To: Commissioner Jørgensen; Director-General Juul Jørgensen; Energy attachés of EU 27; (Acting) Director General Child

23 June 2025

Re: Cleaning up the Heating and Cooling Strategy

Dear Commissioner Jørgensen, Director-General Juul Jøgensen, (Acting) Director General Child, and Member State Representatives on Energy,

Last week the Polish presidency released its conclusions on *Strengthening the Energy Union through reinforcing energy security*[1] at a meeting of the Transport, Telecommunications and Energy Council. The document repeatedly emphasizes the need for a clean, affordable and decarbonized energy supply in line with ambitions to "protect the environment, combat pollution, and conserve and restore nature and biodiversity". As NGOs committed to climate action and environmental and social justice, of course we strongly support these ambitions. However, we are concerned that bioenergy fuelled by forests and crops continues to dominate renewable energy generation in the EU, and that promotion of bioenergy under the proposed Heating and Cooling Strategy will undermine decarbonization goals and take up resources that should be allocated to truly low-emissions technologies.

We strongly caution against promoting energy from biomass burning – both in the Heating and Cooling Strategy and more generally. Below, we outline why bioenergy is a polluting, carbon-intensive, inefficient, and expensive form of energy that undermines the EU's climate, growth, and clean-air goals.

Energy from biomass burning is more costly than genuine renewables. It costs far more to produce electricity from forest biomass than from wind or solar,[2,3] and there is increasing evidence that local biomass boilers with district heating networks can be more expensive to install and run than even the fossil fuel systems they replaced, despite the subsidies.[4] Yet, EU Member States have massively subsidised bioenergy, allocating around €165 billion for bioenergy as a whole between 2015 and 2023.[5] These subsidies could be much more efficiently spent on energy savings measures and deploying clean renewable energy, including heat pumps powered by wind and solar, approaches that, unlike burning biomass, can also deliver cooling in the summer months for comparable costs. Insulating buildings to the highest standards must also be a top priority. These approaches make far more economic sense than locking in further dependence on wood burning that is subject to supply insecurity and price volatility.

Biomass burning is a major source of air pollution that costs the EU billions. Across Europe, small-scale wood heating is one of the largest sources of fine particulate matter ($PM_{2.5}$), contributing

[1] https://www.consilium.europa.eu/media/e3inzbqb/st10279en25.pdf

[2] https://www.gov.pl/web/ncbr/ncbr-opracowal-koncepcje-dekarbonizacji-cieplownictwa-systemowego. This study addresses how Poland can decarbonise its district heating systems. A scenario of wind and solar, thermal storage and gas backup would cost 428 billion PLN, compared to a scenarios of natural gas and biomass, which cost 44% more (644 billion PLN).

[3] Smith, M., et al. 2024. Renewable energy and climate change strategy: Paths away from primary solid biomass. Trinomics. https://www.reccs.eu/wp-content/uploads/2024/11/RECCS-Report-FINAL.pdf

[4] "We feel like we're throwing our money out the window" https://www.lemonde.fr/economie/article/2024/02/20/dans-le-centre-de-la-france-des-habitants-se-rebiffent-contre-leurs-nouvelles-chaufferies-biomasse_6217494_3234.html

[5] Figure 15, European Commission (EC). 2025. Study on energy subsidies and other government interventions in the European Union 2024 edition. https://doi.org/10.2833/2106228

to a variety of diseases (cancer, respiratory and heart disease) and other health impacts (low birth weight, dementia). The European Environment Agency estimates $PM_{2.5}$ was responsible for 239,000 premature deaths in 2022,[6] and while this trend is decreasing, the agency still calls particulate matter the largest single environmental health risk in Europe.[7] Heath impacts from air pollution are estimated to cost EU citizens around €30 billion each year.[8] Just a few households heating with wood can impact everyone – for example in Brussels, wood burning is responsible for 16% of $PM_{2.5}$ emissions, even though fewer than 1% of households use it as their main heating source.[9] While "modern" wood-burning appliances emit less particulate matter than traditional woodstoves, emissions from newer burners still exceed emissions from other modern sources of heating by orders of magnitude.[10] Further, the newer appliances tend to require pellets or dried wood chips, which are carbon-intensive fuels, as explained below. Public health NGOs warn against promoting biomass,[11] even the use of modern wood-burning appliances.

Biomass burning is the highest carbon-emitting energy source. Per unit of energy produced, burning biomass emits more greenhouse gases than coal.[12] Burning biomass transfers carbon stored in the biosphere directly into the atmosphere. Forests that are harvested and burned cannot reabsorb this carbon within the crucial decades needed to cut emissions.

Residential heating remains the largest biomass consumer in the EU, contributing to degradation of the EU's forest carbon sink. Wood-burning for domestic heating in the EU still exceeds wood-burning in any other sector.[13] It is important to note that the RED biomass criteria do not generally apply to residential wood-burning and small-scale heating plants, leaving these sectors uncovered by even minimal "sustainability" criteria.[14] The EU's GHG reporting data show that the EU's forest carbon sink decreased by 38% between 2021 and 2009, when the RED was enacted.[15] Member States are failing to meeting their LULUCF targets,[16] and biomass harvesting, which grew 250% between 1990 and 2020, is a principal driver.[17]

Bioenergy is the most wasteful use of forest biomass and of land. It has long been clear that secondary biomass from wood products manufacturing cannot meet the growing demand for biomass.[18] Currently, around half of the EU's annual wood harvest ends up being burned for energy,

---

[6] https://www.eea.europa.eu/en/analysis/publications/harm-to-human-health-from-air-pollution-2024

[7] https://www.eea.europa.eu/en/analysis/indicators/health-impacts-of-exposure-to

[8] Figure 1 at https://cedelft.eu/wp-content/uploads/sites/2/2022/03/CE_Delft_210135_Health-related_social_costs_of_residential_heating_and_cooking_Def_V1.2.pdf

[9] https://environnement.brussels/citoyen/outils-et-donnees/etat-des-lieux-de-lenvironnement/emissions-de-polluants

[10] https://eeb.org/wp-content/uploads/2021/09/Where-theres-fire-theres-smoke_domestic-heating-study_2021.pdf

[11] https://www.env-health.org/new-infographic-on-the-health-and-climate-threat-from-wood-burning/

[12] Table 2.2 at Gómez, D., et al. 2006. Stationary Combustion. In H. S. Eggleston et al (Eds.), 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Vol. 2, pp. 2.1-2.47). Japan: IGES.

[13] See Figure 3, Booth, M. S., & Giuntoli, J. 2025. Burning Up the Carbon Sink: How the EU's Forest Biomass Policy Undermines Climate Mitigation. GCB Bioenergy, 17(5), e70035. https://onlinelibrary.wiley.com/doi/abs/10.1111/gcbb.70035

[14] Booth, M. S., & Blackshaw-Crosby, E. 2024. Guidance for Implementation of the RED Forest Biomass Criteria, version 1. The Forest Litigation Collaborative. Retrieved from https://forestlitigation.org/wp-content/uploads/2024/07/FLC-Guidance-on-RED-forest-biomass-criteria-v.1-July-9-2024.pdf

[15] https://di.unfccc.int/detailed_data_by_party

[16] https://www.pfpi.net/wp-content/uploads/2024/04/PFPI-analysis-of-draft-NECPs-April-2024.pdf

[17] Booth and Giuntoli, 2025.

[18] Norton, M., et al. 2019. Serious mismatches continue between science and policy in forest bioenergy. In *GCB Bioenergy* (Vol. 11, Issue 11, pp. 1256–1263). Blackwell Publishing Ltd. https://doi.org/10.1111/gcbb.12643

counting both primary and secondary woody biomass.[19] As pressure on forests grows, wood products manufacturers are voicing their concerns about how EU policy has preferred burning wood over rebuilding the forest carbon sink and using wood for other products. During the revision of REDIII, several wood products manufacturers spoke out in favour of taking forest biomass out of the RED altogether.[20] More recently, the Renewable Carbon Initiative has observed that prioritizing biomass for energy rather than materials leads to unfair competition and undermines efforts to promote the circular economy and cascading use of materials:

> *"As a consequence, the price levels for renewable carbon in energy and fuels are higher than in materials, although they rely on the same feedstocks. This runs contrary to the principles of a circular economy and cascading use, which aim to keep materials in circulation and maximise their efficient utilisation."* [21]

Biomass burning damages ecosystem services and forest resilience. Logging is the principal impact on the EU's forest habitats and biodiversity,[22] making the EU's forests among the least natural in the world.[23] As natural forests not only provide carbon sequestration, habitat, and water regulation, but also can help regulate temperature and regional climate[24] it is short-sighted and counterproductive to optimize forestry for intensive extraction rather than preserving and restoring these vital functions.

We urge the Commission to ensure that the Heating and Cooling Strategy focuses on energy efficiency, storage and *genuine* zero-emissions renewable energy – not bioenergy. Continuing to promote bioenergy only undermines climate and biodiversity goals while wasting public funds. It's time to turn the page on burning biomass and invest in solutions that are truly clean, just, and future-ready.

Thank you for your time and consideration. NGO representatives will be contacting you soon to ask for a meeting.

On behalf of the undersigned NGOs,

Mary S. Booth, PhD
Director, Partnership for Policy Integrity

Biofuelwatch

[19] Booth and Giuntoli, 2025.

[20] https://forestdefenders.eu/wood-product-manufacturers-speak-out-against-burning-wood-for-energy/

[21] Page 54, https://renewable-carbon.eu/publications/product/rci-policy-proposals-for-facilitating-the-transition-to-renewable-carbon-pdf/

[22] https://www.eea.europa.eu/en/analysis/maps-and-charts/main-pressures-and-threats-article-17-national-summary-dashboards-archived

[23] Grantham, H. S.et al. 2020. Anthropogenic modification of forests means only 40% of remaining forests have high ecosystem integrity. *Nature Communications*, *11*(1), 5978. https://doi.org/10.1038/s41467-020-19493-3

[24] Ibisch, P., et al. 2021. Der Wald in Deutschland auf dem Weg in die Heißzeit: Vitalität und Schädigung in den Extremsommern 2018-2020 Centre for Econics and Ecosystem Management, Eberswalde University for SustainableDevelopment.https://www.researchgate.net/publication/356443090_Der_Wald_in_Deutschland_auf_dem_Weg_in_die_Heisszeit_Vitalitat_Schadigung_und_Erwarmung_in_den_Extremsommern_2018-2020

Comite Schone Lucht Clean Air Committee), Netherlands

Ei polteta Tulevaisuutta (Don't Burn the Future), Finland

Fern

Fertő tó Barátai Egyesület (Friends of Fertő Lake Association), Hungary

Leefmilieu (Living Environment), Netherlands

Nagy Tavak és Vizes Élőhelyek Szövetsége (Great Lakes and Wetlands Association), Hungary

NOAH, Denmark

Protect the Forest, Sweden

RobinWOOD, Germany

Stowarzyszenie Pracownia na rzecz Wszystkich Istot (Association Workshop for All Beings), Poland

Wild Europe