

# QUESTIONS TO THE GREEN INVESTMENT BANK REGARDING ITS INVESTMENT IN BIOMASS GASIFICATION (BIRMINGHAM BIOPOWER PLANT, TYSELEY)



biofuelwatch

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## ENVIRONMENTAL SUSTAINABILITY:

1. Why did the Green Investment Bank (GIB) decide to invest in one of the most inefficient technologies for converting biomass to energy?

**Background:** The technology which GIB has chosen to invest in relies on waste wood gasification to power four very small steam turbines, without any heat recovery. The efficiency of steam turbines depends heavily on size – the smaller the turbine, the less efficient the process will be.

According to figures published by Nexterra (the company designing the biomass gasifier in Tyseley) and the Green Investment Bank's fund manager Foresight, this plant will achieve a mere 20-21% conversion efficiency. It will likely be less efficient than any existing biomass power plant in the UK. It has not been shown that the facility would meet the definition of 'other recovery' when using the R1 formula set out in the EU Waste Framework Directive.

2. How did the Green Investment Bank conclude that there is sufficient domestic waste wood available for such a plant – as well as other waste wood biomass plants supported by GIB – without competing with waste wood recycling, e.g. by the wood panel industry?

**Background:** A review of research published by Defra in 2012 strongly contradicts this assumption and cites a consultancy report by Tolvik which shows that waste wood demand for bioenergy is likely to exceed supply by 2015 ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/82571/consult-wood-waste-researchreview-20120731.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/82571/consult-wood-waste-researchreview-20120731.pdf)).

## FINANCIAL RISK ASSESSMENT:

3. Did GIB carry out any operational and credit risk assessment in relation to this project? If so, how could GIB come to the conclusion that "*Nexterra has successfully delivered seven similar gasification facilities in the USA and Canada*" when, in fact, no comparable Nexterra plant has so far been operated successfully?

**Background:** Nexterra's own website shows that they have only delivered three gasification plants designed to supply electricity: Attempts to operate the first, at the University of South Carolina, led to three incidents described as 'potentially lethal' by a senior staff member of that university. The second one was commissioned in 2012 but

failed within a few months. A third Nexterra plant is now 15 months past the date when it should have been commissioned. Five other Nexterra plants were designed to generate only steam, not electricity – a far simpler and much more established process, although one of these five plants also failed within the first year. (see: [www.biofuelwatch.org.uk/2015/gasification-and-pyrolysis-report](http://www.biofuelwatch.org.uk/2015/gasification-and-pyrolysis-report)).

4. Did GIB carry out any credit risk assessment before deciding to support a project to be developed by Carbonarius? If so, how did it conclude that a project was credit-worthy when a) neither this nor any associated companies have ever successfully delivered a project b) Carbonarius was responsible for a biomass gasifier in Plymouth that failed with over £35 million of losses, c) Carbonarius directors were behind another biomass gasification project in Stoke-on-Trent that failed with the loss of over £15 million and d) Carbonarius directors developed a further biomass gasification project in Derby that also failed, resulting in the bankruptcy of two companies which had taken it over.

**Background:** For full background about the failures and losses associated with Carbonarius directors, see [www.biofuelwatch.org.uk/2015/gasification-and-pyrolysis-report](http://www.biofuelwatch.org.uk/2015/gasification-and-pyrolysis-report). All of the information is based on documents available from Companies House.

#### REPUTATIONAL RISK ASSESSMENT:

5. Has GIB assessed the reputational risk which may arise in the case of a failure of the Tyseley biomass plant and/or other biomass gasification investments linked to Nexterra and/or Carbonarius (or Carbonarius's directors) made since GIB's Tyseley investment? If such failures were to lead to substantial losses of private investment, what would the impact on GIB be?

**Background:** GIB regards itself as a “catalyst in the investment markets” which acts to encourage private sector investment. The GIB investment in the Tyseley plant appears to have helped attract private investment into a similar plant in Theddingworth, which will also to be developed by a company associated with Carbonarius and designed by Nexterra. Since the GIB award was made, two other biomass gasifiers to be designed by Nexterra have obtained planning consent, a further full planning application has been published and both Nexterra and Carbonarius have succeeded in entering into new business partnerships in the UK.

6. Has GIB considered the reputational risk associated with funding such highly inefficient waste gasification projects which appear to be incompatible with the waste hierarchy principle?