

BEIS Biomass Policy Statement - November 2021 - Reference Document

In November 2021 the Department for Business, Energy and Industrial Strategy (BEIS) released a [biomass policy statement](#), which laid out how the government views various forms of biomass energy ahead of the biomass strategy being released in 2022.

What does the Government's Biomass Policy Statement have to say about biomass?

The government still asserts that biomass is a low carbon and renewable energy source so long as it is cultivated, harvested and processed in line with UK sustainability criteria (page 10).

The bulk of the biomass supply used in electricity and heat generation in the UK comes from wood pellets, which this statement says are derived from forestry residues and waste wood (page 14). However, it has been repeatedly documented that these terms mask the reality of wood pellet production, which is that roundwood from forests which have been completely destroyed is routinely used to produce wood pellets.

The government asserts that its sustainability criteria are among the most stringent in the world (10), but so long as they permit biomass to be burned which was produced from forest wood, the criteria are nowhere near strict enough. Besides, nowhere in this statement is there any indication that the government desires the *amount* of biomass burned in UK power stations to decrease, at least until the end of the current subsidies.

The government still credits the increase in biomass use in energy generation as having helped to “dramatically reduce the use of fossil fuels” (21), despite wind, solar, energy savings and energy efficiency all having played much larger roles.

The statement also says there are no plans to change how biomass is supported under Contracts for Difference (22). The last time this policy was amended was in 2018, when the government [announced](#) it would no longer support any new biomass-based electricity generation with greenhouse gas emissions above 29kg CO₂ per megawatt hour. This was celebrated by environmentalist groups at the time as this was an amount which would be impossible for large power stations that burn imported wood pellets to stay within, at least without the use of CCS. The fact that the government is not going back on this change is positive, but also entirely expected.

The decision not to change the way CfDs are handled going forward also suggests that existing biomass subsidies, even for power stations which would have absolutely no chance of being accepted into Contracts for Difference now, will continue to be protected.

Does the statement mention any of the other issues related to biomass burning?

The statement references “unintended negative social, environmental and economic impacts” from the use of biomass (19). However, the only negative impact of biomass that is discussed in detail in the statement is concerns around air pollution.

The statement acknowledges that wood burning, particularly domestic and for smaller industrial and commercial applications, leads to increases in dangerous PM2.5, and that anaerobic digestion leads to increased levels of ammonia in the air (19). But the furthest it will go on how this will be combatted is to repeatedly say it needs to be better understood through research and innovation so it can be mitigated, and that the UK’s existing regulatory requirements will need to develop “as the use of biomass expands” (19). There is no acknowledgement that many areas of the UK already exceed safe levels of air pollution, with little in place to bring the levels down.

What does the statement have to say about Negative Emissions Technologies like BECCS?

The government restates its belief in, and commitment to, Bioenergy with Carbon Capture and Storage (BECCS) as a way to deliver “negative emissions” (5). In fact, on more than one occasion it repeats the assertion that Negative Emissions Technologies (NETs) are necessary to achieve net zero by 2050. Both Government and the CCC modelling, it says, have found that NETs will be required to offset residual emissions in sectors that are difficult to decarbonise completely, such as heavy industry, agriculture and aviation (34).

The statement insists that the purpose of BECCS, and other NETs, is to balance the residual emissions from sectors such as these, and they will not be substitutes for ambitious mitigation to achieve net zero (36).

The statement says that the effectiveness of BECCS will take into account all types of GHG emissions “from the whole BECCS supply chain” (35), but makes no mention of the emissions produced by burning biomass which aren’t able to be captured. Drax power station, which has been pushing hard for BECCS, has said it’s plant is only designed to capture [up to 95%](#) of flue gas emissions and if implemented it could end up capturing far less. Unless greenhouse gas emissions from burning the wood are included in assessments of BECCS, those assessments will be meaningless.

There is a section in which concerns about BECCS that have been raised by NGOs and others, particularly in a recent biomass call for evidence, are brought up (35). However, while the statement engages with a few of these, many more are simply ignored. It once again brings up the need to review sustainability standards for biomass and the need to understand and address the air quality impacts from BECCS.

The statement that BECCS needs to “genuinely and credibly” (35) remove more greenhouse gases (GHGs) from the atmosphere than it creates suggests that the government is aware of concerns that BECCS may fail to reach its carbon capture goals, as CCS from fossil fuels has done repeatedly, and that there is a high risk of leakage from CO2 reservoirs under the

North Sea. However, Biofuelwatch's main concern, that the scale of biomass burning in the UK and its impacts on the climate, biodiversity, land use and marginalised communities are unsustainable, goes completely ignored.

There is also no acknowledgement of health and safety concerns about liquified CO₂ being transported around the country in pipes, potentially close to densely populated areas, such as will likely be the case with the proposed Humber pipeline which is expected to run close to towns and cities such as Hull and Grimsby.

What about 'Sustainable Aviation Fuels'?

The statement is bullish on aviation biofuels, which it calls sustainable aviation fuels (SAFs). It calls them a key lever that government and industry can use to accelerate the transition to net zero aviation (29). It also says that they can be produced from a wide variety of waste feedstocks or green electricity.

However, the only proven technologies for producing aviation biofuels rely on byproducts from industries which are linked to very high greenhouse gas emissions and environmental harm - the livestock industry and corn ethanol. Supplies of these byproducts are limited and cannot easily increase if demand for them goes up.

If aviation biofuels are to be scaled up, producers may start to derive them from crops instead of waste materials, which would lead to an enormous increase in land use change and associated emissions. The statement downplays the risk of this by talking about 'strict sustainability criteria' SAFs may have to adhere to (30). One proposal would see crop-derived biofuels not be permitted to contribute towards the sustainable aviation fuel mandate obligation, meaning it would miss out on a lot of government support (30). This would be a very positive restriction, but at this stage it is still only a proposal.

Throughout all of the discussion of sustainable aviation fuels, there is sadly no mention of demand reduction for aviation fuels in general.

What does it say about Biomethane?

In the statement biomethane is said to be playing an important role in decarbonising the gas grid, and is described as 'commercially scalable' (26), despite the fact that in 2020 it only provided 1% of heat in buildings.

The [biggest concerns](#) with biomethane are again related to the feedstock used. The use of crops such as maize, rye grass and sugar beet instead of waste products to create biogas through anaerobic digestion leads to increased greenhouse gas emissions. This is due to carbon emissions associated with direct and especially indirect land use, loss of soil carbon due to intensive farming, and the use of nitrogen fertiliser, a cause of nitrous oxide emissions.

The statement does say that the government 'encourages' the use of waste over bioenergy crops (27). However, in a continuation of a policy implemented in 2016, the government will support the use of arable crops for biomethane production, so long as it is derived from a minimum of 50% waste feedstocks (14 and 27).

In the statement the government argues that crops such as maize can be useful for managing feedstock supplies when wastes fluctuate, and should therefore not be banned entirely (27). This means that up to half of Britain's "green gas" could come from arable crops. This is an unacceptably high level which will not do enough to disincentivize farmers from converting land from food production to biogas crops.

There are a few references throughout the statement to utilising low carbon hydrogen as an energy source and biomass gasification and reformation of biomethane from anaerobic digestion are listed as two possible ways to generate it (34). Reference is also made to combining them with carbon capture and storage (34). However, the statement admits that some of these are at a very early stage of their development and there is considerable uncertainty about how much hydrogen could be derived from biomass (34).