

Planning Service
Environment and Technical Services Directorate
Isle of Anglesey County Council
Council Offices
Llangefni
Anglesey
LL77 7TW

18 November 2009

Dear Sir,

Re: plans by Anglesey Aluminium Metal Renewables to build a biomass electricity generating station at Penrhos Works, Holyhead. Application No. 46C13E/1

I am writing on behalf of Biofuelwatch to object to the plans submitted by Anglesey Aluminium Metal Renewables to build a biomass electricity generating station at Penrhos Works, Holyhead which is intended to burn more than 2.4 million tonnes of biomass per year, primarily imported wood chips and wood pellets.

Would you please acknowledge receipt of this objection by e-mail, let me know when the planning committee will consider this application and give Biofuelwatch the opportunity to make verbal representations at the committee meeting.

THE BASIS OF OUR OBJECTION

The basis of our objection is that the overall environmental impacts of this development will be adverse and that it will accelerate rather than mitigate global warming and climate change. Concerns about local air pollution and public health, as discussed below, also form part of our objection.

We believe global and not just local environmental impacts should be treated as material considerations in determining this application because of its scale and because it claims to be addressing a global issue, i.e. climate change.

1. Planning Policy Statement 22: Renewable Energy (PPS22) states as one its key principles that:

'(iv) The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.'

If wider environmental **benefits** are to be treated as material considerations in considering a planning application, then so should wider environmental **impacts**.

2. PPS22 also states that:

'Renewable energy developments should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through careful consideration of location, scale, design and other measures.'

The use of large volumes of imported biomass is totally incompatible with the requirement to ensure that "environmental and social impacts have been minimised".

3. Planning Policy Statement 23: Planning and Pollution Control, confirms that '*any considerations of the quality of land, air, water and potential impacts arising from development, possibly leading to impacts on health are capable of being material considerations in the determination of planning applications.*'

The wording of PPS23 does not limit the geographical scope of 'potential impacts'. The wider environmental and social impacts of biomass production and transport, which include adverse impacts on the quality of land, air and water in producing countries, should be treated as material considerations.

4. The Planning Policy of Wales (PPW) (Chapter 13), which is material to this application, states:

"Special attention needs to be given to minimising and managing the risks associated with climate change."

BIOMASS HEAT AND POWER, SUSTAINABILITY LIMITS AND THE CARBON CYCLE

Although biomass energy is considered to be 'renewable' by Government and EU policy, it is widely accepted that there is a limit to the amount of biomass that can safely be extracted from forests before it becomes unsustainable. Furthermore, when trees are cut down and burned as biomass, the carbon contained in the wood is emitted as carbon dioxide, however, it will take replacement trees decades to re-absorb that carbon dioxide. This means that burning trees will inevitably worsen climate change during the all-important period when emissions must be reduced drastically if we are to have any hope of avoiding the worst impacts of climate change.

Government policy to support bioenergy from wood appears to have been developed in the expectation that only 'wood waste' would be used, however this planning application would allow the burning of wood pellets and wood chips from additional logging and from industrial tree plantations anywhere in the world. Biofuelwatch believes that the high volumes of biomass to be taken by the Anglesey development will be unsustainable and will therefore cause climate change to accelerate.

The proposed development at Anglesey will burn over 2.4 million tonnes of wood per year - equivalent to more than a quarter of the entire UK roundwood supply. In their May 2009 UK Biomass Strategy, DEFRA said:

(p6) "there is significant potential to expand the UK supply of biomass without any detrimental effect on food supplies and in a sustainable manner by - sourcing an additional 1 million dry tonnes of wood per annum from currently unmanaged woodland in England, and from increasing the recovery of wood for energy from managed woodland and other sources of wood waste products across the UK"

The Anglesey power station will be consuming annually nearly two and a half times the additional wood that DEFRA has estimated is available sustainably from English woodland.

The EU Renewable Energy Directive 2009 recognised that the issue of biomass sustainability is important and that policy needed further development:

"(75) The requirements for a sustainability scheme for energy uses of biomass, other than bioliquids and biofuels, should be analysed by the Commission in 2009, taking into account the need for biomass resources to be managed in a sustainable manner."

We understand that the European Commission has now decided to ignore the recommendations of its environmental department and will not be proposing legislation to enforce sustainability standards for biomass. Instead, it will publish a non-binding recommendation calling on member states to apply biofuels sustainability standards to biomass. This places a greater onus on the UK government and local planning authorities to develop a science-based and holistic approach to biomass energy which respects sustainability limits and which ensures that pressures on forests and communities in other countries which stem from the UK's current demand for wood are reduced, not increased, and to apply the precautionary principle in the meantime.

There are growing concerns about the prospect of large-scale ecosystem destruction and thus faster climate change as well as displacement of local communities if industrial tree plantations in the global South are expanded to supply biomass power stations in the UK and elsewhere. In West Papua, a new study by the Environmental Investigations Agency and Telepak reports plans for large-scale destruction of virgin rainforest to grow tree plantations for wood pellets and wood chips for export.

(www.eia-international.org/files/news566-1.pdf)

Although the plans in West Papua are not directly linked to this application, should it be approved then there will no legal reasons against similarly destructive sourcing of feedstock. We believe that the environmental record of Rio Tinto, one of Anglesey Aluminium's parent companies is relevant in this context: Rio Tinto has been strongly criticised by environmental organisations for destroying highly biodiverse virgin rainforests and the livelihoods of local communities for mining and for associated industrial tree plantations in Madagascar.

(www.wrm.org.uy/bulletin/72/Madagascar.html).

Combustion of the “standing stocks” of carbon represented by trees always puts more CO₂ into the atmosphere than was there beforehand. When harvesting is conducted at the scale required to provide wood for large-scale biomass heat or power plants, regrowth of trees to re-establish the standing stock of carbon that existed prior to cutting takes decades. The carbon emitted by cutting and burning is not “made up for” by growth in the forest that remains – the net amount of carbon in the atmosphere will always be more, and the net amount of carbon tied up in biomass will always be less, if the forest is cut and burned than if the forest is left intact.

The total amount of carbon in the biosphere is fixed: what matters at this time, and in the next few decades in order to slow global warming, is the percentage of that carbon which is in the atmosphere. Human burning of wood will produce a spike in atmospheric carbon which is not “natural” or “biogenic”. The US Environmental Protection Agency described the carbon cycle thus earlier this year:

“for a given amount of CO₂ released today, about half will be taken up by the oceans and terrestrial vegetation over the next 30 years, a further 30 percent will be removed over a few centuries, and the remaining 20 percent will only slowly decay over time such that it will take many thousands of years to remove from the atmosphere.”

(Federal Register, April 24, 2009. United States Environmental Protection Agency 40 CFR Chapter 1)

Carbon put into the atmosphere by burning biomass will take many decades to be re-absorbed by natural carbon cycle, and will make it more difficult to limit temperature rises due to global warming.

It is often claimed that biomass heat and power plants can be supplied with “forestry residues” that would decompose anyway, emitting greenhouse gases. And that using this material for fuel results in the same total greenhouse gas emissions as would have occurred in nature. This argument is incorrect - decomposition is a slow process which builds soil carbon stocks and maintains soil nutrients and thus healthy soils, whereas combustion instantaneously releases CO₂ to the atmosphere, removing biomass carbon and nutrients from the terrestrial ecosystem.

Carbon emissions from soil disturbance and logging slash make logged forests act as carbon sources, instead of carbon sinks, and it takes decades before a logged forest once again sequesters the carbon that has been removed. The international standard for carbon accounting provided by the Intergovernmental Panel on Climate Change acknowledges that all logging operations result in a direct and immediate emission of forest carbon to the atmosphere.

(Intergovernmental Panel on Climate Change, 2006. IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4: Agriculture, Forestry, and Other Land Use. Chapter 4: Forest lands.)

EFFICIENCY

There are limited natural resources available for use to provide energy, and the atmosphere / biosphere has a limited capacity to absorb pollutants including green house gases. It is therefore essential that any combustion-based energy system should be as efficient as possible. Burning biomass, much of it imported, to produce electricity without heat capture as proposed for the Anglesey power station is very inefficient and on these grounds alone it is a poor choice of renewable energy technology.

The UK (Defra) Biomass strategy of 2007 proposed a hierarchy of uses for biomass as an energy source, based on the savings in terms of tonnes CO₂ per £. They assessed electricity-only generation from biomass to be the second most inefficient use:

"This strategy also emphasises our wish to increase the use of biomass as an energy source, given its importance in the transport, heat and electricity sectors. We have looked across the different energy sectors in order to establish which represents the most effective use of biomass raw materials. Our analysis shows a clear hierarchy of use in terms of cost of carbon saving (£/tonneC):

- *biomass heating is the most effective form of bioenergy, particularly in industrial and commercial applications*
- *biomass combined heat and power (CHP)*
- *co-fired electricity in large fossil fuel plants*
- *dedicated biomass power plant*
- *transport biofuels "*

In their 2009 report, '*Biomass: Carbon Sink or Carbon Sinner?*', the Environment Agency reiterated this conclusion, saying that generating only electricity from biomass is a wasteful use of a limited resource.

Being an electricity-only system, the proposed Anglesey power station is inherently inefficient.

Inefficient extraction of energy from biomass has two serious consequences. It causes more greenhouse gas emissions per unit of delivered energy and it consumes limited natural resources at a faster rate.

However, our objections based on the climate impacts and other global impacts of large-scale, particularly import-reliant industrial biomass stand, regardless of the efficiency of combustion or the use of waste heat.

BIO INFECTION CONTROL

It has been suggested that there are potentially large supplies of 'waste' wood available in the USA from beetle-infested trees that could be imported in the form of wood chip to fuel power stations like the one proposed at Anglesey. In many US states, it is illegal to transport infested wood from one area to another as a precaution against spreading the risk of infestation. Biofuelwatch believes it is unnecessarily risky to allow infested wood, either in log form or as wood chips to be imported to the UK.

AIR POLLUTION

Any combustion process will emit potentially health damaging air pollutants. The proposed Anglesey power station will add significantly to air pollution in the local area.

Nitrogen oxides (NOx)

Along with Volatile Organic Compounds, nitrogen oxides are precursors to ground-level ozone formation, a pollutant that causes human respiratory health problems and damages vegetation.

Sulphur dioxide

Sulfur dioxide (SO_2) exposure causes breathing difficulty for people with asthma, and is also implicated in acid rain formation.

Hazardous Air Pollutants (HAPs)

Hazardous air pollutants (HAPs) is the group name for 187 compounds which are known to have highly harmful health or environmental effects. The list includes metals like chromium, lead, and mercury, as well as compounds like dioxins (products of combustion that are widely considered to be among the most toxic chemicals known), benzene (a constituent of gasoline) and methylene chloride, a widely used solvent. Because wood pellets can be made from treated or painted wood waste, it is possible that the exhaust emissions from the Anglesey power station will contain HAPs.

Particulate matter (PM)

Particulate matter represents airborne material extremely small in diameter, which is able to penetrate deep into the lungs. Per megawatt-hour, PM emissions from the Anglesey power station would be greater than those from typical coal fired power stations, and more than 130 times greater than PM emissions from a natural gas fired power station.

Black Carbon

The classes of particulate matter classed as “black carbon” have also been implicated by a recent study as having up to 60% of the climate warming effect of CO_2 , by both creating “brown clouds” and darkening and thus increasing the heat absorption of snow and ice in polar regions.

(Ramanathan, V. and G. Carmichael. 2008. Global and regional climate changes due to black carbon. *Nature Geoscience* 1: 221-227.)

CONCLUSION

Biofuelwatch believes that the power station proposed in this application will harm the environment, will increase the rate of global warming and represents a profligate use of natural resources. These issues should be material considerations in determining the application.

We ask that the Council recommend against permission and that DECC then refuse the application.

Yours sincerely,

Robert Palgrave

Biofuelwatch.

cc: Rob Pridham
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