CUT CARBON NOT FORESTS

Parliamentary Briefing: Biomass Electricity Threatens Climate Action and Nature and Should Not Be Subsidised

Building back better after the COVID-19 pandemic cannot mean a return to business as usual. We must not continue to prop up dirty energy sources from the past, including burning trees for electricity. Cutting down trees, often in biodiverse forests around the world, shipping them to the UK, and burning them in power plants threatens the climate and our planet's forests.

To meet its climate commitments and deliver a green recovery, the UK Government should redirect biomass electricity subsidies to wind and solar. Doing so would guarantee real emissions reductions and more green jobs at a fraction of the cost.

Background

Scientists are urging governments to act aggressively over the next decade to keep global warming to 1.5°C and avert the worst consequences of climate change.[i] At the same time, the United Nations predicts that one million species stand to go extinct, mainly due to habitat destruction.[ii] Logging for biomass energy is accelerating the threat to the climate, forests and wildlife while scientists are calling for "transformative change"—not business as usual—to save our planet and ourselves.

The UK is now the top subsidiser of biomass energy in Europe. It spent more than £1.9 billion in 2019 on biomass energy subsidies, primarily to burn wood imported from overseas forests at Drax Power Station. In recent years, roughly one in every five pounds the UK spent on renewables subsidies went to bioenergy, rather than to wind, solar and other cleaner and genuinely renewable energy sources.[iii]

Like coal, burning trees for electricity exacerbates climate change. Scientists warn policymakers against relying on biomass[iv], and the European Academies Science Advisory Council says using woody biomass for power "is not effective in mitigating climate change and may even increase the risk of dangerous climate change."[v] What's worse, wood burned in UK power stations is cut down from precious forests overseas, including Canada's boreal,[vi] Natura 2000 reserves in the Baltics,[vii] and the North American Coastal Plain in the U.S.—a region certified as a Global Biodiversity Hotspot.[viii]

The Government has pledged to tackle the dual crises of climate change and biodiversity collapse by protecting 30% of UK land and oceans by 2030 (known as "30 by 30") under the Convention on Biological Diversity and committing to a 'net zero' emissions target under the Paris Agreement. It hopes to lead the world in these arenas through its Presidency of COP26 and membership in the High Ambition Coalition for 30 by 30. However, the Government risks undermining these commitments by continuing to subsidise biomass electricity.

The Public Opposes Biomass and Supports Protecting Forests

A 2021 Censuswide poll[ix] reveals that **eight in ten Britons think it's hypocritical for the UK Government to commit to protecting 30% of its land while simultaneously subsidising biomass.** What's more, 72%

agree that this practice violates the Government's 25 Year Environment Plan, which states that the UK will "screen policies and strategies for potential negative environmental effects overseas." There is significant cross-party support for strong environmental commitments, with Conservative voters as likely as Green voters to think policies that protect forests are important (91% and 90% respectively).

Rather than cutting down trees and shipping them across the Atlantic to be burned in power stations, 72% of respondents agree that the UK Government should conserve forests in the U.S. Southeast, the top supply region for UK biomass imports.

In addition, YouGov polling from July 2020[x] found that:

- Just 23% believe burning wood for electricity should be classified as 'renewable energy.'
- 82% think the UK should preserve recent improvements in air quality by switching to clean energy sources.
- Only 3% say the Government should help companies that burn trees from overseas forests.
- 85% are worried about the impact of logging forests for biomass on wildlife.

Harvesting Trees for Biomass Harms Wildlife

The biomass industry assures policymakers that the wood it burns is "waste wood," "low grade," or otherwise "unmerchantable." Drax, the top biomass burner in the world, claims that it "does not burn whole trees or trees harvested solely for bioenergy."[xi] Yet, the facts are clear: biomass burned for UK electricity comes overwhelmingly from overseas forests, and over half is from logging of whole trees.[xii]

Further, in key supply regions, such as the U.S. Southeast, the Baltics, and Canada, trees harvested to supply the UK energy market are routinely sourced using damaging logging practices like clear-felling.[xiii] This biomass is known to be high carbon and its sourcing contributes to forest degradation, yet it is accredited as meeting UK sustainability criteria. Once a forest has been clear-felled, it takes decades, if not centuries, before it can regrow to recover its original level of ecosystem productivity.

In 2019, over 5 million metric tons of biomass in the form of wood pellets were exported from the U.S. Southeast to the UK. This required harvesting approximately 395km^2 of forests[xiv]—an area larger than the New Forest. Forests being logged for biomass are some of the most biodiverse in the world. The North American Coastal Plain, designated a global biodiversity hotspot, provides habitat for hundreds of imperilled species, including the Red Wolf, Cerulean Warbler, and Louisiana Black Bear.[xv]

In Canada, logging for biomass is putting an additional strain on imperilled species like the Woodland Caribou, Canada Lynx, and Pine Marten, along with the over three billion birds that rely on the boreal for nesting and breeding. Demand for biomass is likewise adding pressure to log the last remaining old growth forests in Estonia and Latvia, further endangering species like Flying Squirrels, Capercaillie, and Black Stork. The Lithuanian government now allows logging in regional and national forest parks to meet biomass demand, despite their protected status, impacting many bird species listed as endangered in Lithuania's Red Data Book like the Pygmy Owl, White-Tailed Eagle, Black Grouse and White-Backed Woodpecker, and prompting criticism from the European Commission.[xvi] As recently as July 2021, investigators exposed how wood from a clearcut of an old and biodiverse Estonian forest not only ended up burned at Drax Power Station but was certified as "sustainable."[xvii]

Clear-felling for biomass is even occurring in reserves designed to protect forests and rare and threatened species, such as the EU's Natura 2000 network. Between 2001 and 2019, Estonia's Natura 2000 sites lost an area more than twice the size of Manhattan, due in part to biomass production.[xviii]

The totality of this evidence places in stark relief how UK sustainability criteria for biomass sourcing fail to prevent high-risk biomass from entering the UK energy market and should not be used to legitimise ongoing reliance on largescale biomass-burning for electricity.

Burning Biomass Worsens Climate Change

Like fossil fuels, burning trees for electricity emits large amounts of CO_2 to the atmosphere at the very moment when it is most urgent for us to cut emissions. And logging for biomass destroys the most powerful carbon-capture system on the planet: forests. This practice takes the UK even further away from its climate commitments and undermines any claim the UK has to climate leadership.

In 2020, Drax reported emitting over 13 million tonnes of CO_2 from biomass combustion.[xix] But due to perverse Government rules, the company can ignore these emissions when claiming subsidy as a low-carbon energy source. Even more perversely, policymakers take *credit* for biomass-burning as helping to decarbonise the electricity grid and meet climate goals. A 2019 study found that even under the best-case scenario, burning wood imported from Drax's own U.S. pellet mills increases CO_2 pollution for more than 40 years, well beyond timeframes for climate action under the Paris Agreement.[xx]

Both Drax and UK carbon accounting rules omit major categories of biomass emissions—most notably, foregone sequestration in the forest resulting from biomass harvest for energy production. Increased scientific understanding of forest carbon cycles suggests that were foregone sequestration to be included, burning biomass from forests for energy will be a carbon source rather than a carbon sink and lead to more emissions than genuine renewables.[xxi] This is true even with the addition of carbon capture and storage technology onto a biomass-burning power station like Drax.[xxii]

Billions in Biomass Subsidies Should be Going to Truly Renewables

As we rebuild our economy, we must ensure public resources go towards genuinely cleaner energy. Burning trees for energy is much costlier than wind and solar power; yet the Government continues to spend £3 million a day subsidising biomass-burning in large power stations, paid out of a surcharge on household electricity bills. Drax alone has already benefited from £5 billion in subsidies from 2012-2020, and, without policy reform, is projected to receive a further £5 billion from 2020-2027.

New analysis shows that continuing to subsidise the burning of imported biomass at large power stations like Drax destroys significant economic value. Were the Government to reinvest this public money in wind and solar projects, it could make available £1.93 to £2.49 billion in incremental funding to accelerate renewable energy deployment. This would allow the Government to make additional financial commitments—and support more jobs in real clean energy sectors—without putting the Treasury or billpayers under any additional financial strain (even after making investors whole).[xxiii]

Most subsidies for large biomass power plants are paid via the Renewables Obligation (RO) scheme. The Secretary of State has relatively broad power to amend the RO, including the sustainability criteria under which RO support is granted (for example, applying the new GHG emissions intensity threshold for Contracts for Difference to biomass subsidies under the RO scheme) and may apply such changes to existing facilities.[xxiv] In fact, the Government has exercised this power before in a similar context.[xxv] Reduced spending on biomass electricity would free up funding for wind, solar, and other cleaner and truly renewable energy sources. Doing so would be in the public interest.

We call on the UK Government to stop burning trees for energy and to redirect biomass electricity subsidies to low-cost and abundant energy sources like wind and solar.

This briefing was prepared by a group of environmental NGOs working to end biomass electricity subsidies in the UK. Our members are Biofuelwatch, Dogwood Alliance, NRDC, the Southern Environmental Law Center (SELC), and Stand.earth. For more information or to speak to the coalition please contact ccnf@cutcarbonnotforests.org.

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[i] Intergovernmental Panel on Climate Change, "Global Warming of 1.5°C; Summary for Policymakers," October 2018, https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

[ii] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), "Nature's Dangerous Decline 'Unprecedented"; Species Extinction Rate 'Accelerating'," https://ipbes.net/news/Media-Release-Global-Assessment

[iii] Cut Carbon Not Forests, "*BURNOUT 2020: The UK is Now The Top Subsidiser of Bioenergy in Europe*," 2020, https://tinyurl.com/wkxhnp43.

[iv] "500+ scientists tell EU to end tree burning for energy," February 11, 2021, https://tinyurl.com/jrs5pz2j

[v] EASAC, "Climate impact of wood biomass," January 27, 2021, https://easac.eu/media-room/press-releases/details/easac-welcomes-that-the-jrc-report-strengthens-the-case-for-shorter-payback-periods-on-woody-biomass/

[vi] Sheffield, H., NRDC, "Cutting It Close: How Unsustainable Logging in Canada's Boreal Forest Threatens Indigenous Rights, Wildlife, and the Global Climate," January 14, 2021, https://tinyurl.com/k9bx78nc

[vii] Mehta, A., Estonian Fund for Nature, "Hidden Inside the Wood Pellet: Intensive logging impacts in Estonian and Latvian forests," Feb. 3, 2020, https://media.voog.com/0000/0037/1265/files/Biomass_report_ENG%20_2020.pdf

[viii] "Global Markets for Biomass Energy are Devastating U.S. Forests," NRDC, Dogwood Alliance and SELC, June 2019, https://www.nrdc.org/sites/default/files/global-markets-biomass-energy-06172019.pdf

[ix] Polling was undertaken by Censuswide on behalf of Cut Carbon Not Forests between 18th and 22nd March 2021. Total sample size was 2,008 general consumers in the UK aged 16 and over. For full results see: https://tinyurl.com/3p748vt9

[x] Total sample size was 2,283 adults. Fieldwork was undertaken between 9th-10th July 2020. The survey was carried out online. The figures have been weighted and are representative of all GB adults (aged 18+).

[xi] Dimitris Mavrokefalidis, "Government urged not to subsidise 'the world's biggest tree burner'," 2 July 2021, https://www.energylivenews.com/2021/07/02/government-urged-not-to-subsidise-the-worlds-biggest-tree-burner/

[xii] Drax Group plc Annual report and accounts 2020, see table titled, "Drax Power Station biomass pellet feedstock sources in 2020," pg. 54. https://www.drax.com/wp-content/uploads/2021/03/Drax_AR2020.pdf. Terms like "thinnings" and "low grade roundwood" are industry jargon for whole trees.

[xiii] "Global Markets for Biomass Energy are Devastating U.S. Forests," NRDC, Dogwood Alliance and SELC, June 2019, https://www.nrdc.org/sites/default/files/global-markets-biomass-energy-06172019.pdf; Stand.earth, "Investigation: Canada's Growing Wood Pellet Export Industry Threatens Forests, Wildlife and Our Climate," 2020, https://www.stand.earth/sites/stand/files/report-canada-wood-pellet-industry.pdf; Estonian Fund for Nature, "Hidden Inside a Wood Pellet," 2020, https://media.voog.com/0000/0037/1265/files/Biomass_report_ENG%20_2020.pdf

[xiv] In 2019, the US exported a total of 6.89 million tons, of which 5.33 million went to the UK. https://rb.gy/gkbq2v. This equates to roughly 11.9 million green tons, which in 2019 alone required the harvesting of roughly 394.83 sq. kilometres of forests in the Southeastern U.S. Calculation based on: https://tinyurl.com/32zzrjuf

[xv] Cut Carbon Not Forests, "UK Biomass Imports Threaten Global Biodiversity," 2021, https://tinyurl.com/yxuu58xp

[xvi] Ibid.

[xvii] Channel 4 News, "Fears biomass green revolution could be fuelling habitat loss," 5 July 2021, https://www.channel4.com/news/fears-biomass-green-revolution-could-be-fuelling-habitat-loss

[xviii] Hazel Sheffield, The Guardian, "*Carbon-neutrality is a fairy tale": how the race for renewables is burning Europe's forests*, January 14, 2021, https://www.theguardian.com/world/2021/jan/14/carbon-neutrality-is-a-fairy-tale-how-the-race-for-renewables-is-burning-europes-forests.

[xix] Drax Group plc Annual report and accounts 2020, see table titled, Drax Power Station biomass pellet feedstock sources in 2020, pg. 54. https://www.drax.com/wp-content/uploads/2021/03/Drax_AR2020.pdf.

[xx] Spatial Informatics Group, "The Carbon Impacts of UK Electricity Produced by Burning Wood Pellets from Drax's Three Mills, May 27, 2019, https://tinyurl.com/5drt48cs

[xxi] Michael Norton et al., "Serious Mismatches Continue Between Science and Policy in Forest Bioenergy," Global Change Biology Bioenergy, August 22, 2019, https://onlinelibrary.wiley.com/doi/10.1111/gcbb.12643; EASAC, "Forest bioenergy, carbon capture and storage, and carbon dioxide removal: an update, February 2019, https://tinyurl.com/unmpkmuc

[xxii] Sami Yassa, forthcoming NRDC Fact Sheet to be published based on Memorandum from Hammerschlag LLC to NRDC, June 6, 2021, available at: https://www.nrdc.org/resources/uncaptured-biogenic-emissions-beccs

[xxiii] Trident Economics, "Briefing Note: The Economics of Wood Pellet based Power Generation in the United Kingdom," April 2021, https://tinyurl.com/ubfxh5dy

[xxiv] Electricity Act 1989, https://www.legislation.gov.uk/ukpga/1989/29/contents

[xxv] Ashfords, "Subsidy Withdrawal from Renewable Energy Entirely Lawful Decides the Court of Appeal," 11 August 2016, https://tinyurl.com/ahwewdx7