Dear Mr Rigby,

Re: “Egnedol Response to Friends of the Earth & Biofuelwatch”, APP/N6845/A/16/3146073

I am writing on behalf of Biofuelwatch and Friends of the Earth Pembrokeshire. We have just seen the document from Egnedol uploaded on the PINS website on 14th February. We hope that you will give us the opportunity to respond to Egnedol’s allegations and that you will take this response into consideration in relation to Egnedol’s planning application.

First of all, we would like to stress that Egnedol’s document refers to a briefing published by our organisations in June 2016, which we updated in January 2017: [www.biofuelwatch.org.uk/2016/blackbridge-report/](http://www.biofuelwatch.org.uk/2016/blackbridge-report/) . The briefing does not include all the information, nor any of the references to planning policy, contained in our joint objection to the proposal.

1) Gasification versus burning:

Our joint briefing makes it clear that the technology Egnedol wishes to use is gasification, not standard combustion. We are very familiar with biomass gasification technologies, and Biofuelwatch has published a detailed report about those (<http://www.biofuelwatch.org.uk/wp-content/uploads/Biomass-gasification-and-pyrolysis-formatted-full-report.pdf>). A new report, published by the Global Alliance for Incineration Alternatives, GAIA, illustrates the worldwide failures and risks of waste gasification plants: <http://www.no-burn.org/gasification-pyrolysis-risk-analysis/> .

In relation to Egnedol’s criticism of our reference to ‘burning’, we would, point out that Egnedol’s process does involve burning biomass-derived syngas, so a qualified reference to burning is not materially wrong.

2) Status of biomass gasification technology for power generation:

Egnedol claims: “*The gasification industry is well developed globally and is summarised in the world gasification database at www.gasification-syngas.org The industry summary report produced by Chris Higman at the 2015 Gasification Technologies Conference, (Colorado October 2015) shows that 959 gasification projects existed and that these projects contained 2559 gasifiers. Of these, 1821 of the gasifier [sic] are commercial with an output of 358Gw/th gas.*”

***The database which Egnedol refers is not publicly available***. We therefore believe that it must not be considered as valid evidence in relation to this planning application. However, the website which hosts the database and map states: “*Coal is now the dominant feedstock [for gasification] and will continue to be so for the foreseeable future*.” ([www.gasification-syngas.org/resources/the-gasification-industry/](http://www.gasification-syngas.org/resources/the-gasification-industry/)). It also lists petroleum, [natural] gas and petcoke, as well as biomass and waste, as gasification feedstocks. And it lists the world’s 20 largest gasification projects, none of which use biomass or waste. Clearly therefore, ***the vast majority of gasification projects included in the non-public database will have nothing to do with biomass or waste gasification for power***.

The comments about gasification technologies in our briefing, as well as in our planning objection, explicitly refer to biomass and waste gasification for electricity generation. Coal gasification technologies are clearly more advanced and mature than biomass and waste gasification technologies, which face different technical problems which relate to the different chemical properties of biomass and waste compared to coal. As the above mentioned report about waste gasification (<http://www.no-burn.org/gasification-pyrolysis-risk-analysis/>) shows, gasification of mixed waste streams (such as the one proposed here) poses particularly high and apparently still insurmountable technical obstacles. Furthermore, biomass gasification for heat production only is far simpler than that for power (or combined heat and power) generation. We would also like to point out that there are different technologies for generating electricity from waste and biomass gasification. Some involve little or no gas cleaning. ***Egnedol’s technology involves a very high level of gas cleaning, which makes it particularly challenging***.

3) Risk of fish and prawns in the aquaculture facilities dying as a result of heat loss during a gasifier shutdown:

Egnedol claims that our concern that the fish and prawns in their aquaculture facility would die should the gasification plant be shut down, thus disrupting the heat supply. The company states: “*All of the aquaculture facilities include back up heating systems to allow for planned maintenance of the gasification facility*.” ***The planning application, including the Masterplan include no backup heating system***. It shows the only heat source being the gasification plant, delivered via a pipeline to the Waterston site.

Egnedol further claims: “*Prawns and fish obviously have developed a natural tolerance to temperature variations that they normally experience in their natural environment.*” The company’s own website, states that they plan to farm Tilapia and that “Tilapia require warm water, around 24 degrees centigrade, to thrive.” ([www.egnedol.wales/fish-production.html\_](http://www.egnedol.wales/fish-production.html_)). From a web search, we see that tilapia are not cold tolerant, e.g.: “*Tilapia performance is best in a temperature range of 72-90º F.  Growth and feeding slow when water temperatures drop below 70º F.  However, tilapia are cold intolerant and die when water temperatures are lower than 45-55º F.*” ([www2.ca.uky.edu/wkrec/tilapiakentucky.htm](http://www2.ca.uky.edu/wkrec/tilapiakentucky.htm)). ***Clearly, the fish would die as a result of a prolonged disruption of heat supply, particularly during the colder seasons***.

4) Algal biofuels:

Egnedol cites two websites which they suggest contradict our assertion that no company has ever commercially produced algal biofuels for transport. We can see nothing concrete on either website that contradicts what we said. The fact that Swansea university is carrying out research into cultivating microalgae does not contradict the fact that nobody has so far succeeded in cultivating microalgae for commercial biofuel production. ***There is not one single example of successful commercial algal biofuel production worldwide.***

5) Transport biofuels made from biomass gasification:

Egnedol claims: “*There are literally hundreds of gasification projects running commercially worldwide that produce liquid fuels*”. They cite the US Department of Energy’s NETL website as a source. NETL’s database lists 12 commercial gasification-to-liquids schemes worldwide (<https://www.netl.doe.gov/research/coal/energy-systems/gasification/gasification-plant-databases> ). 10 of those involve fossil fuels, only two involve biomass. Of the two biomass-to-liquids projects listed, one is the Ajos BtL Project in Finland. According to the NETL webpage: “*In late February 2014, is was decided that planning on the Ajos BTL Project would be put on hold by the Board of Directors of Vapo Oy.*” The other is the Varmlands Methanol project in Sweden. According to a presentation by the project developer to a conference on gasification in November 2016, this project is “temporarily on hold” ([www.energiforsk.se/konferensinnehall/gasification-abstracts/](http://www.energiforsk.se/konferensinnehall/gasification-abstracts/)). In short, ***the US Department of Energy is not aware of a single successful commercial biomass-to-liquid fuel in the world***.

6) Sourcing of feedstock, especially waste derived fuels:

Egnedol suggests that it is sufficient for them to say that they intend to source natural timber and “the organic fraction of WDF [waste derived fuel]”. We would note that Waste Derived Fuel sourced on the open market is mixed waste, including biogenic waste as well as plastics and other fossil-fuel derived waste.

Technical Advice Note 21 (“Waste”) lists the information which a developer of a waste development is expected to provide as part of a planning application (Annex B). This includes

*• Estimated annual quantity of each waste type to be received, and estimated total capacity where relevant.*

*• The destination of any end product (residues and any hazardous materials) from the site should be submitted.*

*• The minimum and maximum quantities that the facility could process and remain operational.*

*• The amount of waste (in tonnes) the facility is designed to treat.*

***Egnedol has given no information about the quantities of different waste types which it intends to gasify. This information is vital for determining the greenhouse gas impacts of the development, and its efficiency, since different types of waste have different calorific values. We believe that Egnedol’s EIA is deficient in this respect***.

7) Waste Hierarchy Principle and Waste Proximity Principle:

The company claims: “*Egnedol propose to utilise the fraction of waste that normally either gets sent to incineration or landfill. This does not conflict with the Waste Hierarchy Principle in any way as the recyclable fraction of the material has already been removed, reused, recycled and segregated. Only the residual fraction, which cannot be recycled, is then prepared as fuel.”*

***This is the only statement Egnedol has made about the Waste Hierarchy Principle in any of the documents related to this planning application.*** As mentioned above, Egnedol also states that waste derived fuel will be sourced on the open market. They have failed to provide any information about feedstock composition and its calorific value. We believe that the above claim is wholly insufficient:

Firstly, Egnedol fails to show that the plant would qualify as energy recovery from waste as opposed to waste disposal. According to TAN 21 (Waste):

“*Waste incineration facilities dedicated to the processing of municipal wastes only may be considered to be recovery facilities (R1) rather than disposal facilities (D10) under certain specified conditions. The R1 Formula, defined in Annex II of the Waste Framework Directive, allows a distinction to be made between disposal and recovery in respect of incineration based upon the energy efficiency of the facility. Under the R1 Formula, incineration facilities dedicated to the processing of municipal waste only must have energy efficiency above 0.60 for installations in operation and permitted before 1 January 2009 and 0.65 for installations permitted after 31 December 2008 to be categorised as recovery operations.*”

Therefore (Annex B), such planning proposals require “*evidence that the proposal would or would not meet the R1 energy efficiency calculation*.”

Egnedol has failed to provide any evidence that the proposal would meet the R1 energy efficiency calculation. It has provided no information about feedstock composition and its calorific value, which means that no informed judgment can be made about the plant’s efficiency. ***In the absence of evidence that the plant would achieve R1 status, we believe that this proposal should be considered a waste disposal scheme (in relation to the 50% of feedstock consisting of waste derived fuel). Diverting waste which currently goes towards energy from waste facililties elsewhere in Europe towards an inefficiency waste disposal facility would contravene the Waste Hierarchy Principle***.

Secondly, even if it was shown later that the plant did meet the R1 energy efficiency calculation, there is ***insufficient information to rule out it gasifying waste which would otherwise have been recycled, and which may have an overall negative greenhouse gas impact when used for energy generation, which would also contravene the Waste Hierarchy Principle***.

Egnedol has still not acknowledged the importance of the Waste Proximity Principle. As we pointed out in our planning objection, Pembrokeshire County Council’s Local Development Plan does not identify a need for a new energy from waste facility, with the exception of an anaerobic digester for food waste. ***This waste proposal does not, we believe accord with the Local Development plan policies***.

We would also like to point to the Planning Appeal decision in relation to a waste gasifier proposed at the former Ravenhead Glass Warehouse and other land, Lock Street, St Helens WA9 1HS (Appeal Ref: APP:H4315/A/14/2224529). That appeal was rejected, with the Planning Inspector concluding, amonst other things:

“*The proposal’s carbon output has not been demonstrated to be such that the proposal would be a waste recovery operation that would clearly drive the treatment of waste up the Waste Hierarchy*.”

It points out: “*National Planning Policy for Waste (NPPfW) expects applicants to demonstrate that waste disposal facilities, not in line with the LP, will not undermine the objectives.”*

Although the National Planning Policy for Waste only applies in England***, TAN 21 puts a similar emphasis on the need for energy-from waste or waste disposal facilities to accord with Local Development Plans and with the findings from regional Waste Monitoring Reports. We can see nothing in this application to suggest that this is the case***.

We note that Carmarthanshire County Council rejected a waste pyrolysis plant on grounds including that “*it does not respect the waste hierarchy and the efficient consumption of resources*” (<http://online.carmarthenshire.gov.uk/eaccessv2/pa-applicationsummary.aspx?applicationnumber=S/29559>).

Yours sincerely,

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