

Dear Councillor,

Re: Planning application by Nexterra and Balfour Beatty for an 11 MWe biomass gasifier in Chittingen Trading Estate, Avonmouth (Ref 14/03210/F) – Development Control Committee A Hearing 5th November

I am writing on behalf the Avon Coalition Against Big Biofuels, Avonmouth Dust Forum and Biofuelwatch. The Avon Coalition Against Big Biofuels is a local campaign group formed to oppose the generation of electricity by fuels which are damaging to the planet and people. The Avonmouth Dust Forum was formed to monitor dust and other pollution which is dangerous to public health. Biofuelwatch is a UK/US campaign and research organisation that has been investigating the impacts of biofuels since 2006.

We would like to share with you our serious concerns about the application and the Planning Officer's report and his recommendation to approve the application with conditions. We believe there are material planning grounds for either rejecting the application or for deferring it pending data needed to establish whether the proposal complies with the waste hierarchy principle and pending local ambient air quality monitoring.

Summary of concerns:

We believe that there are two broad material planning reasons for not approving the application and we shall discuss those in details below:

1) We do not believe that the proposed biomass gasifier constitutes **a sustainable development:**

- a) The gasifier would be extremely *inefficient*. From figures contained in the planning documents and additional information available about the developers' technology in relation to their Birmingham biomass gasifier proposal, it appears that the efficiency will only be 20.4 – much less than that of other electricity-only biomass power stations. The efficiency levels proposed are so low that it would not even meet the definition of 'energy recovery' if it was a Municipal Solid Waste incinerator – it would have to be classed as mere 'waste disposal';
- b) There are serious questions and doubts about compatibility with the *waste hierarchy principle*, which is set out in national and local planning policy;

2) **Air quality and human health:**

a) The Air Quality Assessment relies on optimistic assumptions about existing levels of air pollution in Avonmouth, rather than on credible data. Given the inadequacy of air quality data for Avonmouth, we believe that there is a good case for requesting monitoring of ambient air quality over a substantial period within a 2km radius of the site before a decision about impacts on local air quality standards and local health can be made.

b) There are serious concerns about the proposals' dependence on continuing and potentially significantly upscaled wood chipping and woodchip storage operations by Boomeco. There have been long-standing wood dust complaints in the local area. Wood dust is a known carcinogen and it is also associated with allergic and non-allergic respiratory and nasal problems, including chronic bronchitis and increased incidents of asthma attacks as well as dermatitis. In response to residents' complaints, the Environment Agency (EA) is currently undertaking wood dust monitoring and data collection to establish whether action can/should be taken over wood dust emissions and to extent to which Boomeco is a significant source of local wood dust. Their data and report will not be available by the time of this Committee

Meeting. We believe approving a planning application which relies heavily on Boomeco's continued and possibly much scaled up woodchipping and wood storage operations before the EA has announced the results of their wood dust monitoring would be highly problematic. After all, the applicants make it clear in the planning documents that they selected the site primarily because of proximity to Boomeco, who are to supply them with woodchips.

If the Balfour Beatty/Nexterra application results in increased woodchipping and wood chip storage by Boomeco and, as a consequence in increased wood dust exposure of local residents then this will be an environmental impact of this planning application. We therefore strongly hope that Councillors will demand and consider the full facts to establish whether the application will lead to an increase in Boomeco's current operations on Chittening Industrial Estate and, if so, what the public health impacts will be. We believe that there is insufficient information in the planning document and in the planning officer's report to answer this question – more evidence and facts should be required from the developers.

For those reasons we strongly hope that the application will not be approved but will either be rejected or deferred pending evidence related to compliance with the waste hierarchy principle and the potential for increased wood dust exposure of local residence as well as for a substantial period of ambient air quality monitoring.

Sustainability concerns: Low efficiency

Combined heat and power plants burning biomass can reach 70-80% or even greater efficiency. Electricity-only biomass plants achieve only up to 35% efficiency levels, with 30% a common figure. Government policy on biomass (UK Bioenergy Strategy 2012¹) emphasises the need to maximise the efficiency of bioenergy. We appreciate that a lack of heat-supply opportunities at a site would not be an automatic ground for rejecting a planning application. However, from the figures contained in the planning documents and from a Foresight/Green Investment Bank (GIB) document about a plant by the same applicants and with the same design², we conclude that this plant would **achieve only around 20.4% net conversion efficiency**³. Virtually all standard combustion biomass plants are more efficient than this.

If this was a Municipal Solid Waste incinerator, it would not appear to qualify as 'energy recovery' because it would not meet the R1 energy efficiency formula contained in Annex II of the EU Waste Framework Directive. Although Annex II of the Waste Framework Directive does not cover waste wood, this nonetheless highlights just how low the plant's efficiency would be.

We believe that extremely low conversion efficiency contradicts the 'sustainable development' principle set out in the National Planning Policy Framework. Furthermore, the Overarching National Policy Statement for Energy (which, as the Planning Officers' report explains, should be considered as guidance for applications such as this one) highlights the need for 'good design' of energy projects which would require them to be "efficient in the use of natural resources and energy used in their construction and operation"⁴.

¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48337/5142-bioenergy-strategy.pdf

² http://www.foresightgroup.eu/images/GIB_GASIFICATION_142.jpg

³ Please note that this is lower than the efficiency figure cited by Biofuelwatch in their planning objection, because we only found the additional data in the GIB document after that objection had been submitted.

⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37046/1938-overarching-nps-for-energy-en1.pdf, 4.5.1

Sustainability concerns: Compliance with the waste hierarchy principle:

The EU Waste Framework Directive, in the National Planning Policy for Waste, the Waste Management Plan for England and in the West of England Joint Waste Core Strategy all emphasise the 'waste hierarchy' principle. As the Planning Officer's report confirms, those policies and the waste hierarchy apply to the proposed plant, which is to burn Grade C waste wood.

This means that waste – including waste wood – must be used as high up the waste hierarchy as possible. If Grade C waste wood was diverted from uses higher up the waste hierarchy, such as wood panel production, in order to fuel an energy-for-waste gasifier, this would contradict this principle.

The Planning Officer's report states: "*The proposal would utilize the wood waste currently accepted at the adjacent transfer facility where the wood is processed and then transported to Central Europe, in particular Sweden, as feedstock for waste to energy facilities. The proposed development will enable the waste wood to be treated within the UK and it will increase recovery levels with the resultant energy exported to the National Grid.*" This claim is contained in the planning documents; however we have carried out extensive web searches and have been unable to find any corroboration for it, especially any corroboration that Boomeco is currently shipping waste wood to Sweden.

We are well aware of Boomeco's contract with North Somerset Council for the supply of waste to the Mälarenergi district heating facility in Västerås, Sweden. This, however, is exclusively for Refuse Derived Fuel, with North Somerset's contract explicitly stating that it must not contain any wood⁵.

We are also aware that Boomeco has a contract with Bristol City Council to sort and shred 6,000 tonnes of waste wood a year. However, the proposed gasifier would require 75,000 of woodchips a year, more than 12 times as much. Furthermore, Bristol City Council has been cited in the media stating that around 90% of the 6,000 tonnes taken by Boomeco would subsequently be used for chipboard manufacturing⁶.

We believe that compatibility with the waste hierarchy principle cannot be adequately assessed without corroborated information to answer the following questions:

- 1) Can it be shown that Boomeco is currently exporting chipped waste wood, and, if so, are the quantities equivalent or greater than the feedstock requirement for this power station?
- 2) If Boomeco is found to export chipped waste wood, are they bound by long-term contracts which would prevent them from diverting those supplies to the proposed gasifier?

Even if it can be shown that Boomeco are currently exporting chipped waste wood to energy from waste plants on the Continent, we would point out that countries such as Sweden tend to burn woodchips in high-efficiency combined heat and power plants, with a minimum of 70% efficiency, rather than a mere 20.4%. Thus, in terms of the waste hierarchy principle, low-efficiency local gasification may not be a preferred option. However, in the planning documents we simply **see no evidence that Nexterra/Balfour Beatty will be able to source woodchips otherwise exported by Boomeco.**

⁵ <http://apps.n-somerset.gov.uk/cairo/docs/doc25443.htm>

⁶ <http://www.letsrecycle.com/news/latest-news/bristol-to-keep-close-eye-on-boomeco-wood-deal/>

In the absence of such evidence, we believe there are grave concerns that the proposed plant will create a significant additional demand for waste wood chips and cause waste wood to be diverted from existing industries, especially the wood panel industry – i.e. move it down, not up the waste hierarchy. We are particularly concerned because Bristol City Council has advised the media that some 90% of the waste wood Boomeco recovers from the City Council is currently going towards wood panel production.

The Wood Panel Industry Federation has warned that their industry's jobs – over 10,000 in the UK – are at serious risk from competition for suitable wood from biomass power plants⁷. They also point out that panel board manufacturing plants depend on sourcing wood from within a 150-200 mile radius. Avonmouth is just over 80 miles from one of the six panel board plants in the UK – Norbord's plant in South Molton. This suggests that the proposed gasifier could very well compete with existing industries' use of waste wood, breaching the waste hierarchy principle.

Air Quality Concerns:

The Planning Officer's report agrees with the conclusions of the developers' Air Quality Assessment that the biomass gasifier would not cause or aggravate any exceedances of the Air Quality Standard – either by itself or when viewed cumulatively together with six other consented new developments within a 2km radius.

However, those conclusion rely on the assumption that existing levels of pollution – including NO₂ – in Avonmouth are currently well within legal limits.

If background pollution levels were higher than those assumed by the applicants then the proposed plant – especially viewed cumulatively with six other approved energy-from-waste and biomass plants – could well cause Air Quality Standards to be breached, which would be a material ground for rejecting the application.

Unfortunately, there are currently no continuous air quality monitors in or near Avonmouth. For the purpose of the Air Quality Assessment, the developers' consultant assumed that background levels around the site are the same as those at the St Paul's AURN monitoring station in central Bristol – around 8 miles from Chitting Industrial Estate. There is no way of knowing whether the levels at the two sites are similar or whether those in Avonmouth – due to the level of industrial activity and shipping at the port and proximity to the M5 – might be far higher.

Moreover, the developers cite readings from three NO₂ diffusion tubes in or near Avonmouth which are within legal limits. However, according to Bristol City Council's Air Quality Progress Report 2013⁸, there are six diffusion tubes in Avonmouth and three of those show annual average NO₂ levels which are in excess of 40 µg/m³, i.e. in excess of the legal Air Quality Standard. The developers' consultants have omitted mention of the three diffusion tube results which do not support their claim that background pollution levels are well within legal limits. Diffusion tubes are indicative of NO₂ levels (and in this case indicate that standards may well be breached at different sites in Avonmouth), but far less reliable than continuous air quality monitors.

We cannot see how the impacts of this and other polluting developments can be adequately assessed without accurate monitoring data.

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http://www.makewoodwork.co.uk/GalleryEntries/Manifesto_and_Reports/Documents/WPIF_Response_to_Further_CfD_Allocation_Consultation_June_2014.pdf

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http://www.bristol.gov.uk/sites/default/files/documents/environment/air_quality/Bristol%20City%20Council%20AQ%20Progress%20Report_2013v1%20orig.pdf

We are aware of another Local Authority (Dundee City Council) which delayed a decision on a biomass power station application pending ambient air quality data collection and monitoring by the applicant⁹ (following which they voted to oppose the application on air quality grounds). ***We believe that Bristol City Council cannot adequately determine the impacts of the proposed plant on air quality without first carrying out – or insisting that the applicant carries out – local ambient air quality monitoring over a substantial period of time.***

Wood dust and public health concerns:

Wood dust is a known carcinogen, according to the World Health Organisation's International Agency for Research on Cancer¹⁰. Exposure to wood dust is associated with a range of other health risks, including skin disease, allergic and non-allergic respiratory problems such as increased incidents of asthma attacks and chronic bronchitis, as well as nasal problems¹¹.

There have been long-standing complaints about wood dust exposure by local residents. In consequence, the Environment Agency is currently undertaking a three months period of data collection through continuous dust monitoring. The results of this monitoring will not be known until later in November at the earliest. The results should show the extent to which Boomeco's current activities are implicated in wood dust pollution. Although not directly relevant to this application, you will be aware that Boomeco had their environmental permit for a different operation in Avonmouth (Refuse Derived Fuel storage) temporarily withdrawn after they had been found to have breached conditions, causing the fly infestation as a result.

The Planning Officers' report dismisses wood dust concerns raised by objectors by stating that the applicants themselves will not store wood outside and that all the wood will instead be stored at an existing facility (i.e. by Boomeco), who have a permit for this. However, if the application results in additional quantities of woodchipping and wood chip storage in Avonmouth – regardless of whether this is done by Boomeco or by Nexterra and Balfour Beatty – then we believe that the effects this must be considered as direct environmental impacts of this proposal.

As we have shown above, we have found no evidence that the plant can and will be supplied by diverting woodchips currently exported by Boomeco. We therefore fear that the application could result in a significant increase in the volume of woodchips chipped and stored at Chittening Estate and therefore in wood dust exposure and consequently health risks to the local population.

We therefore strongly hope that the application will be either rejected or deferred for further evidence, including ambient air quality monitoring.

Best regards,

Jake Stock
Avon Coalition Against Big Biofuels

⁹ <http://www.forthenergy.co.uk/assets/dundee/dundee-non-technical-summary.pdf>

¹⁰ <http://monographs.iarc.fr/ENG/Classification/ClassificationsAlphaOrder.pdf>

¹¹ <https://www.osha.gov/SLTC/etools/sawmills/dust.html>