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Dear Sir,

Objection to Forth Energy Biomass Proposals for Dundee

I am writing on behalf of the members of Greener Leith to register our concern over the sustainability case that underpins the Forth Energy plans to build a biomass fueled power generation plant in Dundee.

Although our primary concern is the related Forth Energy project in Leith, we feel that it is vital to raise an objection to the Dundee plant as it is important that the Scottish Government considers the sustainability case for all four of the Forth Energy plants in detail, as so much public subsidy is at stake in these proposals. For the Leith plant alone, we estimate the plant will attract £1 billion of public subsidy over its 20 year proposed life time - via Renewable Obligations Certificates alone. Given the current challenges affecting all areas of public sector finance, we believe the public deserve the best possible information on whether Forth Energy deserve the billions of pounds of public sector subsidy for 'renewable' energy their proposals will attract.

In order to do this effectively, we call on the Scottish Government, via the Energy Consents Unit, to consider the points we make below carefully. We believe that a truly independent research project (i.e. where the researchers are not paid by the developer) must be commissioned to establish the actual carbon impact of the Forth Energy proposals, as we do not believe the information contained within the Dundee Planning Application is sufficient for the government to make an informed decision about whether the proposals will indeed deliver a real reduction in carbon emissions over the time scales demanded by both the science of climate change, and Scottish Government climate change legislation.

Our views have been based upon the Manomet research into the sustainability of biomass based energy generation, which I am sure you are to some degree familiar with. It is available online here:

<http://www.manomet.org/node/322>

This research established the point that all biomass power stations begin life with a 'carbon debt'. This is incurred as a consequence of the carbon emitted in the construction of the plant - and the net carbon loss associated with the sourcing the fuel; cutting down timber, processing it and transporting it.

It takes many years for the trees burnt by any biomass plant to regrow, and therefore it takes many years for the plant to 'pay off' its carbon debt. The precise time any plant will take to pay off its associated carbon debt is affected by these factors:

1. The lifecycle of the wood (e.g., logging debris, whole trees, trees vulnerable to catastrophic events) in the absence of the biomass energy opportunity.
2. The type of energy that will be generated (heat, electricity, combined heat and electricity), because different types have different efficiencies and thus different CO2 emissions profiles.
3. The type of fossil fuel being displaced (coal, oil, or natural gas), because different fuels have different emissions profiles.
4. The management of the forest—management can either slow or accelerate forest growth, and therefore recovery of carbon from the atmosphere.

Since publication, the Manomet Research Institute has been at pains to point out that their study was very specific to their geographic brief, and that caution should be applied when applying their findings to other areas and projects. This is entirely reasonable:

<http://www.manomet.org/sites/manomet.org/files/Manomet%20Statement%20062110b.pdf>

However, in a further independent review of the Manomet findings, another group of US researchers suggest that, if anything, the research is overly optimistic about the length of time it will take to realise a 'carbon dividend' from Biomass, particularly with respect to large scale developments like the plants proposed by Forth Energy, as it does not take account of a series of other complex carbon interactions - e.g. in soils.

http://www.catf.us/resources/whitepapers/files/201007-Review_of_the_Manomet_Biomass_Sustainability_and_Carbon_Policy_Study.pdf

Similarly, the independent researcher employed by Forth Energy to conduct a life cycle analysis of their proposals, Professor Jowitt at Sistech, has acknowledged that there will be a 'short-term' carbon debt that the plants will need to pay off. However, he does not quantify how long this short-term carbon debt will be.

<http://www.forthenergy.co.uk/pdf/SISTech%20letter%20Manomet%20for%20Forth%20Energy%20v2.pdf>

Therefore, although it is widely acknowledged that the Forth Energy plants will incur some type of carbon debt, we do not know how long the plant will take to deliver any 'carbon dividend.' Based on the evidence presented above we do not believe that it is sufficient to dismiss the Manomet research as inapplicable to the Forth Energy proposals. In our view, it is likely that the Forth Energy plants will take many decades to realise any sort of 'carbon dividend'.

We base this on the following facts:

- Proposals to use the heat produced by the plants are very poorly developed. The plants will therefore operate extremely inefficiently for many years after they have been built. Most of the energy produced by burning the wood will be dumped into the sea. This will have a significant impact on how quickly the plants deliver a carbon dividend.
- The source of fuel. It is extremely unlikely that Forth Energy will be able to source sufficient quantities of FSC certified virgin wood for the plants. Our research indicates the some certification schemes recognised by PEFC international do not provide the same guarantees of sustainable woodland management, or chain of custody verification as FSC certification. Wood fuels that are produced to a lower standard of sustainability will have an impact on the time it will take to deliver a carbon dividend from these plants.
- Given the level of public subsidy the plants will attract, a realistic lifecycle analysis would compare the Forth Energy CO2 emissions with the likely carbon content of grid electricity as more and more renewable capacity is developed in Scotland from other sources. It would also be interesting to compare the 'carbon debt' incurred by the large scale biomass approach proposed by Forth Energy with genuine decentralised renewables: e.g Wind, Hydro and so on.

Given these concerns, we believe that the Scottish Government should not grant permission for the Forth Energy plant in Dundee until there is clear, independent, evidence that the plants will deliver a carbon saving over proven renewable energy technologies such as wind or hydro, or indeed other low carbon energy systems - such as natural gas power CHP, in the timescales set out by the Climate Change Act.

If it transpires that the Forth Energy proposals will not deliver a carbon dividend (or only a negligible one) by 2050, we feel it is imperative that the Scottish Government, and indeed the wider public, seriously considers whether the Forth Energy Biomass proposals are worthy of the vast sums of public subsidy that they will attract. Afterall, if little or no carbon saving is made by these plants by 2050 they will have done very little to tackle the urgent threat posed by man made climate change. Indeed, these plans may even turn out to have exacerbated it.

About Greener Leith

Greener Leith is a Scottish Charity and a Company Limited by Guarantee. Established by local residents in 2006, our aim is to promote better quality public spaces, community involvement and sustainable development. Greener Leith is a strong advocate for decisive action on climate change.

You can find out more on our award winning blog at www.greenerleith.org

Yours Sincerely,

Alastair Tibbitt
Development Manager
Greener Leith