EFC/2021/2).

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# 1. Report by the secretariat

## A. Mandate

1. The ongoing Joint Section’s work on forests and the circular economy results from a mandate given by the ECE Committee on Forests and the Forest Industry (COFFI) and the FAO European Forestry Commission (EFC) during their Joint Session in 2021 (ECE/TIM/2021/2 FO:EFC/2021/2). In line with this mandate, the Joint Section is pursuing research and awareness-raising activities for knowledge-sharing and guidance for policymaking. COFFI and EFC invited ECE and FAO through the Joint Section to:
  - (a) “Prepare a series of studies further reviewing the application of circular models in specific forest-based industries, including through identification of case studies and best practice.
  - (b) Take into consideration the whole forest-based value chain and bring attention to the circular nature of wood as a renewable resource and the role of sustainable forest management.
  - (c) Look at existing definitions of a circular economy and present recommendations for adjusting them to the forest sector for consideration of member States during the next Joint Session.
  - (d) Assess member States’ priorities and needs in application of circular models in the forest sector.
  - (e) Provide opportunities for member States to exchange knowledge and best practice on the implementation of circularity principles in the forest sector”<sup>1</sup>.
2. The work on circular economy is also in accordance with the mandate of the “Review of 2021 activities, and activities planned for 2022” (ECE/TIM/2021/5–FO:EFC/2021/5) under the Work Area 2 Policy Dialogue and Advice on:
  - (a) “Analyzing how the circular bio-economy concepts are related to the forest-based sector.
  - (b) Exploration of wood-based value chains in a circular bioeconomy.
  - (c) Promotion and dissemination of information about the circular bioeconomy, including its social dimension”<sup>2</sup>.
3. In addition, the 69th session of the ECE (20-21 April 2021) was held under the theme “Promoting circular economy and sustainable use of natural resources in the ECE region”. Member States committed to “step up efforts to promote circular economy approaches and the sustainable use of natural resources, namely by mainstreaming circularity and the sustainable use of natural resources in the existing relevant ECE sectoral work programmes” (E/ECE/1497).

<sup>1</sup> [ECE/TIM/2021/2 \(unece.org\)](https://unece.org/ece-tim/2021/2)

<sup>2</sup> [ECE\\_TIM\\_2021\\_5\\_FO\\_EFC\\_2021\\_5 en.pdf \(unece.org\)](https://unece.org/ece-tim/2021/5-fo-efc/2021/5-en.pdf)

## B. Status of the work

4. In line with the mandate provided by COFFI and EFC, the Joint Section finalized the study “Circularity concepts in forest-based industries” on various circularity concepts. It analyses how these concepts can be applied to the forest-based industries and highlights the potential opportunities and limitations. The study focuses on five forest-based value chains: (1) sawn wood, bioenergy and construction (2) furniture industry, (3) paper and pulp industry, (4) cellulose-based fibers, and (5) cellulose-based plastics. The study will be available in English in hardcopy and electronic copy.
5. The Joint Section is also finalizing the “Catalogue of wood waste classifications in the ECE region” taking stock of existing classifications of wood waste streams<sup>3</sup> developed by governments and various international organizations. The catalogue will be made available electronic format in English.
6. By the end of 2023 the Joint Section will prepare a series of studies on the application of circular models in specific forest-based industries. The secretariat will present the content outline and the work timeline for each study to the JWP. During the JWP session, member States will be invited to advise the Joint Section on the content of the planned series.
7. The Joint Section is continuously highlighting the role of circularity of entire forest-based value chains, the circular nature of wood as a renewable resource and the role of sustainable forest management. The 2022 International Day of Forests, for example, focused on “Forests for sustainable lifestyles and a circular economy” and more particularly, sustainability and circularity questions in forest fashion and wood-based packaging value chains.
8. The Joint Section participates in the work of the ECE “Task Force on measuring the circular economy” and the “Expert group on a new generation of information for a resource-efficient and circular economy” of the Organisation for Economic Co-operation and Development. Both are working on a definition of the circular economy for a conceptual monitoring framework. Building on this ongoing work, the Joint Section has prepared recommendations on how a proposed draft definition could be adjusted to the forest sector for the consideration of member States (see below 1.C).
9. For the FAO World Forestry Congress 2022 (3 May 2022), the Joint Section—in close cooperation and coordination with FAO and ILO—organized a session on “Advancing decent work, green jobs and sustainability in the forest sector” This event provided an opportunity for member States to exchange knowledge and best practice on the implementation of circularity principles in the forest sector and the circular bioeconomy, highlighting its social dimension.

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<sup>3</sup> Wood waste streams are flows of specific wood waste, from its source through to recovery, recycling or disposal, defined in annual statistical reporting by member States.

## C. Joint Section’s contribution to a generic definition of a circular economy<sup>4</sup>

10. So far, there is no internationally agreed definition of a circular economy, and the concept remains rather vague. This said, there are definitions developed by different expert communities, all of them with common elements on material circularity and the aim of reduced demand for natural resources. The ECE/FAO study on “Circularity concepts in forest-based industries” presented some of the most widely used definitions and related concepts, highlighting how they could be applied to the forest sector.
11. In addition, the ECE Taskforce on Measuring Circular Economy<sup>5</sup> has recently reviewed the most used circular economy definitions and is working on a draft definition relevant for policy and measuring purposes.
12. The ECE Taskforce welcomes comments and suggestions from other groups of experts, to help clarify and standardize the terms used in the definition. A generic version acceptable to the largest number of stakeholders could further serve as foundation for the development of more detailed, sector-specific definitions. The ECE Taskforce’s draft definition reads:
13. *A circular economy aims to minimize globally the input of **natural resources** and the generation of **residuals** by maintaining the value of **goods** and **materials** for as long as possible and by returning materials into the **product cycle** at the **end of their use**.*
14. The highlighted terms used are defined as follows:
  - (a) **Natural resources** – *include all natural biological resources (including timber and aquatic resources), mineral and energy resources, soil resources and water resources (System of Environmental-Economic Accounts (SEEA) definition)*
  - (b) **Residuals** – *flows of solid, liquid, and gaseous materials, and energy that are discarded, discharged or emitted by establishments and households through processed of production, consumption, or accumulation (SEEA definition). Residuals occur in both production and consumption activities. They can be returned to the economy as secondary materials, may be disposed, or released to environment (taskforce working documents).*
  - (c) **Goods** – *physical objects for which demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets; they are in demand because they may be used to satisfy the needs or wants of households or the community or used to produce other goods and services (System of National Accounts (SNA) definition).*

<sup>4</sup> This part of the document is a summary of different working documents of the Taskforce on Measuring Circular Economy

<sup>5</sup> The task force is managed by the Secretariat of the Conference of European Statisticians (ECE Statistics Division). The ECE/FAO Forestry and Timber Section is one of the members. Other members include Austria, Belarus, Colombia, Finland, India, Italy, Netherlands, Sweden, European Environment Agency (EEA), Eurostat, International Monetary Fund (IMF), International Organization for Standardization (ISO), OECD, Platform for Accelerating the Circular Economy (PACE), United Nations Environment Programme (UNEP), United Nations University (UNU), United Nations Statistical Division (UNSD).

- (d) **Materials**—*natural inputs (except energy and water), products and residuals* (SEEA definition). Products here equal goods (see above).
  - (e) **Product cycle**. Ellen McArthur Foundation uses the term “value cycles” and divides them into “biological cycles” and “technical cycles”:
    - i. **Biological cycle**—*processes that help to regenerate natural capital. The only materials suitable for these processes are those that can be safely returned to the biosphere.*
    - ii. **Technical cycle**—*processes that products and materials flow through in order to maintain their highest possible value at all times. Materials suitable for these processes are those that are not consumed during use – such as metals, plastics and wood.*
  - (f) **End of use**—product cycle phase when the product or material is no longer used for this original purpose (taskforce working documents).
15. Points for consideration by the Working Party and possible action:
- (a) Building on the work of the ECE Taskforce, member States are invited to comment on the suggested draft definition of circular economy and indicate if it or any of the terms require modification/additional clarification.
  - (b) The JWP is also invited to provide guidance on how the draft definition could be adapted to the forest sector. In particular, the JWP might consider if and how concepts such as carbon cycle, bioenergy and the cascading use of wood could be integrated in a sectoral definition.
  - (c) Building on the draft definition of the ECE Taskforce on Measuring Circular Economy, a possible starting point for the discussion could be the following:  
*“A circular economy **in the forest sector** aims to ~~use~~ ~~minimize globally the input of forest-based natural~~ resources **in a most effective way globally** and **to minimize** the generation of residuals by maintaining the value of **forest-based** goods and materials for as long as possible and by returning materials into the **technical or biological** product cycle at the end of their use.”*
  - (d) Member States are invited to provide the Joint Section with guidance on this draft definition of a circular economy in the forest sector and the terms used.

## D. Session structure

- 16. Under agenda item 4(a) “Presentation by the secretariat about its past, current and future work on forests in the circular economy” the secretariat will update member States on the progress of work on circular economy.
- 17. Under agenda item 4(b) “Updates and examples from member States” the JWP member States are invited to present their experiences and best practices in the implementation of a circular economy in the forest sector.
- 18. Under agenda item 4(c) “Review of the circular economy approach for the forest sector” member States will work in groups to identify:
  - (a) Opportunities for the forest sector resulting from the transition to a circular economy.
  - (b) Barriers in achieving these opportunities.
  - (c) Policy options to overcome these barriers.

## **E. Key points for guidance and discussion**

19. The Joint Working Party is invited to:
  - (a) Advise the Joint Section on the content of the planned series of studies on circularity concepts in forest-based industries, as presented by the secretariat.
  - (b) Comment on the draft generic definition of a circular economy suggested by the Taskforce on Measuring Circular Economy and the terms used. (para 13.).
  - (c) Provide the Joint Section with guidance on the presented draft definition of a circular economy in the forest sector and the terms used (para 18.).
  - (d) Inform the Joint Section about member States' priorities and needs in application of circular models in the forest sector and the tools that ECE and FAO could develop to support them (see section 2).

## 2. Group work-assessing member States' priorities and needs-circularity concepts in the forest sector

### A. Context of work

20. The transition towards a circular economy offers opportunities for an economic model that is more resilient in addressing resource scarcity and is more inclusive of its actors and stakeholders. It contributes to addressing the origins of global challenges such as climate change, biodiversity loss and pollution.
21. During the 69th session of the ECE (20 - 21 April 2021) held under the theme "Promoting circular economy and sustainable use of natural resources in the ECE region" member States exchanged experiences on transitioning to a more circular economy and sustainable use of natural resources, identified gaps and ways to address them and shared their success stories in implementation of the circular economy principles.
22. More governments in the ECE region are developing circular economy roadmaps and strategies, both economy-wide and sector-based (see [National Action Plans of UNECE member States on the circular economy.pdf](#)). Many countries submitted voluntary commitments to accelerate progress in the region at the ECE session. These developments at policy-level are vital to scale the transition and to build the momentum.
23. It also appears critical for member States to work on clear sectoral-level directions for policymaking in the ECE region. This will help reduce fragmentation and complexity among different sectors of the economy and consider the global and cross-sectoral nature of supply chains and the production and consumption system.
24. During the 2021 Joint COFFI/EFC invited the Joint ECE/FAO Forestry and Timber Section to "assess member States' priorities and needs in application of circular models in the forest sector" (ECE/TIM/2021/2, FO:EFC/2021/2).

### B. Thematic background

25. The key role of the forest sector in the transition to a sustainable, circular economic system is the forests providing wood, a biodegradable raw material and a strategic resource for reusable and recyclable materials. Wood-based products and production residues can be used, reused (in a cascading system), recycled and biodegraded. This material efficiency, well imbedded in the forest sector production processes, can also be used in other strategic sectors such as construction, textiles or packaging industries and advance their transformation to a more circular system with a reduced environmental footprint.
26. Forests and the forest sector can also benefit from the transition to a circular and bio-based economy. Forest ecosystems are a source of renewable and biodegradable products which can substitute for finite and polluting materials; and they have a capacity to naturally restore the quality of their resources.



27. However, while the transition towards a circular and bio-based economy is generating an increasing demand for forest-based products, the regenerative capacities of forest ecosystems have been decreasing owing to climate change, landscape degradation, soil erosion, forest fires or pests. Therefore, circular or not, the sustainability of forest-based value chains depends on the natural cycle of forests' growth and renewal. Circularity and material efficiency may go only as far as the natural systems' regeneration capacity allows. Consequently, sustainable forest practices are key in safeguarding ecosystem services and ensuring the provision of wood in a sustainable manner.
28. In addition, not all forest-based value chains can be circular. In some cases, the focus on circularity may cause externalities which do not guarantee sustainability in the long term (e.g., due to the impact of transport or labor hardship). Therefore, only informed policymaking can promote the opportunities for the forest sector resulting from the transition to a circular economy.

### C. The objective of the group work

29. Under agenda item 4(c), parallel working groups will assess the sector-specific priorities and needs of member States linked to their transition to a more circular system. The groups will be organized around the five “universal circular economy policy goals” identified by the Ellen MacArthur Foundation<sup>6</sup> (see the annex):
  - (a) Goal 1 Stimulate design for the circular economy (i.e., eco-design).
  - (b) Goal 2 Manage resources to preserve value (i.e., sustainable forest management).
  - (c) Goal 3 Make the economics work (i.e., EPR, public procurement, transparency requirements).
  - (d) Goal 4 Invest in innovation, infrastructure and skills (i.e., interdisciplinary research, training, capacity-building etc.).
  - (e) Goal 5 Collaborate for system change (i.e., mainstreaming circular economy principles into national and international policies, cross-value chain collaboration etc.).
30. For each of these five policy goals, the working groups will be invited to:
  - (a) find the most relevant circular economy opportunities, map and prioritize the ones with the biggest leverage point in supporting the transition to more circular models.
  - (b) identify sector-specific barriers limiting the implementation of the prioritized opportunities and assess policy options to overcome these barriers.
  - (c) identify the required support from ECE and FAO at each stage of the process.

<sup>6</sup> Universal circular economy policy goals: Enabling the transition to scale ([ellenmacarthurfoundation.org](https://ellenmacarthurfoundation.org))

31. The results of the group work will be reported to the JWP plenary session. They will guide the work of ECE and FAO on the planned studies and tools on forests and the circular economy.

## Annex

<b>Goal 1 Stimulate design for the circular economy (i.e., eco-design)</b>						
Forest sector circular economy opportunities	Priority/highest impact for transition	How ECE/FAO can promote these opportunities	Barriers limiting realization of these opportunities	How ECE/FAO can support MS in addressing these barriers – what tools are needed	Policy options to overcome these barriers	How ECE/FAO can support MS in developing policies – tools, capacity building
1.	Red					
2.	Yellow					
3.	Green					
...						

<b>Goal 2 Manage resources to preserve value (i.e., sustainable forest management)</b>						
Forest sector circular economy opportunities	Priority/highest impact for transition	How ECE/FAO can promote these opportunities	Barriers limiting realization of these opportunities	How ECE/FAO can support MS in addressing these barriers – what tools are needed	Policy options to overcome these barriers	How ECE/FAO can support MS in developing policies – tools, capacity building
1.	Red					
2.	Yellow					
3.	Green					
...						

<b>Goal 3 Make the economics work (i.e., EPR, public procurement, transparency requirements)</b>							
Forest sector circular economy opportunities	Priority/highest impact for transition	How ECE/FAO can promote these opportunities	Barriers limiting realization of these opportunities	How ECE/FAO can support MS in addressing these barriers – what tools are needed	Policy options to overcome these barriers	How ECE/FAO can support MS in developing policies – tools, capacity building	
1.	Red						
2.	Yellow						
3.	Green						
...							

<b>Goal 4 Invest in innovation, infrastructure and skills (i.e., interdisciplinary research, training, capacity-building etc.)</b>							
Forest sector circular economy opportunities	Priority/highest impact for transition	How ECE/FAO can promote these opportunities	Barriers limiting realization of these opportunities	How ECE/FAO can support MS in addressing these barriers – what tools are needed	Policy options to overcome these barriers	How ECE/FAO can support MS in developing policies – tools, capacity building	
1.	Red						
2.	Yellow						
3.	Green						
...							

## Annex

Goal 5 Collaborate for system change (i.e., mainstreaming circular economy principles into national and international policies, cross-value chain collaboration etc.).						
Forest sector circular economy opportunities	Priority/highest impact for transition	How ECE/FAO can promote these opportunities	Barriers limiting realization of these opportunities	How ECE/FAO can support MS in addressing these barriers – what tools are needed	Policy options to overcome these barriers	How ECE/FAO can support MS in developing policies – tools, capacity building
1.	red					
2.	yellow					
3.	green					
...						