



Campaign to Protect
Rural England

SUSSEX

East Sussex County Council
County Hall
Lewes
East Sussex

For the attention of Holly Bond

Dear Ms Bond

Reference:WD/621/CM(EIA) **Address:** Land adjoining Cophall Wood Transfer Station, Cophall Wood, Hailsham Road (A22), Polegate.

Proposal: Biomass Combined Heat and Power Plant (including minor alterations to the existing access to the A22).

This letter is an interim letter of objection to this proposal.

We object to the application due to lack of information, which if supplied will, we hope, allow us to withdraw this objection.

By copy of this letter to the applicant's agents, we request the answers to the Questions set you below. This is needed in addition to the information in the Application to allow the latter to be properly evaluated. If answers to any questions exist in the application or the accompanying Environment Statement, please can you direct us to them.

Please note that our pre-application discussions encourage us to view the application favourably, and so long as the concerns raised below can be resolved adequately we will withdraw this objection.

Yours sincerely

John Hurwood
Planning Coordinator, CPRE - Wealden (South)

cc Sarah Burley and Sarah Watson of Environmental Compliance Ltd
Stuart Meier, Director - CPRE Sussex
CPRE Sussex – Office
Environment Agency
Wealden District Council (for information only)

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Registered charity number 265028

Patron: Her Majesty The Queen

President: Lord Egremont

February 5th 2010

POLEGATE BIOMASS ENERGY PLANT : WD/621/CM(EIA)

OUTSTANDING ISSUES IDENTIFIED BY CPRE SUSSEX, TO BE RESOLVED

Q1 CHP

To achieve CHP status, (ie heat as well as power) the plant needs to be sited to make beneficial use of heat; it must not simply be dumped to atmosphere or the environment. Only in this way will the overall increased efficiency justify treatment of the application as one of “Combined Heat & Power”.

If this is not possible on the proposed site, CPRE expect to object and resist the application on *this* site, as site selection needs to reflect the need for efficient energy usage. Better alternatives exist to a simple Power plant– for example for materials to be converted (eg by pelletisation) on this site or elsewhere for consumption at locations where high efficiency CHP usage is possible.

Energy efficiency is therefore a crucial issue, and we are seeking *authoritative evidence* to support statements on this matter.

Such evidence needs to address the input/output energy balance of the overall plant, demonstrating that the % efficiency of the plant will reflect usage of heat, including for example:

- Planned annual energy input from Raw material (waste) measured in cross comparable units eg Gigajoules
- Electricity inputs from external sources
- Other energy inputs from external sources
- Electricity generation output
- Re-use in-plant of heat (eg drying raw materials ie latent heat of evaporation)
- Unavoidable energy losses (eg building heating losses)
- Avoidable heat losses (eg expected use of cooling towers etc)

We have in mind the crucial relevance here of the *Second Law of Thermodynamics here – ie Carnot cycle efficiency* and that usage of the low grade heat has to be shown (ie energy at lower temperatures which is able to act as heat source, but is at too low a temperature to drive electricity production). No doubt the applicant will have extensive thermal calculations to demonstrate the added thermal efficiency achieved by the ‘heat’ usage.

So in summary, of the total energy input...

- a) What %age of the thermal input will be converted to power?
- b) What %age is used beneficially in-plant or elsewhere for heating?
- c) What %age has to be ‘dumped’ due to lack of need for low grade heat?
- d) What %age is lost in unspecifiable ways
- e) What %age is unavoidably lost (ie the Carnot loss of the system at the normal operating temperatures)

Q2 Fuel

- a) We note that the plant is to be fuelled by both wood chips and SRF, the wood to be chipped on site, and the SRF to be delivered ready for use, with no on-site treatment. We note that the SRF is to be sourced from plants at Whitesmith, Maresfield, Isfield, and “Private sources”, although Biffa of Horsham is mentioned in the transport section. We were not aware that the East Sussex sites mentioned were producing processed SRF, particularly from composting sites. Please provide estimates of sourcing and quantities of SRF.
- b) Could we have a quantified indication of the volume of material to be brought into East Sussex from West Sussex by Biffa/others?
- c) We understand that SRF normally contains significant quantities of plastics of different types. We also understand that burning (or heating) plastics at the comparatively low temperatures that will be present gives rise to a cocktail of poisonous chemicals, and we are concerned at the lack of information on hazard removal. Please clarify.
- d) Would this site be in competition with Newhaven for the SRF, one assumes that Newhaven needs some fuel with higher calorific values to function efficiently, could you confirm that there is no conflict?

Q3 Gasification

- e) We understand that as the material is heated a solid residue is produced, and also smaller particles of “char”. We read about the process for removing and taking off site the “char” but we are less clear about the solid residue, which with plastics present could be toxic, how is that removed, separated, stored and disposed of?
- f) Where is the char to be disposed?
- g) We read about the process for cleaning the gas, the removal of specific chemicals, such as hydrogen sulphide, and ammonia, but are not clear how the products from the heating of plastics are to be safely removed (see Q2 c))?
- h) We note that during plant shutdown the gas is to be “flared”, for safety, but we are concerned about the possible poisons being spread at low levels during this procedure. Has research been carried out into this? If not, this plant has to be considered experimental, but the application is not for a pilot/experimental facility with emissions of unknown toxicity to surrounding habitats, flora and people.

Q4 Electrical Connections

- a) We note the notional plans for the electricity cable connection. However without being an expert on this it is clear that the full output of 16MW (some 800amps at 11kV) could not be carried by a single cable. It is also clear that the existing distribution substation identified in your drawing could not possibly handle that power. Whilst it is reasonable that final plans for connection to the electricity network are not yet available, it would be more realistic to show cables from the site to a major substation with capacity to accept an in feed of this magnitude. This could involve a major and disruptive excavation to a point at a much greater distance from the generator, and the understatement in the application could be seen as misleading. Have you any further information yet?
- b) We also anticipate that a significant electrical switch room will be required at the generator site, but cannot identify this on the plans, please identify its location.

Q5 Drainage

- a) The scrubber liquor is to be treated, and the words say that it is to be discharged into the sewer; similarly Sarah Burley answered our earlier question on this in August, when we were told that three cubic meters per hour will be discharged into the sewer. However when studying the drawings it appears that this discharge is now to actually be made into the local drainage culvert. Please indicate that such discharge to surface water is acceptable to the Environment Agency without further treatment.
- b) Have we interpreted your information correctly? Have you prepared any environmental information on the effects of this discharge into the local culvert, both locally, and downstream into the natural water drainage system of the area? What monitoring of the quality of this discharge is to be undertaken?

Q6 Transport

- a) We feel that the words and the table are both a little misleading, as they refer to the “existing” export of 47,500 tonnes per annum of wood to Belgium. However it is only very recently that it was agreed to expand the total input of all materials at this transfer site to a figure above 25,000 tonnes per annum, and so clearly this figure is a *future plan*, not an actual figure. Thus the (-7) on the table, and the number of HGV movements should be shown as increases from the existing situation. Could you please confirm our interpretation of this data, and provide a corrected statement of movements?
- b) Whilst we generally agree that the road that immediately serves this site has adequate capacity for the probable increase in lorry movements, we are not so certain as to the capacity of the roads that the HGVs must travel to reach this section of the A22. We have no information about the routes that these HGVs will take, but we are aware that the A22 at the Boship Roundabout suffers from severe congestion at peak times, as it does near Whitesmith, and the junctions with the A27 at Polegate. In fact the A27 to the west is very close to its maximum capacity. Each of these areas will be made worse by this proposal, and there is considerable local opposition to any plan to deliberately bring more traffic into these very congested road networks. Your view that the very small notional increase in traffic is not a problem will not be viewed sympathetically by those who live in the area, each increase in traffic makes the already bad situation worse. What investigations have been made/modelling carried out to assess the effect of the traffic increase on those areas that are already badly stressed? Notably, these are likely to include parts of the road network which are not currently used by the Belgium-bound traffic (which use the A27 East); ie Network as well as location traffic impact matters, and the transport papers do not appear to address this.

Q7 Visual Impact

- a) We note that all of the research and investigation was carried out in the summer. Now during the winter months, with no leaves on the trees, the site is much more exposed, as a simple drive past on the A22, or a walk on the ridge of The Downs, will show. What locationally similar photographs and discussion points been produced to cover the seasons when there are no leaves on the trees?

- b) We are concerned that the bulk of the main building, not just the chimney, will be a significant intrusion into the landscape, except possibly in the summer. What can be done to mitigate this impact? In particular the narrow belt of trees that shelter the site from the A22 is already not adequate, the necessary widening of the access road, and the construction work will make this worse. We are not sure how the main building can be screened from the view from The Downs.
- c) We are very concerned that site security and safety lighting will create a disturbing glow around the whole site, visible for miles, including from The Downs. We believe a more comprehensive lighting control plan is needed to reduce light pollution at times outside delivery periods. How will illumination levels will be kept to a minimum, how can lights be fully shrouded to prevent light overspill, and what steps will be taken to prevent significant reflected light polluting the area?

Q8 Ecology

- a) Rather as with the visual impact survey, it appears that the comprehensive survey was undertaken over a limited time last summer, and thus inevitably leaves questions in our minds concerning the situation at other seasons, particularly in the spring. Is there any information available about that more critical time?
- b) We are concerned that this site is so close to ancient woodland, and wonder if you can tell us where any similar plant is actually commissioned to enable us to see the surrounding conditions? In particular, we draw to your attention that PPS9 Paragraph 10 states inter alia of a planning decision maker that...

They should not grant planning permission for any development that would result in its loss or deterioration unless the need for, and benefits of, the development in that location outweigh the loss of the woodland habitat.

To provide evidence to allow this test to be undertaken, the applicant needs to *quantify* the impact on the ancient woodland and the *benefit* "in that location" (see Q1 above).

Q9 Need and Alternatives

CPRE Sussex is fully in favour of the principle of reducing or eliminating the need for landfill, and thus support the general need for this type of development.

- a) Whilst the proximity principle indicates that it is not a good thing to take the wood to Belgium, in Belgium it is reprocessed, which is a much better use than burning it as fuel. We are not clear whether the proximity principle has been invoked because the wood crosses the channel, if it was being transported a similar distance to say Stoke on Trent, would the same argument be applied? What research has been carried out on the relative merits of transporting this to the nearest available reprocessing site compared with its destruction by burning? For example, CO2 emission calculations could show if the reduced fuel usage in transportation is significant. Have such calculations been performed? Please supply a simple assessment. . Possible conversion to pelletised fuel or use elsewhere eg Hospital CHP also needs to be investigated.
- b) The proximity principle raises our concern when we see that some of the SRF is to be imported from West Sussex, as mentioned in Q2 b) above. Is this justified in CO2 terms?

- c) We do not agree with all the methods employed to show that this is the most suitable site, in particular the course sieves. "C" is particularly unrealistic, as there are no plans anywhere in Sussex to move waste by rail, (just look at the Newhaven site!) and no realistic possibility for rail ever to be used to this site, it is thus unreasonable to filter sites out on that basis
- d) Similarly we note, and copy Sieve D below:
Quicklime™ and a
TIFF (LZW) decompressor
are needed to see this picture.
We are
concerned that this removes suitable sites in business areas where the potential for use of the waste heat would exist, which in our view would be the most suitable sites for this type of plant.
- e) We are particularly concerned about the phrase "unnecessary impact on health", could you please explain that? What level of impact IS "necessary"?
- f) We do not fully understand the detailed application of sieve G to your final list, and how that eliminated some apparently suitable sites. Before we could accept that this proposal is the only site we would wish to see how the other potential sites were eliminated. Please elucidate.
- g) We are also concerned about the scale of this planned development, compared with having more, smaller, developments where the use of the heat would be practical, and the efficiency would be higher. Thus instead of trying to find and justify a single site for the whole of the East Sussex area should we really be seeking several smaller scale sites, should not the discussion on alternative options look at this aspect before saying that only one option exists?

END