

Bronzeoak's plans for an electricity-only biomass power station at Castle Cary

SUMMARY

Bronzeoak plans to build a 12.7 MW electricity-only biomass power station at Castle Cary which will need 136,000 tonnes of fuel each year.

Question 1 - Are these plans sound proposals to help us combat climate change?

Question 2 - Are there sensible reasons for siting the power station outside Castle Cary?

The answer to **BOTH** these questions is **NO**.

Why the plans are not green and are shockingly wasteful

Bronzeoak has cloaked its proposals in "green pr". The next page explains why we need to look beyond the pr and why it isn't safe to accept these green credentials on face value. When you look at these specific plans it is clear:

- that by converting only about 30% of the biomass energy into electricity and wasting the heat generated as a pollutant, they are a shockingly inefficient use of biomass - a limited resource we must use carefully;
- they will displace UK food crops, harm sustainability and cause environmental problems; and
- only a fraction of the fuel can be sourced locally (say, within 40 km). **The plant is not using waste already taken to the area for processing. There's no efficiency in siting it at Cary.**

We can reduce greenhouse gases more by using our limited biomass resources better.

Why Castle Cary is a spectacularly unsuitable site

This power station would ruin, *for no good reason*, a wide swathe of Somerset for future generations.

- The local B roads already carry a higher proportion of HGV traffic than the average UK motorway. 50 to 70 more HGV movements a day would not be safe. But the lack of local biomass means this HGV traffic will affect a much wider area; probably the villages on the A39 route to the M5 (e.g. Keinton Mandeville and Ashcott) and on the A37 to Bristol.
- The noise of 24 hour air cooling fans and chipping machines will wreck a peaceful rural area and adjacent nature reserves. It will also harm local businesses reliant on the tourist trade.
- The site has a history of emission dispersal problems. The environmental reports for previous planning applications massively underestimated the impact of emissions – and experience shows the problems created blow straight into Castle Cary's residential areas.
- The plant will be 35m high with a 50m stack on a prominent site visible from Glastonbury Tor, the Mendips, the Blackdown Hills and the whole area in between – not just from Cary.
- Conversion of Somerset dairy farms to energy crops will cause unemployment and will also undermine our important local cheese-making businesses.

These plans are a clever way to harness huge subsidies to make as much profit as possible from a field Bronzeoak already owns. But there are much better renewable energy schemes to support.

WHY SOME BIOMASS ENERGY IS NOT GREEN

It's tempting (and comforting) to accept that biomass energy will help us tackle climate change problems. Unfortunately, **the scientific community is increasingly warning us of problems with biomass.** Many biomass power stations are a shockingly wasteful use of biomass and some are even making the greenhouse gas problem worse overall.

Reputable institutions, such as the UK Environment Agency and Princeton University, have recently published research warning us not to rely on superficial assumptions that all biomass plans will help us tackle climate change. They advise we must evaluate each plan properly on the specific facts and avoid those schemes which cause serious problems.

What are the issues?

The UK will have to import 90-95% of the biomass it needs to feed the power stations it currently plans¹. This means biomass is a limited resource we must use efficiently² so we make the most impact with what we have. In particular:

- we should **not** use it for electricity-only power stations which operate at 30% energy conversion efficiency or less. Combined heat and power plants are at least twice as efficient. This is why the site of a biomass plant is so important. New sustainable developments increasingly incorporate biomass heat and energy schemes. Efficient use of biomass is not an impossible aspiration – except where a power station is badly sited, as it would be here.
- We can only satisfy our renewable heat targets using solar power and biomass. We need to focus our biomass use, therefore, on heat generation projects. We will fail to meet these targets if we use our limited biomass resources in inefficient electricity generation instead.

The UK's current biomass plans will make us dependent, again, on imported fuel.

Energy crops which displace food production can cause serious problems. If biomass energy crops displace food production, the food then has to be grown elsewhere. For the UK, it means we will have to import more food and our imported food production will displace someone else's local food production. This in turn means:

- through a chain-effect we put pressure on people to create new food producing areas out of rain forests and other sensitive environments. This habitat destruction can produce greenhouse gas emissions which would take hundreds of years to make "carbon neutral",
- or we cause food shortages in other countries. Mostly likely we would cause a mixture of deforestation and food shortage.

We also increase the greenhouse emissions from food transport.

The UK is being criticised for this behaviour. And it also reduces the food security of this country and makes our own food supply chain less sustainable.

Continues

¹ See recent report by Verdantix, environmental consultants
<http://www.tcetoday.com/tcetoday/NewsDetail.aspx?nid=12288>

² See (a) Environment Agency Report
http://www.environment-agency.gov.uk/static/documents/Biomass_carbon_sink_or_carbon_sinner_summary_report.pdf and
(b) The Chartered Institution of Water and Environmental Management report "Forests and not biomass needed in fight against climate change" http://www.ciwem.org/press/20091116_biomass.doc

Creative carbon accounting. Biomass power stations generally create more carbon emissions than conventional power stations. They are only "carbon neutral" or "low carbon" as a result of carbon accounting. But there is increasing criticism of the carbon accounting for biomass - much of it is now regarded as wrong. Princeton University has recently called for changes to the biomass accounting rules to correct this error³. We should not just ignore the error when evaluating biomass plants in the meantime. We need real answers to this problem, not the illusory comfort of creative accounting.

Some biomass energy schemes are still a good idea. Biomass that:

- is used efficiently (for heat or for combined heat and power);
- is locally sourced;
- does not displace food production; and
- is *truly* sustainable

is a sensible part of the energy mix we need to tackle climate change and energy security.

The lesson is that we must properly assess the green credentials of each biomass proposal. A superficial approach will only cause more environmental problems – not fewer.

GROWING ENERGY CROPS IN SOMERSET IS NOT A GOOD IDEA

It will undermine our cheese-making and dairy products industry. Conversion of dairy farming to energy crops will make it more difficult for our local cheese-making industry to source milk locally. It will make these businesses less sustainable. It will undermine their products and brands – cheese made from imported milk is not the same as a truly local product from the cradle of Cheddar cheese-making. These businesses are important. They employ hundreds of people.

It will cause job losses. Miscanthus cultivation and its supporting supply chain need much less manpower than traditional farming. Where arable land is converted to Miscanthus, about 10 jobs are lost for each new job gained. That figure is, obviously, worse for livestock and dairy farming and their supporting industries. Supporting Bronzeoak's scheme because it will create jobs is perverse. Net job losses are much more likely.

It will make our food supply less sustainable and less secure. Much of Somerset's agricultural land is prime land for food production. Displacing that production for a very limited amount of inefficiently-generated renewable energy is not environmentally sound. The UK will have to import more food - we will increase carbon emissions, be less sustainable and will worsen our food security problem. This is contrary to the Government's new food strategy announced in January 2010⁴.

Somerset's farmers are already being encouraged to produce Miscanthus for the plethora of biomass power stations planned for Avonmouth and Bristol - power stations that will be fighting over a limited supply of biomass. We should not exacerbate the problem with yet another one.

³ See <http://www.princeton.edu/main/news/archive/S25/62/29A56/index.xml?section=topstories>

⁴ See Food 2030 at <http://www.defra.gov.uk/foodfarm/food/pdf/food2030strategy.pdf> which states "It is also important to ensure that conversion of land for biofuel or biomass production... does not compromise local or global food security."

WHY CASTLE CARY IS THE WRONG PLACE

Castle Cary is spectacularly unsuitable for the development of a power station.

Local Traffic - The immediate approach roads along the B3153 are already unsafe due to HGV volume. The huge volume of landfill taken to Dimmer (around 120,000 tonnes pa) means these small B roads already carry a higher proportion of HGV traffic than the average UK motorway. The new power station would need 136,000 tonnes of fuel pa – more than doubling that figure. It will **not** be using material already being trucked to Dimmer. There is no efficiency in siting the plant here.

To generate the same power as you would from one HGV load of coal you need about 12 HGVs of Miscanthus because biomass is so bulky. No one would suggest Cary is a sensible site for a coal fired power station. A biomass power station burning Miscanthus is, surely, 12 times more stupid?

Wider traffic impacts and source of biomass - A much wider road network will also be affected by the increase in HGV traffic including, probably, the A37 from Bristol and the A39 route to the M5 through Ashcott, Keinton Mandeville and many other villages.

This is because there isn't nearly enough biomass in the local area to support an operation of this type. Bronzoak has talked of fuel from "suppliers with operations in a 100 mile radius" (which is not local). But the highly competitive UK market for biomass must mean there is a very high (and unacceptable) risk even these fuel plans are over-optimistic. Bronzoak's failure to give any concrete information on how far fuel will have to be transported has heightened those concerns.

Noise – The operation will generate noise pollution at levels wholly unknown in the area; 24 hours a day. The area is rural and quiet but there are homes and holiday cottages nearby which will be ruined by 24 hour noise – as will the award-winning Carymoor Environmental Centre and the wildlife reserves next to the site.

Emissions and toxins – Three businesses in the area have created unpleasant odours and other emissions contrary to the environmental impact reports prepared when seeking planning permission. Local people were subjected to six years or more of dangerous and unpleasant fumes from Bronzoak's incinerator which only ended when it was shut down after the prolonged involvement of the Environment Agency. Everyday experience suggests specific local meteorological and topographic conditions have played a part in these problems. This history of proven emission dispersal problems cannot be ignored. It clearly shows the environmental investigations do not provide adequate protection or match the subsequent reality. Waste wood frequently contains toxins. It should not be incinerated on a site with known emission dispersal problems.

Visual impact - This will be immense. The power station will have a 50m high chimney and a 35m high building out-of-scale with the local area. Visibility will be exacerbated by the topography and the development will be out-of-character. It will be visible not just from Cary but from the Mendips, the Blackdown Hills, Glastonbury Tor and the area in between.

Why local people should not have to give Bronzoak the benefit of the doubt again and again - Local people have recent and unpleasant memories of living with the consequences of Bronzoak's previous operation and its prolonged history of varied and repeated environmental breaches. Bronzoak was given the benefit of the doubt by the authorities for six years. But it repeatedly failed to live up to the required standards. The many people who lived with the unpleasant consequences are quite naturally sceptical about the company's ability to operate to required standards in the future. Why wouldn't they be?

For more information or to ask to be kept up-to-date with developments visit

www.Care4Cary.com
