

Pre-pandemic, air pollution was responsible for killing around 500,000 people in the EU each year.<sup>1</sup> Since air pollution worsens the impacts of COVID-19,<sup>2</sup> its impact on mortality and health can be expected to increase.

EU data reveal that that fine particulate matter (PM<sub>2.5</sub>) alone was responsible for up to 379,000 deaths in the EU-28 in 2018. The majority of PM<sub>2.5</sub> - 54% - was emitted by households and other establishments that burn solid fuels,<sup>3</sup> mostly wood,<sup>4</sup> for heat, while the energy sector and road transport were responsible for 18% and 11% of PM<sub>2.5</sub> respectively. Wood burning for energy at sawmills, paper mills, and smaller local power plants can be a large source of pollution. Wood-burning is also a significant source of mercury re-emissions and other toxic pollutants.<sup>5</sup>

Residential wood-burning poses a significant threat to human health both indoors and out because emission sources are located in homes and close to the ground. Studies have shown that homes with a woodstove experience high intensities of PM<sub>2.5</sub> even with normal use.<sup>6</sup>

Given that pollution from wood-burning is a leading cause of death and illness in the EU, why does the EU continue to encourage burning wood and other biomass for “renewable energy”? EU member states allocate several billion euro per year in renewable energy subsidies to power plants burning wood for heat and electricity, and provide additional support to programs that encourage residential wood-burning, such as rebates on purchase of wood pellet boilers. Even the most polluting forms of wood-burning, residential fireplaces and stoves with no emissions controls, are counted as contributing to renewable energy targets. Across Europe, many coal plants are co-firing with wood or have converted to burning wood entirely, collecting millions in publicly funded renewable energy incentives. Because wood generally burns less efficiently than coal, replacing coal with wood can actually increase powerplant emissions.<sup>7</sup> These plants are literally being paid to pollute.

Subsidies for wood burning undermine member state efforts to achieve mandated pollution reduction targets and the EU’s overall Zero Pollution goal, yet EU policymakers continue to promote wood-burning as renewable energy. According to the World Health Organization, premature mortality rates in the EU could be decreased by up to 27% if the EU achieved the WHO’s PM<sub>2.5</sub> standard.<sup>8</sup> Reducing wood-burning in homes and power plants is the fastest way to clean up the air. It’s time to end subsidies for this stone-age technology and reallocate financial support to true-zero emissions energy that protects not only the climate, but human health as well.

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<sup>1</sup> Carvalho, H. 2019. Air pollution-related deaths in Europe - time for action. Journal of Global Health 9(2):020308. At <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6858990/>

<sup>2</sup> Wu, X., et al. 2020. Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. Science advances, 6(45), p.eabd4049. <https://projects.iq.harvard.edu/covid-pm>

<sup>3</sup> European Environment Agency. 2020. Air quality in Europe - 2020 report. EEA Report No 09/2020. Luxembourg: Publications Office of the European Union, 2020. At <https://www.eea.europa.eu/publications/air-quality-in-europe-2020-report>

<sup>4</sup> Bertelsen, Nis, and Brian Mathiesen. 2020. "EU-28 Residential Heat Supply and Consumption: Historical Development and Status." Energies 13:1894. At: <https://www.mdpi.com/1996-1073/13/8/1894/htm>

<sup>5</sup> Huang, Jiaoyan, et al. 2011. "Mercury (Hg) emissions from domestic biomass combustion for space heating." <http://www.sciencedirect.com/science/article/pii/S0045653511005091>

<sup>6</sup> Chakraborty, R., et al. 2020. "Indoor Air Pollution from Residential Stoves: Examining the Flooding of Particulate Matter into Homes during Real-World Use." Atmosphere 11(12): 1326. <https://www.mdpi.com/2073-4433/11/12/1326>

<sup>7</sup> Booth, M. S. 2014. Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal. Pelham, Massachusetts, Partnership for Policy Integrity. <http://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf>

<sup>8</sup> European Environment Agency. 2020. Air quality in Europe - 2019 report. EEA Report No 10/2019. Luxembourg: Publications Office of the European Union, 2019. [https://www.eea.europa.eu/publications/air-quality-in-europe-2019/at\\_download/file](https://www.eea.europa.eu/publications/air-quality-in-europe-2019/at_download/file)