

Biomass industry myths

(1) Most biomass energy in the EU comes from burning waste wood and residues:

Back in 2016, the EU's Joint Research Center estimated that around half of all wood biomass energy came from sawmill residues, post-consumption waste wood and from black liquor; the rest was sourced directly from the forest.¹ However, the amount of biomass energy across the EU-27 has grown significantly since then, unlike the availability of such residues. Furthermore, black liquor, a byproduct of pulp and paper production, is only used to provide energy to pulp mills, so in all the other sectors combined, forest wood already accounted for the majority of wood burned for energy in 2016.

However, forestry and energy companies routinely describe wood taken directly from the forest as "forestry residue". They not only do this for slash or brush, such as branches remaining on the forest floor after logging, but also for deadwood (which is of vital importance for ecosystems) and even for roundwood. It is important to note that the term 'forestry residue' is not found in the EU Renewable Energy Directive (RED), which classifies all wood taken from the forest in the same way, i.e. as "primary wood".

Further reading:

Future on Fire, how the EU burns trees in the name of renewable energy, Forest Defenders Alliance, April 2022:
forestdefenders.eu/wp-content/uploads/2022/04/FDA-Future-on-Fire-April-5-2022_final.pdf

Is wood based bioenergy climate friendly if it comes from residues, Biofuelwatch, November 2020,
biofuelwatch.org.uk/wp-content/uploads/Residues-briefing.pdf

(2) Burning woody residues is a climate-friendly source of energy:

Burning wood emits no less CO₂ per unit of energy than burning coal.² When trees are cut down for energy, it is increasingly recognised that it will take decades for new trees growing back to sequester as much CO₂ as had been emitted by burning wood (if forests are able to regrow at all). Yet we cannot afford to increase carbon dioxide in the atmosphere for decades to come if we want to avoid the worst impacts of climate change.

In theory, burning genuine logging residues or sawmill residues for energy is less harmful for the climate than cutting down and burning whole trees. However, a peer-reviewed study published in 2018 shows that even this type of biomass energy is not compatible with the need to limit global warming to 1.5

¹ <https://publications.jrc.ec.europa.eu/repository/handle/JRC122719>

² https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf,
Table 2.2

degrees. The author of that study compared burning such residues with letting them slowly decompose.

However, the climate impacts of burning woody residues becomes as bad as that of burning trees if those residues would otherwise have been used to make wood products such as plywood – and if that then leads to additional logging to satisfy those industries' demand. The same is true for burning waste wood that would otherwise have been used to make panel board, causing the wood panel industry to buy more roundwood instead.

(3) “Even if roundwood is burned for energy, it’s all from low-grade trees, which are of no other economic use.”

Here, “low-grade wood” simply means “roundwood not being in demand by sawmills” – perhaps because a tree hasn't grown perfectly straight, is too large, too small, or simply because the sawmill industry is already getting all the wood it needs to satisfy its customers.

This statement – true in some regions but not in others – is simply about economic impacts (i.e. no competition with producers of high-value wood products), as opposed to climate and wider environmental ones.

If there's no demand for a tree being cut down other than from energy and pellet companies, then there's every chance the tree wouldn't have been cut down but would have been allowed to grow. Which would almost always be far better for forests and climate.

(4) “The IPCC says that biomass energy is carbon neutral.”

This is not true. The IPCC's own figures show that upfront CO₂ emissions from burning wood are no less than emissions from burning coal.³

The IPCC Guidelines for National Greenhouse Gas Accounting say that CO₂ emissions from biomass energy should not be accounted for in the energy sector, where the wood is burned, but in the land and forestry sector, where the biomass comes from. The IPCC recommends that governments should nonetheless report on the upfront CO₂ emissions from burning biomass, separate from their official greenhouse gas accounts. It states: “The IPCC approach of not including bioenergy emissions in the Energy Sector total should not be interpreted as a conclusion about the sustainability or carbon neutrality of bioenergy.”⁴

Further reading:

The Biomass Delusion: How the UNFCCC carbon accounting system drives the biomass energy problem, and ways to fix it, Environmental Paper Network, June 2022,

³ See footnote 2

⁴ <https://www.ipcc-nggip.iges.or.jp/faq/faq.html>

(5) “If a forest is managed sustainably and if the overall amount of carbon stored in forests is maintained, then burning wood from that forest is carbon neutral.”

In 2018, 800 scientists signed a letter debunking this myth. In the letter, they state: *“Even if forests are allowed to regrow, using wood deliberately harvested for burning will increase carbon in the atmosphere and warming for decades to centuries – as many studies have shown – even when wood replaces coal, oil or natural gas. The reasons are fundamental and occur regardless of whether forest management is ‘sustainable.’”*⁵

In most of Europe, and most of the world, natural forest cover is rapidly shrinking due to deforestation for agriculture (mostly in tropical countries) and excessive logging. However, the area of monoculture tree plantations is increasing, and claims of “increasing forest cover” often hide the fact that forest ecosystems are being destroyed and replaced with industrial tree plantations which provide little or no wildlife habitat and store far less carbon than natural forests.

In a few regions, natural forests are expanding because they are recovering from past deforestation.

Regardless of what is happening to forest cover across a larger region, cutting down and burning trees that would otherwise have continued growing, storing and sequestering carbon is bad for the climate.

(6) Old and mature forests stop absorbing carbon. At that stage, we need to manage, i.e. log them.

Mature, including oldgrowth forests, do not stop absorbing carbon from the atmosphere. An old, large tree locks up far more carbon than a young one. And when a tree eventually dies, it becomes standing deadwood which is a particularly rich habitat for many species of insects, birds and mammals. Although deadwood eventually decomposes, this process happens over a long period and is vital for accumulating and restoring soil carbon as well as maintaining the fertility of the soil so that other trees can grow well in future.

(7) “We need to burn woody biomass in order to phase out coal and meet our climate change commitments.”

As shown above, burning wood, especially roundwood, is no better for the climate than burning coal. We cannot afford to do either, at least not on a large scale, if we want any hope of avoiding the most catastrophic level of climate

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euractiv.com/wp-content/uploads/sites/2/2018/01/Letter-of-Scientists-on-Use-of-Forest-Biomass-for-Bioenergy-January-12-2018.pdf

change. It may help to meet governments' climate change commitments on paper, but not in the real world.

Furthermore, under the EU Renewable Energy Directive, subsidies for biomass energy compete directly with support for genuinely low carbon renewable energy.

(8) "Biomass energy in the EU has to meet strict greenhouse gas standards and land criteria."

Under the Renewable Energy Directive, biomass is supposed to meet greenhouse gas and land criteria in order to receive subsidies and count towards renewable energy targets. When calculating greenhouse gas emissions associated with biomass energy, little or nothing other than lifecycle fossil fuel emissions (transport fuel for wood pellets, fossil fuels burned in wood pellet plants, etc.) is taken into account.

The land criteria themselves are so weak that it is virtually impossible to breach them. For example, the criteria rule out biomass linked to deforestation – but a clearcut forest isn't classed as deforestation, provided the land is not subsequently converted to agriculture or other uses not involving trees. And even then, there are exemptions for overseas territories, allowing France to promote cutting down Amazon rainforest for biofuel energy crops and burning the wood from the clearcuts as renewable energy!⁶

The main wood pellet certification scheme, called the Sustainable Biomass Program (SBP), has been developed entirely by industry. Companies carrying out SBP audits and certifying pellets as sustainable are not even expected to visit any forests and logging sites from which wood is sourced.

In any case, as shown above, wood bioenergy sourced from sustainably managed forest is not climate friendly.

Further reading:

Unsustainable and Ineffective: Why EU Forest Biomass Standards won't stop destruction, jointly published by six European NGOs, May 2021, fern.org/publications-insight/unsustainable-and-ineffective-why-eu-forest-biomass-standards-wont-stop-destruction-2348/

Sustainable Biomass Program: Certifying paperwork without looking at the forest, Biofuelwatch, January 2023, biofuelwatch.org.uk/2023/sbp-report/

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news.mongabay.com/2023/02/france-seeks-eu-okay-to-fund-biomass-plants-burn-amazon-forest-to-power-spaceport/