

Enviva Response to Consultation on revised Climate, Energy and Environmental Aid Guidelines (CEEAG)

The revision of the Guidelines on State aid for climate, environmental protection and energy (CEEAG) is an important step in realizing the ambition of the EU Green Deal. Delivering increased climate ambition requires a significant amount of additional investment - estimates indicate the investment gap for meeting the EU 2030 targets are at least €300 billion a year.¹ To reach net-zero by 2050, €28 trillion will need to be invested in clean technologies and techniques.² Closing that investment gap will be the difference between success and failure. Despite the increasing competitiveness of renewable technologies, regulatory consistency and policy support are still critical components of ensuring successful ramp up of renewables to achieve the climate goals set out by the EU.

Bioenergy is currently the largest source of renewable energy in the EU, providing 56.6% of renewable gross final energy consumption. Recent analysis shows a need to grow the use of sustainable biomass by up to 60% by 2030, and that, by 2050, its share of final energy consumption could be as high as 20%.^{3 4} Government support and a stable regulatory environment will be crucial in making this a reality. Sustainable biomass, as a renewable dispatchable power and heat source, supports the integration of variable renewable generation and can ensure that essential energy system services are not just the preserve of fossil fuels. Furthermore, biomass will increasingly be sought for the decarbonization of the industrial sector, and will be key, through the application of Bioenergy Carbon Capture and Storage (BECCS), in delivering the negative emissions needed to reach net-zero. To enable this, we offer the below recommendations.

Recommendations:

1. Article 107: *"To avoid undermining the objective of the measure or other Union environmental protection objectives, incentives must not be provided for the generation of energy that would displace less polluting forms of energy. For example, where cogeneration based on non-renewable sources is supported, ~~or where biomass is supported~~, they must not receive incentives to generate electricity or heat at times when this would mean ~~zero air pollution~~ renewable energy sources would be curtailed."*

- **Unnecessary discrimination against biomass as a renewable technology should be removed from the Guidelines**

EU climate goals seek to increase the use of renewable energies across Member States, and State Aid rules should support this effort by facilitating fair and equal development

¹ <https://www.bruegel.org/2020/01/a-trillion-reasons-to-scrutinise-the-green-deal-investment-plan/>

² <https://www.mckinsey.com/business-functions/sustainability/our-insights/How-the-European-Union-could-achieve-net-zero-emissions-at-net-zero-cost>

³ <https://publications.jrc.ec.europa.eu/repository/handle/JRC118592>

⁴ <https://www.iea.org/reports/net-zero-by-2050>

of renewables markets, and by encouraging investment and technological advancement. Preference should not be given for some technologies over others. As noted below biomass must meet strict standards on sustainability under the Renewable Energy Directive for it to be counted towards renewable energy goals. Discrimination against the use of biomass in this context contradicts the rest of the EU Climate and Energy framework (as noted below) on no substantiated grounds.

State Aid for renewable energy technologies should not restrict Member States ability to use a variety of renewables to meet energy targets. This will create extreme difficulties in reaching renewable energy and emissions targets by 2030 and beyond. Member States need to be granted flexibility in how they individually reach these targets. The ability of member states to adapt EU policy, while still respecting it, to locally diverse situations is crucial to achieving targets in the most efficient and sustainable way.

- **The Guidelines must be aligned with the Renewable Energy Directive, based in robust science, and should recognize the role of biomass in providing essential system services.**

Alignment with RED

The Renewable Energy Directive establishes stringent emissions and efficiency levels required for plants using bioenergy, and establishes criteria under which bioenergy is considered sustainable. Under the RED, forest biomass used in the EU must meet strict sustainability standards that ensure: biomass sourcing is legal, that forest regeneration will occur, that nature protection areas remain preserved, is considerate of soil quality and biodiversity, and that harvesting maintains/ improves long-term production capacity of the forest. **If biomass is in compliance with these criteria and meets the appropriate emissions and efficiency levels, it is not reasonable for there to be further discrimination against its use.**

Basis in robust science

One of the underpinning principles of the EU Green Deal is the removal or reduction in use of fossil fuels, not the replacement of one renewable source for another. **The science supporting biomass as a climate mitigation tool is well-established.** For example, the IPCC in its August 2019 Special Report on Land and Climate, stated that sustainable forest management “aimed at storing carbon while yielding timber, fiber, and *bioenergy*” will produce the best results for the climate. The report also indicates that almost all scenarios to prevent warming above 1.5C include a combination of bioenergy, carbon capture, and reforestation and afforestation – sustainable woody biomass supports all 3 of these areas.⁵ The carbon savings associated with biomass are

⁵ https://www.ipcc.ch/2019/08/08/land-is-a-critical-resource_srccl/

well documented in science^{6 7 8} and the misconceptions about its sustainability and use have also been roundly rebutted in recent peer-reviewed literature.⁹

Essential system services

The language in section 107 fails to recognize that biomass supports the increased use of renewables such as solar and wind. As a baseload, dispatchable, renewable fuel source, biomass offers additional grid benefits that compliment weather-dependent resources. Back-up power and other system services will always be needed to stabilize the grid. Baseload resources and intermittent technologies are not an either-or scenario, instead sustainable biomass and other renewables work together to create a low-carbon energy system.

Biomass, as one of the only baseload scalable renewables, plays a crucial role in providing essential system services such as security of supply and balancing. The requirement for these services, will only increase as more wind and solar are installed. A reduction in the support for biomass will increase the demand for gas (and other fossil fuels) to fulfill this role. In turn increasing the risk of carbon lock-in. Further, in many cases these system services require that plants are also run at times when there is a surplus of wind and solar on the system – the situation Article 107 specifically targets. For example:

- **Balancing:** For a biomass plant to step in at the required time when other technologies cannot deliver their committed output, the plant must already be running when the turndown occurs.
- **Inertia:** Kinetic energy stored in the spinning turbine of a power plant is essential in providing near instantaneous response to sudden changes in grid frequency. The turbines must be spinning for there to be inertia, which means plant must be running, even when there is surplus wind and solar.
- **Reactive power:** To “steer” the power system, reactive power is needed to keep voltage at the correct level. Biomass plants can absorb or distribute reactive power as needed. Variable renewables can provide this service, but not on demand and, crucially, due to their distributed nature, are often not located where needed. Biomass used in converted coal power stations is deployed at existing grid connection points, which are generally located near where reactive power is required.

Each of these services requires plants to be running even when wind and solar are oversupplied. These are non-negotiable realities of operating today’s power system in a secure and safe manner. **The denial of support for biomass as outlined in Article 107**

⁶ <https://img1.wsimg.com/blobby/go/9afce926-cdfb-428d-9af3-8ec23009b16a/downloads/saf.pdf?ver=1622050148248>

⁷ <https://energycentral.com/c/ec/climate-solution-we-cannot-afford-ignore-biomass-sourced-naturally-managed>

⁸ [https://img1.wsimg.com/blobby/go/9afce926-cdfb-428d-9af3-8ec23009b16a/downloads/Wang_2015_Environ. Res. Lett. 10 114019.pdf?ver=1619022421638](https://img1.wsimg.com/blobby/go/9afce926-cdfb-428d-9af3-8ec23009b16a/downloads/Wang_2015_Environ._Res._Lett._10_114019.pdf?ver=1619022421638)

⁹ <https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcbb.12844>

would result in operators instead using more coal or gas, and would not result in an increase of wind or solar usage.

- **Denying biomass support for cogeneration would create double financial jeopardy for plants and result in higher heat costs for consumers, with no carbon reduction benefit**

Article 107 as proposed would undermine or eliminate the efficiency benefit of cogeneration. For many CHPs, increasing heat output automatically results in increased electricity output. For example, if support were removed when wind and solar were dominating the system but there was still a strong heat demand, the plant would still need to run, and would therefore still generate power. The proposed language in Article 107 would mean that not only would this power output not be able to receive Government support, but if there was enough wind and solar on the system that it would be curtailed, power prices would be negative and the plant would be forced to sell their power output at a loss.

The impact of this would most keenly be felt by the homes and businesses receiving heat from the CHP. The dual generation of heat and power is factored into the offer to customers - they receive a lower heat price because the plant generates income from the power sales, either from the market or support schemes. If this is disrupted and power generators are denied this support and forced to sell power at a loss, the result would be an increase in the heat price for customers. Despite this there would be no impact on climate outcomes, including carbon emissions, as the plant would continue to cogenerate both heat and power.

2. Article 77: ~~"...Furthermore, the Commission will verify whether Member States took into account in the design of their support mechanisms the need to avoid distortions on the raw material markets from biomass support, in particular for forest biomass."~~

- **The Renewable Energy Directive already establishes a Commission review of Member State bioenergy policies in 2026 to determine if market distortion has occurred.¹⁰ There is no need to duplicate this process.**
- **Further, the Commission has already defined biofuels associated with a high risk of indirect land use change (iLUC), and the that their eligibility will be phased out. Delegated regulation (EU) 2019/807 specifies which biofuels can be associated with a high-risk of iLUC by defining certain thresholds. All other biofuels have to be considered low-risk of iLUC. Thus, it cannot be concluded that their expansion produces negative effects that outweigh the positive effects.**

¹⁰ Directive (EU) 2018/2001, Article 29.14: "By 31 December 2026, the Commission shall assess the impact of such additional criteria on the internal market, accompanied, if necessary, by a proposal to ensure harmonisation thereof."

- **In addition, the requirement to avoid distortions on the commodity markets should be deleted, as market events are too complex to be able to draw single-factor conclusions on the promotion of bioenergy. The requirement bears the risk that simplified and wrong conclusions are drawn to the detriment of bioenergy or that support programmes are set up too hesitantly despite the massive investments required. In addition, already existing support must not be jeopardised.**
- **DG Competition has twice formally investigated market distortion issues related to biomass from US Southeast forests, and both times, after a 6+ month investigation, has found no undue market distortion related to EU biomass demand.**^{11 12}
- **In the US Southeast, biomass makes up less than 4% of all harvested material each year. The risk of distortion effects from this niche market are very low.**¹³

Forest biomass is produced from lower-value woody material that is undersold or has no other buyer in the local market. Biomass producers sit at the bottom of the value chain and have a low paying capacity relative to other forest products industries.

Across the US Southeast, over 85% of forestland is owned by small, private family landowners.¹⁴ Many of these landowners carefully manage their lands as working forests to sustainably supply a variety of forest products industries. Long-term management and harvesting decisions are based on the sawtimber industry, which uses the highest-value wood. Lower-value wood, which does not meet the specifications for sawtimber, can be used for paper, packaging, bioenergy, and other industries.

Strong markets for wood products lead to strong forests. Markets for forest products provide financial incentive for landowners to continue replanting and sustainably managing their lands. Without this financial incentive, landowners may convert their lands to something more lucrative, such as agriculture, or commercial development. Lower-value markets, in particular, help landowners by purchasing felled wood that does not meet the specs for sawtimber, allowing them to clear their lands for replanting.

Economics and industry best practices ensure that harvested trees are used to maximize their value. Consider the price differential between sawtimber and pulpwood: In Q4 of 2020, the stumpage price for pine sawtimber averaged \$28/ton across the US South, whereas the stumpage price for pine pulpwood was roughly \$8/ton.¹⁵ The chart below

¹¹ https://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3_SA_38760

¹² https://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3_SA_38762

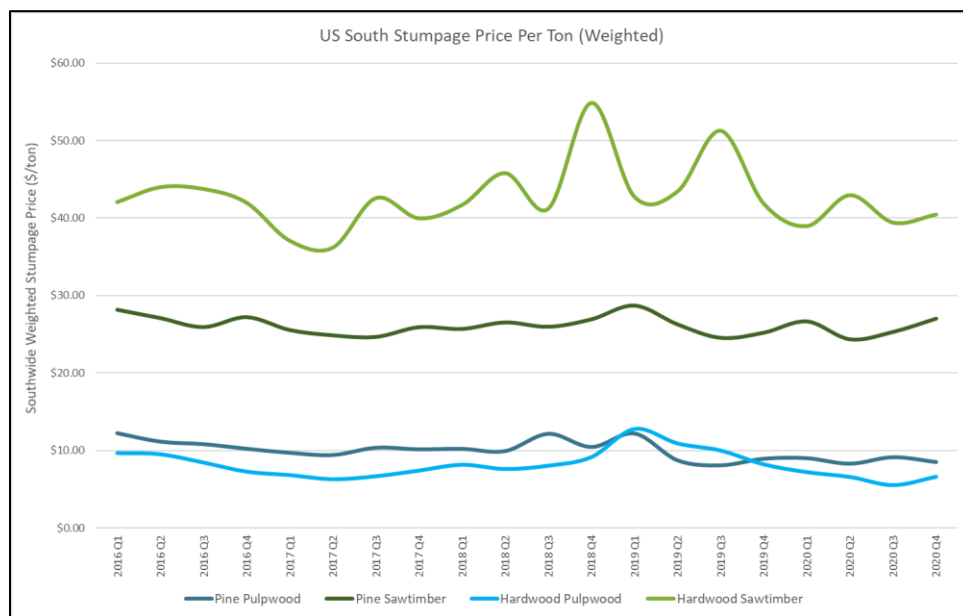
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https://www.forest2market.com/hubfs/2016_Website/Documents/20151119_Forest2Market_USSouthWoodSupplyTrends.pdf

¹⁴ <https://www.srs.fs.usda.gov/futures/technical-report/06.html>

¹⁵ <https://www.forest2market.com/timber-prices/stumpage-prices>

shows that average sawtimber prices in the region are significantly higher than average pulpwood prices on a consistent basis.



Q1 2016 - Q4 2020 Average Stumpage Prices in US South, Forest2Market

While the financial incentive from pulpwood sales are not high enough to be the primary motive for harvesting or management decisions, demand for lower-value pulpwood is important to forest health as it does result in incremental cash flows for timberland owners, which helps to support sustainable forest management activities, such as replanting, fire prevention, etc. The price differential also ensures that available pulpwood remains a result of land management activities, as opposed to an incentive to manage forests solely for pulpwood production.

3. Article 30(c) New Article: *operating aid granted to existing installations for environmentally friendly production where there is no ‘start of works’ because there is no significant new investment. In these cases, the incentive effect can be demonstrated by a change to operate the installation in an environmentally friendly way rather than an alternative cheaper mode of operation that is less environmentally friendly or based on the counterfactual analysis, that lack of such aid would result in less environmentally friendly choices by operators.*

- As noted above, sustainable biomass, as assured by the RED, can play an important role in lowering greenhouse gas emissions, while displacing fossil fuels that will otherwise be relied upon even more intensely to provide dispatchability and other essential systems services. Despite biomass’ increasing competitiveness, market dynamics often justify the need for operational support, which is also the case for some existing biomass fired power and CHP plants. The persistence of fossil fuels subsidies and highly variable wholesale energy prices prevent some plants from being profitable. Further, despite recent increase in EU-ETS prices, absent Government support, operators often lack the

confidence required to make investments that may be necessary for the continued operation of the plant.

Therefore, existing depreciated assets should still be eligible to receive operational aid (as they are under the existing EEAG) provided that their operators can demonstrate that such plants without support could be substituted by less environmentally friendly assets. This will guard against the risk of re-carbonisation, especially in cases of “must run” biomass plants.