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Action Plan for the Forest Sector in a Green Economy**Action Plan for the Forest Sector in a Green Economy****Note by the secretariat***Summary*

At their joint session in Antalya (Turkey) in October 2011, the UNECE Timber Committee and the FAO European Forestry Commission requested that the secretariat gather further inputs to the Action Plan for the Forest Sector in a Green Economy through a second stakeholder meeting. This meeting was held in March 2012 and the present document reflects its contributions.

The Committee is invited to consider the current document, provide additional input and decide on further steps. In particular, the Timber Committee may wish to consider one of the following:

- Further revising the Action Plan during a meeting to be organized back to back with the Joint FAO/UNECE Working Party on Forest Statistics, Economics and Management in April 2013;
- Organizing a special session of the Timber Committee and of the European Forestry Commission in June 2013 to finalize the Action Plan as well as the ECE/FAO joint Programme of Work.

I. Introduction

A. Background and mandate

1. The Action Plan for the Forest Sector in a Green Economy was prepared under the auspices of the UNECE Timber Committee and the FAO European Forestry Commission, at the suggestion of their bureaux. It was developed on the basis of an open consultation with member States and stakeholders, consolidated by the secretariat and reviewed by a stakeholder meeting in May 2011.
2. At their joint session in Antalya (Turkey) in October 2011, the Commission and the Committee requested that the secretariat gather further inputs during a second stakeholder meeting which took place on 26 March 2012. They also requested that the secretariat present the revised Action Plan at the Rio+20 Conference on Sustainable Development in June 2012. This was done at the side event, “What is YOUR priority action for the forest sector in a green economy?” held in Rio de Janeiro on 22 June 2012.
3. Finally, the Commission and the Committee decided to continue to refine the Action Plan in order to present a final version ready for adoption at their joint session in December 2013.

B. What is the Action Plan?

4. This Action Plan describes how the forest sector in the UNECE region should lead the way towards the emerging green economy at the global level. It identifies an overall vision, strategies and a number of areas of activity. For each area of activity, it proposes specific actions, and identifies potential actors, who might contribute to achieving the stated objectives.
5. The Action Plan reflects the ideas of participants in the process but does not constitute a binding commitment by any participant.

C. Scope and definitions

6. The Action Plan addresses the forest sector in all of the **UNECE region** – Europe, including Russia, and North America – but does not address the question of how countries of the region can contribute to solving global challenges, notably that of deforestation in the tropical regions.
7. For the purposes of this Action Plan, the **forest sector** includes the management of all forest functions, as well as the supply, consumption and trade of forest products and services. This Action Plan is consistent with the pan-European set of criteria and indicators of sustainable forest management.
8. The **Green Economy**, according to UNEP, is a system which results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive.
9. The **forest sector in a green economy** is, therefore, a forest sector which contributes to the emerging green economy by improving human well-being and social equity while significantly reducing environmental risks and ecological scarcities. In every aspect of its activities, it minimises its carbon emissions, uses its resources efficiently and is socially inclusive.

D. Vision

10. In a green economy, the forest sector makes a maximum contribution to human well-being, through the supply of marketed and unmarketed forest goods and services, and the creation of revenue and livelihoods, while maintaining and developing forest ecosystem services on a sustainable basis within the context of a changing climate.

11. The forest sector protects the welfare of all stakeholders, including forest dependent indigenous peoples and the forestry workforce, uses all resources wisely and economically, and contributes to the mitigation of climate change through both sequestration and substitution.

12. Forest sector governance systems take into full account all of the ecosystem services provided by the forest, compensating suppliers for providing them whenever possible. Progress is monitored in a transparent way, and policies adjusted to reach agreed goals. The forest sector learns from other parts of the emerging green economy and shares its own experience with them, to mutual benefit.

E. Strategies for the UNECE region forest sector in the emerging green economy

13. By 2020, the UNECE region forest sector is implementing all the following strategies:

- It uses all its resources, especially those arising from the forest, wisely and economically, minimising waste, recovering, reusing and recycling as much as possible. It consumes only wood from forests which can demonstrate that they are managed sustainably.
- It contributes to mitigation of climate change by sequestering carbon in forests and forest products, and by substituting renewable wood-based products and fuels for non-renewable products and fuels.
- It cares for and builds up its workforce, developing the necessary skills and significantly improving the occupational safety and health of workers.
- It takes all externalities fully into account in policy making, introducing payment for forest ecosystem services when possible.
- It bases its governance on evidence-based decision making and the transparent monitoring of progress towards sustainable forest management.

F. Overall Goal of the Action Plan

14. The forest sector in the UNECE region makes the greatest possible contribution to the emerging green economy by improving human well-being and social equity while significantly reducing environmental risks and ecological scarcities. In every aspect of its activities, it minimises its carbon emissions, uses its resources efficiently and is socially inclusive.

G. What the Action Plan does

- 1) It defines how the UNECE region's forest sector should contribute to the development of a green economy and monitors progress in this respect.

- 2) It promotes the sharing and implementation of best practice concerning the green economy.
- 3) It promotes the development and implementation of policies for the forest sector which are effective in achieving goals, efficient in the use of resources and equitable in their treatment of all actors, both inside and outside the sector.
- 4) It communicates the potential of the UNECE region's forest sector to policy makers, the general public and decision makers in other sectors.

H. Implementation of the Action Plan

15. The Action Plan proposes a series of objectives for the forest sector in the ECE region, and possible actions to achieve these objectives, to be implemented by international organisations, governments of member states, the private sector, civil society and other stakeholders.

16. The Action Plan is not a work programme for those bodies but includes actions to be carried out by all actors, including governments, research institutions, the private sector, civil society and international governmental and non-governmental organisations. Indeed the "possible actions" are not attributed to any specific organisation or actor: many will probably be implemented by *ad hoc* partnerships, and a mapping exercise may well be necessary to determine the appropriate partners for each action. It is meant to inspire action and provide the basis for many organizations plans and activities to focus on forests in a green economy. An asterisk (*) in the Action Plan indicates an action attributed priority at the second stakeholder meeting.

17. The UNECE Timber Committee and the FAO European Forestry Commission invite their member governments, as well as relevant international partner organisations, to consider how they can contribute to the implementation of the Action Plan. For their part, the Committee and the Commission will incorporate relevant actions identified by the Action Plan into their own work programme for 2014-2017 at their joint session in December 2013.

II. The Action Plan for the Forest Sector in a Green Economy

18. The Action Plan consists of 5 pillars with their respective areas of activity:

A. Sustainable production and consumption of forest products

- Strategy for sustainable production, consumption and trade of forest products
- Certification of sustainable forest management and related labelling as well as other standards for sustainable forest management
- Procurement practices, both public and private
- Wood mobilisation and increasing the potential sustainable wood supply
- Innovation in forest management and in the production and use of forest products
- Life Cycle Assessment (LCA)
- Policies and standards for green building.

B. A low carbon forest sector

- Strategy for the low carbon forest sector
- Substitution of non-renewable materials and energy
- Efficient production and use of wood: eliminating waste from forest to consumer
- Adaptation of the forest to a changing climate
- Carbon sequestration and storage

C. Decent green jobs in the forest sector

- Strategy for decent green jobs in the forest sector
- A skilled workforce
- Safety and health of the forestry workforce
- Forest operations
- Socio-economic impacts of Green Economy policies

D. Valuation of and payment for forest ecosystem services

- Strategy for valuation of and payment for forest ecosystem services
- Valuation of forest ecosystem services
- Payment for forest ecosystem services: moving from theory to practice
- Forests and human health

E. Monitoring and governance of the forest sector in the green economy

- Strategy for monitoring and governance of the forest sector in the green economy
- Implementation and improvement of criteria and indicators of sustainable forest management
- Assessment of sustainable forest management in the region
- Policy instruments and institutional frameworks for the forest sector in a green economy
- Communication and promotion of sustainable forest management and the green economy
- Communication and outreach to and cooperation/coordination with other parts of the green economy

Pillar A: Sustainable production and consumption of forest products

Goal: Patterns of production, consumption and trade of forest products are truly sustainable

	Possible actions	Possible actors
A.0	<i>Objective: To develop and communicate realistic and ambitious strategies for sustainable patterns of production, consumption and trade of forest products</i>	
A.0.1	Develop strategies for sustainable production and consumption in the green economy, including, but not only, forest products	Governments and private sector, consumer organisations
A.0.2	Review challenges and opportunities for sustainable consumption patterns for forest products: (e.g. high level conference)	UNECE/FAO, stakeholders
A.0.3	Promote the use of sustainable forest products (solid, reconstituted, fibre, products of biorefineries) in all sectors	Private sector, stakeholders, Governments, FCN
A.0.4	Ensure that the forest sector is appropriately represented at all international forums on sustainable consumption and production	All forest related international organisations, governments, stakeholders
A.1	<i>Objective: To ensure that consumers are fully and accurately informed whether the forest products they purchase come from sustainable sources, and that certification and labelling systems encourage the sound and sustainable use of wood and forest products</i>	
A.1.1	Maintain monitoring of developments in certification and labelling, preferably with more analysis of the impact of certification and labelling	UNECE/FAO, EU, certification systems, science
A.1.2	Consider policy frameworks for unified labelling and certification systems for forest products	UNECE/FAO, stakeholders, including certification systems, EU, Governments, stakeholders/private sector
A.1.3	Evaluate the risks and benefits of including genetically modified trees in sustainable forest management and encourage public dialogue on this question	Science, stakeholders, governments
A.1.4	Further develop national standards which satisfy more than one certification system.*	Governments, certification systems, forest owners, stakeholders
A.1.5	Review stakeholders' experience with certification: has it changed silvicultural practice? Are the costs bearable? Has it opened new markets or developed old markets?	Science, certification systems, forest owners, UNECE/FAO

A.2	<i>Objective: To help public and private buyers of forest products to develop and implement procurement rules which encourage sustainable practices</i>	
A.2.1	Link the development of procurement policies to existing legislation and practice on sustainable consumption and production (referring to international standards)	EU and other procurement authorities, certification systems
A.2.2	Harmonise public and private procurement policies and practice to ensure that sustainability considerations are adequately taken into account and do not discriminate against forest products.*	Procurement authorities, UNECE/FAO, EU, Governments, private sector and consumer organisations
A.3	<i>Objective: To ensure that wood supply from the region's forests is sufficient to satisfy, on a sustainable basis, society's needs for renewable raw materials and sources of energy</i>	
A.3.1	Implement the recommendations from the study, <i>Good practice guidance on sustainable mobilisation of wood in Europe</i> (2009) and monitor progress in implementation	Governments, private sector, forest owners, stakeholders. For monitoring, UNECE/FAO, EFI
A.3.2	Carry out national studies on opportunities to increase the potential sustainable wood supply.*	UNECE/FAO, Governments and relevant stakeholders
A.3.3	Carry out research into the social and economic drivers of wood supply, for instance motives and values of non-traditional forest owners, supply curves for wood removals)	IIASA, EFI, Metla
A.3.4	Invest in infrastructure for mobilisation	Governments, private sector, forest owners
A.4	<i>Objective: To promote innovation in forest management and in the production and use of forest products, so that the forest sector is a competitive supplier of renewable and sustainably produced goods and services.</i>	
A.4.1	Showcase innovative uses of wood and forests, e.g. by regular forums/market places	Private sector
A.4.2	Assess the potential and impact of biorefineries.	FTP, private sector, UNECE/FAO
A.4.3	Review and promote innovation intended to improve efficiency in the use of materials in the manufacturing and processing of forest products, and the competitiveness of the sector.*	UNECE/FAO
A.4.4	Create conditions and approaches which promote innovation (policies, framework conditions and changed attitudes).	Governments, stakeholders, forest industries and relevant stakeholders
A.5	<i>Objective: To promote the use of LCA data based on internationally agreed standards for all materials at all stages of manufacturing, use and recycling, to support decision making at all levels</i>	
A.5.1	Present and discuss LCA outcomes: Do they really support the idea that forest products are in general "lower carbon" than	UNECE/FAO, LCA community, stakeholders

	their competitors? If so, what are the consequences for policy? (policy forum).*	
A.5.2	Promote the development and use of LCA assessment tools to beyond measuring and reflecting the carbon/energy/pollution footprint of products to include also an assessment of the influence of a product during its life cycle on biodiversity, human health, the workforce and other social aspects.	LCA “community”, stakeholders, ISO, UNEP/SETAC
A.5.3	Participate in LCA strategic decision making, for instance by ensuring that the forest sector is represented at UNEP/SETAC Life Cycle Inventory (LCI) Programme.	Governments, private sector
A.5.4	Promote the development and use of environmental declarations on labels.	Governments, stakeholders
A.5.5	Use LCA tools in accordance with ISO standards to assess options in a comprehensive way, and take this into account in decision making.*	Governments, private sector and civil society
A.6	<i>Objective: to contribute to the development of green building standards and promote the equitable treatment of all materials in terms of sustainability.</i>	
A.6.1	Participate actively in strategic thinking on green building, notably by joining the UNEP Sustainable Building and Climate Initiative (SBCI) steering committee and its Technical Advisory Committee on materials.	Private sector, stakeholders
A.6.2	Establish a task force to monitor and analyse developments in green building, in order to bring important trends and issues (e.g. the alleged unfair treatment of forest products) to the attention of policy makers, and monitor whether green building codes, standards and programmes constitute barriers to trade in forest products.*	UNECE/FAO, EFI, Governments, private sector organisations
A.6.3	Study the advantages of including in green building standards the carbon footprint of construction materials as well as the characteristics in the use of the building. Promote the conclusions of the study.	Building research institutes (FCBA, etc.)
A.6.4	Inform forest sector stakeholders and stakeholders from other sectors about developments in green building, especially in as much as they affect forest products.	UNECE/FAO, FCN
A.6.5	Promote the development and implementation at a national level of green building standards which treat all materials equitably.*	National and sub- national governments and relevant stakeholders
A.7	<i>Objective: To ensure that only sustainably and legally produced forest products enter the market.</i>	
A.7.1	Exchange national experiences with regulations on illegal logging.	UNECE/FAO, TTF, EFI-FLEGT
A.7.2	Analyse and monitor the long term consequences of the US Lacey Act and EU timber trade regulation on the sector (inside and outside the region), with participation from other regions.*	EFI, EU, UNECE TC, ITTO, UNFF, all UNECE member countries

Pillar B. The low carbon forest sector

Goal: The forest sector makes the best possible contribution to mitigation (sequestration, storage and substitution) of, and adaptation to, climate change

	Possible actions	Possible actors
B.0	<i>Objective: to develop and communicate ambitious and realistic strategies for the low carbon forest sector</i>	
B.0.1	Analyse the emerging climate change regime from the viewpoint of the forest sector, to ensure that the response of the sector to the new regime is balanced (notably between sequestration and substitution) and compatible with the other dimensions of sustainable forest management.	UNECE/FAO, EFI,
B.0.2	Review national climate change mitigation and adaptation strategies in order to ensure that the forest sector is playing an optimum role, with the right balance between carbon sequestration and substitution of non-renewable fuels and materials. Likewise ensure national forest programmes address climate change issues adequately, and that the two policy areas (national climate change strategies and national forest programmes) are consistent.	Governments
B.0.3	Carry out a study on the impact of the new carbon accounting scheme on international trade in wood and forest products.*	EFI, EU, UNECE TC, UNFCCC, all UNECE member countries
B.1	<i>Objective: To encourage the reduction of emissions of greenhouse gases by substituting wood from renewable sources for non-renewable materials and energy</i>	
B.1.1	Identify, using LCA, markets where the use of forest products instead of competing products would cause a significant reduction in carbon emissions. (For instance low carbon housing) Promote this analysis, in cooperation with the private sector	EFI, FTP, LCA “community”, private sector, FCN
B.1.2	Continue to monitor developments in wood energy (supply and trade), compare developments with policy targets, put demand for wood energy in the context of overall forest sector trends and potential.	UNECE/FAO (outlook studies)
B.1.3	Provide guidelines and recommendations for developing national action plans for energy efficiency and material efficiency in buildings (not only for forest products), keeping in mind progress in EU legislation.	EU, UNECE/FAO
B.1.4	Promote the use of wood in construction.* Compare national experiences with the use of different benchmarks, policy measures and legal frameworks. Establish targets for the use of wood in construction.	National authorities, architecture and urban planning professional associations, and forest industry. International standardisation bodies
B.1.5	Incorporate the cost of non-renewability into all products and fuels to encourage increased use of renewable materials and sources of energy, including wood.*	Science. Policymakers. Private sector and market actors.

B.1.6	Develop a communication strategy to promote the use of wood as a contribution to climate change mitigation.	FCN
B.1.7	Promote use of low carbon energy and materials over high-carbon/non-renewable alternatives.	UNEP, UNECE/FAO, FCN
B.1.8	Promote wood mobilization by improving the functioning of the wood energy market.	UNECE/FAO, national forest policy makers
B.2	<i>Objective: To promote the most efficient production and use of wood raw material, notably by ensuring that forest products are used, re-used and recycled, and used for energy only after other uses have been considered, and with an optimal balance of products allocated across these pathways.</i>	
B.2.1	Analyse the advantages and disadvantages of the “cascade” approach to wood use.	UNECE/FAO, EFI, LCA community
B.2.2	Develop and/or improve technologies to increase the efficiency and profitability of producing wood-based renewable energy while minimizing environmental impacts.*	National: Private sector in cooperation with research community; International actors: funding programmes
B.2.3	Carry out research on the potential and use of bio-based products ¹ , including biochar. ²	IUFRO
B.2.4	Develop productive uses for landscape care wood ³ and recovered wood products, including consideration of the framework conditions necessary for their development.*	National actors: Local authorities
B.2.5	Avoid wherever possible landfill as a final destination for wood and paper waste.	Environment ministries, private sector
B.2.6	Promote local, decentralised and highly efficient use of wood energy, where appropriate	Energy policy makers, private sector
B.3	<i>Objective: To improve the capacity of the forest sector to adapt to climate change and manage the risks associated with a changing climate</i>	
B.3.1	Bring together science and policy, for instance at a conference on the Adaptation of Forests and Forest Management to Changing Climate in the ECE region, to review progress since the global conference on the same topic in 2008	IUFRO, UNECE/FAO
B.3.2	Promote international cooperation and experience sharing on	UNECE/FAO,

¹ Commercial or industrial product (other than food or feed) that is composed, in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials OR an intermediate feedstock. (US Secretary of Agriculture). Some examples of agricultural resources that make up many biobased products include: soybeans, corn, kenaf, flax, jute, and numerous other types of crops that are harvested. Current applications of these agricultural resources create products such as ethanol (corn-based), soy candles, soy-based lubricants, kenaf office paper, and bioplastics to name a few (Wikipedia).

² Charcoal, when used for specific purposes, notably for soil amendment.

³ Landscape care wood is wood from non-forest sources, including: maintenance operations; tree-cut activities in the horticulture industry; other landscape care or arboricultural activity in parks; cemeteries etc.; trees along roadsides and boundary ridges, rail- and waterways and gardens (EUwood). Industrial residues and post-consumer recovered wood are not included.

	the development of specific adaptive management regimes.*	FAO, EFI, IUFRO
B.3.3	Commission research into changes in demands on forests goods and services directly or indirectly due to the changing climate.	EFI, EUSTAFOR, CEPF
B.3.4	Improve monitoring and early warning of forest pests and diseases in the region with strengthened international cooperation.	FAO, IUFRO, International Plant Protection Convention (IPPC)
B.3.5	Maintain and strengthen fire monitoring and management systems.	FAO, GFMC, EU, ISDR, national fire management bodies
B.3.6	Commission research on forest resilience (e.g. to pests, storms, fires) in relation to the impacts of climate change on these "events".	IUFRO, EFI, research community
B.3.7	Develop strategies for the use of forests as a tool for the adaptation of society and the environment to climate change.	Governments, research
B.3.8	Develop and implement risk management and adaptation strategies for forests at a national level and by forest type/region.*	Governments, Forest authority, private forest owners and research institutes, insurance sector
B.4	<i>Objective: To promote the sequestration and storage of carbon in forest ecosystems and harvested wood products</i>	
B.4.1	Contribute to the development of a climate change regime which provides appropriate incentives to maintain or increase carbon stocks in the forest ecosystem (including soil carbon) and harvested wood products, while preventing adverse environmental impacts.	Climate change negotiators, private sector, forest sector analysts and policy makers
B.4.2	Improve monitoring of carbon stocks in forests and harvested wood products, for instance by developing and/or improving national greenhouse gas inventories, combined with forest inventories.	IPCC, FRA, UNECE/FAO, national forest inventories
B.4.3	Analyse how chain of custody systems for forest products can contribute to the monitoring of harvested wood products, and create incentives to develop this approach possibly with the cooperation of certification bodies.*	UNECE/FAO, FAO acting as conveners of private sector actors with policymakers, certification systems.
B.4.4	Improve the understanding of consumer perceptions and requirements regarding the increased use of long-lived wood products.	Science
B.4.5	Improve the understanding of carbon in wood products (accounting, flows, consequences of the new climate change regime).	EFI, VTT, vTI Hamburg
B.4.6	Construct a national legal and institutional frameworks which makes it possible for forest owners and industries to be rewarded for carbon sequestration and storage	Sector policy makers
B.4.7	Incorporate incentives for carbon sequestration and storage into planning and operations (for forest owners and industries).	Climate change and forest sector policy makers
B.4.8	Analyse the influence on national and local harvest levels and	IUFRO, EFI

	silvicultural objectives of present and possible future climate change regimes.	
B.4.9	Improve forest management in order to optimise carbon sequestration and storage while ensuring the sustainability and multifunctionality of forests at all levels.*	National/regional forest authorities, landowners and researchers.

Pillar C. Decent green jobs in the forest sector

Goal: the workforce is able to implement sustainable forest management, and the forest sector contributes to achieving the social goals of the green economy by providing decent jobs

	Possible actions	Possible actors
C.0	<i>Objective: to develop and communicate ambitious and realistic strategies for decent green jobs in the forest sector</i>	
C.0.1	Review forest sector workforce issues in order to recommend priorities and communicate their importance including through wide stakeholder consultation.	UNECE/FAO, ILO, social partners, NGOs and researchers
C.1	<i>Objective: To ensure that the workforce has the necessary skills to carry out the increasingly complex tasks associated with sustainable forest management</i>	
C.1.1	Improve monitoring and analysis of the forest-sector workforce, starting by updating the earlier ECE/FAO/ILO study of professional skills and training ⁴ .*	UNECE/FAO, ILO, Joint Expert Network to implement SFM with stakeholders (ENFE)
C.1.2	Review and discuss at policy level the main threats to sustainability of the workforce), and possible countermeasures. Include regular sessions on “new forest jobs in the green economy” at high level forest sector meetings	UNECE/FAO, ILO, ENFE, EUSTAFOR, CEPF, other stakeholders
C.1.3	Develop tripartite (government/unions/employers) approaches to green jobs in the forest sector, using tools such as regulations, minimum standards, certification etc.	Governments, ILO, stakeholders
C.1.4	Increase investment in the education and training of contractors, forest workers and forest owners.*	Governments (labour/training ministries), Joint Expert network, EFESC, ENFE, EFI
C.1.5	Encourage associations, such as contractors associations, as a means to improve access to training.	Governments, ENFE
C.2	<i>Objective: To reduce the levels of illness and injury experienced at present by the forestry workforce, taking into account the changes in technology and their implications for occupational health and safety due to the transition to the Green Economy.</i>	

⁴ *Skills and Training in Forestry-Results of a Survey of ECE Member Countries*. Geneva: FAO/ECE/ILO Joint Committee on Forest Technology, Management and Training, 1996.

C.2.1	Raise the level of political will to improve the safety and health of the workforce, by studying workforce status and trends, with national comparisons, and analysis of the differences.	ILO, national occupational safety and health organisations, stakeholders
C.2.2	Radically improve the monitoring of occupational safety and health of the forestry workforce, to enable meaningful analysis and preventive action, notably by improving monitoring coverage of contractors, farmers, migrant labour, etc. and by putting in place capacity building for improved reporting on social indicators.	UNECE/FAO, ILO, national forest and occupational safety institutions
C.2.3	Promote and monitor implementation of the FAO code of practice on forest contractors	ENFE, ILO
C.2.4	Enforce relevant legislation and develop regulations, if necessary, to take account of changing technology (vibration hazard) and changing social conditions (self-employed contractors, migrant workers).*	Governments with relevant stakeholders
C.2.5	Fund extension work to make employers and workers sensitive to safety and health issues, and implement campaigns to promote a culture of preventative occupational safety and health.*	Governments with relevant stakeholders
C.3	<i>Objective: To review the work methods used for harvesting and silviculture, determine whether they need to be improved and to ensure that best practice is applied everywhere</i>	
C.3.1	Develop and share best practice for environmentally-efficient and sustainable forest operations.	Governments with relevant stakeholders, Joint Expert Network
C.3.2	Identify changes in forest operations which might be necessary for sustainable forest management (workshop).	Joint Expert Network, with ENFE, ILO, national operations research institutions
C.3.3	Review challenges and dilemmas connected to forest operations (reconciling different management goals, mobilising sufficient operational capacity for sustainable forest management).	UNECE/FAO, ILO, Joint Expert network, stakeholders
C.4	<i>Objective: To promote the use of tools to assess the socio-economic impacts of Green Economy policies on the forest sector</i>	
C.4.1	Monitor and analyse at the policy level the impact of green economy policy on employment in the forest sector, possibly with a cross-sectoral approach.	ILO, UNECE/FAO, FOREST EUROPE, UNEP

Pillar D. Valuation of, and payment for forest ecosystem services

Objective: to identify and value forest functions and to establish payment for ecosystem services (PES), encouraging sustainable production and consumption patterns.

	Possible actions	Possible actors
D.0	<i>Objective: to develop and communicate ambitious and realistic strategies for the valuation of and payment for forest ecosystem services</i>	

D.0.1	Review and develop approaches to the valuation of and payment for different forest ecosystem services, in the UNECE region, and involve both research and policy bodies in this work.	UNECE/FAO, EFI, IUFRO, Forest Europe
D.1	<i>Objective: To support the assigning of economic value to non-marketed forest goods and services and to enhance the understanding and recognition of the public goods provided by forests.</i>	
D.1.1	Intensify research on the valuation of forest goods and services, notably as regards policy objectives, possible funding sources, and the incorporation of forest ecosystem values into national accounting frameworks. Build databases and online platforms for exchange, cooperation and data dissemination. Develop guidance for the valuation of forest ecosystem services.	Science, IUFRO, EFI, EEA,
D.1.2	Organize a policy forum, based on survey and analysis, leading to concrete recommendations on the valuation of the public goods provided by forests such as human health and well-being, as well as on emerging dilemmas and trade-offs for managers and policy makers.*	Forest Europe; science, EFI; UNECE/FAO. This could also be a country-led initiative
D.1.3	Cooperate with other communities such as health, biodiversity, climate change, energy, agriculture and business, including the insurance sector, to exchange knowledge on valuation methodologies.*	UN Statistics Division; TEEB
D.1.4	Undertake national and regional reviews of forest ecosystem services and assess their values, with the participation of forest managers, researchers and consumers of forest ecosystem services	Governments, science, stakeholders, UNECE/FAO team on monitoring SFM
D.1.5	Promote the disclosure of the values of forest ecosystem services (supplied or consumed/impaired) at the corporate level.	Private sector, Governments, stakeholders
D.2	<i>Objective: To promote best practice in the development and implementation of Payment for Ecosystem Services (PES) in order to ensure the continued provision of forest environmental services.</i>	
D.2.1	Review and share experience on payment for forest ecosystem services, notably enabling conditions for PES and monitor progress, taking into account existing material (e.g. SoEF 2011) and identifying implications for PES design and implementation.	UNECE/FAO; EFI; Research community; EU: multi-level FP7 consortium and Regional Funds
D.2.2	Build capacity at the national level for PES development and implementation and incorporate PES into existing strategies on the basis of experience.	
D.2.3	Develop guidelines for policies and instruments that will provide a framework for PES and identify potential PES funding options.	
D.2.4	Empower forest owners and promote partnerships between forest owners and other actors/stakeholders, for instance to develop forest tourism/ecotourism.	
D.2.5	Identify, review and communicate success stories for PES in the forest sector.*	FCN, stakeholders
D.2.6	Undertake a comparison between the value of marketed and non-marketed forest goods and services, and develop	Science, private forest owners;

	recommendations as to how academic valuation methods could be transformed into payment systems.*	Financial services sector
D.3	<i>To review ways in which forests contribute to human health and well-being, and ascertain whether this information is properly incorporated into policies and practices</i>	
D.3.1	Organise a regional forum on forests and human health to review the situation, opportunities and challenges, and make recommendations for future work, at the international and national level.*	WHO; IUFRO, Ministries of Health; Medical schools; forest owners
D.3.2	Study on wellbeing in wooden buildings vs. buildings with other structures.	
D.3.3	Undertake a comprehensive evaluation of the health services provided by forests (capturing positive and negative aspects) and communicate findings and conclusions of this exercise.	WHO, IUFRO, Ministries of Health, medical schools, forest owners

Pillar E. Monitoring and governance of the forest sector

Objective: To ensure that the forest sector in the region has policies and institutions which promote sustainable forest management, that policy making is evidence-based, policy instruments are effective, efficient and equitable, and that monitoring is adequate in order to mainstream the green economy in forest sector policies.

	Possible actions	Possible actors
E.0	<i>Objective: to develop and communicate ambitious and realistic strategies for monitoring and governance of the forest sector</i>	
E.0.1	Carry out national forest sector policy reviews, in an international context, with peer review, along the lines of the environmental performance reviews carried out by ECE.	UNECE/FAO
E.0.2	Review national forest sector governance and the adequacy of available supporting information (when such a review has not been undertaken recently).	Governments with relevant stakeholders
E.0.3	Analyse the conditions under which policies affecting the forest sector are set, to better understand why policies are formulated as they are and to investigate where improvement may be made in order to overcome limitations	Science, UNECE/FAO, EFI
E.0.4	Develop the capacities (skills, information, institutions, etc.) of all stakeholders (workforce, private sector, administrations, etc.) to implement sustainable forest management and monitor progress in its implementation.	Governments, stakeholders
E.1	<i>Objective: To ensure that the forest information available is comprehensive and comparable, structured according to the regional criteria and indicators sets, at the appropriate spatial resolution for decision making, that analysis of the outlook makes it possible to assess the consequences of policy choices, and that policy makers make use of the best available information and analysis</i>	
E.1.1	Maintain and develop present inter-organisation cooperation on State of Europe's Forests and forest sector outlook studies, set up appropriate task forces to address the challenges in measuring particular indicators.*	UNECE/FAO (notably teams on Monitoring of SFM and on Outlook), FOREST EUROPE, partners for SoEF and

			EFSOS/NAFSOS
E.1.2		Develop the capacity of all countries so that they can supply usable data for all indicators.	Governments, UNECE/FAO, international C&I partners
E.1.3		Develop the forest sector's contribution to broader green economy indicator data sets: - explore how "forest sector" indicators can be used to report on the green economy - discuss with other sectors how they want to report on their contribution to a green economy - adjust current criteria and indicators and/or develop new ones (in dialogue with other sectors). - ensure that forest sector indicators for green economy monitoring are consistent with other forest sector indicators, notably those for sustainable forest management.*	UNECE/FAO, FOREST EUROPE, EFI, UNEP
E.1.4		Produce regular fact based reports on sustainable forest management in countries, based on international and national criteria and indicators.	Governments, stakeholders, EFI, UNECE/FAO
E.2	<i>Objective: To develop an agreed method for assessing sustainable forest management at the international level, based on criteria and indicator sets, and apply this method, to provide policy makers, particularly in the forest sector, with clear information on whether forest are being sustainably managed or not</i>		
E.2.1		Develop an agreed methodology to assess the sustainability of forest management, possibly building on SOEF 2011 experience, and implement it.	UNECE/FAO, science, SoEF partners
E.2.2		Encourage cooperation between FOREST EUROPE and the Montréal Process.	FOREST EUROPE, UNECE/FAO, FAO/FRA, Governments
E.2.3		Assess the sustainability of forest management at the national level.*	Governments with relevant stakeholders
E.2.4		Develop capacity for reporting on indicators of sustainable forest management, at national and international level.*	UNECE/FAO, FOREST EUROPE, EFI (incl. its project on C&I implementation)
E.3	<i>To review existing forest sector policy instruments in the light of the requirements of a green economy, and, if necessary, make proposals for a new approach, while improving synergies at the international level</i>		
E.3.1		Prepare detailed and objective study at the regional level of policy instruments in place and whether they are appropriate for a green economy, leading, if appropriate to proposals for improvement.*	UNECE/FAO, FOREST EUROPE, ILO with other IGO
E.3.2		Include the green economy as one of the main topics of programmes of work.	relevant forest sector organisations and institutions
E.3.3		Create European forest partnership on a voluntary basis to improve coordination and cooperation between international organisations in Europe.*	UNECE/FAO, FOREST EUROPE, EU agencies, EFI, with

			other agencies
E.3.4		Prepare detailed and objective study at the national level of policy instruments in place and whether they are appropriate for a green economy, leading, if appropriate to proposals for improvement.	Governments, science
E.3.5		Promote sustainable forestry in rural communities including forest-based entrepreneurship, capacity building and innovation.	Governments
E.4		<i>To improve communication with the public and policy makers about the forest sector's actual and potential role in the green economy and facilitate public participation in the debate on the green economy</i>	
E.4.1		Improve the sector's capacity to communicate, by developing national and international communications, capacities and funding, and sharing experience.*	UNECE/FAO, FCN, FOREST EUROPE with other agencies
E.4.2		Implement communications that will result in public opinion and legislators considering wood to be an "ecologically preferred" construction material.*	UNECE/FAO, FCN, FOREST EUROPE relevant national actors
E.5		<i>Objective: To communicate lessons learned in the forest sector to other sectors, and to learn from other sector's experience</i>	
E.5.1		Monitor green economy developments in the ECE region forest sector and ensure that organisations active on global green economy issues, such as UNEP, are aware of them.	UNECE/FAO, UNEP
E.5.2		Carry out a comparative analysis of the concept of "sustainable forest management" as it appears in work from different backgrounds such as REDD+, LULUCF, forest sector, criteria for bio-energy, etc.*	EFI, IUFRO with relevant partners (UNFF, FAO, UNFCCC, EU etc.)
E.5.3		Ensure the participation of forest stakeholders in cross-sectoral processes and initiatives related to green economy.	Governments, science, stakeholders
E.5.4		Establish cross-sectoral working groups, develop contacts with other green economy sectors, and share experience (also international) and identify success factors.*	UNECE/FAO
E.5.5		Add "forests and the green economy" to the educational curriculum.	Forestry faculties, education ministries

III. Recommendations

19. The Committee is invited to consider the current document, provide additional input and decide on further steps. In particular, the Timber Committee may wish to consider one of the following:

- Further revising the Action Plan during a meeting to be organized back to back with the Joint FAO/UNECE Working Party on Forest Statistics, Economics and Management in April 2013;
- Organizing a special session of the Timber Committee and of the European Forestry Commission in June 2013 to finalize the Action Plan as well as the ECE/FAO joint Programme of Work.

ANNEX

LIST OF ACRONYMS/ABBREVIATIONS

CEPF	Confederation of European Forest Owners
EFC	European Forestry Commission
EFESC	European Forest and Environmental Skills Council
EFI	European Forest Institute
EFSOS	European Forest Sector Outlook Study
ENFE	European Network of Forest Entrepreneurs
EU	European Union
EUSTAFOR	European State Forest Association
FAO	Food and Agriculture Organization of the United Nations
FCBA	Institut Technologique Foret Cellulose Bois-construction Ameublement
FCN	Forest Communicators Network
FLEGT	Forest Law Enforcement, Governance and Trade
Forest Europe	the Ministerial Conference for the Protection of Forests in Europe (former MCPFE)
FRA	Global Forest Resources Assessment
FTP	Forest-based Sector Technology Platform
GPMC	Global Fire Monitoring Center
IIASA	International Institute for Applied Systems Analysis
IPPC	International Plant Protection Convention
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
IUFRO	The Global Network for Forest Science Cooperation
LCA	Life Cycle Analysis (or Assessment)
Metla	Finnish Forest Research Institute
NAFOSOS	North American Forest Sector Outlook Study
SFM	Sustainable Forest Management
TC	Timber Committee
TEEB	The Economics of Ecosystems and Biodiversity
TTF	Timber Trade Federation
UNECE	United Nations Economic Commission for Europe

UNEP	United Nations Environment Programme
UNEP/SETAC	United Nations Environment Programme (UNEP) and the Society for Environmental Toxicology and Chemistry (SETAC)
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
vTI	Institute of Forest Genetics
VTT	Technical Research Centre of Finland
WHO	World Health Organization
