THINKFOREST

A new role for forests and the forest sector in the EU post-2020 climate targets

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EU forests and the forest sector play a significant role in the EU greenhouse gas balance. These forests and their products reduce emissions, enhance sinks, store carbon and provide a continuous stream of ecosystem services, including wood products, energy and biodiversity conservation. It is estimated that **EU forests and the forest sector currently produce an overall climate mitigation impact that amounts to about 13% of the total EU emissions.** This includes both the action of forests and harvested wood products as a **carbon sink and carbon stock**, and the **substitution** effect of forest products for **fossil-based raw materials and products.**

Time for a fresh look at forest sinks

Over the past two decades, the mitigation potential of forests and the forest sector has been progressively included in international climate discussions. Existing rules are rather complicated and provide limited incentives for mitigation in the forest sector in developed countries. Land sinks were perceived to be unstable and mostly determined by past activities. There was also the widespread conviction that the land use sector was difficult to regulate, and that it would achieve little in the way of emission reductions.

But as the Parties to the Kyoto Protocol negotiate a new climate agreement to be adopted in Paris in December 2015, a new bottom-up approach to emission reduction commitments has emerged. This has opened the door to new approaches to using the forest sector's mitigation potential in developed countries. New data has also enabled scientists to understand how to better use the forest sector in tackling climate change. Better use of this sector's mitigation potential could also provide a host of additional benefits, including revenue-generation and biodiversity conservation.

EU climate policy post-2020

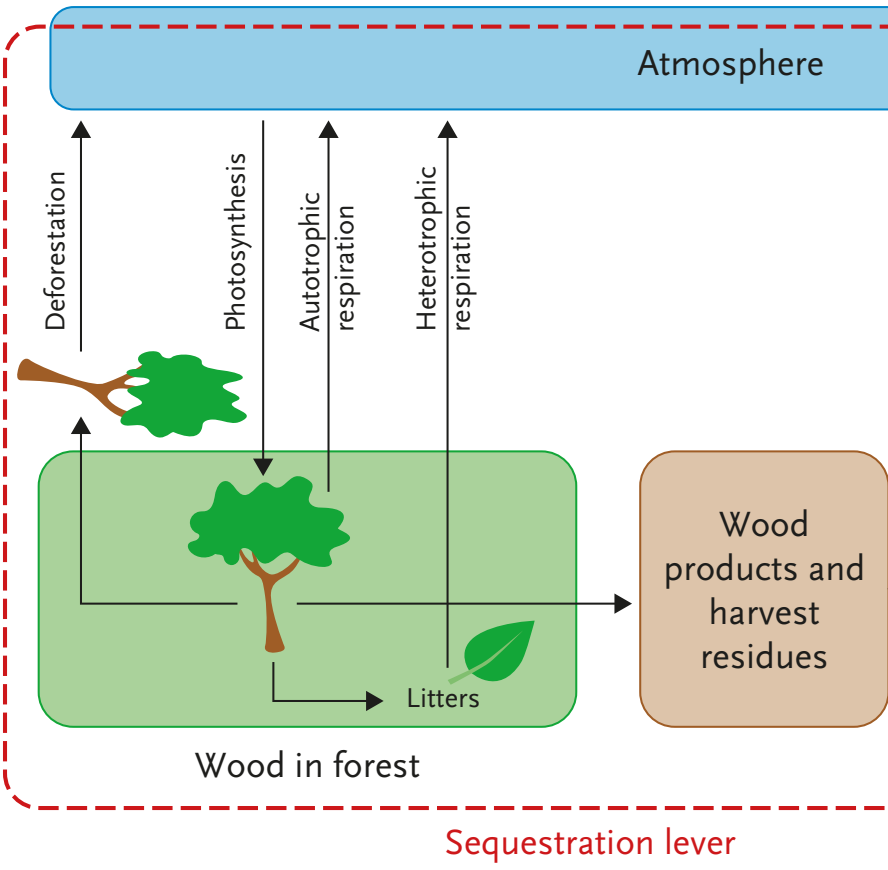
Currently, approximately 45% of the EU's greenhouse gas emissions are covered by the EU Emissions Trading System (ETS), which includes more than 11,000 large installations in power generation and manufacturing industries across Member States. Emissions from sectors not included in the EU EUTS are addressed in the Effort Sharing Decision (ESD), which sets binding annual greenhouse gas emission targets for Member States for 2013-2020. At present, CO_2 emissions from Land Use, Land Use Change and Forestry (LULUCF) are not included in either option.

The EU has already decided that emissions and removals from LULUCF will be included in its 2030 climate policy framework, with a decision on exactly how to do so expected in 2016. The option of including LULUCF in the EU ETS has been discarded, and there are currently three main options: developing specific LULUCF rules; including LULUCF in the ESD; or developing a separate EU land sector pillar.

Opportunities for Climate Smart Forestry

The EU shows great variety in regional climate, forest resources, the forest sector and its importance for the national economy. Member States vary in how they deal with their forest resource and the associated demands and uses, but there is a good correlation between achieving a carbon sink on the one hand, and providing wood products and energy on the other.

Forest ecosystems in the EU are very diverse, spanning three major biogeographic zones (boreal, temperate and Mediterranean), with different species, growth rates and contrasting management traditions. The resulting variation in growth potential and in forest utilisation rates in the various value chains creates a wide range of options for climate change mitigation across the EU Member States.

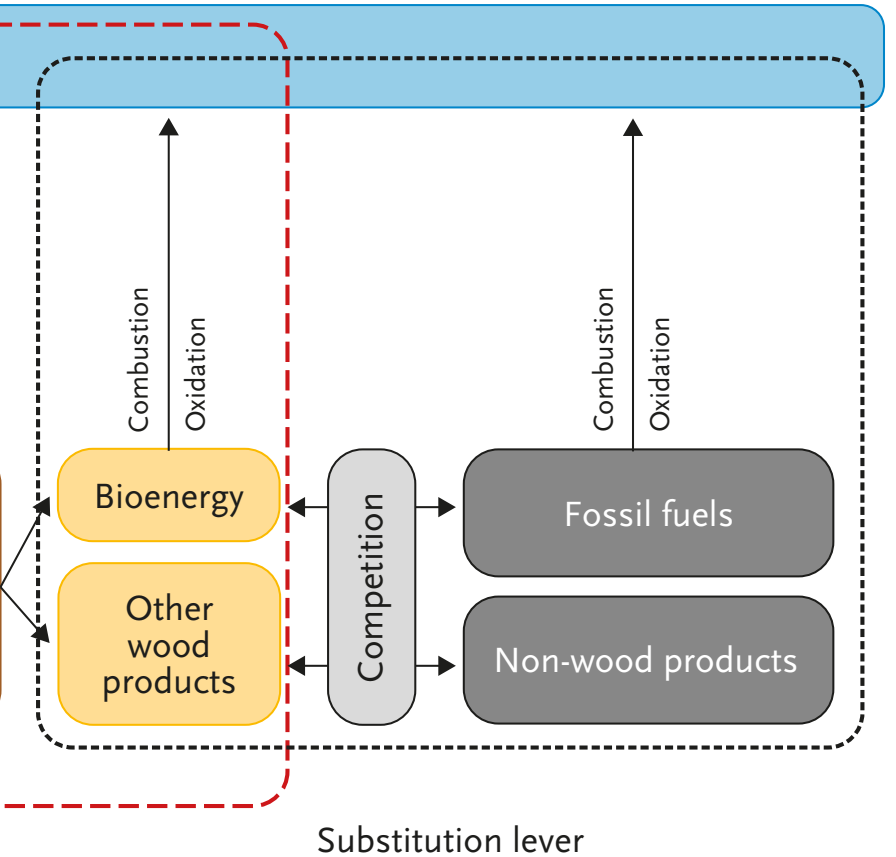


Forests retrieve carbon dioxide from the atmosphere and sequester carbon in biomass, acting as a carbon sink. Part of this carbon is transferred into soils through litterfall, or through harvesting into a variety of products. Forest management tools such as improved silviculture, afforestation, re-forestation and reduced deforestation increase net carbon sequestration in forests. In addition, carbon sequestration in long-lived wood products delays carbon release into the atmosphere (sequestration lever).

'Climate Smart Forestry' is an approach that mainstreams climate mitigation **by using forests and the forest sector and related policies in a way which utilises these different regional characteristics and circumstances**. Dozens of measures can be developed to incentivise Climate Smart Forestry in synergy with other policy areas – some examples could include:

A high forest-stocked central European country

In this country, multi-purpose forestry is high on the agenda, and strong demands for increased biodiversity protection co-exist with climate policy targets. Increasing the share of **strictly protected forests** would maximise sinks in forest biomass in the medium term. In other areas with a high growing stock, the growing stock can be reduced (**producing new types of products**), at the same time **reducing the storm risk**.



Substitution lever

Fuelwood and bioenergy (e.g., pyrolysis oil and second generation biodiesel) can substitute fossil fuels, and timber products can substitute more energy- and emissions-intensive materials. Emissions linked to wood product consumption are generally lower than those created by the consumption of non-wood products and may enable a reduction in fossil energy emissions (substitution lever).

A fire-prone country

This is a country with a poorly developed forest industry and strongly affected by fire disturbances. The best carbon mitigation strategy here needs to target **fire risk management** and possibly the local use of forest biomass, in conjunction with regeneration with drought-resistant species. In the long term, the better adapted species will sequester more carbon and offer a landscape which is more attractive for tourism.

An industrial forestry-oriented country

This is a country with a relatively low felling / increment ratio of e.g., 70%, which aims to **increase resource utilisation rates** and target the bioeconomy - particularly the production of new and additional products which were formerly dependent on non-renewable resources (i.e., a focus on substitution). Some resource intensification is needed in certain rural areas to create jobs and income, while in other more marginal growth areas policies should be geared towards **forest reserves** and **preserving peat carbon**.

Policy implications

The potential for EU forests to contribute to climate change mitigation and adaptation is currently not used in an optimal way and is not incentivised under EU policies. Looking ahead, however, there is great scope to enhance the role of EU forests in tackling climate change. **If adequately incentivised, Member States could achieve a combined additional effect of as much as 400 Mt CO_2/y by 2030**. This is equivalent to about 9% of the current EU CO_2 emissions.

The climate problem is important and urgent enough to require every sector to make its contribution. No sector can solve the problem on its own, or within a short time frame. Quick fixes should not be expected from any sector. **With the right incentives and investments, however, a significant contribution can be expected from EU forests, forestry and the forest-based industries.**

Decide on an EU-wide target for forest sector removals

Given recent developments in the policy arena, the **EU should decide an overall EU-wide target for removals in the forest sector**. This target could gradually be raised well beyond the current sink. The target would not only be geared towards increasing the forest sink, but also in ways that increase the GDP contribution of the forest sector, and which contribute sustainably to EU energy security.

Phase-in the achievement of targets

The timetable for achieving targets **should be longer than 2030 with an initial learning and implementation phase**. This would allow for possible adjustment and an examination of how carbon policy in forests impacts, in particular, on land allocation between forestry and agriculture. Gradually, full land-based accounting with a 'net' approach could be incorporated in the overall accounting, avoiding loopholes between the energy and LULUCF sectors.

Decide how to share the effort across EU Member States

The EU should decide how to share the effort of meeting the EU-wide target across the EU Member States. **The optimal approach would be to pursue cost-efficiency, possibly based on considerations of fairness and GDP.**

If a new forestry LULUCF pillar is set up separately from the existing Effort Sharing Decision (ESD), then it would need to be recognised that limited additional incentives would be created for Member States unless the separate pillar is linked to a country's own (larger) target.

Linking a forestry pillar to the ESD could potentially weaken incentives for mitigation action in the ESD sectors. If forestry targets form part of, or are linked to, the ESD, the total emissions permitted under the ESD should be reduced by an amount that reflects the new availability of the cost-effective mitigation potential in the forestry sector.

Review forestry-relevant policies

EU and national policies relevant to forestry should be reviewed with respect to their climate impacts. EU policies like the Common Agricultural Policy, the Renewable Energy Directive and Forest Strategy all have climate impacts. These impacts need to be revisited and analysed in light of climate policy targets, and possible shifts in policies proposed in order to improve the synergies with climate mitigation potential.

Mainstream targets through Climate Smart Forestry

Sustainable adaptation and mitigation of climate change should be mainstreamed in forestry policy and forest management in Europe, **with specific attention paid to regional circumstances, opportunities and challenges**. A wide variety of policy measures tailored to these regional circumstances can be implemented – and as much as possible these measures should be in synergy with other policy targets for the EU forest sector, such as developing the bioeconomy and preserving biodiversity. Some of these measures could be interpreted as introducing elements from the carbon pricing principle.

There is a growing need to strengthen communication between the science community and key policy makers in the EU. For this reason, the European Forest Institute (EFI), after consultation with leading experts on forest policy in Europe, is supporting and facilitating a high-level discussion and information-sharing forum, "ThinkForest".

ThinkForest provides an active and efficient science-policy interface and fosters an inspiring and dynamic science-policy dialogue on strategic forest-related issues.

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