WHY THE EU MUST STOP SUBSIDIES FOR BURNING TREES

A POLICY MISTAKE THAT NEEDS TO BE CORRECTED

NGO POSITION PAPER

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DESIGN: Sylwia Niedaszkowska

COVER IMAGE: "By-products" from the forest industry at the Kerava combined heat and power bioenergy plant in Finland. Image by Ei polteta tulevaisuutta

Executive summary

EU targets and incentives for burning wood in the Renewable Energy Directive (RED) and the EU Emissions Trading System (EU ETS):

- **Make the climate crisis worse:** burning woody biomass releases more Carbon Dioxide (CO_2) than coal at combustion but this is still incorrectly treated as zero emissions in the EU ETS. Because burning wood emits CO_2 instantly and much faster than natural decay of wood residues in forest and than trees can regrow to sequester it, paying energy companies to burn more wood increases CO_2 in the atmosphere.

- **Damage the economy and undermine energy security:** wood is a scarce and precious resource, but EU wood-burning incentives are distorting the wood market by pushing wood prices up for all users, competing industries and households alike (especially those relying on it for heating). Nearly half the EU wood harvest is burnt for energy today, although the sector has been unable to produce more energy since 2021. With the rise of overall wood demand and current levels of overlogging in European forests, wood users are facing a supply crunch that is only expected to worsen if wood burning incentives remain in EU legislation.

- **Increase biodiversity loss and the destruction of forests:** because any wood can be burnt, treating – and subsidising – wood-based energy as renewable in EU legislation rewards the logging of any tree in a forest, including those that didn't have a market value before. Clear-cutting forests severely undermines all their functions (regulating the water cycle, the global and local climate, cooling and purifying air, hosting biodiversity etc).

- **Worsen air pollution:** EU subsidies and incentives for wood burning are worsening air pollution, especially in cities and mountainous regions but also in rural areas. Wood burning is increasingly restricted in large European cities as wood smoke is even more toxic than second-hand tobacco smoke, with children and the elderly most vulnerable.

To correct this policy mistake inherited from the early 2000s, the EU must phase out policy incentives for wood burning as soon as possible by:

- excluding woody biomass (wood burning) from the list of renewable energy sources in the EU RED; and

- ending the zero-rating of woody biomass emissions in the EU ETS, accounting for the real emissions from burning woody biomass instead.

The billions of euros of public funding saved will then be available for:

- investing in energy savings (in particular insulation), energy storage and grid upgrades;

- restoring forest ecosystems and increasing their robustness and ability to buffer the worst impacts of the climate crisis; and

- incentivising foresters to use continuous cover forestry rather than clear cuts.

The EU should exclude woody biomass from the RED list of renewable energy sources and end it's emissions' zero-rating in the EU ETS. Image: Tree stumps and roots in Askola Finland 2023, by Ei polteta tulevaisuutta.

Introduction

The EU has renewable energy targets and incentives to tackle the climate crisis by reducing greenhouse gas emissions.

It also wants its industries to be more competitive.

But the opposite has been caused by **policy incentives in EU legislation to burn wood in the energy sector,** from bioenergy's inclusion in Member States' renewable energy targets to the billions of euros in subsidies and tax exemptions to energy companies burning wood since 2001.

First and foremost, wood burning is not carbon neutral: it emits **more carbon dioxide (CO_2) per unit of energy than coal and most fossil fuels,** and emissions from biomass combustion have **doubled since** 2001. Because burning wood emits CO_2 instantly and much faster than natural decay in forests, or than trees can regrow to sequester it, the CO_2 from burning forest biomass accumulates in the atmosphere, contributing to human-made global warming.

These emissions from wood energy cannot be offset in climate-relevant timeframes. The additional logging of forests caused by such a scale of incentives undermines their ability to absorb and store carbon, and to deliver **vital functions** such as regulating the water cycle and global and local climate, reducing flooding, cooling and purifying local air and water, and hosting biodiversity. Every year, nearly half (47%) the entire annual EU wood harvest is burnt. In several Member States, more intensive logging, including for bioenergy, has turned forests from sinks into sources. The EU's forest carbon sink is now **43% lower than in 2001** and the EU risks missing its own Land Use, Land Use Change and Forestry (LULUCF) targets.

Incentives to burn wood for energy **undermine the competitiveness of other wood-using industries and the broader bioeconomy**, and contradict the cascading use principle which recognises that combustion needs to be a last-resort option. They also distort the wood market, depleting the wood supply in the context of an increasing supply crunch, and cause **additional air pollution that increases public health costs**. And by pushing fuelwood prices up, they undermine energy security for the EU citizens who rely the most on wood for home heating and cannot yet access cleaner alternatives.

Wood-burning subsidies also make bioenergy unduly cheap for large users, which delays expansion of cleaner renewables like wind and solar electricity, and heating solutions like heat-pumps used in district heating and by individual households.

The Renewable Energy Directive's (RED) sustainability and greenhouse gas savings criteria for woody biomass were meant to protect forests from excesses caused by incentives, but they have utterly failed and cannot realistically be fixed. The exclusion of certain feedstocks from support in REDIII has been incremental but insufficient progress. The wood supply is limited, but there are still no policy limits to bioenergy deployment.

It is a shocking fact that the single biggest source of so-called "renewable energy" in the EU still comes from biomass - most of which is burning wood. This classification makes a mockery of EU climate and energy policy, and must end. By providing a way for Member States to avoid decarbonising their energy sector, it delays the transition away from polluting combustion-based energy sources. Several Member States have **already discontinued some of these market incentives**, and are investing in cleaner and cheaper power and heat generation instead.

The EU must now follow them and phase out these ill-designed market incentives as soon as possible. Such a phase-out will stop aggravating the climate crisis, improve air quality, save wood for better uses, save billions of euros in public funding, and support the resilience of our forests.

The phasing out of wood-burning incentives will send an important message to society and investors: wood and public money are scarce and precious resources that need to be used as efficiently as possible.

Moving public funding from the large-scale burning of carbon-rich fuels, whether fossil fuels or wood, to non-combustion energy sources like solar, wind and geothermal, as well as much needed energy demand reduction (e.g. insulation), energy storage, electrification of heating (including heat pumps) and grid upgrades, will accelerate the transition to a genuinely low-emissions energy system. Incentivising foresters to use continuous cover forestry instead of clear cuts will increase the robustness and resilience of forests against climate pressure, and help protect society against the droughts, floods, and heatwaves that are coming.

The EU should phase out policy incentives for wood burning as soon as possible by:

- **excluding woody biomass (wood burning) from the list of renewable energy sources in the EU Renewable Energy Directive**
- **ending the zero-rating of woody biomass emissions in the EU Emissions Trading System (ETS), accounting for the real emissions from burning woody biomass**

1. Wood burning targets and incentives in the EU make the climate crisis worse

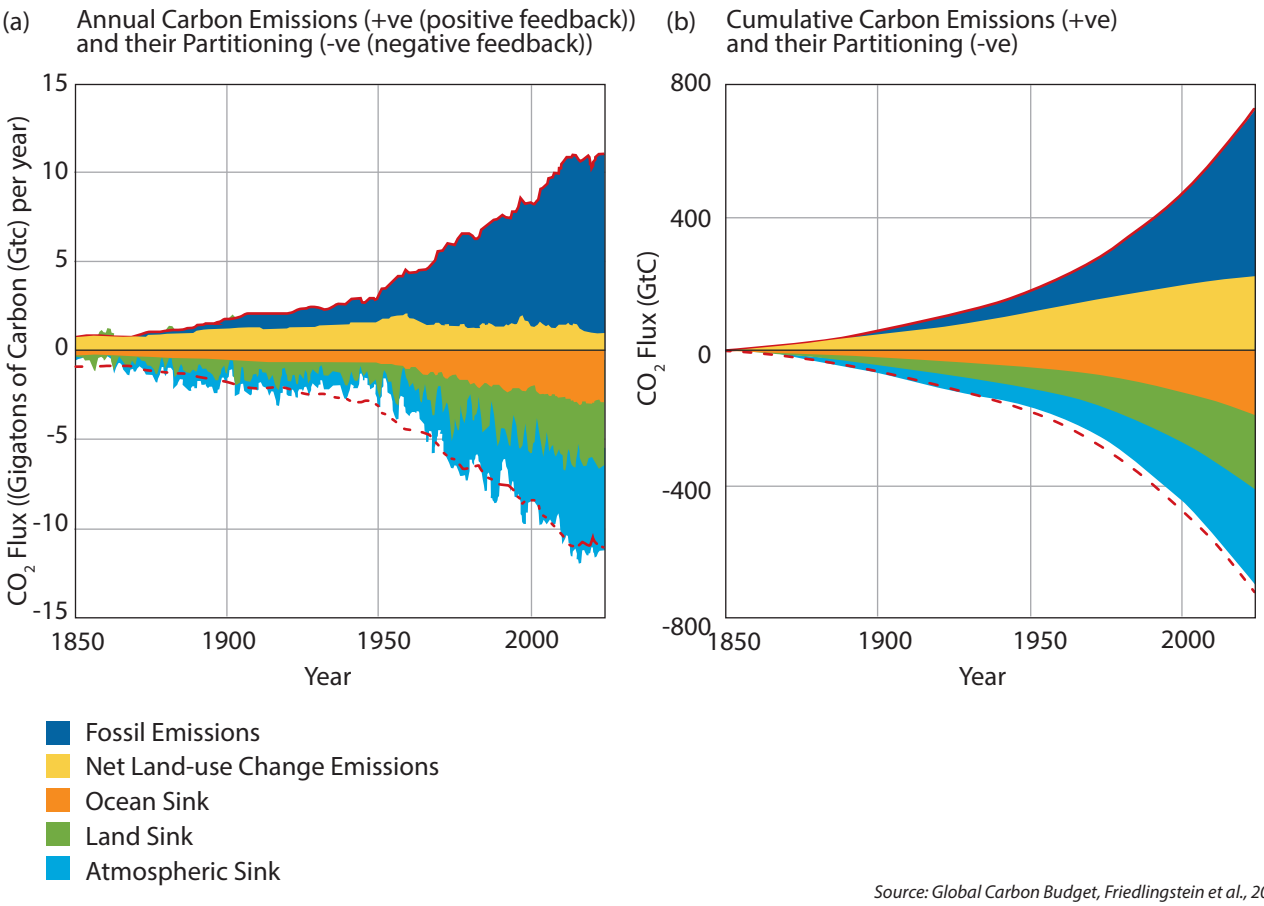
Burning wood has never been carbon neutral. Burning woody biomass releases **more CO_2 than coal at combustion** per unit of energy obtained, worsening climate change. These emissions are still treated as zero in EU energy policy on the **invalid assumptions** that forest carbon loss is correctly tracked and counted as part of the LULUCF sector, and that this would be enough of an incentive for countries to protect their forests.

Because burning wood emits CO_2 instantly and much faster than natural decay of wood residues in forest and than trees can regrow to sequester it, wood burning increases CO_2 in the atmosphere. Hence, the CO_2 from burning forest biomass for energy cannot be offset in climate-relevant timeframes.

Moreover, an important part of the wood imported in the EU to be burnt in power stations is imported from North America. In Canada, the forestry sector has been shown to be an overall emitter, but this is **not reflected** in the government's version of accounting. The United States has left the Paris Agreement, is leaving United Nations Framework Convention on Climate Change (UNFCCC) as of 2027, and no longer accounts for land use emissions at all.

It is important to realise that nearly a third of cumulative greenhouse gas emissions (GHG) since 1850 have come from the degradation of the land sector (Figure 1). This includes human-led deforestation, forest degradation, the draining of wetlands and peatlands, and other habitat destruction.

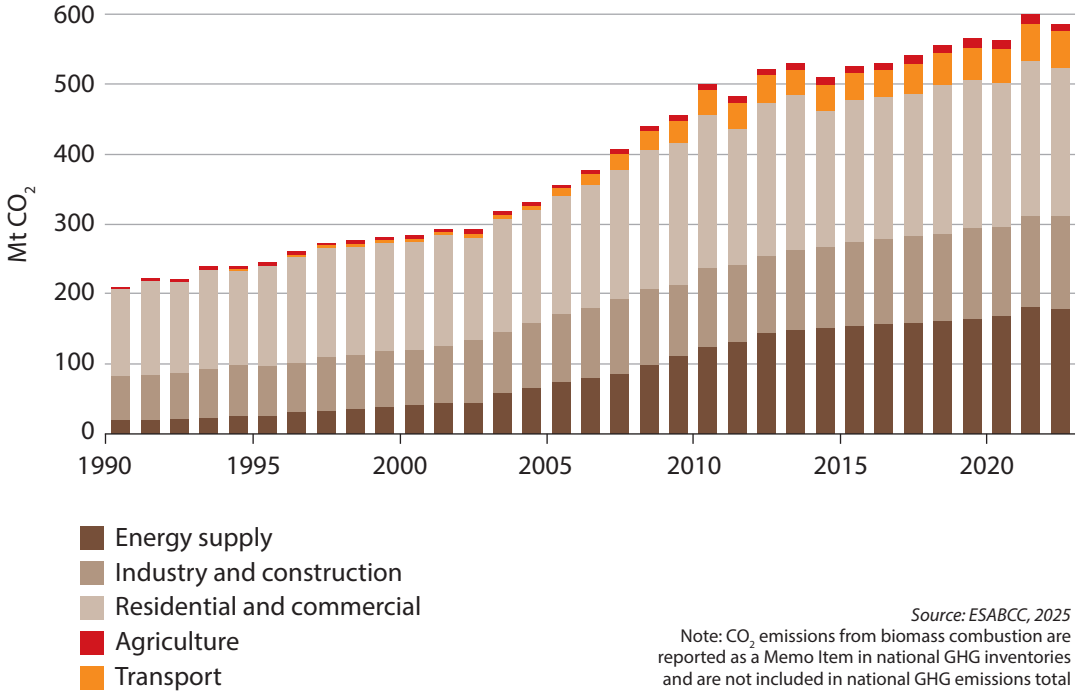
Figure 1: Annual and cumulative CO_2 emissions since 1850



Source: Global Carbon Budget, Friedlingstein et al., 2024

Since the first policy incentives for biomass use were introduced in EU legislation in 2001 and the ETS was launched in 2005, the double incentive of public financial support and exemption from the EU ETS has driven a huge growth of wood burning in the energy sector. The European Scientific Advisory Body on Climate Change (ESABCC) **explained** in February 2025 how the EU's yearly biomass combustion emissions had nearly doubled since 2001, as shown in Figure 2.

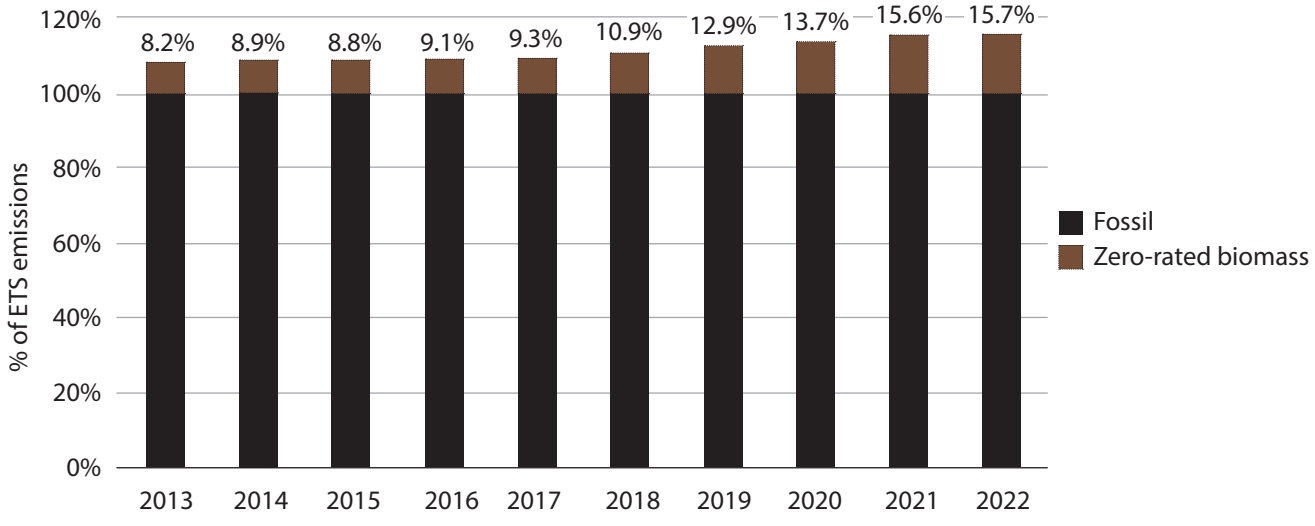
Figure 2: Annual CO_2 emissions from combustion of all types of biomass for energy purposes in different sectors in the EU-28



Source: ESABCC, 2025
Note: CO_2 emissions from biomass combustion are reported as a Memo Item in national GHG inventories and are not included in national GHG emissions total

In 2022, emissions from biomass combustion were equivalent to 15.7% of the EU energy sector emissions (Figure 3), comparable with those of the entire German economy that year.

Figure 3: Biomass emissions in EU ETS installations (% of total emissions in the ETS)

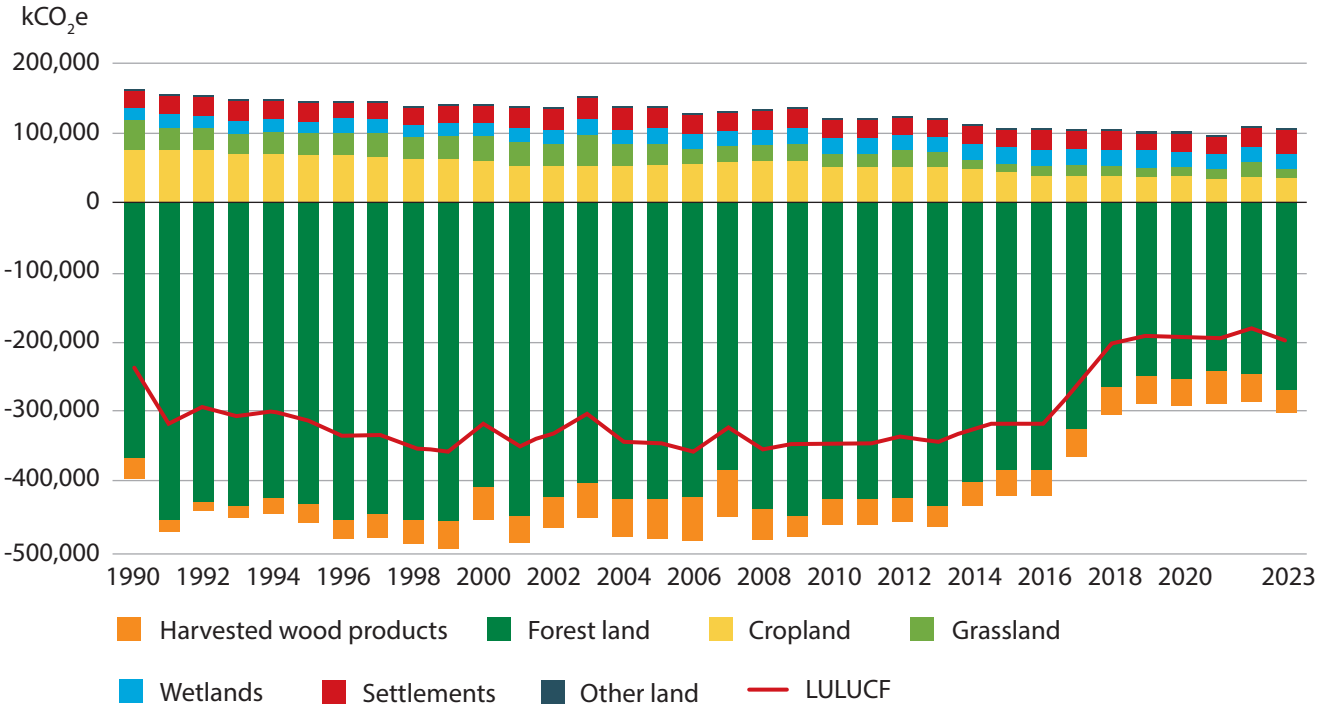


Source: ESABCC, 2025
Note: Labels not shown if fuel never reaches a share above 3% of the total

The ESABCC also explained how the RED "sustainability criteria", supposed to act as environmental safeguards, were not fulfilling their function: "The sustainability and GHG [greenhouse gas] criteria for biomass under RED II/III, and by extension under the CRCF [Carbon Removals and Carbon Farming] regulation, face challenges due to inconsistent implementation, insufficient transparency, and fragmented data and terminology across the EU, raising concerns about the sustainability of biomass use".

EU policy incentives for bioenergy have contributed to undermining EU forests' ability to capture atmospheric CO_2 levels, with a severe reduction in the land carbon sink since 2012-2013 (Figure 4). The conclusion of the ESABCC was that "the decrease in the LULUCF sink is partly linked to increasing bioenergy use in the EU". A recent peer-reviewed scientific study **points** to a possible 39% decrease in the EU land sink by 2030 under the double pressure of increased harvesting levels and deteriorating growth conditions due to the climate and biodiversity crisis.

Figure 4: LULUCF net emissions (+) and removals (-) for the EU-27 (1990-2023 in kilotonnes of carbon dioxide equivalent ($ktCO_2e$))



Source: EEA, 2025

For this reason, the ESABCC explicitly warned against relying on the RED sustainability criteria in the EU methodology for the certification of carbon credits from Bioenergy with Carbon Capture and Storage (BECCS). This would also apply to the methodology for biocharcoals (biochar) application to soils and materials. But when these were **adopted** early 2026 by the European Commission, these methodologies did just that. For that reason, among others, relying on the REDIII sustainability criteria is a policy mistake that must be reversed: both technologies can involve extracting even more wood from forests.

Moreover, wood burning is the **largest source of black carbon in the EU**, a combustion residue that is not only toxic for humans but also a **major short-lived climate forcer**, second only to CO_2 in driving global warming. With a warming impact 460–1,500 times stronger than CO_2 per unit of mass, it creates rapid warming in the atmosphere and accelerates melting when deposited on snow and ice (leading to reduced albedo effect).

2. Damaging the economy and undermining energy security

Targets and incentives to burn more wood undermine the EU's competitiveness agenda and inflation-reduction objectives.

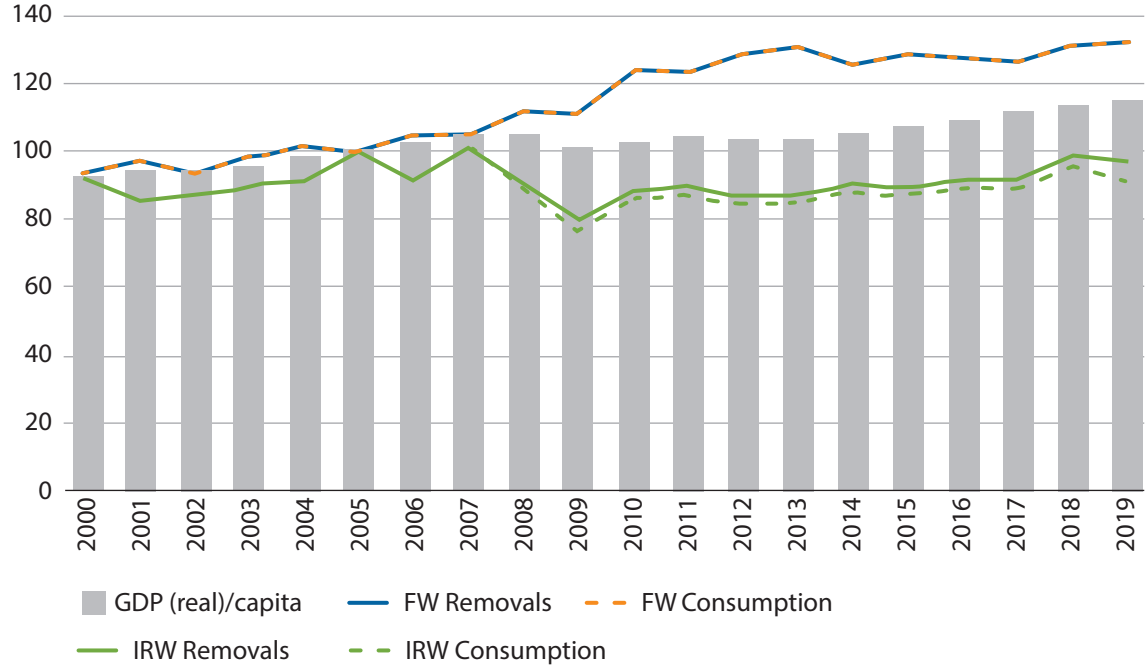
Direct costs of electricity from biomass **are three to four times higher than alternative cleaner renewables**. Massive subsidies and other forms of state aid are therefore required to make up for the poor business case. Subsidies are **projected to reach 37 billion euros by 2050** if bioenergy with carbon capture and storage (BECCS) is adopted as modelled. **Current incentives** already divert scarce public capital from genuine solutions (such as zero-combustion energy sources, energy efficiency, and recycling) that could greatly increase Gross Value Added and high-tech employment whilst helping to tackle the cost-of-living crisis by reducing energy costs.

In the heating sector, electrification of district heating is already resulting in lower operating costs compared to biomass in some regions (such as Denmark), and this will increasingly be the case in other regions and for other uses.

2.1 HARMING OTHER WOOD-USING INDUSTRIES

RED wood-burning incentives are distorting the wood market by **pushing wood prices up for all users**, industry and households alike (especially **those for whom wood burning is the only or main affordable heating option**). The use of wood as fuel has increased much faster than its material uses (Figure 5). Most wood-burning installations have long timescales so they are increasing structural wood demand in the long run.

Figure 5: Growth of fuelwood (FW) use has been faster than industrial roundwood (IRW) for material uses



*Source: **Jonsson, Strategic wood availability in Europe**, 2024*

While the most valuable parts of logged trees still generally command a higher market value as timber, more and more wood categories are burnt by energy companies because market incentives enable them to outbid other wood-using sectors. With the rise of wood demand and **current levels of overlogging**, **the wood-using sector is**

facing a supply crunch that is only expected to worsen if wood burning incentives remain. For example, the largest pulp company remaining in France is **on the verge of bankruptcy** and the rise in industrial-grade wood prices caused by bioenergy subsidies in the country is one of the leading drivers. The REDIII elements that were **adopted to mitigate such market distortion**, such as the need to implement the cascading principle or the exclusion of industrial grade roundwood, are either too weak because of all the loopholes introduced, or not implemented yet by reluctant Member States.

Meanwhile, the combined pressure for short-term wood uses (mainly bioenergy and pulp and paper) is destroying potential added value in production forests by having **trees cut too young** and encouraging **excessive thinning** (especially in Northern Europe).

This has caused several wood-using industries to explicitly call for ending bioenergy subsidies:

- The Confederation of European Paper Industries (CEPI) is calling for "phasing-out direct financial subsidies for burning wood in energy installations and diversifying access to climate friendly energy sources".
- The European Panel Federation is **calling** to "Review and revise subsidies promoting the burning of wood resources suitable for materials. Rigorously enforce the cascade hierarchy, reserving energy recovery for end-of-life wood products. Reduce woody-biomass pressure by accelerating deployment of diverse renewable energy alternatives (like heat pumps, solar, geothermal) and improving energy efficiency."
- IKEA **calls** to "remove incentives favouring the use of biomass for incineration and energy recovery and maximize material recovery and circularity".
- Numerous small and medium sized enterprises (SMEs) in the wood sector have been **complaining for years** about market incentives for wood burning depleting their supply and pushing wood prices up.
- The **Renewable Carbon Initiative**, which is co-funded by the chemicals industry, complains that RED incentivises the use of biomass for energy at the expense of other uses such as biochemicals, which "runs contrary to the principles of a circular economy and cascading use, which aim to keep materials in circulation and maximise their efficient utilisation". They call for "a balanced regulatory framework that creates a level playing field between energy and materials, ensuring renewable carbon is equitably allocated and enabling synergies between the sectors".

Demand for bioenergy is one of the big drivers behind the practice of clear-cutting forests, which is also harming **tourism** and the production of non-wood forest products such as mushrooms and berries.

2.2 NOT ENOUGH WOOD FOR ALL?

By creating structural demand that exceeds supply, EU and national targets and incentives for more wood burning have also started to undermine the energy security of the households still depending on wood for domestic heating in EU countries such as in **Hungary**. In Poland, in winter 2025, thousands were **unable to purchase the wood pellets needed to feed their wood stoves and boilers**, either because they had become too expensive or because supplies had run out. **In Germany, pellet prices are now rising even during the summer**.

With the recent spike of gas prices caused by the Hormuz crisis, and as a result of the lack of sufficient support for healthier alternatives, consumers are **purchasing more wood stoves**, without always realising the rising scarcity or risks from air pollution. A similar thing happened during the 2022 cost-of-energy crisis, and in both cases wood pellet prices experienced significant increases.

3. Increasing biodiversity loss and destroying forest ecosystems

The policy of treating – and incentivising – biomass energy as renewable energy under the RED has dire consequences for forests and nature. It rewards the logging of any tree in a forest, including those that didn't have a market value before (because they had the wrong age or shape, were damaged by fungi or belonged to a non-commercial species). Sourcing forest wood for bioenergy is therefore the worst for biodiversity and forest resilience: nearly any wood can be burned. Furthermore, there is a **direct link** between the intensity of logging/harvesting and losses of soil organic carbon in all layers of forest soils. The practice of clear-cutting forests **severely undermines all their functions** (regulating the water cycle, the global and local climate, cooling and purifying local air and water, hosting biodiversity etc.)

The bioenergy industry itself **acknowledges** that they use a lot of "low-quality stemwood", i.e. tree trunks.

The wood from this 12-hectare clearcut in the centre of France in 2026 was turned into pellets. Image by Canopée

Tree trunks in a wood energy terminal in Tampere, Finland, 2024. Image by Ei polteta tulevaisuutta

Tree trunks from an old-growth forest in Lapland, Finland, 2025. These trunks were used for bioenergy. Image by Ei polteta tulevaisuutta

The EU has a number of goals, especially under the Nature Restoration Regulation, to protect and restore the most important places for nature. But the current scale of wood burning incentives undermines the restoration of forest ecosystems. **Analysis of satellite imagery** shows that there has been an increase in logging within Natura 2000 areas across Europe. Partly as a result, most protected Natura 2000 habitats and species have a **bad or poor conservation status**.

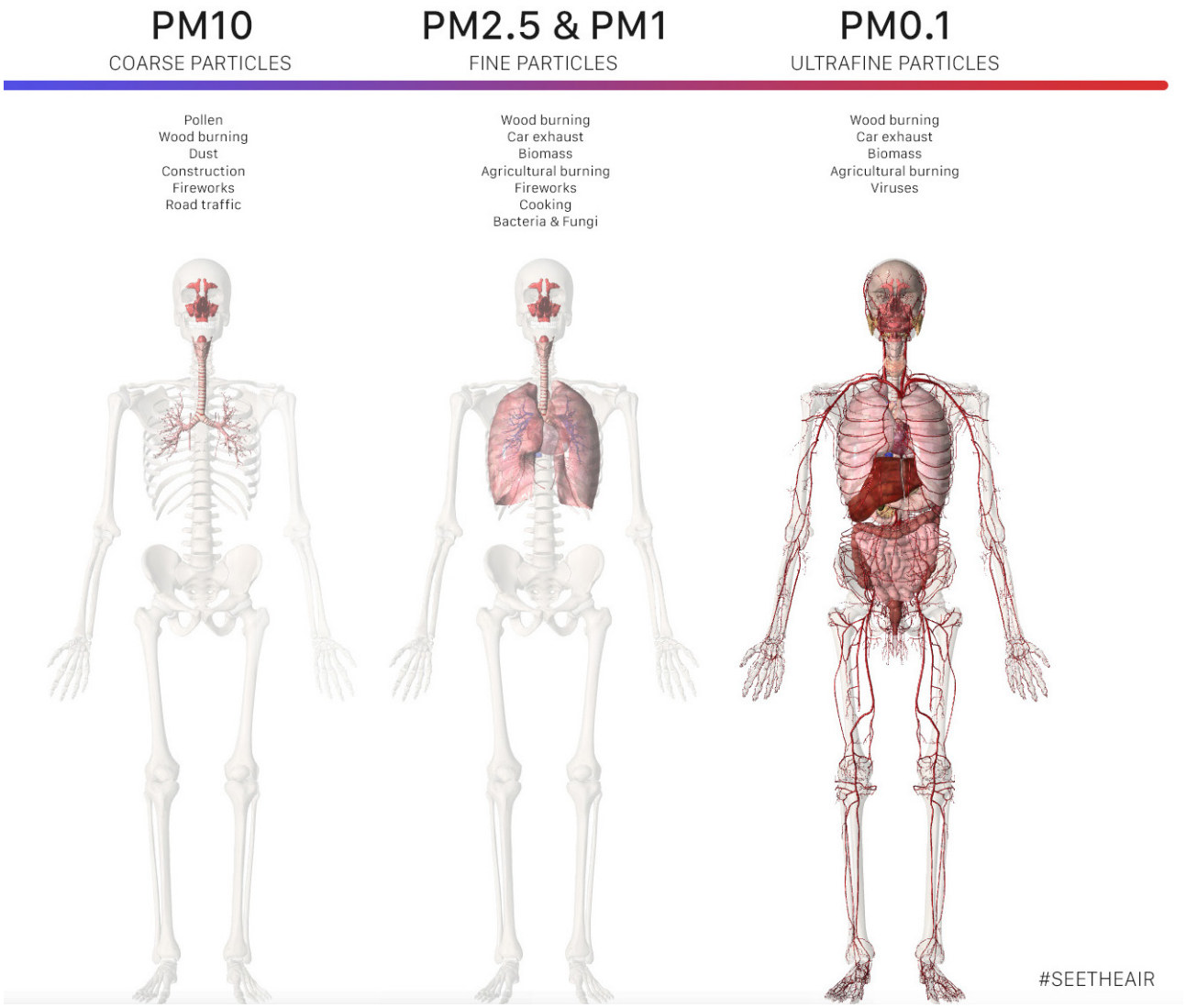
4. Worsening air pollution

By encouraging more companies, utilities and households to burn wood for energy, incentives are **worsening air pollution**, especially in cities and mountainous regions but also in **rural areas**. Wood burning is **increasingly restricted in large cities** (e.g. London and Paris) as wood smoke is **even more toxic** than second-hand tobacco smoke. Communities living near wood pellet production facilities, especially in US regions exporting pellets to the EU, are **exposed** to massive and extremely harmful wood dust pollution.

An investigation by Green Transition Denmark and European Environment Bureau **shows** that wood burning emits more toxic fine particulates (PM2.5) than even coal for all types of installation. Modern, more efficient stoves burn wood more completely, thereby releasing less PM2.5 fine particles than older ones, but they are suspected to **release more toxic ultrafine particles**.

While only 0.18% of Brussels households claim to use wood for heating, they **emit** 35% of the residential sector's PM2.5 emissions (10% of total PM2.5 emissions including transport!) Wood burning emits PM10, PM2.5, PM1 and PM 0.1 (Figure 4), all highly toxic - especially for children and the elderly.

Figure 6: Penetration of particles into the body



*Source: **See The Air,** 2021*

According to the **European Environment Agency**:

- "While significant progress has been made to reduce air pollution, 95% of urban Europeans remain exposed to air pollutant concentrations above World Health Organization (WHO) recommendations.
- Reducing air pollution to WHO guideline levels could have prevented 182,000 deaths attributable to fine particulate matter (PM2.5) exposure, 63,000 to ozone (O3) exposure and 34,000 to nitrogen dioxide (NO2) exposure in the EU in 2023.
- For some diseases caused and/or aggravated by air pollution, such as asthma, the main impact is poorer health. For others, such as ischemic heart disease and lung cancer, it is premature death.
- New evidence suggests that air pollution may also cause dementia [...]
- Eastern and south-eastern European countries suffer the most significant health impacts from air pollution due to high pollution levels."

As often with residential wood burning, data is not very reliable, even in affluent regions. In Flanders, Belgium, a recent public media investigation **showed** that whilst actual emissions of benzopyrene (a toxic compound linked to wood burning) had been rising sharply since 2022-2023, local public authorities had reported *a decrease*, based on modelling rather than field measurements, to the European Commission.

Residential wood combustion is a major source of fine particulate matter, worsening urban air quality and public health outcomes. Image: Smoke from residential wood-burning chimneys over a neighbourhood in Brussels, Belgium, by Eric Isselee/Shutterstock

5. A policy mistake that needs to be corrected

5.1 TARGETS, SUBSIDIES AND ZERO-RATING OF CO_2 EMISSIONS

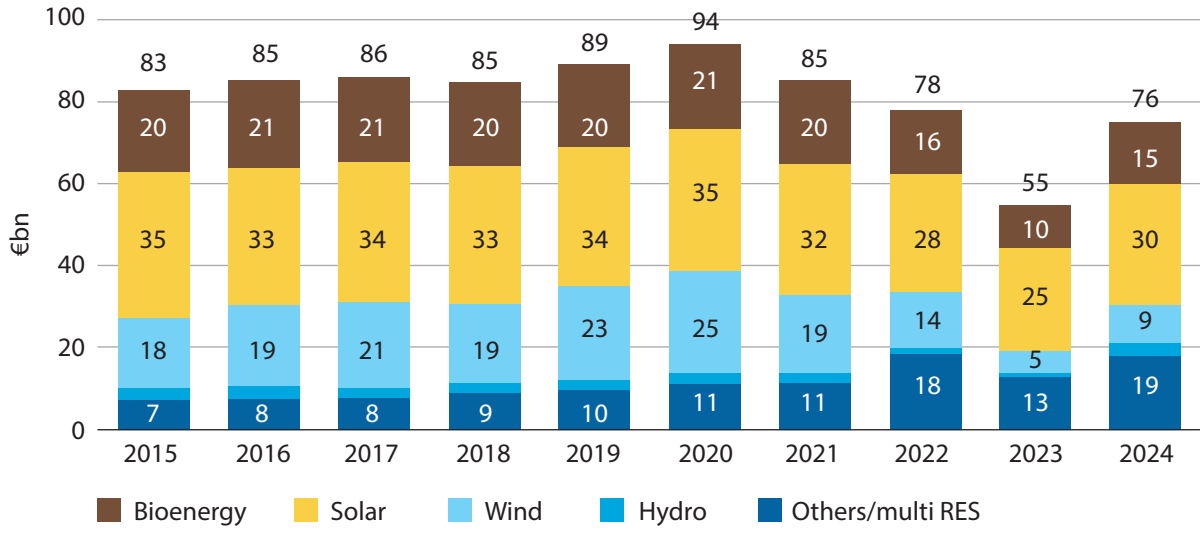
The most powerful incentive in EU legislation for burning more wood for energy production is its inclusion in the EU list of renewable energy sources: EU countries have to reach renewable energy deployment targets and can incentivise this deployment with public support, without breaching internal market rules.

This was first enacted in **2001** in the Directive on the production of electricity from renewable sources,[1] then in **2003**, in the Directive on biofuels, followed in **2009** by the "Renewable Energy Directive (RED) which replaced them and kept the same definitions. The RED was updated in **2018** and this revision introduced basic, insufficient sustainability requirements for forest biomass. The RED was again updated in **2023** (REDIII), with **a few additional (and still insufficient) restrictions on support schemes and some tightening of sustainability criteria for forest bioenergy**, but Member States have kept much flexibility for themselves in how they interpret these restrictions.

Under REDIII, Member States have to collectively reach a renewable energy target of "at least 42.5%" by 2030. Until 2020 they each had to reach national targets, and were in principle exposed to hefty fines if they did not manage to (the only country in this situation, France, **refused to pay** and without consequences), but this is no longer the case, with the exception of heating and cooling where binding increases apply (0.8% per year until 2026 and 1.1% from 2026 to 2030).

In 2024 (latest data published by the EU), **EU citizens paid €15 billion through taxes and energy bills to support burning trees and crops ("biomass") for energy ("bioenergy") - more than €180 billion since 2015 (see Figure 7).** This figure is an underestimate because some Member States did not provide data about biomass subsidies. Various financial support schemes are set up by Member States, such as direct subsidies in the form of power purchase agreements, direct grants for building infrastructure, tax exemptions, and lower Value Added Tax (VAT).

Figure 7: Renewable Energy Source (RES) subsidies by technology (2015-2024)

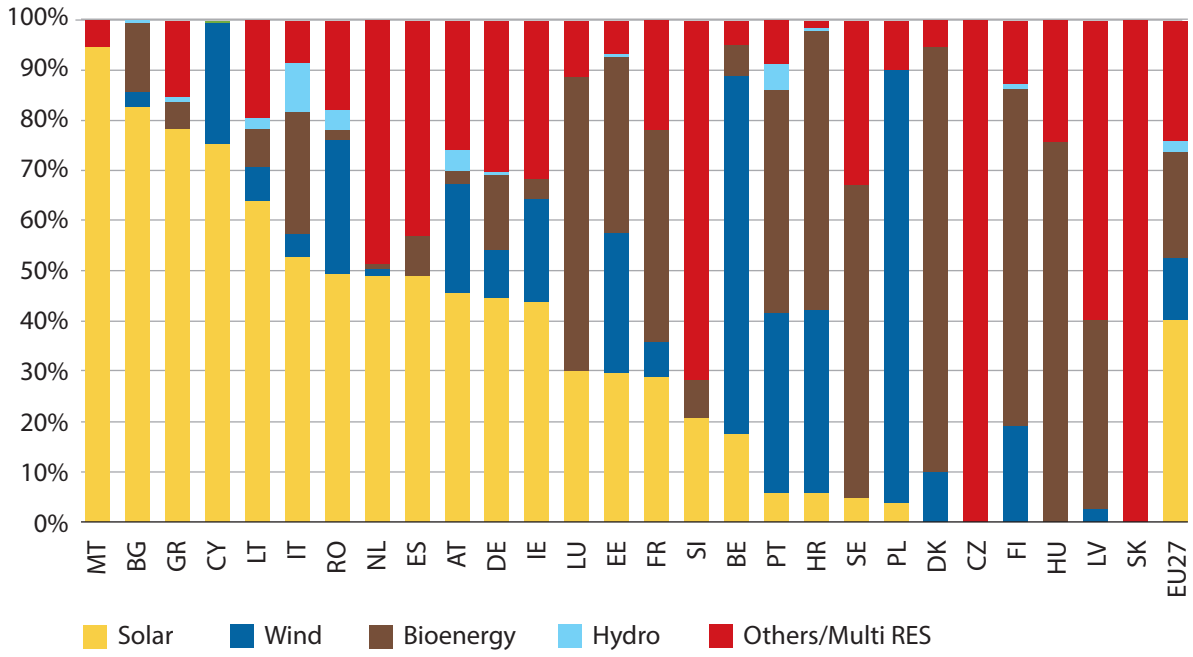


Source: European Commission, Enerdata, 2026

1 As per Directive 2001/77 Article 2, ""renewable energy sources" shall mean renewable non-fossil energy sources (wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases)", and ""biomass" shall mean the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste;".

Member States adopt very different approaches with regards to the sources of renewable energy they prioritise. Bioenergy subsidies still use the lion's share of public renewable energy budgets in Croatia, Denmark, Finland, Hungary, Portugal and Sweden (Figure 8).

Figure 8: Share of renewable energy subsidies by technology by Member State



Source: European Commission, Enerdata, 2026
Note: Figure 8 provides an indication of renewable energy subsidies (in a broad sense) in EU Member States but is incomplete. For instance, it is not correct that there were no subsidies for biomass in Poland in 2024.

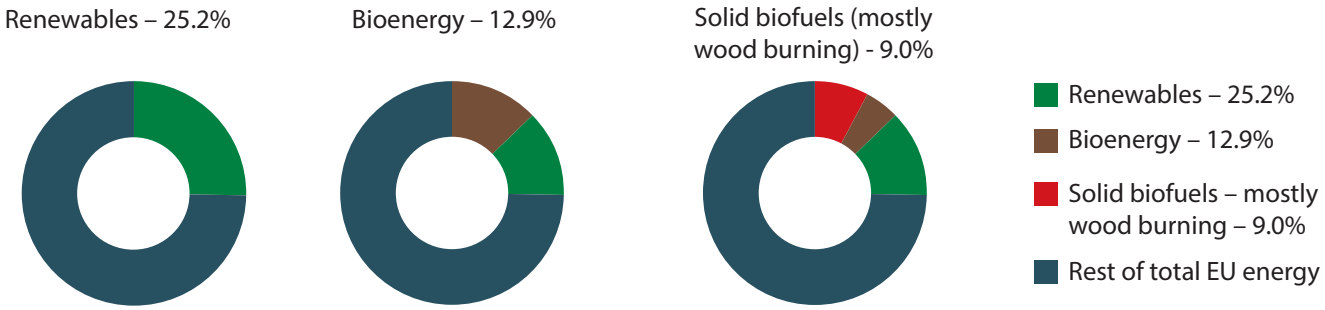
Moreover, **energy companies burning RED-compliant biomass are given a free pass on carbon markets – they don't have to pay for emissions allowances on the EU ETS. This represents billions of euros not paid** over the years (especially when carbon prices are high), funds which could have been used for decarbonisation projects, whereas biomass combustion releases even more CO_2 per unit of energy than most fossil fuels.

Because wood burning is still a widespread source of heating in many EU Member States, several have supported more wood burning instead of investing in energy storage and grid upgrades to accompany the rapid rise of decarbonised renewable energy sources (such as wind and solar). This creates a significant data reliability issue. In at least three cases, Hungary, Poland and Slovakia, a sudden increase in reported residential use (based on changes to the reporting method) allowed the country to claim it had achieved renewable energy targets without doing anything additional.

5.2 AFTER TWO DECADES OF GROWTH, THE SECTOR APPEARS UNABLE TO PRODUCE MORE ENERGY

According to **latest Eurostat data** (for 2024), energy from wood burning represents today about 9% of the total energy used in the EU - the current total energy classified as renewable in the EU is 25.2%. This is an estimate because many uses are informal and Member States' reporting is **uneven**.

Figure 9: Wood burning in total EU energy uses



Source: Figure made from 2024 Eurostat data

Depending on their population and forest density, EU Member States rely to a greater or lesser extent on wood burning to achieve their "renewable energy" targets. Whereas Estonia, Finland, Latvia, Lithuania, and Poland get more than 70% of their renewable energy from wood, Ireland, Germany, the Netherlands and Spain for instance get less than 30% (Figure10 - 2020 figures).

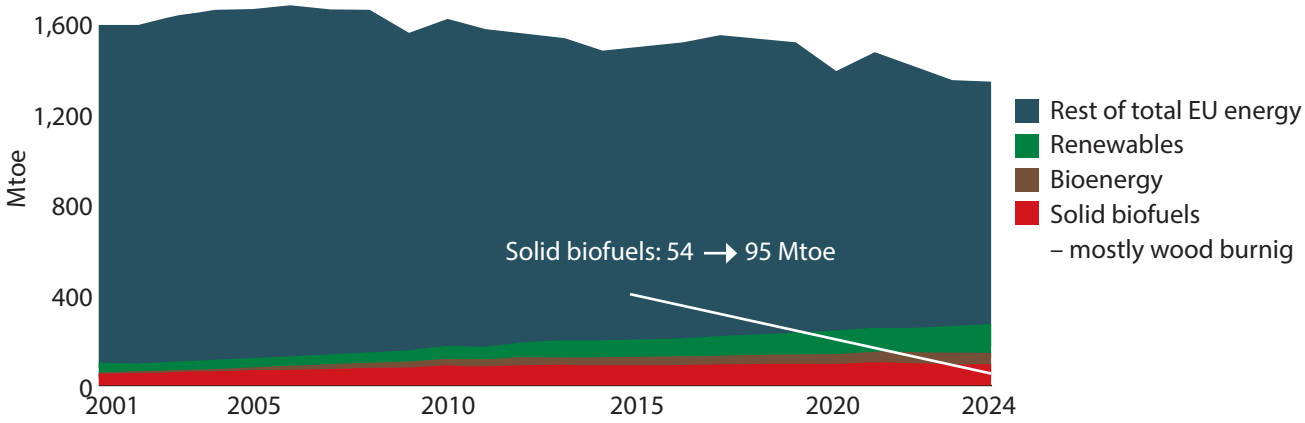
Figure 10: Estimation by Fern of the share of woody biomass in EU Member States' 2020 renewable energy consumption

		Solid biomass fuels used in electricity production (ktoe)	Solid biomass fuels used in heating and cooling (ktoe)	Total solid biomass fuels (ktoe)	2017 share of primary biomass in total biomass use for heat & power	2020 primary woody biomass use (ktoe)	Total 2020 renewable energy consumption (ktoe)	2020 proportion of primary woody biomass in the country's renewables consumption	2020 proportion of solid biomass in the country's renewables consumption
MT	Malta	0.0	1.4	1.4	21.62%	0.3	56.1	0.5 %	**2.50%**
CY	Cyprus	0.0	36.5	36.5	10.71%	3.9	273.9	1.4 %	**13.33%**
IE	Ireland	37.2	179.7	216.9	25.15%	54.5	1,551.3	3.5 %	**13.98%**
LU	Luxembourg	22.8	123.5	146.3	21.14%	30.9	358.9	8.6 %	**40.76%**
SE	Sweden	816.5	8,130.0	8,946.5	24.40%	2,183.2	20,690.4	10.6 %	**43.24%**
BE	Belgium	285.4	1,169.5	1,454.9	32.81%	477.3	4,391.0	10.9 %	**33.13%**
ES	Spain	390.5	3,658.4	4,048.9	47.90%	1,939.5	16,458.2	11.8 %	**24.60%**
NL	Netherlands	497.4	1,024.8	1,522.2	42.37%	645.0	5,326.8	12.1 %	**28.58%**
AT	Austria	258.0	3,977.5	4,235.5	28.86%	1,222.4	9,893.8	12.4 %	**42.81%**
DE	Germany	965.3	10,148.0	11,113.3	46.45%	5,161.9	40,044.2	12.9 %	**27.75%**
PT	Portugal	275.7	1,822.6	2,098.3	41.58%	872.6	5,471.1	15.9 %	**38.35%**
EL	Greece (provisional)	1.8	858.8	860.6	75.50%	649.7	3,405.8	19.1 %	**25.27%**
FI	Finland	925.2	6,841.0	7,766.2	28.09%	2,181.3	10,901.1	20.0 %	**71.24%**
FR	France	340.4	8,821.1	9,161.5	58.40%	5,350.6	26,502.9	20.2 %	**34.57%**
IT	Italy	384.4	7,033.6	7,418.0	62.59%	4,643.2	21,900.5	21.2 %	**33.87%**
DK	Denmark	369.9	2,464.6	2,834.5	47.15%	1,336.5	5,948.3	22.5 %	**47.65%**
LV	Latvia	44.7	1,242.6	1,287.3	34.36%	442.3	1,687.9	26.2 %	**76.27%**
SK	Slovakia	96.3	1,026.8	1,123.1	45.00%	505.4	1,872.5	27.0 %	**59.98%**
SI	Slovenia	13.3	501.7	515.0	60.53%	311.7	1,120.1	27.8 %	**45.98%**
RO	Romania	42.4	3,431.5	3,473.9	50.00%	1,737.0	6,060.8	28.7 %	**57.32%**
EE	Estonia	150.1	762.7	912.8	43.56%	397.6	1,157.9	34.3 %	**78.83%**
PL	Poland	596.1	7,892.2	8,488.3	50.00%	4,244.2	11,926.5	35.6 %	**71.17%**
LT	Lithuania	32.1	1,145.5	1,177.6	50.00%	588.8	1,518.8	38.8 %	**77.53%**
HR	Croatia	48.1	1,150.2	1,198.3	73.60%	881.9	2,090.9	42.2 %	**57.31%**
CZ	Czechia	214.9	2,796.2	3,011.1	73.60%	2,216.0	4,507.6	49.2 %	**66.80%**
BG	Bulgaria	126.0	1,296.2	1,422.2	95.92%	1,364.2	2,430.7	56.1 %	**58.51%**
HU	Hungary	143.1	1,614.4	1,757.5	95.76%	1,682.9	2,567.0	65.6 %	**68.47%**
Total EU 27				**86,228.6**		**41,124.9**	**210,115.0**	**19.6 %**	**41.0%**

*Source: Fern, **Wiser with wood**, 2023*

But wood burning is not efficient, and the EU's energy needs, inherited from the fossil fuels era, are enormous. **To produce 9% of the energy used in the EU, nearly half (47%) the entire annual EU wood harvest is burnt.** The volume of wood burnt for energy production in the EU almost doubled between 2001 and 2024.

Figure 11: Solid biofuels in total EU energy consumption (2001-2024)



Source: Eurostat, 2024

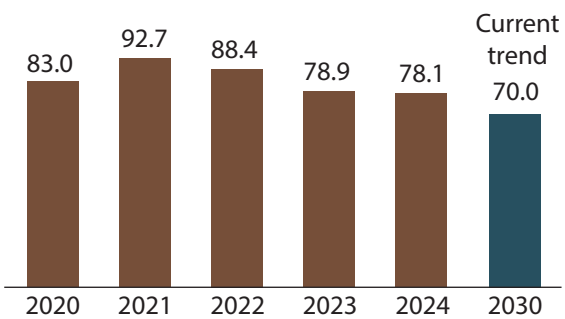
Most of the growth came from the subsidised energy sector, but the residential sector also grew, driven by **national measures** to encourage households to purchase stoves and boilers. **The largest portion of solid biomass (about 47%) is still burned in the residential sector. Most of this wood is not legally covered by the RED's sustainability criteria.**

However, the sector's growth phase seems to have ended. The overall energy obtained from wood burning peaked in 2021 and has slightly decreased since.

Electricity production from biomass (including liquid biofuels) is not very significant but the data for this sector is the most recent and reliable: its **share of the power supply** in the EU peaked in 2021 at about 6% (172 TerraWatt Hours (TWh)), and has been going down slowly since, hitting 5.5% in 2025 (156 TWh).

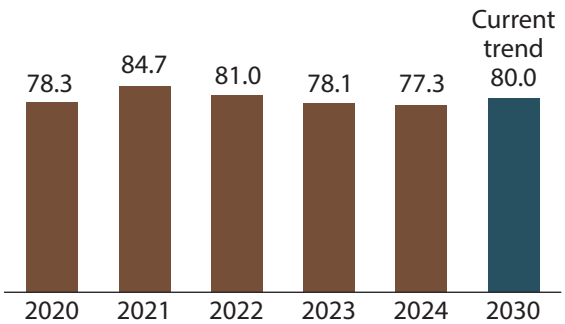
Heat production is by far the largest use of wood as an energy source. Wood burning **provided** about 20% of all heating energy in the EU in 2023, a 16% increase from 2011. **It still represents about half of the total so-called "renewable" heat in the EU,** but has also been slowly decreasing in absolute terms since 2021.

Figure 12: Projection of electricity production from solid biofuels in the EU 27 (in TwH)



*Source: **EurObserv'ER 2025***

Figure 13: Projection of heat production from solid biofuels in the EU 27 (in TwH)



*Source: **EurObserv'ER 2025***
Note: Gross heat production in the transformation sector and final energy consumption in Industry and "other sectors" (excluding transport)
** Excluding charcoal

Wood supply is limited, and current levels of overall harvesting (for all purposes) are already degrading forests and their functions. It is unlikely that more harvesting is possible without harming forests even more. While 59% of the EU energy mix still consists of fossil fuels, wood burning cannot replace this in any meaningful way.

5.3 SOME MEMBER STATES HAVE STARTED BACKTRACKING

Because of the damage wood burning incentives are causing and their excessive cost considering the energy obtained, some Member States have already started withdrawing incentives.

In the Netherlands in 2022, the government permanently abolished subsidies for new biomass power and heat plants, with the exception of high-temperature heat for industry. Since then, no new biomass plants for electricity, district heating networks or greenhouse horticulture have been built. Operators are switching to industrial heat pumps, power-to-heat, and geothermal heat as heat sources, among others. New subsidies for biomass plants for the generation of bioelectricity (including new co-firing in coal-fired plants) had already been stopped. That said, large energy companies, namely RWE, Uniper and Onyx, are lobbying the government heavily to include BECCS (bioelectricity) in a newly designed *capacity market*.

Poland made a big jump forward in June 2025. Its decree **eliminated** subsidies for all energy made from primary woody biomass (i.e. wood taken directly from the forest), which represented about two-thirds of the previously eligible wood. This is a significant first step towards ending subsidies for wood burning in the commercial energy sector.

France has made incremental moves. It excluded biomass electricity from support in its 2023 energy planning law (but controversially **renewed support** to one large plant in December 2024), reduced grants for pellet stoves in 2023, and has **committed** to ending incentives for household biomass boilers from January 2026 (the decision has been **legally challenged** by the industry).

Denmark: The new Danish Government, formed in June 2026, **announced** a plan for a phase-out of biomass imports "as soon as defensible". This is a big deal, which would make Denmark move from being one of the **worst offenders** on biomass issues to one of the most advanced countries in the EU on decarbonising its energy supply. The country's district heating industry has been overwhelmingly investing in electric technologies such as heat pumps and electric boilers in recent years. Municipalities such as Aarhus are already taking a lead in phasing out biomass district heating.

In other countries, there is an intense debate between some public authorities willing to end the large subsidies and industry lobby groups fighting to keep them. Germany is a case in point: in late 2025, the German Federal Ministry of Finance proposed to exclude biomass from the definition of renewable energy sources in the country's electricity tax law, which would have stripped biogas and wood-fired plants of their current renewable status for tax purposes. Industry lobbyists were **up in arms** and eventually convinced the Finance Committee of the Bundestag to reverse the proposed change.

At the local level, more and more district heating networks in large European cities (such as Aarhus, Aalborg, , Cologne, Copenhagen, Esbjerg, Hamburg, Helsinki, and Vienna) are **installing** large heat pumps rather than biomass boilers, which are increasingly recognised as more costly, polluting, less secure in terms of future supply and detrimental to forests.

6. EU policy recommendations

We need renewable energy policies that are economically efficient, do not worsen the climate crisis, and incentivise wiser uses of our limited wood supplies. We need renewable energy sources that are cleaner, decarbonised, and preserve ecosystems.

EU and national incentives that reward companies with taxpayers' money for wood burning are harming the economy, energy security (especially for the poorest), our health, as well as the climate and nature.

Market incentives for wood burning, in EU legislation, should be phased out in the post-2030 EU climate and energy package:

- Woody biomass (wood burning) should be excluded entirely from the list of renewable energy sources in RED (Article 2). Similarly, forestry and wood processing residues should be excluded from the RED's Annex IX.
- The zero-rating of woody biomass emissions under the EU ETS must end. Instead, real emissions from woody biomass should be accounted for.

The phasing out of wood burning incentives will send an important message of simplification and clarity to society and investors: wood is a scarce and precious resource and needs to be used in the best possible way. The billions of euros of public funding saved will then be available for:

- Investing in energy savings (insulation), energy storage and grid upgrades.
- Restoring forest ecosystems and increasing their robustness and ability to buffer the worst impacts of the climate crisis.
- Incentivising foresters to use continuous cover forestry rather than clear cuts.

We can still use and enjoy burning wood when we need to, but it is high time the EU stops subsidising the burning of trees.

Windmills on agricultural land in Denmark, by Kim Petersen/Alamy

A solar panel farm in Pissouri, Cyprus, by Steve Vidler/ Alamy

Wood fibre insulation, by Virrage Images/ Shutterstock