

#AXEDRAX : WHY DRAX NEEDS TO HAVE ITS SUBSIDIES STOPPED, AND BE SHUT DOWN

Drax is the largest coal-fired power station and the single greatest emitter of carbon in the UK.

Now it is also the biggest biomass power station in the world. In 2015, it burned more wood than the UK produced in total that year.

In return for trashing forests and digging up communities, Drax is receiving massive subsidies when it should have been closed down years ago. They cashed in on over £1 million in subsidies every single day in 2015 and are hoping to get as much as £1.65 million every day in future. Meanwhile, subsidies for genuinely renewable and low carbon onshore wind and solar power are being slashed across the UK.

DRAX'S (PARTIAL) BIOMASS CONVERSION

The power station consists of six units and Drax is converting three of them to burn only wood pellets.

The third unit has been run primarily on biomass since early 2015. The only reason that this unit has not been fully converted is that Drax is waiting to see whether the European Commission clears a UK government decision to award particularly generous subsidies for this unit conversion. Meanwhile, they are able to get a lower rate of

subsidies by 'co-firing' with 95% biomass and 5% coal.

In 2015, Drax burned around 6 million tonnes of coal and nearly 6 million tonnes of wood pellets. [1] **For the first time, Drax burned more wood than the UK produced in total that year.** [2]

Once the power station has achieved Drax's goal of burning 50% wood and 50% coal it will require

pellets made from over 12 million tonnes of wood every year. By comparison, the UK produces around 11 million tonnes annually.

Drax shouldn't be burning coal or biomass because of the huge impacts both have on communities, the environment, and the climate. Drax must be closed down instead.



THE IMPACTS OF DRAX'S BIOMASS BURNING

Burning wood for electricity is no less disastrous for the climate than burning coal. Per unit of electricity, biomass actually emits more CO2 from smokestacks than burning coal does. Biomass supporters claim that this CO2 should be ignored because it will be absorbed by newly planted trees, but trees take decades to grow and minutes to burn. And clearcut forests may never be able or allowed to regrow. The real purpose behind Drax's biomass conversion

is to keep this old, dirty power station alive for longer and to cash in on massive public subsidies. Far from replacing coal, Drax's partial conversion to biomass allows the power station to continue burning millions more tonnes of coal year in, year out.

In 2015, the ~6 million tonnes of wood pellets burned at Drax accounted for nearly one third of all globally traded wood pellets.[3] Since November 2015, when E.On

closed Ironbridge Power Station, Drax has been the only UK power station burning imported wood (though others are in the pipeline).

Most of the pellets burned at Drax are imported from the southern US, with imports from Canada and the Baltic States a joint second. [4]

Drax has built two pellet mills: one in Louisiana and one in Mississippi. Between them, these can produce 900,000 tonnes of pellets every year. [5]

Wood pellets from clearcut wetland forests in the southern US

Drax is by far the **biggest customer of the controversial US pellet producer Enviva**. [6] Enviva has come under heavy criticism from US environmental NGOs for sourcing wood from clearcut coastal wetland forests. [7]

An investigation by US conservation groups Dogwood Alliance and NRDC (Natural Resources Defense

Council), [10] conducted in December 2014, shows how an Enviva pellet mill in North Carolina

Wetland hardwood forests in the southern US are amongst the most biodiverse forest and aquatic ecosystems worldwide outside the tropics. [8] Just 20% of the vast hardwood wetlands forests once found in the region remain, and just 1.2 million hectares of this are 'mature' i.e. they have not been logged for the past 80 years. [9] Enviva and Drax have built pellet mills within a sourcing area which includes mature hardwood forests and biodiversity hotspots.

A cleared area of wetland hardwood forest in the southern US. Dogwood Alliance



is sourcing wood directly from clearcut wetland forests. Pellets from that mill are being burned by Drax.

Enviva and Drax claim that they are only using 'residues', but in fact the majority of the wood from clearcuts commonly goes towards wood pellets – and it is unlikely that forest

owners would be clearfelling entire forests without this demand. US groups have submitted a complaint against Enviva's 'misleading claims' to the US financial regulator. [11]

Wood pellets from pine plantations in the southern US

A proportion of Drax's wood pellets is sourced from monoculture pine plantations in the southern US. Such plantations are being rapidly expanded across the region, at the expense of biodiverse native forests.

Environmental campaigners from Dogwood Alliance visited Drax's pellet mill in Massachusetts in 2015. They wrote:

“Orderly rows as far as they eye can see like a cornfield, regular spraying of fertilizers and herbicides, and plantations are so quiet because they're almost devoid of wildlife. Before they can grow into majestic trees, the heavy machinery chops them down like mowing a lawn. This is the commodification of nature and our forests. We chop down our native forests (in this case likely natural pine or mixed pine/hardwood forests) and destroy all the value these forests contained, replacing them with rows and rows of monoculture tree crops. Loblolly, slash and sand pine have replaced the dozens of species that used to call this region home.” [12]



A loblolly pine plantation. USDA Natural Resources Conservation Service

THE IMPACTS OF DRAX'S COAL BURNING



Drax admitted in its Financial Report for 2015 that it burned 6 million tonnes of coal that year, even though the (partial) biomass conversion programme had almost been completed. Burning wood is overall as polluting as burning coal, but it emits less sulphur dioxide, allowing Drax to comply with the EU's Industrial Emissions Directive (IED) and thus avoiding having to close down. Burning biomass is therefore extending coal burning into the future. Drax's 2015 Financial Report estimates that the power station will be running for at least 25 more years. The power station's plans are therefore putting the Government's ambition to phase out coal burning by 2025 (already far too late!) into serious doubt.

Burning coal emits more carbon than other types of fossil fuels. But coal is also responsible for severe environmental, social and public health impacts that are connected with mining. Drax sources just under half of its coal from opencast mines in the UK, and the rest from imports, mainly from the US, Russia and Colombia. The key impacts are shown in detail in a 2016 [report by the Coal Action Network](#). [13]

Opencast coal mining – whether in the UK or elsewhere – has severe impacts on the local environment

and landscapes, and on air quality and public health, due to the toxic coal dust. It also pollutes freshwater with toxins such as arsenic, chromium, and lead. In Scotland and elsewhere, companies are simply abandoning opencast mines when they are no longer profitable, without restoring the land, leaving a legacy of long-term pollution and environmental destruction behind.

In Russia, indigenous Shor and Telut peoples are being evicted from their land by mining companies and face losing their homes, culture and their livelihoods. Evictions without compensation or resettlement, destruction of infrastructure, armed checkpoints and arson attacks have all been reported in connection with opencast coal mines.

In Colombia, villages have been evicted to make way for opencast coal mines, including the Cerrejón mine, one of the world's largest.

The establishment of opencast coal mines in Colombia has been associated with militarisation and serious human rights abuses, including disappearances, massacres and assassinations.

Today, more villages are facing eviction, freshwater is being polluted and depleted, and indigenous communities are going hungry as their food sovereignty is destroyed. Human rights abuses in Colombia due to conflict between communities and coal mining companies, have been extensively documented by many organisations over many years. [14]

Villagers resisting eviction to make way for a coal mine in Colombia. ESMAD





Biofuelwatch estimates that **during 2015 Drax 'earned' almost £470 million in renewable electricity subsidies.** [15] These are called Renewable Obligation Certificates (ROCs). **That's around £1.3 million every day.** Renewable electricity subsidies are financed through a surcharge on electricity bills.

During the same year, Drax's net profits amounted to £46 million. [16] Clearly, Drax could not operate without subsidies, and in future, Drax is hoping to get even more.

The government has granted Drax even more lucrative subsidies for the third unit conversion (called a 'Contract for Difference'). The European Commission is currently

considering whether this award complies with EU State Aid Rules.

Getting these extra subsidies would boost Drax's subsidies for burning biomass to £580.95 million a year – or £1.6 million a day. [17] These figures do not include subsidies that Drax's pellet plants have been given in the US.

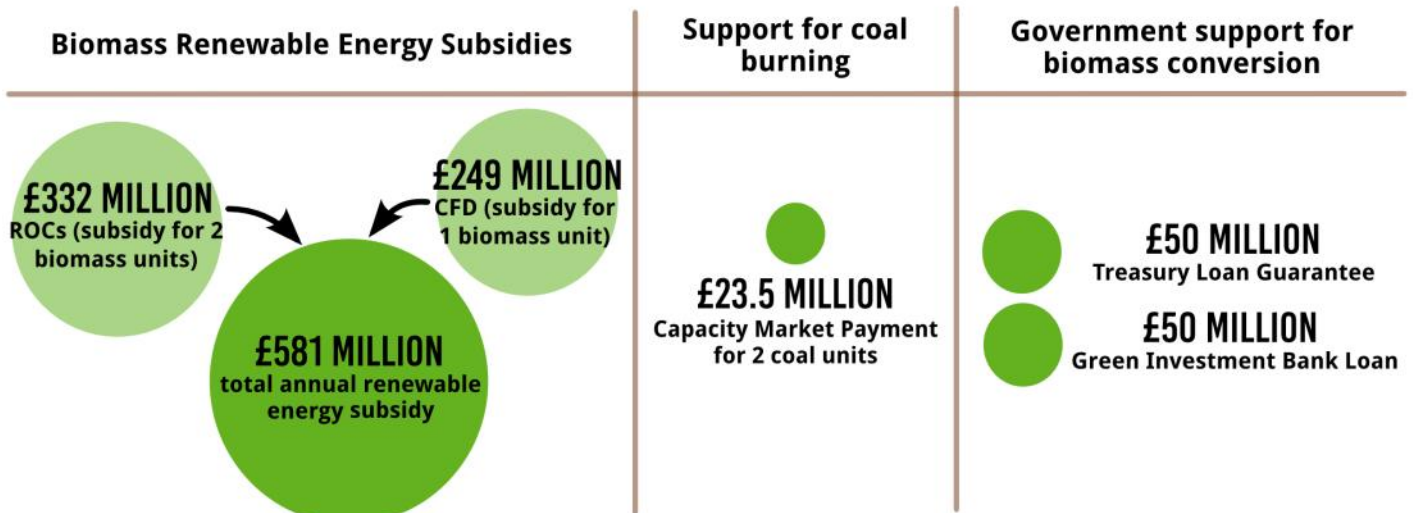
Nor do they include a £50 million public loan guarantee granted by the Treasury, which states that the taxpayer will have to pay up if Drax defaults on a private loan of that amount.

On top of all of this, the Government has also awarded Drax a **one-year subsidy for burning**

coal, which could be extended.

This will come to an extra £23.5 million. [18]

Subsidising genuinely low-carbon, renewable energy such as sustainable wind and solar power makes a lot of sense. Using clean energy subsidies to pay for a power station that burns millions of tonnes of imported wood, pellets from clearcut biodiverse forests, and millions of tonnes of coal, is unacceptable! To make matters worse, the Government has been slashing support for onshore wind and solar power.



DRAX AND THE GREEN INVESTMENT BANK



The Green Investment Bank (GIB) was set-up to help finance low-carbon projects, but its first big loan was given to Drax, which helped to seal the necessary finance for its biomass conversion. They initially loaned Drax £100 million, though Drax reduced that sum to £50 million after they procured an additional £50 million public loan guarantee from the Treasury. In effect, this loan has enabled Drax to avoid having to shut down and to continue burning both biomass and coal for the foreseeable future. This is the opposite of the type of green project that the GIB was set up to fund.

Then Business Secretary Vince Cable was quoted as having said that, without the conversion to biomass and the loan from the Green Investment Bank that helped to finance it, Drax “would have closed down because it has to meet European rules on coal use and it wouldn’t have been able to survive”. [19] The GIB can therefore thank itself for

being directly responsible for keeping the UK’s biggest polluter open and burning vast quantities of both biomass and coal.

The GIB has also funded other destructive big biomass projects (as well as unpopular waste incinerators) and continues to see biomass developments as a key part of their investment. Part of the problem is that, even though the GIB has 5 guiding green principles, their loans only have to adhere to

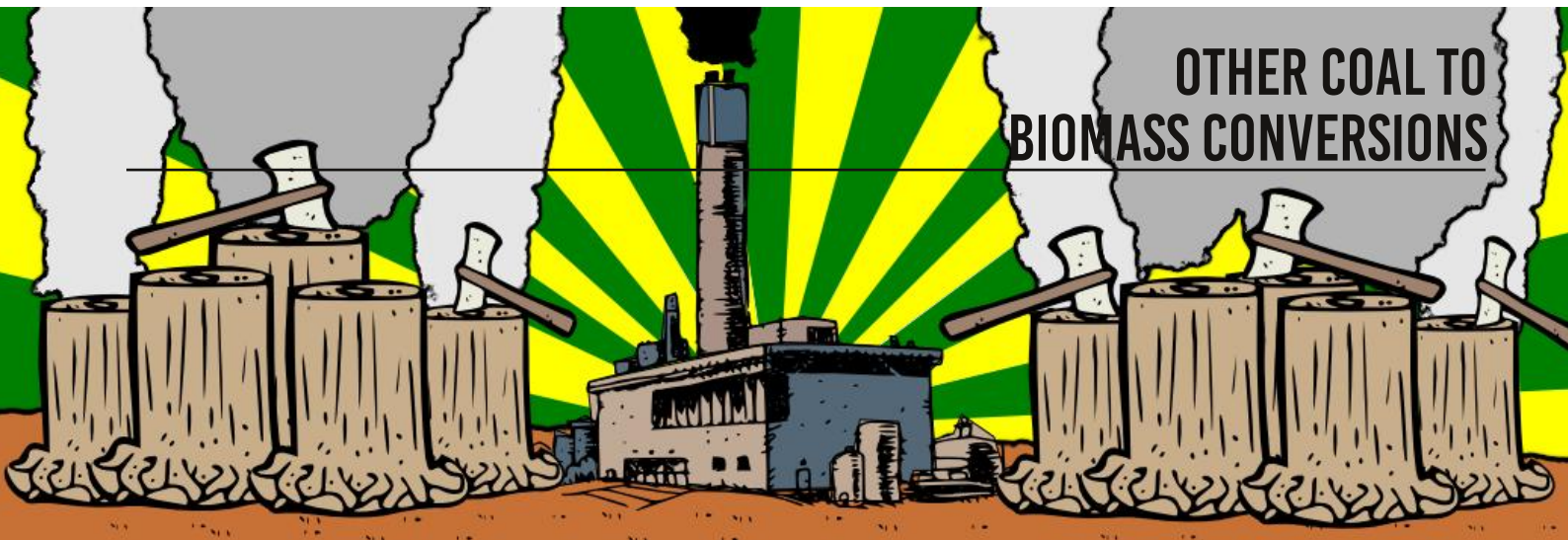
one of them. [20] So if government policy says that biomass is low carbon, evidence of forest and biodiversity destruction by the pellet industry isn’t enough to put the GIB off granting financial support.

We will keep up the pressure on the GIB to stop funding big biomass and revoke their Drax loan, whilst it is being privatised.



Protest at the GIB Annual Review in 2015, in Edinburgh. Biofuelwatch

OTHER COAL TO BIOMASS CONVERSIONS



Drax is currently the only UK power station that has been partially converted to biomass. RWE and E.ON previously converted Tilbury B and Ironbridge Power Station from coal to wood pellets, but both plants have closed down, following major fires.

However, **Lynemouth Power Station** is also currently being converted to burning wood pellets. It had previously closed down, so once again, conversion to biomass

won't replace coal burning. Lynemouth Power Station was originally owned by Rio Tinto Alcan, who sold it to RWE. At the end of 2015, RWE sold it to a Czech energy company, Energetický a průmyslový holding (EPH). As a briefing by the climate NGO Sandbag shows, [21] EPH is a privately-owned company without shareholders, which is buying some of the most controversial 'assets' from other energy companies, such as coal mines and coal power stations.

EPH has entered into a sourcing agreement with Enviva, to supply up to 800,000 tonnes of wood pellets to Lynemouth Power Station. [22] Lynemouth is expected to burn up to 1.7 million tonnes of pellets a year, made from 3.1 million tonnes of wood.

Lynemouth Power Station in Northumberland. Matt Jones



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- [1] Based on information contained in Drax's Annual Report 2015, published March 2016: drax.com/media/87774/24293_drax_ar15_web_v2.pdf. Note that one tonne of wood pellets requires two tonnes of green wood (i.e. freshly harvested wood)
- [2] According to the Forestry Commission, 11 million tonnes of green wood were produced in the UK in 2015: forestry.gov.uk/forestry/infod-7a9dgc
- [3] carbonbrief.org/uk-now-burning-33-of-worlds-wood-pellet-imports
- [4] Drax's Financial Report for 2015 gives a breakdown of sourcing regions for the wood pellets which they burned that year
- [5] draxbiomass.com/about-us/where-we-operate/amite-bioenergy/ and draxbiomass.com/about-us/where-we-operate/amite-bioenergy/
- [6] api40.10kwizard.com/cgi/convert/pdf/EVA-20160308-10K-20151231.pdf?ipage=10801505&xml=1&quest=1&rid=23§ion=1&sequence=1&pdf=1&dn=1
- [7] Drax will be given £19.40 per kW/year for 1211WM of capacity = £23.5 million
- [8] See dogwoodalliance.org for information about southern US forests and the threats to them
- [9] nrdc.org/sites/default/files/southeast-biomass-exports-FS.pdf
- [10] biofuelwatch.org.uk/wp-content/uploads/Enviva-Investigation.pdf
- [11] pfp.net/wp-content/uploads/2016/03/Report-to-SEC-on-Enviva-March-14-2016.pdf
- [12] dogwoodalliance.org/2015/08/pillage-and-plunder-in-the-deep-south-part-1/
- [13] Ditch Coal, Coal Action Network, January 2016, coalaction.org.uk/ditchcoal.pdf
- [14] See for example londonminingnetwork.org/2014/06/cerrejon-coal-colombia-an-abusive-marriage-full-of-machismo/ and globaljustice.org.uk/resources/cerrej%C3%B3n-mine
- [15] This has been calculated as follows: Ofgem data published by the Renewable Energy Federation (ref.org.uk/generators/) shows that during the eight months from April until November 2015, Drax became eligible for 7,313,160 Renewable Obligation Certificates (ROCs). This includes both the two units fully converted to biomass and one unit which burned primarily biomass but which was still classed as a co-firing unit. Assuming that Drax generated the same monthly amount of biomass electricity for the whole of 2015 as they did during April-November 2015, and based on an average market price per ROC of £42.69 (see epowerauctions.co.uk/eroclatest.htm), Drax would have become eligible for £467.86 million that year. This is around £1.28 million per day
- [16] See Drax's 2015 Financial Report
- [17] This is calculated as follows: Based on Ofgem data (ref.org.uk/generators/), Drax was operating two units on 100% biomass at 91% of their capacity in 2013/14, generating 7,766,510 MWh that way. Each MWh attracted one ROC. At the average 2015 price per ROC of £42.69, Drax would have 'earned' £331,552,311.9 in ROCs from the two biomass conversions (excluding the ROCs which they received for burning primarily but not exclusively biomass in a third unit). Additionally, Drax has been awarded a Contract for Difference (CfD) for converting a third unit to 100% biomass, although this is stalled pending a decision by the European Commission. The CfD awarded to Drax guarantees a 'strike price' of £105 per MWh. This includes the wholesale electricity price, which was on average £40.75 per MWh in 2015 (ofgem.gov.uk/data-portal/wholesale-market-indicators). Based on that figure, the subsidy element would be around £64.25 per MWh. We assume that a third fully converted unit will generate 50% of the electricity generated by two fully converted units in 2013/15. The subsidy element of the CfD would therefore be £249,400,133.75. The total figure for the subsidy element of one CfD plus ROCs for two biomass units comes to £580,952,445.65, or £1,591,650.54 per day
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