

Reforming the RED to protect our forests, preserve biodiversity and reduce GHG emissions Summary of Paper Tiger report



This briefing provides an overview of “Paper Tiger: Why the EU’s RED II biomass sustainability criteria fail forests and the climate.”¹

The EU aims to be the first climate-neutral continent by 2050. For this to happen, policymakers need to acknowledge the important trade-off between increasing forest biomass harvesting and increasing forest carbon uptake. European forests are in dire condition: the latest assessment concludes that 86% of the protected forests in Europe have poor habitat condition.² The EU cannot protect and restore its forests in line with the goals of the Biodiversity Strategy while simultaneously increasing their exploitation for fuel and products. Continuing and increasing use of forest biomass for energy will degrade the EU’s forest carbon sink and harm ecosystem function, undermining the EU Green Deal and the EU’s climate and biodiversity commitments.

There is a way forward. Currently, 20% or less of the EU’s renewable energy comes from burning forest wood,³ meaning that replacing this capacity with additional relatively cleaner energy is achievable. Accordingly, the EU should stop counting the use of forest biomass toward its renewable energy targets and stop allowing the Member States to provide subsidies and other incentives that promote forest wood as fuel.

The revised EU Renewable Energy Directive (RED II) contains qualifying criteria for forest biomass that are supposedly protective, but in fact are not capable of stopping, much less reversing, the harm that is accruing to forests and the climate from accelerating use of forests for fuel. The RED’s efficiency and greenhouse gas (GHG) emissions savings criteria concern the manufacturing and use of biomass, and the “land use, land use change and forestry” (LULUCF) and “sustainability” criteria concern the conditions under which biomass is grown and harvested. The RED II states that the criteria “ensure” high GHG emissions savings compared to fossil fuel alternatives and avoid unintended sustainability impacts. However, the criteria cannot deliver on this promise, for the reasons outlined below. As the EU is reopening the RED II for revision, the time has come for action to address this issue.

The RED II criteria only cover a small percentage of forest biomass burned in the EU

The RED II criteria will only apply to a tiny percentage of the EU’s biomass burned in the EU, and therefore even if the criteria were effective, their lack of coverage would ensure they could not deliver on the RED’s promises. The efficiency and GHG criteria will only apply to new plants, leaving existing plants uncovered, and the “sustainability” criteria only apply to new plants 20 MW (thermal input) and larger (see summary table in Annex). This means that:

- The plants most prone to inefficiency are left completely uncovered by the efficiency criteria.
- Major uses of wood pellets are left uncovered by the criteria, i.e., pellets burned in new plants less than 20 MW, pellets burned in all existing plants, and pellets burned for residential heating.

- Biomass burned in new facilities smaller than 20 MW and all existing facilities, as well as biomass burned for residential heating, does not have to comply with the “sustainability” criteria.

The criteria will not prevent negative impacts on forests, biodiversity, and the climate

The RED’s efficiency requirements for powerplants are extremely weak. The requirement for facilities between 50 and 100 MW to employ high-efficiency cogeneration is very narrowly applied and the efficiency criteria contain a large loophole, allowing electricity-only plants if cogeneration is deemed not cost-effective. By setting such a low standard, large-scale and highly inefficient plants continue to qualify as renewable energy generators, and the efficiency criteria do nothing to stop the proliferation of the most inefficient wood-burning plants.

The “sustainability” criteria are not focused on measurable outcomes and do nothing to mitigate damage to forests and climate. The criteria only consider the *existence* of laws and regulations concerning forestry, rather than the development of actual standards that restrict damage from forestry. Thus, even if certain practices are damaging, they will be allowed under the “sustainability” criteria because they are legal in source countries. For instance, the criteria do nothing to prevent the clear-cutting of forests for biomass fuel. While the *agricultural* biomass criteria seek to minimise forest carbon loss by discouraging the conversion of forests to energy crops, the forest biomass criteria do not contain any discussion of forest carbon loss. The criteria do not prevent sourcing forest biomass from lands with high carbon stock or put any types of forests off-limits for harvesting except “protected” forests, which does not include, for instance, the EU’s Natura2000 forests where logging is permitted. Combined with other RED II provisions and subsidies, this actively encourages logging forests for energy.

The RED forest biomass criteria do almost nothing to protect biodiversity

Whereas the criteria for agricultural biomass contain minimal protections for biodiversity, the forest biomass criteria barely touch the issue. A discussion of what forests should be classified as “biodiverse” and therefore essentially off-limits at Recital 97 restricts the definition to areas protected by national nature protection law and to “primary” (essentially undisturbed) forests, thereby excluding by definition nearly all forests where harvesting for biomass occurs. The Joint Research Centre’s recent report on biomass⁴ presents a serious indictment of the biodiversity impacts of biomass harvesting. The study evaluated 24 practices that involve harvesting forestry residues for fuel or establishing plantations, and concluded that only one had acceptable biodiversity and net carbon outcomes. Overall, removal of forestry residues as fuel was found to be highly damaging to forest biodiversity and future viability.

The legality of wood sourcing is also given little consideration in the RED II. The EU Timber Regulation requires legal sourcing of all wood used in the EU. However, it is common knowledge that some of the biomass currently qualifying toward renewable energy targets, particularly for residential heating, is of unknown and possibly illegal origin. The RED II does not contain any blanket statement requiring legality, and the “sustainability” criteria where legality is mentioned only cover new facilities of 20 MW (thermal input) or larger. This leads to unintended consequences that favour illegal logging and undermines the EU’s objectives.

The RED II criteria do not deliver carbon savings or protect carbon stocks, worsening climate change

The RED promotes the use of biomass by treating it as having “zero” emissions. However, as European Commission scientists and the Joint Research Centre have affirmed, we know that burning biomass emits more CO₂ than fossil fuels per unit of final energy, and net cumulative emissions continue to exceed those from fossil fuels for decades to centuries. Even burning forest residues that would otherwise decompose and emit CO₂ has significant net carbon emissions. As the RED II GHG criteria exclude emissions from burning the biomass itself, they do not deal with the reality of the actual atmospheric CO₂ impact of burning biomass.

Nor do the LULUCF criteria help ensure climate change mitigation. The LULUCF criteria within the RED broadly seek to ensure that forest harvesting does not exceed growth. This relies mostly on the concept of “sustainable” forest management and the idea that despite a forest stand having been obliterated by logging for fuel, forests *somewhere else* are still growing and sequestering carbon, and this carbon uptake is assumed to instantaneously offset emissions from burning the biomass. Treating sustainable harvesting as a proxy for carbon neutrality is thus misleading because it assigns *ongoing* forest growth to offset emissions which does not constitute “increased” carbon uptake as the IPCC warns is required for biomass to deliver a carbon benefit.⁵ This framework is ultimately an attempt to substitute space for time, by assigning forest carbon uptake that is occurring elsewhere in the forest (and would continue to occur whether there is harvesting or not) to instantaneously offset emissions from logging and burning forest wood. The approach ignores the multiple decades required for forests to regrow after logging to offset emissions, and the foregone sequestration that the forest could have provided had it been left undisturbed.

Overall, the RED’s claim that the so-called sustainability and GHG criteria “ensure” emissions savings from burning biomass compared to fossil fuels is misleading – as acknowledged by the EU’s own scientists in a 2016 European Commission report that stated “compared to crops which regrow over short periods, forest biomass is part of a much longer carbon cycle. A forest stand typically takes between decades and a century to reach maturity. Recent studies have found that when greenhouse gas emissions and removals from combustion, decay and plant growth (so-called biogenic emissions from various biological pools) are also taken into account, the use of certain forest biomass feedstocks for energy purposes can lead to substantially reduced or even negative greenhouse gas savings compared to the use of fossil fuels in a given time period (e.g. **20 to 50 years or even up to centuries**).”⁶

The treatment of biomass as “zero carbon” in the RED is sometimes defended with the claim that the EU’s LULUCF Regulation ensures that forest carbon loss is counted in the land sector. Leaving aside the question of why the EU’s renewable energy policy would want to encourage forest harvesting for fuel at all when this is acknowledged to cause a loss of forest carbon from the land sector, in fact the LULUCF Regulation does *not* adequately value forest carbon loss. The Forest Reference Level (FRL) approach sets a baseline projection of forest carbon uptake if forest management practices of 2000-2009 were continued, and many if not most Member States are projecting a significant loss in forest carbon sink, the opposite of what is needed to get the EU on a path toward carbon neutrality by 2050. Because the baseline period for the FRLs (2000 – 2009) saw an increasing level of forest biomass use, thus the FRLs themselves “bake in” a great deal of wood-burning into the baseline that is thus treated as zero in the land sector, *as well as* the energy sector. Additionally, the upward tilt of most of the Member State FRLs, indicating a loss of the forest carbon sink each year, provides “headroom” for even more wood-burning that is counted as having zero emissions in the land sector.

Conclusion: Policymakers should remove forest biomass and its support from the RED

For the EU to achieve its targets on climate change and biodiversity and stay at the forefront of the global fight against these existential threats, fostering healthy and diverse forests essential. There is no set of “sustainability” criteria that can deliver on the RED’s promise of “ensuring” that burning forest biomass reduces GHG emissions compared to fossil fuels. Accordingly, removing eligibility for forest biomass under the RED is the easiest and most efficient way to remove the incentives that are driving accelerated logging for fuel. This would have the added advantage of redirecting resources toward real renewable solutions, such as geothermal, wind and solar energy.

ANNEX – Summary of the scope of application of RED II criteria

	Where found	Units/fuels affected	Units/fuels exempted	Discretion for Member States
Efficiency criteria	Article 29(11)	New installations >= 50 MW thermal input; different requirements for increasing plant capacity ⁽¹⁾	New installations < 50 MW thermal input; installations using BECCS ⁽¹⁾ ; all existing installations	MS can apply higher efficiency requirement to plants with lower rated thermal input than 50 MW ⁽¹⁾
GHG criteria	Article 29(1); Article 29(10)(d)	New ⁽²⁾ installations >= 20 MW thermal input ⁽³⁾	New installations < 20 MW thermal input ⁽³⁾ ; all existing installations; all residential use	MS can apply GHG requirements to plants with lower rated thermal input than 20 MW ⁽⁴⁾ ; MS appear to be allowed to institute lower limits ⁽²⁾
Sustainability criteria	Article 29(1); Article 29(6)	Installations >= 20 MW thermal input ⁽³⁾	Installations < 20 MW thermal input ⁽²⁾ , all residential use	MS can apply sustainability requirements to plants with lower rated thermal input than 20 MW ⁽⁴⁾ ; MS may establish additional sustainability criteria for biomass fuels ⁽⁵⁾
LULUCF criteria	Article 29(7)	Biofuels, bioliquids, and biomass fuels produced from forestry biomass seeking to qualify under the RED ⁽⁶⁾		No discretion granted to MS to expand or contract applicability ⁽⁶⁾
Notes				
(1) Article 29(11); Applies to installations starting operation or converted to the use of biomass fuels after 25 December 2021.				
(2) Article 29(10)(d); 70% GHG savings for installations starting operation from 1 January 2021 until 31 December 2025; 80% GHG savings for installations starting operation 1 January 2026.				
(3) Article 29(1); Recital 104				
(4) Article 29(1)				
(5) Article 29(14)				
(6) Article 29(7)				

¹ At <http://eubiomasscase.org/wp-content/uploads/2020/07/RED-II-biomass-Paper-Tiger-July-6-2020.pdf>

² EU's State of Nature Report (2020), also confirmed by recent JRC study on biomass (2021).

³ The Joint Research Centre's 2021 report on biomass estimates that in 2015, bioenergy overall comprised 59.2% of all renewable energy, and that more than 60% of biomass was wood-based. Of wood-based biomass, they estimate that between 37% and 51% is primary wood biomass that is sourced directly from forests. Multiplying through, this would mean that forest biomass provided 13 - 18% of renewable energy overall in 2015. Even if the total amount of wood burned for energy has increased since 2015, wood biomass as a share of renewable energy has decreased, meaning that wood sourced directly from forests likely provides 20% or less of renewable energy overall in the EU currently. Filling this gap with true zero-emissions energy would of course not eliminate wood-burning, but it would eliminate incentives for increasing use of wood, as well as aligning the EU's claims of emissions "reductions" from renewable energy with reality.

⁴ <https://forestdefenders.eu/wp-content/uploads/2021/01/JRC-biomass-report-markup.pdf>

⁵ IPCC, 2014: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change

⁶ European Commission. 2016. Impact Assessment: Sustainability of Bioenergy. Accompanying the document Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (recast). Brussels. At https://eur-lex.europa.eu/resource.html?uri=cellar:1bdc63bd-b7e9-11e6-9e3c-01aa75ed71a1.0001.02/DOC_1&format=PDF