

Guideline on introducing stronger sustainability criteria

LIFE BIO-BALANCE



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Abbreviations

BAT-AEEL	Achievable emission level associated with application of the best available techniques
BECCS	Bioenergy with carbon capture and storage
CCS	Carbon capture and storage
DFR	Deforestation Free Regulation
EU	European Union
EUTR	EU Timber Regulation
FSC	Forest Stewardship Council
GHG	Greenhouse gas
JRC	European Commission's Joint Research Centre
LULUCF	Land Use, Land-Use Change and Forestry
IPCC	The Intergovernmental Panel on Climate Change
IUCN	The International Union for Conservation of Nature's Red List of Threatened Species
PEFC	Programme for the Endorsement of Forest Certification
RE	Renewable Energy
RES	Renewable Energy Sources
RED II	Renewable Energy Directive integrated into national legislation by the end of June 2021
RED III	Updated Renewable Energy Directive
UNFCCC	United Nations Framework Convention on Climate Change



Introduction

The climate neutrality presumption of solid biomass-based energy use is based on the GHG emission reporting method used for the UNFCCC reporting. It is also followed by the European Union, that considers the carbon dioxide sequestered by the harvested wood already reported as a one-off emission in the LULUCF sector. Therefore, the carbon dioxide released into the atmosphere at the point of the combustion and reported in the energy sector is not counted again, thus avoiding double counting. However, given that the emission factor of biomass is similar to that of coal, the interlinkage between the two sectors, energy and LULUCF, significantly matters. Besides the climate effect, harvesting solid biomass – especially forestry biomass – can also affect biodiversity and ecosystems, and might induce direct or indirect land use change. As such, experts and certain policymakers have been advocating for decades for addressing the legislative and infrastructure loopholes, at both EU and national level, to ensure that the use of forest solid biomass constitutes a real solution for the energy transition.

The 2009 Renewable Energy Directive (RED), the first European piece of legislation regulating the use of forest biomass for energy, led to an increase in the use of solid biomass, but failed to bring forward any provision for its sustainable use. The so-called ‘sustainability criteria’ for bioenergy were introduced only in the 2018 revision of the directive, addressing biodiversity, land-use and emissions occurring before the combustion in the value chain aspects. The 2018 directive follows a risk-based approach, meaning that the criteria excluded certain, high-risk potential feedstocks and ways of energy production to be accounted as renewable energy. In the meantime, the LULUCF Regulation was also introduced, which potentially could address the climate impact of combustion.

The post Green Deal era, along with the “Fit for 55” package and the increased target for renewable energy brought forward more concerns for the possible ramp-up of solid biomass use without improved safeguards. At the same time, the EU climate neutrality target assumed in 2020 has put a spotlight on the role of the LULUCF sector, which can

¹ See for instance the 2006 IPCC Guidelines for National Greenhouse Gas Inventories



offset the hard to abate emissions. Because of this, and probably as a result of the wide critique of the sustainability criteria, the LULUCF Regulation was revised, setting an EU-wide absolute carbon sink target. Parallely, the sustainability criteria in the Renewable Energy Directive were newly revised, however, failing to address critical loopholes such as the use of primary woody biomass for energy.

The LIFE BIO-BALANCE partnership with external experts analysed the original and revised version of the sustainability criteria, and relevant research. Instead of arguing whether there is a better alternative to the current risk-based approach and better integration of the direct emission of the biomass, the aim of this document is to support member states in the transposition process of the new sustainability criteria, which allows member states to introduce stronger criteria, where they are needed. Keeping this in mind, this guideline:

- analyses the sustainability criteria and its new elements, introduced in 2023;
- brings examples from the three target countries of the project – Bulgaria, Hungary and Romania – how the existing criteria are ensured or improved by the national legislation and its enforcement;
- gives recommendations to member states on how criteria can be further strengthened.



1. Brief overview of the existing RED II criteria and changes brought by the RED III

As part of the Clean energy for all Europeans Package, the European Commission proposed in 2016 an update of the Renewable Energy Directive for the period 2021 – 2030, approved in 2018 as Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (RED II). The deadline for transposing RED II into national legislation was the end of June 2021. This above-mentioned directive raised the overall EU target for the consumption from renewable energy sources (RES) by 2030 to 32%. Furthermore, the RED II has reformulated some definitions of the original RED regarding sustainability and GHG emission criteria. In this sense, the RED II has introduced sustainability criteria for forestry feedstocks as well as GHG criteria for solid and gaseous biomass fuels used for producing power and heating. These criteria apply to new power plants with a total rated thermal input above 20 MW.

Following the launch in 2020 of the European Green Deal and the commitment of achieving climate neutrality by 2050 at the EU level, in line with commitments under the international Paris Agreement, the European Commission proposed a revision of energy and transport legislation under the so-called “Fit for 55” package.

The package included a revision of RED II, in order to achieve the EU’s objective of 40% renewable energy by 2030. Furthermore, following the Russian invasion of Ukraine and the context of the energy market crisis, the European Commission put forward the REPower EU plan, which included further amendments to the RED II, including an increase of the RE target to 45%. Following negotiations between the European Parliament, the European Council and the European Commission, a provisional agreement was reached on the RED III in late April 2023, in which the RE target was agreed at 42.5%.

Key amendments from the European Parliament on the [RED III](#) include a definition for ‘industrial grade roundwood’ as: saw logs, veneer logs, pulpwood (round or split), as well as all other roundwood that is suitable for industrial purposes, excluding roundwood whose characteristics, such as species, dimension, rectitude, and node density, make it unsuitable for industrial use, as defined and duly justified by Member States according to the relevant forest and market condition.



Despite many other progressive elements in the European Parliament's report on the RED, including a cap on the use of primary biomass accountable as renewable energy, only a number of positive improvements to the RED sustainability criteria survived the dialogues between the three European Union institutions. These include, most importantly, a limitation on the direct financial support for, *inter alia*, 'the use of saw logs, veneer logs, industrial-grade roundwood, stumps and roots to produce energy'. At the same time, the final RED III includes a strong reliance on the cascading principle of forest biomass, with amendments both in Article (3) and in Article (29) of the Directive, as well as for the first time an inclusion of a link between the RED and the LULUCF regulation. Furthermore, in Article 29, the application of sustainability and greenhouse gas emissions-saving criteria to solid biomass fuels will apply to installations with a total rated thermal input of 7,5 MW or higher, compared to 20 MW in the RED II.

Although loopholes remain, in theory the application of the cascading use principles can improve the resource efficient use of wood and addresses the circular economy commitment of the Green Deal by mandating its application.

2. Criteria on sustainable productivity of forests

The RED II details sustainability criteria applicable to both agricultural and forestry biofuels, bioliquids and biomass in Article 29 of the directive. According to RED II, for the sustainable productivity of forests, countries shall meet the following criteria to minimise the risk of using forest biomass derived from unsustainable production:

(a) the country in which forest biomass was harvested has national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring:

- (i) the legality of harvesting operations;
- (ii) forest regeneration of harvested areas;
- (iii) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected;
- (iv) that harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and
- (v) that harvesting maintains or improves the long-term production capacity of the forest.



The revision of the RED brings some further changes to the subparagraph of Article 29 (a), namely changes to point (iii) and (iv) as well as the addition of two new points, (vi) and (vii). The changes in point (iii) further extend the areas which need to be protected, including grasslands and heathlands in the scope of the article while point (iv) includes more provisions on soil quality and deadwood management:

(iii) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands, grassland, heathland and peatlands, are protected with the aim of preserving biodiversity and preventing habitat destruction;

(iv) that harvesting is carried out considering maintenance of soil quality and biodiversity according to sustainable forest management principles, with the aim of preventing negative impacts, in a way that avoids harvesting of stumps and roots, degradation of primary forests, and of old growth forests as defined in the country where the forest is located, or their conversion into plantation forests, and harvesting on vulnerable soils; is compliant with maximum thresholds for large clear-cuts as defined in the country where the forest is located and with locally and ecologically appropriate retention thresholds for deadwood extraction and ensures requirements to use logging systems that minimise impacts on soil quality, including soil compaction, and on biodiversity features and habitats.

(vi) that forests in which the forest biomass is harvested do not stem from the lands that have the statuses mentioned in paragraph 3 points (a), (b), (d) and (e), paragraph 4 point (a), and paragraph (5), respectively under the same conditions of determination of the status of land specified in these paragraphs; and

(vii) that installations producing biofuels, bioliquids and biomass fuels from forest biomass, issue a statement of assurance, underpinned by company-level internal processes, for the purpose of the audits conducted pursuant to Article 30(3), that the forest biomass is not sourced from the lands referred to in point (vi).

Point (vi) and (vii) introduces a new safeguard for biodiversity rich areas by excluding the harvesting from (paragraph 3 amended by the RED III):

(a) primary forest and other wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed; and old growth forests as defined in the country where the forest is located;



(b) highly biodiverse forest and other wooded land which is species-rich and not degraded, and has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;

(...)

(d) highly biodiverse grassland spanning more than one hectare, that is:

(i) natural, namely grassland that would remain grassland in the absence of human intervention and that maintains the natural species composition and ecological characteristics and processes; or

(ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and that is species-rich and not degraded and has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the harvesting of the raw material is necessary to preserve its status as highly biodiverse grassland; or

(e) heathland.

Several loopholes are still present in regard to the sustainability criteria and the changes introduced by the RED III. First, the definitions of primary and old growth forests are left to be decided by the harvesting country ('harvesting is carried out [...] in a way that avoids [...] degradation of primary forest, and old growth forests as defined in the legislation of the country where the forest is located'). Second, the RED requires the harvesting country to have laws in place ensuring that the conversion of primary and old growth forests into plantation forests 'is compliant with maximum thresholds for large clear-cuts (as defined under national law) and with locally and ecologically appropriate retention thresholds for deadwood extraction'. These provisions give high discretion to Member States by heavily relying on the national laws of the harvesting countries to ensure the conservation of primary and old growth forest.

Further, we will exemplify how these particular requirements of the sustainability criteria are implemented nationally.



2.1 Legality of harvesting

Having national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring the legality of harvesting constitutes the first requirement for ensuring the sustainable productivity of forests.

The RED II looks at legality as well when defining the *sourcing area* as “*the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass*”.

For all EU countries, the legality of harvesting is ensured through national legislation, which also reflects the EU Timber Regulation provisions.

Highlights about the legality of harvesting in the three countries are the following:

For **Romania**, the legality of harvesting operations is ensured by the provisions of the National Forest Code and subsequent legislation, which detail silvicultural practices nationally.

Forests in Romania are managed according to forest management plans, approved through ministerial order. Forest management plans provide the legal basis for pursuing economic activities for managing forests based on several principles foreseen by the Forest Code, namely: long rotation management period, uneven-aged and continuous-cover forestry management practices, natural forest type, species diversity, and deadwood preservation. The forest management plans set the permissible level of forest resources use (annual allowable cuts), harvesting activities for a period of 10 years.

The traceability of the origin, circulation and commercialization of wood materials, the regimes of storage spaces for wood materials and round wood processing facilities, as well as those regarding the origin and circulation of wood materials intended for the owner's own consumption, are foreseen by the subsequent legislation. The wood traceability information system SUMAL is based on this legislation, allowing, among others, timber harvesting control regardless of the type of forest ownership. As well, it has a public interface, available for the public to track and notify competent authorities of possible illegalities.

Forestry legislation implementation is monitored by the Minister and Forest Guards, the latest performing checks as the competent authorities according to EU Timber Regulation no. 995/2010 and will be continued under the newly approved Deforestation Free Regulation (name in-whole Regulation no. 2023/1115 on the making available on the



Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation No 995/2010). Voluntary certification schemes are legally encouraged; more than half of Romanian forests being FSC certified.

For **Bulgaria:**

Forests in Bulgaria are managed according to forestry plans and programmes. The latter provide the legal basis for pursuing economic activities and utilising forests. The forestry plans and programmes set the permissible level of use of forest resources and the guidelines for attainment of the forest area management objectives for a period of 10 years.

Harvesting activities in the country are performed in strict adherence to logging regulations, which limit the intensity and regularity of thinning, regulate types and requirements for performing regenerative felling, and define the criteria for applying salvage logging and technical felling in the Bulgarian forests.

The monitoring of the implementation of the forestry legislation is carried out by the Executive Forest Agency through field checks regarding Ordinance №1 on the control and protection of forest territories. In 2016 an improved [electronic system](#) for tracing the harvested timber was implemented and maintained by the Executive Forest Agency in meeting the requirements of the Regulation 995/2010. The system allows the control of timber harvesting from the logging place to the end user and is obligatory for all operators, regardless of the type of forest ownership. Every permanent storage facility is obliged to install cameras on all gates to allow monitoring of the timber flow. The process of tracing the harvested timber also includes a legal requirement for all transport vehicles to have GPS.

The harvesting legality is also supported by voluntary schemes such as the forest management certification (FSC, PEFC) which is however encouraged by Forestry Law as well. As of December 2022, 58% of the forest territories are certified at the national level, which represents almost 80% of the nationally owned.

For **Hungary:**

The legal framework of the harvesting operations in Hungary is well-developed, partly thanks to the EUTR, and the Deforestation Law of the EU. A detailed system of declarations and permissions is run by the forestry authorities, which pay special attention to the domestic-level firewood market to tackle illegal timber trade, and fraud.



The forests are managed according to the Forest Protection Law, and its implementation regulations.

Forest management planning and inspection is based on specific forest units designated according to 16. § of the forest protection law: Forest planning districts (erdőtervezési körzet), compartments (erdőtag), and forest subcompartments (erdőrészlet) within the administrative boundaries of the municipalities. The Forestry Authority designates all units. The subcompartment is a basic unit of forest management activity and forest administration (planning and inspection), which can be considered uniform on the basis of the forest ecosystem types, the characteristics of sustainable forest management activity, and the conditions of forest use. The mean size of forest subcompartments is approximately 4 ha. Forest management planning is implemented by the six regional departments of NLC. Control/inspection of the implementation of forest management plans and obligations of the forest management regulatory framework is done by the County Government Office's Forestry (or Forestry and Agricultural) Department. Data for the National Forestry Database is collected during the operations (planning, inspection, mapping) of the institutions of the Forestry Authority. All forest management operations, including timber harvest operations, should be announced and reported by the forest manager to the Forestry Authority, which has the right to control and check these operations. Related to the EU Timber Regulations, and EU Deforestation Law, the National Food Chain Safety office controls the Hungarian timber market and trade, and tackles illegal logging. As a result of investigation of possible illegal timber trading, the authority confiscated the affected timber.

RECOMMENDATION:

Member States should ensure that the provider of biomass must be legitimately able to verify the source of biomass to the buyer. On top of the EUTR Regulation, all players of the supply chain should maintain a database on its own market activities.

2.2 Forest regeneration

Overall, RED II preamble point #102 reminds that: “To ensure that, despite the growing demand for forest biomass, harvesting is carried out in a sustainable manner in forests where regeneration is ensured, that special attention is given to areas explicitly



designated for the protection of biodiversity, landscapes and specific natural elements, that biodiversity resources are preserved and that carbon stocks are tracked, woody raw material should emanate only from forests that are harvested in accordance with the principles of sustainable forest management that are developed under international forest processes such as Forest Europe and that are implemented through national law or the best management practices at sourcing area level.”

Specifically, forest regeneration is defined as “re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, including fire or storm”. As well, forest regeneration is mentioned among the elements of sustainable production, as mentioned previously.

For Romania:

One key principle included in the Romanian Forest Code is ensuring the ‘Natural type of forest’ by promoting natural regeneration. This is ensured by applying appropriate silvicultural treatments and contributing to carbon pool stability and forest resilience by using existing and adapted seedlings.

Another element contributing to forest natural regeneration is the integrity of the forest fund, which is secured by strict limitations on forest land use change. To change the forest land use category and take land from the forest fund, very strict conditions are legally imposed. In this way, any reductions in forest area and thus in carbon stocks are discouraged and the surface of the forest does not decrease through various changes, so carbon sequestration is increasing. This helps forest resilience through limited changes in the forest fund area.

For Bulgaria:

Bulgaria has a long-term planning for forest operations through the elaboration of forest management plans and applies close to nature forest management, which favours the natural regeneration of forest stands. The priority of regeneration felling in Bulgaria is to use to the maximum the regeneration potential of forest stands, with a view to ensuring their natural seed or vegetative regeneration during their use. Events to support natural regeneration are envisaged in forests with impeded natural regeneration and in the absence of conditions for that or where it is impossible to naturally regenerate the stand, artificial regeneration is carried out.



Significant parts of the Bulgarian forest regenerate naturally – approx. 80%, including offshoots, and approx. 20% – by planting or seedling. The logging regulations (Ordinance №8/2011) provide guidance on silvicultural activities to induce (in cases of impeded natural regeneration and in the absence of conditions for that), maintain and protect the natural seedlings during the regeneration period. Chapter II, part 2 of the Forest Act provides regulations on forestation activities in case of poor nature regeneration after final felling or salvage logging after natural disturbances.

Currently, clear-cuts are allowed in very limited situations. For example, the clear-cuts in coppice forest is limited to up to 2 ha, except for acacia coppice stands. Clear cuttings with artificial regeneration are carried out in poplar forests as well as in stands of oriental hornbeam and flowering ash growing in medium-rich and rich growth conditions, and in acacia coppice stands, to restore their production potential.

For Hungary:

Depending on the naturalness of the forest, several regeneration methods can be recommended. The basic principle is to reach diverse stand structures with the highest achievable biodiversity level. These regeneration methods and later silvicultural treatments can be selected according to the local species contribution and local circumstances, such as the climate or soil type. The regulation is formed with the aim of promoting natural forest regeneration methods, e.g. shelterwood system. In the Hungarian forest law there is a clear regulation on the minimum requirement of forest naturalness level: it cannot decrease or should be increased during forest management. The obligatory increase of the permanent forest cover methods in state-owned forests is also an important practice, and shifts Hungarian forest management practices towards more sustainable methods. The area of the harvesting operations is also maximised, depending on the protection level and the type of forest.

RECOMMENDATION:

The naturalness of forest landscapes should be maintained and enhanced at the landscape level. The area of natural or close-to-nature forest stands composed of indigenous tree species should be maintained or extended in accordance with prevailing site conditions. During forest regeneration activities a specific focus should be placed on the preservation of species composition and protection or development of microhabitats such as habitat trees, small-scale water habitats, grasslands, peatlands etc. The adaptation potential to climate change should be improved, and the mitigation capacity of forests should be maintained or increased via forest management interventions or habitat development.



2.3 Biodiversity

The RED III further improves the provisions from the sustainability criteria regarding biodiversity conservation and prevention of destruction. As such, RED III also requires that grasslands and heathlands should be protected, while clearly emphasising the objective of preserving biodiversity and preventing habitat destruction. Furthermore, harvesting should avoid the degradation of primary forests and of old-growth forests, as defined in the country where the forest is located.

Most importantly, the RED III brings clearer provisions on deadwood management by pointing to the need for harvesting to be compliant with *maximum thresholds for large clear-cuts as defined in the country where the forest is located and with locally and ecologically appropriate retention thresholds for deadwood extraction*.

2.3.1 Soil quality

The revised RED continues to refer to the need for harvesting to maintain soil quality and biodiversity, as well as preventing harvesting on vulnerable soils.

For **Romania**:

Half of the forests in Romania are designated for their special functions for protection, among which is soil protection. As well, the Forest Code states that harvesting must not cause the degradation of the soil, forest roads and water banks, or the destruction or damage to the usable seed.

It should also be mentioned that, in line with RED III, harvesting is carried out without extracting stumps and roots. The Forest Code also expressly forbids degradation of primary forests and protection of old-growth forests, as foreseen among RED III criteria.

For **Bulgaria**:

According to the Forest Act, the activities in the forest territories are carried out in a way that does not lead to damage to plant and animal species and their habitats, soils, water bodies and elements of the technical infrastructure. In respect of soil protection, the forestry legislation provides some technical guidelines and restrictions on harvesting activities in areas with active soil erosion processes or steep terrains. The soil erosion is identified in the forest management plans.



For **Hungary**:

In the Forest Protection Law a separate chapter regulates forest soil protection. According to this, the forest manager's responsibility is to protect the forest's soil during forestry activities (forest regeneration, tending, harvest, movement of timber related to logging operations, logging road network development, use and maintenance). The forest vegetation also protects the forest's floor during the majority of the production period. However, after the harvest, and during the regeneration phase these soil protection ecosystem services were not fulfilled for years, even up to 10–15 years in some cases. During the reforestation soil preparation can be applied, which could result in soil degradation.

RECOMMENDATION:

Protect forest soil by avoiding removal of roots and stumps; select least damaging harvesting practices. The forestry road network should be designed and maintained with specific attention to prevention of erosion, and water drainage, specifically during logging operations.

2.3.2 Deadwood

As mentioned above, RED III strengthens the deadwood provision by requiring that harvesting be *“compliant with (...) ecologically appropriate retention thresholds for deadwood extraction (...)”*.

For **Romania**:

According to the Forest Code, conservation and improvement of biodiversity are achieved by preserving within the necessary ecological limits the deadwood on the ground and standing. This is further developed under the subsequent legislation. Stable and permanent carbon stock is ensured under voluntary forest management certification schemes (almost half of Romanian forests are FSC certified) by deadwood management, including a network of *“ageing islands”*, which improves forest resilience.

For **Bulgaria**:

Maintaining certain quantities of deadwood has been recognised as one of the most important conditions for sustainable management of certified forest enterprises and hunting reserves and of Natura 2000 forest ecosystems and has been included as a regulatory requirement in the Ordinance on felling (promulgated, SG, No.



64/19.08.2011). Maintaining certain minimum quantities of deadwood is regulated in the national guidelines on "Assessment, management and monitoring of forests with high conservation value in Bulgaria" and "Achieving and maintaining favourable conservation status of forest habitats and species habitats in forests included in the European Natura 2000 ecological network".

For **Hungary**:

Natura 2000 forests, and forests under national protection, have minimum criteria on deadwood. 5% of the Hungarian forests are non-productive forests, which means that most of these forests were not used for wood production, or just minor wood production is present. As a result of this, the growing stock of deadwood, and veteran trees is more or less typical. The proportion in this category shows a growing tendency compared to the forest area.

RECOMMENDATION:

Ensure deadwood remains in a significant level above a minimum threshold depending on forest type – Obligatory minimum volume and quality criteria should be set; protection of veteran trees; promoting ageing islands.

2.3.3 No-go area

The RED II introduced no-go areas only for agricultural feedstock². They are defined for agricultural feedstocks, in which production for bioenergy is not allowed.

The RED III expands further the no-go areas for harvesting of forest biomass to include primary forests, high biodiverse forests, which are species rich and non-degraded, grasslands, heathlands and wetlands.

² land that was classified, in or after 2008, as primary forest, highly biodiverse forests, areas designated for nature protection purposes (including threatened or endangered ecosystems or species), highly biodiverse grasslands (natural or semi-natural) or land with high carbon stocks, including wetlands, forested areas and peatland.



For **Romania**:

The national legal framework for protected areas includes provisions on the criteria of designation for no-go areas, including for forest ecosystems. Furthermore, another temporarily no-go area regulated under the forestry practices can be considered the so-called tranquillity period (representing a period allowing cuts only exceptionally for around 25% of the rotation period) before starting the regeneration treatments. During this period, the forest accumulates the largest amounts of wood, while the annual allowable cut is considerably reduced, considering that during this period there are designed/planned only sanitary cuttings of one m³/ha/year. The ecosystem enters a “wilderness period” of about 30 years, where a significant amount of deadwood is formed that supports biodiversity and ensures forest resilience. It is during this period when large amounts of deadwood appear (not only in terms of quantity but also the quality), enhancing soil quality and preparing it for the next generation of trees.

For **Bulgaria**:

There are many endemic species that are found only in the Balkan Peninsula or in certain places in Bulgaria, which ranks the country among those with the highest biological diversity in Europe. For the conservation of those species, a wide network of conservation areas has been established and developed over the years, including 11 natural parks, 3 national parks and 55 nature reserves. Commercial harvesting is forbidden in the National Parks and Natural Reserves. Salvage logging could be carried out after an official permission is granted by the responsible national authorities. Harvesting activities in forest territories part of the Natura 2000 network need to comply with adopted national guidelines for the management of forests with high conservation value. The main guidelines include regeneration of indigenous tree species, a ban on afforestation with non-indigenous species and/or origins, as well as afforestation of natural open spaces in the habitat, with the exception of flood control measures and erosion processes; maintain and restore the structural diversity of the stands; lower harvesting intensity in terms of wood removals over growing stock; etc.

The requirements to perform different types of thinning are aligned with the biological specifics of the tree species. The thinning laid down by type and intensity aims to conserve and develop the biological diversity in forests, to improve the quality and productivity thereof as a result of creating optimal growth conditions.

In Bulgaria, there is an initiative to protect the old-growth forest within the forest territories that are part of Natura 2000 network. These old-growth forests may not be part of the



territories under the Law on Protected territories, thus not be protected from logging. Currently, there are more than 110000 ha forests declared as old-growth. These forests are recognised as stands which are considered as largely undisturbed by human activities and having ecological processes which are not significantly disturbed. According to the current legislation in Bulgaria, logging activities in old-growth forests are forbidden.

For Hungary:

The forest area of Hungary has increased greatly in the second half of the 20th century. Currently, the forest area is 1.94 M ha, which is 20.8% of Hungary's territory. The vast majority of the forests are managed with even-aged forestry methods (1.75 M ha, 91%), while a further 5% is under close-to-nature forest management; 4% is under transitional forest management; and 1% is permanent-cover forest management. The share of non-productive forest is ~5%. Both the area of non-productive forest and transitional forest have increased during the last decade: compared to 2010, the first by almost 50%, while the latter by 130%. 23% of forests are protected, and about 20% is non-protected but part of the Natura 2000 network. Of the protected forests, 16% are strictly protected. The remaining 57% of forested land is not protected. Despite the high levels of protection, more than 95% of the forests of Hungary are available for wood production. Temporal and spatial restrictions on forest management are usually prescribed for species and habitat protection purposes. Hungary has 10 national parks, but the IUCN zoning system is only used in the Hortobágyi National Park Directorate, the more forested national parks do not have zoning in place and harvest can be done within their area.

RECOMMENDATION

It is up to member states to identify high biodiverse forests. These mappings should not be limited to forests with limited productivity, and economic value.

In order to secure their condition, a minimum requirement of forest naturalness level should be that its level cannot decrease and needs to be increased. The naturalness conditions of the forests should be monitored through different indicators (additionally, other than tree species composition, and forest vegetation structure). In addition, an increase of permanent forest cover methods should be promoted.



3. Criteria on Land Use, Forestry and Agriculture

The first EU-wide regulation on the LULUCF sink was introduced in 2018, at the same time as the RED II. The LULUCF criteria from the RED II state that reported LULUCF-sector emissions shall not exceed removals. As part of the “Fit for 55” package, this Regulation has also been revised and a new 2030 Union target for net greenhouse gas removals has been set to 310 million tonnes of CO₂ equivalent as a sum of the Member States targets. Annex IIa of the Regulation sets these national targets for Member States. The revised RED III includes reference to this new target, stating that bioenergy from forestry biomass “shall not exceed the cap defined at national level for the use of forest biomass that is consistent with the Member State’s targets on carbon sink growth”.

Furthermore, the RED III includes details on the responsibilities of member states on ensuring compatibility between the planned forest biomass use and the carbon sink target in the form of amendments to Article 29 of the RED:

“7b. As part of their final updated national energy and climate plan to be submitted by 30 June 2024 pursuant to Article 14(2) of Regulation (EU) 2018/, Member States shall include:

(a) an assessment of the domestic supply of forest biomass available for energy purposes in 2021-2030 in accordance with the criteria laid down in Article 29;

(b) an assessment of the compatibility of the projected energy use of forest biomass with the Member States’ targets and budgets for 2026-2030 as defined under [add reference to newly amended LULUCF Regulation]; and

(c) a description of the national measures and policies ensuring compatibility with those targets and budgets.”

RECOMMENDATION:

In 2023 – 2024, in the frame of the National Energy and Climate Plans revision process, also in line with the Governance Regulation³, Member States should analyse the correlation between the new LULUCF target and the existing harvesting level. This analysis should provide a strong limit to the planned bioenergy use, and Member States should review their planned forestry biomass-based energy utilisation according to this limit. We also encourage Member States to do this analysis not only in a 2030 timeline, but also by 2050, to be in line with the long-term climate strategy. Given the urgency of the climate

³ Regulation (EU) 2018/1999



and biodiversity target, this regulation should be kept to a minimum, and Member States should seek opportunities to protect and further increase their carbon sink.

4. GHG emission and efficiency criteria

The GHG emission criteria apply for emission of the value chain of the forest biomass used for energy generation – except the emission from the combustion, which, as detailed above, are accounted for in the LULUCF sector. For electricity, heating and cooling production, paragraph 10 prescribes at least 80% savings compared to fossil fuel competitors, but only for installations having started operation after the entry into force of the revised directive. This is a significant step back compared to the original provision of the European Commission, as it recommended extending these higher criteria for existing installations (70% until 2025, then 80%). In the final RED, the minimum saving for plants that started to operate before 2015 is 50%.

RECOMMENDATION:

We recommend Member States to apply the 80% criteria for existing plans as well, in order to avoid unnecessary transportation. Based on Annex VI of the directive, these criteria in most cases still allows transportation below 2500 km, therefore, 90% saving is recommended in case of the most problematic fuel type, wood chips from stemwood.

The revision of RED II did not address Paragraph 11, which sets a minimum standard for efficiency in producing electricity. Below 50 MW, there is no obligation, while between 50-100 MW it should be produced applying high-efficiency cogeneration technology, or, for electricity-only installations, meeting the best available techniques (BAT-AEELs). For an installation with built-in capacity of 100 MW, if it is not applying high-efficiency cogeneration technology, the minimum efficiency should be at least 36%. Installations applying Biomass CO₂ Capture and Storage (BECCS) technology have no efficiency criteria, no matter their capacity.



RECOMMENDATION:

As electricity-only plans are only able to utilise roughly one-third of the feedstock we recommend that only high-efficiency cogeneration technology should be part of the criteria.

Any use of biomass in conjunction with BECCS must follow the same principles as bioenergy use without CCS, not least because if a bioenergy feedstock doesn't provide significant reductions compared to fossil fuels without BECCS then it won't provide negative emissions with it, and critically, any "negative emissions" counting must consider full lifecycle GHG emissions, including forgone sequestration. For BECCS, the same efficiency criteria should be applied.

5. Administrative criteria

5.1 Accountability for receiving subsidy

While the RED II only stated that Member States may limit tendering procedures for biomass if it is needed to avoid distortions of raw materials markets (Art. 4), the RED III introduced the cascading principle and prohibited the financial support for using specific feedstock types for energy use and electricity-only installations – with important possibilities for derogations.

5.1.1 Cascading principle

The only minor improvements as to the use of different types of wood biomass are brought by a strengthening of the requirements to apply the cascading use principle. The RED III mentions:

“When developing support schemes for bioenergy, Member States should therefore take into consideration the available sustainable supply of biomass for energy and non-energy uses and the maintenance of the national forest carbon sinks and ecosystems as well as the principles of the circular economy and the biomass cascading use, and the waste hierarchy established in Directive 2008/98/EC of the European Parliament and of the Council. In line with the cascading principle, woody biomass should be used according to its highest economic and environmental

⁴ Cogeneration production resulting in primary energy savings of at least 10% compared to the generation of electricity and heat separately using the same type and quantity of fuel



added value in the following order of priorities: 1) wood-based products, 2) extending their service life, 3) re-use, 4) recycling, 5) bio-energy and 6) disposal. Where no other use for woody biomass is economically viable or environmentally appropriate, energy recovery helps to reduce energy generation from non-renewable sources”

As Article 3, support schemes for energy from biomass fuels shall be designed in a way to avoid incentivising unsustainable pathways and distorting competition with the material sectors.

However, the directive also allows Member States to derogate from the principle. It is allowed if the energy security of supply is endangered, and when local industry is quantitatively or technically unable to use forest biomass according to a higher economic and environmental added value than energy, specifically in case of feedstocks coming from:

- a) necessary forest management activities, aiming at ensuring pre-commercial thinning operations or in compliance with national legislation on wildfire prevention in high-risk areas;*
- (b) salvage logging following documented natural disturbances; or*
- (c) harvest of certain woods whose characteristics are not suitable for local processing facilities.*

RECOMMENDATION:

The waste hierarchy is important in many respects, but is not particularly relevant to the bioenergy issue. The RED explicitly prioritises bioenergy use over ‘disposal’, although disposal could include climate and/or biodiversity-friendly options such as leaving ‘coarse woody debris’ or agricultural residues in situ.

The derogation possibilities take the sense out of the cascading principle, especially the derogation if the wood characteristics are not suitable for local processing facilities. From a biodiversity and climate perspective, the market value of the feedstock is irrelevant. These loopholes still allow logging solely for energy purposes in forests with lower market value. We recommend Member States to transpose the cascading principle without derogation (c).



5.1.2 Limitation of feedstock types.

The RED III explicitly states that Member States cannot grant direct financial support for ‘the use of saw logs, veneer logs, industrial grade roundwood, stumps and roots to produce energy’. Based on the definition of the industrial grade roundwood⁵, the market distortion is mainly valid for pulpwood, as for the other feedstock market values, they are usually significantly higher than feedstock for energy purposes. However, the definition also refers to exclusions based on forest and market conditions.

The recitals clarify that ‘the notion of direct financial support should be interpreted as excluding tax benefits’. This means that Member States will still be able to provide financial support through indirect finance such as tax benefits (as long as they meet the sustainability, GHG emission savings and LULUCF criteria).

Similarly to the cascading principles, the exemption in the definition makes the criteria more of an administrative burden rather than an effective limitation of using high-risk feedstock from biodiversity and climate perspective. In addition, the enforcement of the legislation is very difficult, as the categorization of the feedstock is typically done by the forest manager itself. Also, the industrial-level instalments use wood chips, therefore, the monitoring of the whole supply chain is needed. From a climate perspective, what matters is the diameter of the feedstock, not the quality. As a JRC study⁶ pointed out, only a limited number of feedstock types can be counted as low biodiversity risk and low-carbon, like fine woody debris below landscape threshold. Given the complexity and potential loopholes of excluding high-risk and highcarbon feedstock, we propose member states to not grant financial support for any primary wood-to-energy biomass, or at least exclude coarse woody debris besides what is included in RED III.

5.1.3 Limitations for electricity-only plants

Another important addition to RED III is the ban on providing financial support or renewed support to electricity-only plants. However, there is one exemption introduced which can be cause for concern: “*unless the installations are in regions with specific use status*”

⁵ saw logs, veneer logs, pulpwood (round or split), as well as all other roundwood that is suitable for industrial purposes, excluding roundwood whose characteristics, such as species, dimension, rectitude, and node density, make it unsuitable for industrial use, as defined and duly justified by Member States according to the relevant forest and market conditions;

⁶ Camia, A., Giuntoli, J., Jonsson, K., Robert, N., Cazzaniga, N., Jasinevičius, G., Avitabile, V., Grassi, G., Barredo Cano, J.I. and Mubareka, S., The use of woody biomass for energy production in the EU, EUR 30548 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27866-5, doi:10.2760/428400, JRC122719.



as regards their transition away from fossil fuels or in outermost regions or if the installations use carbon capture and storage.”

There is a high-risk that coal-fired power plants will switch fuel to biomass, which has already happened in several cases. As these plants are situated in regions subjected to a territorial just transition plan, this again creates a giant loophole exactly for those electricity-only plants, which mostly are already using or will use biomass. Therefore, we recommend that this limitation should be enforced on all electricity-only plants, regardless of where they operate.

5.3 Threshold to be applicable above

The other important improvements brought forward by the RED revision is the lowering of the installed capacity threshold for biomass energy producing installations from 20 MW to 7.5 MW:

d) 'Biomass fuels shall fulfil the sustainability and greenhouse gas emissions saving criteria laid in the case of solid biomass fuels, in installations producing electricity, heating and cooling with a total rated thermal input equal to or exceeding 7.5 MW (not 20 MW as in RED II) `.

The capacity of biomass installations ranges among Member States. Member States should analyse the share of solid biomass use which is covered by installations above 7.5 MW compared to industry-level installations (i.e. above 0.5 MW) below this extent. If a significant part of the biomass feedstock is used in industry-level installations below 7.5, this threshold should be set lower.



6. Conclusion

By 2027, the Commission must report on the impact of the Member States' support schemes for biomass, including on biodiversity, the climate and the environment, and possible market distortions, and assess the possibility for further limitations regarding support schemes to forest biomass. By that time, Member States should be on track with implementing 2030 targets, including the second version of the NECPs. LIFE BIO-BALANCE strongly recommends that Member States go beyond the bare minimum set in the Renewable Energy Directive III on the sustainability criteria, and strengthen further national legislation and provisions for the sole use of low-carbon and low-impact solid biomass for the achievement of renewable energy targets. As such, we recommend that:

- Even though, from a climate perspective, the way forests are managed is not the first priority, given the relevance of the actual type of feedstock, we encourage Member States to improve their forestry legislation and enforcement in order to minimise illegal logging and trading, increase the naturalness of forest – including the presence of deadwood, and protecting forest soil.
- Given the current legislative structure, an ambitious carbon sink policy is a strong policy tool to counterbalance the overuse of biomass. We recommend setting up ambitious targets beyond the 2030 LULUCF national target and setting limits of biomass use accordingly, by creating a strong link between the sink target and the planned demand of forest biomass for energy.
- Transpose the cascading principle without applying any exemption. From a climate perspective, what matters is the feedstock, not the market value or the non-market-driven cause of logging. Applying an effective cascading principle would only allow for limited feedstock to be available for primary energy use. At the same time, we stress the importance of not counting primary woody biomass as renewable energy and not granting financial support for primary forest biomass used for energy. As a minimum, coarse woody biomass should be added to the exclusion list.
- As electricity-only plants waste most of the usable thermal energy from biomass, they should not receive any financial support, no matter if they operate in a just transition region or not. The place of burning is irrelevant from a climate or biodiversity perspective.
- GHG emission criteria should be set up in a way to exclude any interregional transport of biomass, in order to avoid unnecessary transportation.
- The threshold from which the GHG emissions criteria are applied should be based on country-specific circumstances. If a significant share of the biomass is used in installations with less than 7.5 MW capacity, a lower threshold should be set and applied.
- Setting up stronger energy efficiency criteria for industrial-level installations should not alter the decision of wood traders to sell biomass excluded by the criteria to households. Therefore, it is equally important to support energy efficiency measures of firewood user households.