

How does the LULUCF Regulation affect EU Member States' forest management?

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LULUCF: A crucial sector for climate change mitigation

The 2015 Paris Agreement aims to hold the increase in the global average temperature to below 2°C and to pursue efforts to limit the temperature increase to 1.5°C. Forests play a key role in meeting this goal.¹ Forests are particularly important to achieve the Agreement's long-term goal of net zero greenhouse gas (GHG) emissions in the second half of this century. The Agreement further requires Parties to take steps to conserve and enhance GHG sinks and reservoirs.

About one-third of anthropogenic CO₂ emissions are removed by terrestrial ecosystems, mainly forests. When this carbon sink is reduced due to natural causes such as forest fires, or due to human activities such as deforestation, the carbon stored is released back into the atmosphere, thereby accelerating climate change.

In the EU, the LULUCF sector has been a relatively stable net sink of GHGs. Projections show, however, that with increasing demand for timber and biomass, combined with the ageing structure of forests, this carbon sink risks declining also in the EU. This is worrying as the Paris Agreement's temperature goal requires reaching and sustaining net zero global anthropogenic CO₂ emissions between 2050-2075, and negative emissions (i.e. removal of CO₂ from the atmosphere) by the end of this century.² Forest management represents a scientifically feasible and cost-effective way of removing carbon from the atmosphere. By contrast, other negative emissions technologies (such as bioenergy with carbon capture and storage) remain largely unproven.

- The new EU land use, land-use change and forestry (LULUCF) Regulation takes a novel approach to emissions accounting, giving EU Member States discretion in sustainable forest management.
- The Forest Reference Levels (FRLs) in the National Forestry Accounting Plans required by the Regulation need to be in line with other requirements of the Regulation, including the critical requirement to maintain or strengthen long-term carbon sinks.
- The FRL does not constrain national sustainable forest management in qualitative or quantitative terms but ensures that the climate impacts of the decisions made are accounted for in a transparent and reliable manner.
- The Regulation's environmental integrity is tied to the Paris Agreement's long-term goals and ambition mechanism, making the Regulation a dynamic forward-looking instrument that is open for review, and revision.

The no-debit rule at the heart of the LULUCF Regulation

The EU has revised its legislative framework for climate and energy to implement its Nationally Determined Contribution under the Paris Agreement. As part of this framework, the LULUCF Regulation was adopted in May 2018, after almost two years of intensive negotiations that sought to integrate Member States' diverging views on how, and against which reference period, emissions and removals from the sector should be accounted for.

The Regulation effectively creates a third pillar under the EU 2030 climate and energy policy framework, complementing the existing two pillars made of the EU Emissions Trading System (EU ETS) that covers energy-intensive industries and the power sector, and the regulation of the non-ETS sectors under the Effort-Sharing Regulation. While the EU's target to reduce GHG emissions by 20% from 1990 levels by 2020 excludes the LULUCF sector, its 40% emission reduction target for 2030 hence includes emissions and removals from land use. The Regulation will apply from January 2021 onwards, and follow two compliance periods: 2021-2025 and 2026-2030.

The LULUCF Regulation is built around the *no-debit rule*, which requires EU Member States to ensure that emissions from the LULUCF sector do not exceed removals from 2021 to 2030. In other words, the LULUCF sector may not become a net source of GHG emissions. The language used refers to *at least* a balance between emissions and removals, limiting the ambition of the key commitment. While the no-debit rule is a central starting point, the new LULUCF regulation neither prohibits EU Member States from *reducing* their sinks nor incentivises them to *increase* their sinks.

Each Member State may use *flexibilities* to comply with its no-debit commitment. The Regulation provides for general flexibilities and for a specified managed forest land flexibility. Flexibilities, for example, enable Member States to use allocations from the Effort Sharing sectors to meet their commitments. Member States can buy and sell net removals from and to other Member States, balance emissions from one land category against removals in another within the LULUCF sector, and enhance removals or reduce emissions in the LULUCF sector to support compliance in other sectors. Member States may also bank net removals from the first to the second compliance period.

The *land-based approach* to accounting under the LULUCF Regulation measures the emissions and removals from the sector in five land accounting categories: (1) afforested and forested land; (2) managed cropland, grassland and wetland; (3) managed forest land; (4) harvested wood products; and (5) natural disturbances. A land-based approach considers the change in the carbon stock in all

carbon pools on all land areas, whereas activity-based accounting – that is applied under the Kyoto Protocol until 2020 – proceeds from identifying specific human-induced activities occurring on the land that influence the carbon cycle. Of the two, the land-based approach is more inclusive, and makes the system more straightforward in how it reflects *changes* in land use. The approach streamlines the accounting system with the United Nations Framework Convention on Climate Change (UNFCCC) that also uses a land-based approach in its reporting. This simplifies the reporting system and reduces the administrative burden of both Member States and the Commission.³

Wetlands and biomass

Wetlands are effective ecosystems for storing and sequestering carbon. The LULUCF Regulation makes accounting of managed wetlands mandatory from the second compliance period onwards. Reporting is required during the first period for all Member States. The inclusion of wetlands in the LULUCF Regulation should provide an incentive for Member States to, for example, develop new removal-enhancing mitigation measures on wetlands, such as restoring previously drained peatlands.

The inclusion of emissions from the use of biomass for energy in the accounting is another first for the LULUCF Regulation. The emissions from the use of biomass can be accounted for as zero in the energy sector if these emissions are measured in the LULUCF sector. Forest biomass is set to play a key role on the European energy transition agenda, but its use in energy should be facilitated only if it is sustainable and contributes to climate mitigation. Thus, *bioenergy* forms an underlying issue for the Regulation.

Accounting for emissions and removals from managed forest land

Perhaps the most legally ambiguous provision of the LULUCF Regulation relates to the accounting of emissions and removals from managed forest land against a Forest Reference Level (FRL). In principle, the FRL compares the size of the forest carbon sink to an earlier point in time.

The new LULUCF Regulation is centrally an instrument that urges Member States to reap the climate

mitigation potential vested in forest management in a way that does not compromise shared climate efforts nor national plans boosting the growth of bio-based economies. The FRLs are at the heart of making this balance happen.

Article 8(5) on FRL should be seen in the dynamic context of the rest of the article, other relevant articles, recitals and annexes in the LULUCF Regulation. When drafting their FRLs, Member States should apply the rather unclear criteria annexed to the Regulation. A non-legally binding technical guidance document⁴ was released in July 2018 to support Member States in the establishment of FRLs. Member States set their own FRLs as part of their National Forestry Accounting Plans and needed to submit their proposals to the European Commission by the end of 2018 for the first period. The Commission then undertakes a technical assessment to determine whether the FRLs meet the requirements under the Regulation, and proposes revisions if necessary. Finally, the Commission adopts delegated acts 'with a view to laying down' the FRLs to be applied by the Member States.

Forest Reference Level is the Regulation's key instrument

The Regulation guides the rather wide discretion and flexibility given to the Member States as to the establishment of the FRLs through a set of preconditions that relate to continuity, sustainability of forest management practices, age-related characteristics and the overarching objective to maintain or strengthen long-term carbon sinks, as detailed in the following.

Continuity

According to the Regulation's Article 8, the FRL is tied to the *continuation* of sustainable forest management practices as they were documented in 2000-2009. The aim of this demand is to allow the FRL to demonstrate how a forest would develop if no changes to policies and practices were put in place compared to the reference period. Member States' FRLs are hence expected to be based on the assumption that projected forest management practices and intensities *do not change much* from the reference period but are continued as they were

in 2000-2009. With 'continuity' as the starting point, the purpose and aim of the FRL is to transparently, completely and consistently reflect the *impacts of changes* in forest management practices in relation to the reference period.

Sustainable forest management practices

Reflecting national circumstances as well as the differences in the ways forests develop and are managed in Member States, the Regulation does not exhaustively define (sustainable) forest management practices. These practices therefore refer to an undefined set of management activities carried out and aimed at fulfilling specific functions in a forest over time. Such activities could include planting of trees, the schedule and intensity of thinning, and final cut. In short, the concept refers to all activities to manage a forest.

The concept of forest management practice encompasses both qualitative and quantitative aspects. The issue of 'intensity' was central for some heavily forested countries with plans to increase forest management intensity (e.g. harvest volumes) compared to 2000-2009. The original Commission proposal⁵ provided that FRLs should be based on the 'continuation of current forest management practice *and intensity*' (own emphasis). In the course of the negotiations, the word 'intensity' was deleted and instead 'current forest management' became 'sustainable forest management'. Other provisions of the Regulation suggest that intensity is an inseparable part of 'sustainable forest management'. Hence, Article 8(5) refers to forest management intensity as a 'core element' of *sustainable* forest management practice. Accordingly, Member States are expected to explain how their FRLs reflect sustainability.

The age-related characteristics of a forest

The FRL's 'shall take account of the future impact of dynamic age-related forest characteristics in order not to unduly constrain forest management intensity as a core element of sustainable forest management practice, with the aim of maintaining or strengthening long-term carbon sinks' (Article 8). As the age-related characteristics of a forest fluctuate during the compliance period, forest management

practices may need to be adapted. For example, the total harvest volume can vary from one year to the other and can also differ from the total harvest volume during the reference period as forest reaches harvest maturity. The Member States are, however, required to demonstrate through their FRLs *how* the age-related characteristics *develop in the forest over time* (instead of fixing these dynamic characteristics on the level of the reference period).

Maintain or strengthen long-term carbon sinks – a crucial demand

The LULUCF Regulation contains several clear references to the need to *maintain, enhance and strengthen* sinks in the context of the EU's long-term climate strategy. The ageing of most EU forests will require a higher harvest while growth is expected to decline slightly due to age-related effects.

Accordingly, the managed forest land flexibility allows Member States to temporarily increase their harvest intensity in accordance with sustainable forest management practices, provided that this increase is consistent with the Paris Agreement's objective and the EU collectively meets its no-debit commitment. The purpose of the flexibilities is to help Member States meet their no-debit commitment rather than to compromise the EU's GHG emission reduction targets. If a Member State increases its harvests in the short-term beyond what is assumed under the continuation of sustainable forest management practices, the increase would likely need to be justified both in light of the climate targets and because otherwise the Member State could not maintain and enhance the sink in the long term.

Moreover, actions taken within the LULUCF sector and actions within other sectors are interrelated. If the reference level is met or exceeded (i.e. removal of emissions), the excess can be used, for example, to offset emissions in another land use category or in the Effort Sharing sectors. From a climate perspective, a reduction in the forest sink leads to more CO₂ emissions, even if forests are managed sustainably. If the LULUCF sector is a source of emissions, it must be compensated for by action in other sectors. If a Member State allows its sink to decline in the long term, it is required to compensate for this decline

elsewhere through, for instance, stronger emission reductions in sectors such as transport or agriculture.

To sum up, the purpose of the FRL is neither to constrain the future forest management practices in the Member States, nor to fix a threshold to be complied with or improved upon. Member States can freely pursue and develop their national management practices. However, the Regulation also requires the climate consequences to be accounted for in a transparent and reliable manner. The process of determining the FRLs centrally affords Member States the opportunity to imbue sustainable forest management with content that not only enables full compliance with the no-debit commitment but also addresses the need to maintain or strengthen long-term carbon sinks.

The Regulation is work in progress toward enhanced climate ambition

In the spirit of the Paris Agreement and its ambition mechanism, the exact working of the Regulation will develop with its implementation. Both the Commission and the Member States play a role in this development.

Member States are required to report the balance of total emissions and total removals from the LULUCF sector to the Commission for its review. Following the compliance check, the Commission prepares a report on the emissions and removals from the LULUCF sector (Article 14). The Regulation entitles the Commission to make proposals, *based on the compliance check*, to ensure that the integrity of the EU's overall 2030 GHG reduction target and its contribution to the Paris goals are respected (Article 17). This includes proposals for 'additional' EU policies and measures, in view of a 'necessary increase' in GHG emission reductions and removals.

Finally, the article on the review process sends a message that the Regulation is work in progress, a dynamic legislative instrument with commitments that are to be tightened sooner rather than later. For the Member States, this underlines the need to develop and implement progressive climate policies also in relation to forests. Forest management can no longer be practised without regard for its short- and long-term climate implications.

Endnotes

- ¹ Grassi et al., *The key role of forests in meeting climate targets requires science for credible mitigation* (Nature Climate Change 2017, vol. 7, 220).
- ² IPCC, *Summary for Policymakers in Global Warming of 1.5 C*, 14.
- ³ SWD(2016) 249 final, 11.
- ⁴ Forsell et al., *Guidance on developing and reporting Forest Reference Levels in accordance with Regulation (EU) 2018/841* (DG Climate Action, 2018).
- ⁵ COM(2016) 479 final.

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