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Mr. Sam Friggens and Ms. Jenny Hill
Committee on Climate Change
7 Holbien Place
London, SW1W 8NR

21 November 2017

Dear Mr. Friggens and Ms. Hill,

The Southern Environmental Law Center (SELC), an environmental NGO based in the southeast United States, writes to provide resources for your consideration during the Committee's upcoming Bioenergy Review. We appreciate the Committee's commitment to periodically reviewing the Government's bioenergy policies, and to advising the Government on the role of bioenergy in meeting the UK's carbon reduction targets. We would therefore like to share evidence which shows that the UK Government's continued reliance on and support for biomass electricity generation is undermining the country's laudable climate and clean energy goals.

The UK Government's 2012 Bioenergy Strategy set forth four principles by which all future bioenergy policies should be measured. Despite these principles, the UK Government's policies relating to bioenergy, and woody biomass in particular, do not accurately reflect the results of current, widely accepted science, including UK-commissioned reports. Specifically, the report completed by Ricardo-AEA for BEIS on high-carbon biomass scenarios shows that hardwood trees—one of the highest-carbon sources of biomass—are being used for electricity in the UK, contrary to previous assertions by the Government. *See* Wood Pellet Investigation Pamphlet (2017), https://www.nrdc.org/sites/default/files/european-imports-wood-pellets-greenenergy-devastating-us-forests.pdf, and SELC Enviva-Sampson Handout (attached), showing that Drax, through its primary wood pellet supplier Enviva, is sourcing wood pellets from clearcut standing hardwood forests in the southeast U.S.

Additionally, the Government's 2017 Clean Growth Strategy (CGS) envisages a 36% increase in the use of bioenergy by 2023, particularly for the heat, heavy industry, and transport sectors. However, current levels of demand are already unsustainable, and many types of woody biomass have a significant impact on the climate and environment. *See* SELC Carbon Handout (attached). Additionally, the CGS relies heavily on the role of woody bioenergy with carbon capture and storage (BECCS) to deliver "negative emissions," despite the environmental harms associated with BECCS and the low economic feasibility of commercial application.

The CGS's heavy reliance on bioenergy is in direct conflict with the Government's Bioenergy Strategy principles. The Government itself acknowledged in a recent consultation investigating bioenergy subsidies that "[compared to other renewable

technologies] . . . carbon savings from biomass conversion or co-firing are low or non-existent, and the cost of any savings is high."

As the independent body charged with advising the Government on meeting carbon emissions targets, it is the duty of the Committee to ensure that it's forthcoming Bioenergy Review does not condone existing bioenergy policies and practices that contravene the Government's carbon-reduction goals and the Bioenergy Strategy's commitment to genuine carbon reductions.

The information provided in the attached explanatory note, annotated bibliography, and other documents attached herein cover the following risks posed by burning biomass for electricity:

- **Increased greenhouse gas emissions impact:** Biomass power plants emit more CO_2 at the stack than coal or gas plants. Any carbon "benefit" is speculative and occurs, if at all, only several decades to 100 years in the future after trees have regrown—far too late to meet the UK's climate goals under the Paris Climate Agreement. Attached to this letter is a 2015 and 2017 Spatial Informatics Group (SIG) analysis of Drax's reliance on wood pellets from the southeast U.S. *See* Letter to UK and EU Policy Makers (2017), https://www.southernenvironment.org/uploads/words_docs/1501149_1.pdf?cachebuster:64. The 2015 SIG analysis showed that the lifecycle net emissions of CO_2 from the use of these wood pellets would be 3.4 times higher than continued use of coal over 100 years. The 2017 analysis found that Drax's burning of biomass emitted 31.3 million tons of CO_2 from 2013-2016, and projected another 12 million tons will be emitted in 2017—an annual amount approximately equal to the UK's total annual goal for reducing carbon emissions.

    - Reliance on carbon-intensive forms of bioenergy therefore contravenes Principle 1 of the Government's Bioenergy Strategy—*Policies that support bioenergy should deliver* ***genuine carbon reductions*** *that help meet UK carbon emissions objectives to 2050 and beyond. This assessment should look—to the best degree possible—at carbon impacts for the whole system, including indirect impacts such as ILUC, where appropriate, and any change to carbon stores.*

- **Forest destruction:** The wood pellet manufacturing industry in the southeast U.S., a major supplier of UK biomass imports, contributes to the destruction of some of the planet's most ecologically valuable forest ecosystems and harms the communities and wildlife that depend on them. *See* SELC Wood Pellet Bird Handout (attached), highlighting the negative impacts of the loss of valuable hardwood forests on birds of conservation concern. Attached to this letter is a thoroughly documented white paper that provides an overview of the devastation to wildlife and biodiversity in the

southeast U.S. from the wood pellet export industry, caused by directly harvesting hardwood forests and the conversion of natural forests to monoculture pine plantations. This paper concludes that the increased demand for woody biomass in the Southeastern U.S. will cause long-term, region-wide alterations to the natural forests and loss of critical habitat, further threatening the region's globally-significant biodiversity.

  - Woody biomass supplied from the southeast United States contravenes Principle 4—*At regular intervals and when policies promote significant additional demand for bioenergy in the UK, beyond that envisaged by current use, policy makers should assess and respond to the impacts of this increased demand. This assessment should include analysis of whether UK bioenergy demand is likely to significantly hinder the achievement of other objectives, such as maintaining food security,* ***halting biodiversity loss****, achieving wider environmental outcomes or global development and poverty reduction.*

- **Wasted taxpayer resources:** Biomass subsidies produce perverse outcomes counter to UK Government policy goals. Economic analyses of the UK power system shows that solar and wind can reliably meet new electricity needs at lower cost than biomass. *See* Renewables Obligation Consultation on Biomass Costs (attached), which highlights the need to reduce and quickly phase out RO subsidies for biomass co-firing and conversions.

  - Biomass subsidies contravene Principle 2—*Support for bioenergy should make a* ***cost effective*** *contribution to UK carbon emission objectives in the context of overall energy goals. Bioenergy should be supported when it offers* ***equivalent or low carbon emissions*** *for each unit of expenditure* ***compared to alternative investments*** *which also meet the requirements of the policies.*[1]

- **Dirty air:** Air pollution from wood pellet mills and biomass power stations degrades air quality and health in local communities. By relying on biomass energy, the Government is promoting harmful local air pollution impacts similar to that of fossil fuel, impacts not felt with truly clean technology such as wind and solar.

  - Harmful air pollution from wood pellet mills and biomass burning facilities contravenes Principle 4— . . . *This assessment should include analysis of whether UK bioenergy demand is likely to significantly hinder the achievement of other objectives, such as maintaining food*

[1] Principle 3 is also relevant to the issue of wasted tax payer resources—*Support for bioenergy should aim to maximise the overall benefits and minimise costs (quantifiable and non-quantifiable) across the economy. Policy makers should consider the impacts and unintended consequences of policy interventions on the wider energy system and economy, including non-energy industries.*

security, halting biodiversity loss, ***achieving wider environmental outcomes*** *or global development and poverty reduction.*

The Committee's Bioenergy Review should acknowledge these biomass risks and should recommend ways to minimize these risks through sound, science-backed biomass policies that adhere to the Government's bioenergy principles.

In particular, we urge the Committee to meaningfully engage with the issue of carbon impacts associated with the biomass industry in accordance with the Government's first principle that bioenergy policies should result in genuine carbon reductions.

Attached to this letter is a more detailed explanatory note on the risks posed by biomass electricity, as well as an annotated bibliography of supporting studies from government, NGOs, and academics. We hope the attached and linked materials can serve as a resource for the Committee as it moves forward with the upcoming Bioenergy Review.

Sincerely,

David W. Carr

David Carr
General Counsel
Southern Environmental Law Center

Heather Hillaker

Heather Hillaker
Associate Attorney
Southern Environmental Law Center

Attachments:

- Explanatory Note & Annotated Bibliography, October 2017 (attached)
- Biodiversity White Paper, October 2017 (attached)
- RO Consultation, October 2017 (attached)
- Wood Pellet Investigation Pamphlet (linked)
- SELC Handouts, March 2017
    - Carbon Handout (attached)
    - Enviva Sampson Handout (attached)
    - Wood Pellet Bird Handout (attached)
- SIG reports (2015 & 2017 + cover letter)
    - Letter to UK and EU Policy Makers (linked)
    - 2015 SIG report (attached)
    - 2017 SIG report (attached)