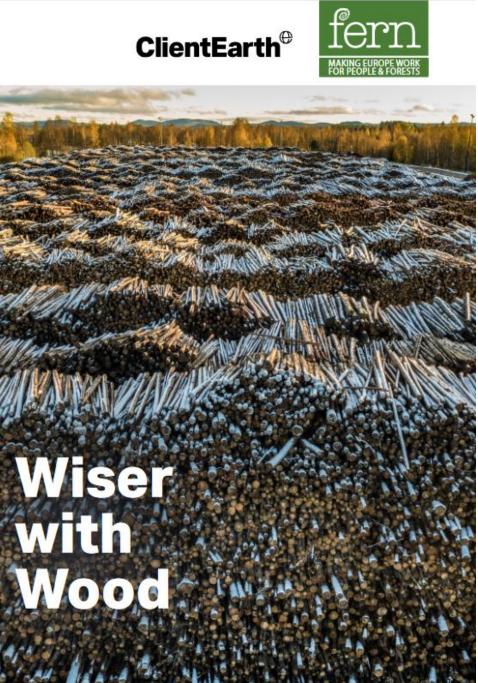
31st May 2024, FOE Japan webinar

Biomass uses in the EU, the RED III, and our "Wiser with wood" recommendations

Martin Pigeon, Fern



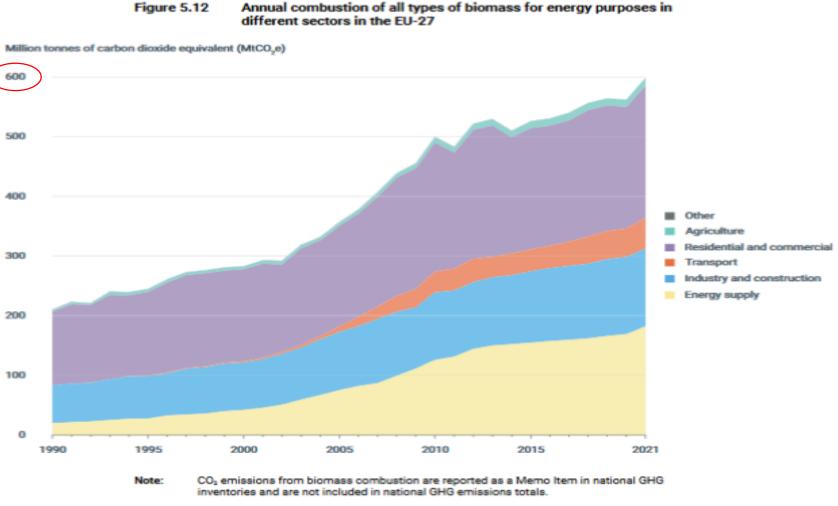
Our « transposition guide » for EU Member States





Bioenergy is not zero-carbon!

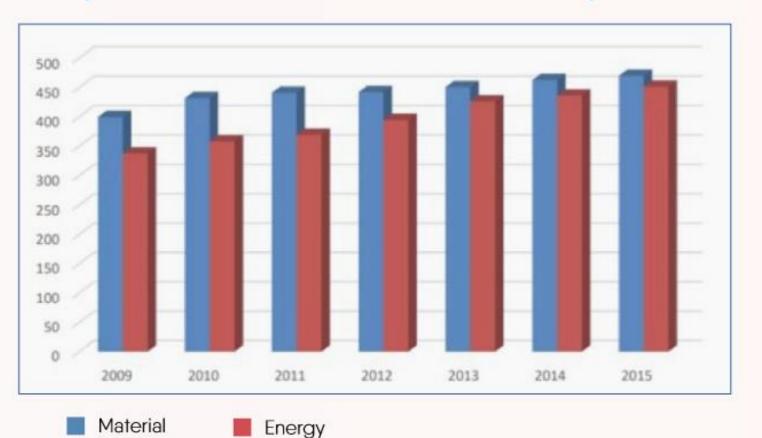
If biomass CO2 emissions were counted in the energy sector, the EV should have increased its declared GHG emissions by 16.6% in 2022, from 3.6 to 4.2 billion tonnes of CO2e



Source: EEA based on the EC (2023a).

An increasing proportion of wood is burned

Woody biomass used in the EU (million m³ solid wood equivalents including bark)



The JRC says that about half the wood logged today in the EU is burned, the rest being material uses.

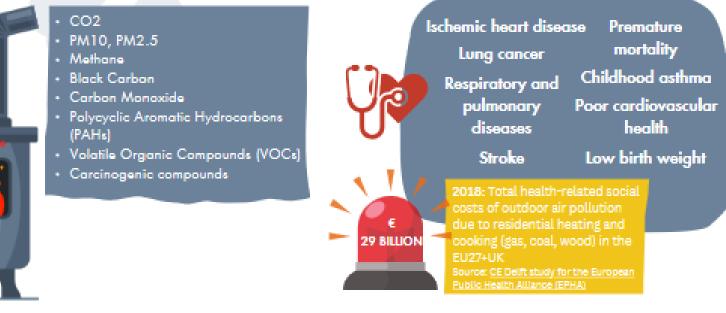
We should be incentivising exactly the opposite trend.

Source: <u>https://ec.europa.eu/jrc/en/publication/</u> analysis-wood-resource-balance-gaps-eu

Biomass causes serious air pollution

Source <u>Health & Environment</u> <u>Alliance, 2024</u>

WOOD BURNING RELEASES HEALTH-HARMING POLLUTANTS LINKED TO:



WHO IS AT RISK?

Air pollution is the top environmental threat to health in Europe and everyone is vulnerable to its impacts. The groups most at risk include **the elderly, patients, people already ill, pregnant women, children** and those facing health inequalities.

HEALTH RECOMMENDATIONS

For policy makers:

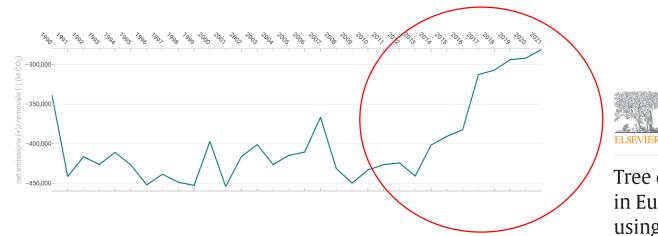
- End the classification of biomass as a renewable energy form, and its subsidisation.
- Incentivise renewable energy and heating and energy savings, with a priority for the people living in energy poverty.

For health professionals:

- Highlight the evidence and materials provided by the World Health Organization (WHO) - Guidelines on Ambient Air Quality and Guidelines on Indoor Air Quality.
- Assess the risks associated with poor (households) air quality, raise awareness and engage in shaping public opinion on the polluting aspect of burning wood.



European forests are increasingly logged, carbon sinks are falling



Remote Sensing of Environment Volume 298, 1 December 2023, 113797 Remote Sensing Environment

Tree canopy extent and height change in Europe, 2001–2021, quantified using Landsat data archive

- Tree canopy extent increased in Europe by 1%, decreased in Fennoscandia.
- Tall forests (height≥15m) lost 3% of their area.
- The annual tree canopy removal area increased by 18% from 2001–2011 to 2012–2021.

Poor use of taxpayers' money and public budgets The biomass burning industry is not economically viable in the energy sector without government support. In electricity production, electricity-only biomass plants only achieve 30 per cent efficiency on average; the industry's average capital and operating costs are now far above those of wind and solar plus storage. For heat, the costs of heat pumps, the main alternative source of renewable heat, are now on average comparable to that of biomass installations for continuous low and medium heat (typically used for heating buildings).

This support is considerable. Subsidies paid by Member States rewarding energy operators for burning wood amounted to €16 billion of taxpayers' money in 2020 alone. In addition, the legal exemption of biomass emissions from the Emissions Trading System (ETS)¹⁸ was estimated to have led to €12 billion of lost revenue. The total amount of public financial support for the biomass industry is therefore in the order of €28 billion per year.

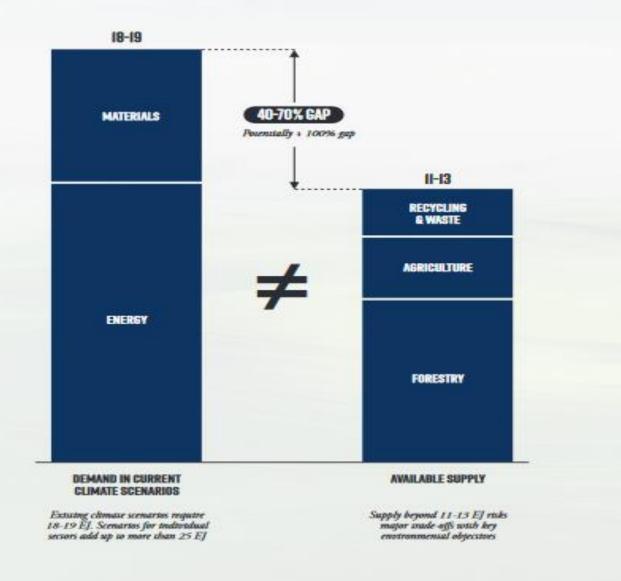
In contrast, only €2.4 billion of EU funds were spent by EU Member States for either creating forests or supporting existing forests over the whole six-year period between 2014-2020.

A COURSE CORRECTION IS NEEDED

CURRENT CLIMATE SCENARIOS RISK OVER RELIANCE ON BIOMASS, CLAIMING 40-100% MORE THAN IS SUSTAINABLY AVAILABLE

BIOMASS SUPPLY AND DEMAND FOR MATERIALS AND ENERGY IN THE EU PRIMARY ENERGY EQUIVALENTS IN EJ PER YEAR

The promise of a "bioeconomy"? There isn't enough wood for all the industry sectors planning to switch to woody biomass as an alternative raw material to fossil fuels (chemicals, textiles, other materials etc)



From *"EU Biomass use in a netzero economy" – <u>a course</u> <u>correction for EU biomass</u> – Material Economics & SITRA for the European Commission, 2021* There isn't enough wood for all users and the subisidies are harming other wood-using sectors A representative of a Polish wood panel industries federation said:

Our industry of wood-based panel manufacturers has a vital interest in using any type of wood, because we are able to use even really poor quality wood. [...]For us, the big competition is the burning of wood and the burning of primary forest biomass, because this burning is covered by subsidies. Companies that generate energy receive subsidies from the state treasury for green certificates or carbon dioxide emission rights. These are large amounts and we are not able to compete with them in the purchase of wood.

Importing the missing supply?

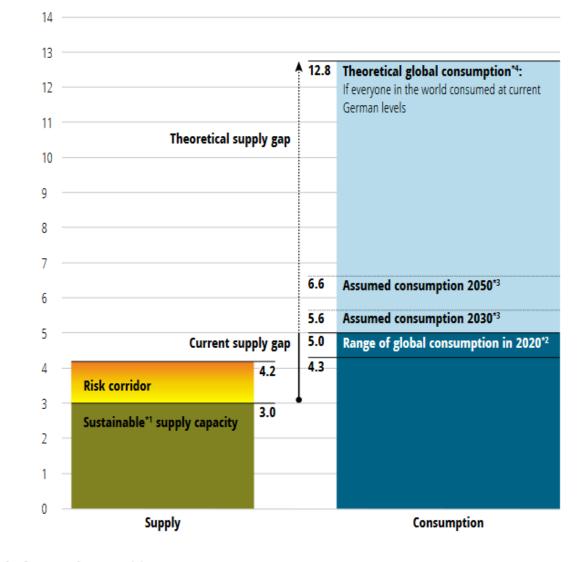
Impossible: the global demand is already excessive.

Figure S.2:

The planetary boundary for global wood consumption: comparing the sustainable^{*1} supply capacity and the risk corridor to consumption levels ▼ Billion m³ o.b.

Notes:

- Sustainability here refers to quantity considerations, which is only one consideration when aiming for holistic forest management.
- ^{*2} Global consumption in 2020 is depicted as a range to depict uncertainty in conversion values (e.g. adjustments for bark and harvest losses), share of global consumption that stems from the sources outside the forest (e.g. roadsides), illegally sourced timber and statistical data uncertainty.
- *3 The global consumption values in 2030 and 2050 depict the highest boundaries respectively and are based on an extrapolation of historical trends over the decade 2010–2020.
- *4 The average annual German consumption level between 2015 and 2020 was taken as a reference for calculating "current consumption" because calamities (including massive beetle outbreaks) caused a spike in German harvests in 2020.



10 | Everything from wood – The resource of the future or the next crisis?

From Beck-O'Brien, M., Egenolf, V., Winter, S., Zahnen, J., Griesshammer, N. (2022). <u>Everything from wood</u> – The resource of the future or the next crisis? How footprints, benchmarks and targets can support a balanced bioeconomy transition. WWF Germany.

The New York Times

> Climate F.A.Q. Rising Home Insurance Costs Is Biodegradable Plastic Real? What Actuall

The revision of the EU's Renewable Energy Directive

a very heated debate on forest biomass, one of the most controversial issues: several EU countries rely a lot on it to reach their renewables targets

Europe Rethinks Its Reliance on Burning Wood for Electricity

A new proposal would significantly rewrite E.U. rules on renewable energy, ending subsidies for biomass like wood pellets.

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Press room / MEPs back plans to boost use of renewable energy

MEPs back plans to boost use of renewable energy Press Releases PLENARY SESSION ITTRE 12-09-2023 - 13:29

Renewables will have to make up 42.5% of the EU's energy consumption by 2030, with the aim of achieving 45%

Faster approval procedure for deploying renewables

New fuels in the transport sector should lead to a 14.5% reduction of its greenhouse gas emissions

The European Parliament's plenary position: exclude primary woody biomass (forest biomass) from RED targets & associated incentives, with exceptions

> Final text adopted under Swedish presidency: much less ambitious, excludes "industrial grade roundwood" from "direct financial support". Still a tightening compared to RED II.

RED III implementation : 2024-2026



RED III requirements

The cascading principle*

Member States must design their support schemes so as to ensure that woody biomass is used according to its highest economic and environmental added value in the following order of priorities: (1) wood-based products; (2) extending their service life; (3) re-use; (4) recycling; (5) bioenergy; and (6) disposal. There are possible exceptions to this principle (for wood coming from natural disasters or when there are no other options than bioenergy locally), but Member States must justify why they applied the exceptions when they did and the Commission will publish their justifications.

Transposition recommendations for Member States

Member States should focus on implementing this principle to maximise value creation from the scarce wood resource in local supply chains. The future bioeconomy may increase demand further as other sectors look to replace fossil fuels-based commodities.

Member States should ensure that documentation of their use of the exceptions clause is exhaustive and up to date.

The case of the Flanders region in Belgium (see dedicated section) demonstrates that meaningful implementation of the cascading principle is possible by involving other wood-using sectors in determining whether the burning of specific wood supplies should benefit from subsidies.

RED requirements & our recommendations

the cascading principle

Ban on support to electricity production in electricity-only plants

Ban on support for electricity-only biomass installations, with exceptions

Member States can no longer provide direct financial support to electricity produced in electricity-only power plants using biomass (both biomass-only and co-firing). There are possible exceptions if these plants are in a Just Transition or outermost region or if they use Bioenergy with Carbon Capture and Storage (BECCS) – a technology that is still to be demonstrated at scale, and which presents the same risks to forests as conventional biomass electricity production.³

On average, electricity production from electricityonly biomass power plants achieves only 30 per cent efficiency. With cheaper and cleaner renewables plus storage now available for dispatchable power generation, and given the significant environmental, economic and health impacts caused by biomass electricity production – and the equally high-risk and unproven nature of BECCS – Member States should refrain from providing new financial support to any forms of electricity production from woody biomass. This includes both biomass-only plants and co-firing installations. Member States should also rapidly phase out existing governmental support mechanisms.

Ban on support to energy production from certain feedstocks Direct financial support is banned for energy produced using certain feedstocks (saw logs, veneer logs, industrial grade roundwood, stumps and roots).⁷

Industrial grade roundwood is defined as all wood suitable for industrial purposes, minus wood "unsuitable for industrial use as defined and duly justified by Member States according to the relevant forest and market conditions".^a Under both RED II and RED III, Member States can and should extend this ban to all forest biomass (also known as primary woody biomass, meaning wood directly removed from forests such as sternwood, treetops and branches.)

In application of the cascading principle, biomass incentives should be limited to energy from burning residues of wood processing industries that do not have other uses, such as black liquor (from paper mills).

When adopting the definition that roundwood is wood "not suitable for industrial use", Member States should anticipate the expected new industrial uses, as markets can change rapidly. It is important not to endanger small and medium sized enterprises (SMEs) working with specific types of wood. The definition should be regularly revised and based on scientific input, including sources that are financially independent from industry.

Sustainability criteria (1)

Territorial exclusions ("No-go zones") that protect lands with high biodiversity (such as primary and old growth forests) or high carbon stock (such as wetlands and peatlands) from forest biomass fuel extraction (with exceptions). Member States need to transpose these territorial exclusions in their national legislation, and in particular adopt a definition of "old growth forests" if they do not have one already.⁹

NB. The RED's sustainability criteria for woody biomass are a minimum bar and EU Member States can adopt stricter ones

"No-go zones": Exclusion of primary and old growth forests from eligible sourcing

Sustainability criteria (2)

Sustainable harvesting criteria (including obligations to harvest biomass in accordance with sustainable forest management principles and with defined thresholds for clear cuts and deadwood extraction, or avoiding degradation of primary forests), which must be transposed if absent in national legislation.¹⁰

Article 26 (6):

"harvesting is carried out considering maintenance of soil quality and biodiversity in accordance with sustainable forest management principles, with the aim of preventing any adverse impact, 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, that harvesting is carried out in compliance 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 that harvesting is carried out in compliance with requirements to use logging systems that minimise any adverse impact on soil quality, including soil compaction, and on biodiversity features and habitats;"

Sustainability criteria (3)

■ Land Use, Land Use Change and Forestry (LULUCF) criteria, to ensure that "the production of ... biomass fuels from domestic forest biomass shall be consistent with Member States' commitments and targets laid down in Article 4 of [LULUCF] Regulation (EU) 2018/841", that requires Member States to "ensure that emissions [in the land use sector] do not exceed removals".^{11,12}

Conserve and enhance carbon sinks (LULUCF)

GHG savings criteria

Ensuring operators' compliance with sustainability and greenhouse gas savings criteria. Member States must ensure the compliance of economic operators with RED III criteria for forest biomass, and that operators have employed relevant auditing procedures. Information about the geographic origin and feedstock type of biomass fuels per fuel supplier must be made available to consumers "in an up-to-date, easily accessible, and user-friendly manner on the websites of operators, suppliers or the relevant competent authorities and shall be updated on an annual basis.".¹³

"(d) for electricity, heating and cooling production from biomass fuels used in installations that started operating after 20 November 2023, at least 80 %;

(e) for electricity, heating and cooling production from biomass fuels used in installations with a total rated thermal input equal to or exceeding 10 MW that started operating between 1 January 2021 and 20 November 2023, at least 70 % until 31 December 2029, and at least 80 % from 1 January 2030;

(g) for electricity, heating and cooling production from biomass fuels used in installations with a total rated thermal input equal to or exceeding 10 MW that started operating before 1 January 2021, at least 80 % after they have been operating for 15 years, at the earliest from 1 January 2026 and at the latest from 31 December 2029."

Biomass use monitoring

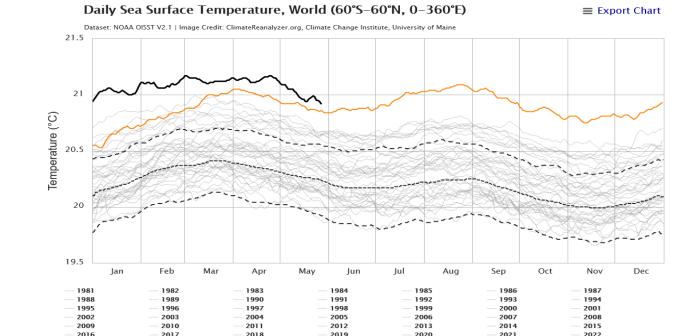
Monitoring forest biomass use. To properly assess economic operators' compliance with RED III criteria, Member States must have access to up-to-date information on the origin of forest biomass used for energy (its legality and sustainability) and the emissions associated with the harvesting of forest biomass and domestic supply of forest biomass. There are additional mandatory traceability and sustainability requirements in the EU Deforestation-free Products Regulation (EUDR).¹⁴

NB. On 29 June 2023, the EU Regulation on deforestation-free products (EUDR) entered into force. It focusses on seven high-risk commodities, wood, soy, palm oil, coffee, cocoa, beef and rubber and the products derived from it like chocolate, leather and paper and will <u>prohibit</u> <u>companies from putting products on the EU market unless they are deforestation-free,</u> <u>degradation-free and legally produced</u>. Non-compliance would lead to significant penalties.

It represents an historic first in the fight against forest destruction. However, the Regulation's success now depends on effective implementation and enforcement.

Climate & biodiversity crisis force us to rethink timescales: we no longer have the time to wait for the trees to grow back.

Cascading principle -> prioritising added value creation, but needs to be at ecologically relevant scale



Biodiverse forests are our best allies against the climate crisis, cooling and cleaning the air we breathe, the water we drink, capturing and storing CO2, still harbouring most of what is left of biodiversity in Europe...

Investing in forests resilience is a condition for the habitability of many of our countries in the <u>near</u> <u>future</u>.

EU Member States now have the power to stop squandering billions of euros spent every year on supporting uneconomic energy production from industrial-scale wood burning, and to focus instead on promoting policies which reduce the need to burn wood. They can invest in better forest management, on preserving and restoring forests' resilience in the face of the climate and biodiversity crises, and maximizing the added economic value obtained from wood.

Thank you