

BLAIR FOX GENERATION W.A. PTY LTD
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Professor Garnaut
Garnaut Review Secretariat
Level 2, 1 Treasury Place
East Melbourne, Victoria 3002

Via email: contactus@garnautreview.org.au

Dear Professor Garnaut,

Submissions for issue paper one 'Climate Change: Land use - Agriculture and forestry'

Blair Fox Generation is a company owned in part by the Western Australian poultry industry¹. The WA poultry industry is seeking to transform waste poultry litter into BioChar and Syngas using slow pyrolysis technology.

The Syngas will be used in a reciprocating engine/generator set to generate renewable electricity and the BioChar will be provided to the agricultural sector.

This BioChar/Syngas project is a carbon-negative energy concept, also known as 'biotic CCS', 'bio-energy with carbon storage' or 'negative emissions energy'. This most radical of emission reduction concepts is based on coupling bioenergy and biofuel systems to carbon capture and storage (CCS). Nuclear power, ordinary biofuels or renewables like wind and solar power are all 'carbon-neutral' at best; that is, they do not add new CO₂ to the atmosphere. Carbon-negative bioenergy and biofuels go much further - they take historic emissions out of the atmosphere.²

The BioChar not only represents stored carbon it also has proven benefits for soils. The NSW Department of Primary Industries (NSW DPI) has undertaken detailed investigations into the benefits of char on soils. They have utilised char produced at pilot facility run by the providers of the technology that we are proposing. Key findings show the benefits of poultry litter chars on soils. The following is taken from relevant sections of the Summary of Key findings from Evaluation of chars as soil amendments: Final report – summary of results and recommendations (NSW Department of Primary Industries, May 2007).

Plant Responses in Poultry Litter Chars

¹ WA Broiler growers produce in excess of 40m chickens pa. All 50 broiler growers are part owners of the company.

² Biopact: [IPCC Fourth Assessment Report: mitigation of climate change](#) - [Working Group III], May 04, 2007

For the poultry litter chars, without N fertilizer, application of chars to the soil resulted in significant but similar increases in radish dry matter yield even at the lowest rate of application, 10 t/ha, and higher increases were observed with increasing char rate. Significantly higher yield increases (up to 242 %) were observed when N fertilizer was applied, highlighting the role of char in improving N fertilizer use efficiency.

Pot trial results suggest poultry litter chars can be used as organic fertilizer. Both types of char have significant non-fertiliser values and are effective in increasing the nitrogen fertilizer use efficiency.

So BioChar not only locks carbon in the soils it also provides additional benefits to the soil that reduce the need to apply traditional fertilizer, and thus eliminates a further increase in the GHG footprint of horticulture.

Our project also exists within the sophisticated confines of the energy and intensive agriculture industries. These industries have established regulatory frameworks and professionalism that provides audit paths that can give the community confidence that the key metrics processed can be verified.

However, even with all the benefits listed above, our project is struggling to get financial backing. The fact is that we can't compete with fossil fuel based projects. Renewable energy electricity production and fertilizer value (which we can't forward sell due to the nature of the fertilizer industry) won't build the economic case for the project.

In summary, even a 'quality' renewable energy project which:

- has the financial support of an established industry group (the WA chicken meat farmers) with one of the highest agricultural multipliers in WA;
- has an energy offtake agreement;
- will convert a detrimental waste stream (poultry litter breeds stable and house flies in problematic numbers and raw application of the litter to soil pollutes water catchments) into two products that make a positive contribution to the environment – renewable energy and BioChar;
- will lock up carbon while enriching the soil; and
- will provide accredited renewable energy into the South West Integrated System

cannot compete for economic viability in a fossil fuel-dependent energy context.

The key ingredient for ensuring Australia invests in renewable energy solutions is a policy framework that legitimises innovative technologies. This gives the private sector the confidence to invest.

In some ways, the efficiency of technologies such as these are their own worst enemy. After construction, the BioChar plant will employ only a few people; the chicken farms are located in sufficient proximity that the transport logistics are reasonably simple and the GHG footprint requires this proximity –

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so there is no possibility of locating the plant in a more needy regional area to stimulate employment there. In terms of infrastructure, the plant is too expensive and complex for the industry to fund itself (farming, rather than energy production, being its core business), yet relatively small scale in terms of infrastructure projects.

The interest of Government is not excited by such projects – they are not large employers in marginal or impoverished electorates. They will not stimulate exports.

Yet, this is a typical renewable energy project. Too small to excite interest from institutional investors and too expensive for 'go it alone' developers.

A policy environment which acknowledges the contribution that small producers can make to the energy mix, as happens in Europe, will be a vital step in ensuring Australia exploits her many sustainable energy sources.

We request that your findings recognize the potential of bio-energy with carbon storage projects. We urgently need to find a mechanism that that allows these projects to become financially viable so the potential recognised by the IPCC² can become a reality. If the carbon benefit can be factored into the economic equation and an economic benefit passed back then this and many other projects will be constructed, delivering wide economic benefits for regional WA.

Yours sincerely



Len Brajkovich
Chair
Blair Fox Generation WA Pty Ltd