Biofuelwatch briefing: Issues to raise in the ROCs Consultation

Note: A Scottish Government consultation on changes to the Renewables Obligation banding (i.e. changes to which types of energy classed as renewable should attract which level of subsidies) was published on 21st October and runs until 13th January 2012. The consultation paper can be downloaded from www.scotland.gov.uk/Publications/2011/10/27123530/8. For more detailed background about bioenergy and waste in the Renewables Obligation and Scottish consultation, see: www.biofuelwatch.org.uk/2011/rocs_introduction_scotland/ For a discussion of the impacts of ROCs for bioenergy and waste, see www.biofuelwatch.org.uk/2011/rocs_impacts .

In the current consultation about the level of subsidies (called Renewable Obligation Certificates or ROCs) given to different types of energy classed as renewable the Scottish Government is seeking answers on five questions related to biomass. However, there are many other important concerns about subsidies for electricity from bioenergy and waste which we would strongly recommend commenting on in addition to answering the five questions. Those are discussed further below. This section outlines what Biofuelwatch believes to be the main points worth raising to ensure that the Scottish Government respects environmental and human rights norms, and if not to as a minimum to give effect to its own stated policy of favoring biomass deployed in heat-only or CHP schemes, off gas-grid, at a scale appropriate to make best use of both the available heat, and of local supply.

Question 1: What are your views on the proposal to remove support for large scale dedicated biomass electricity plants?

The Scottish Government appears to be taking note of sustainability concerns surrounding big biomass For example, Fergus Ewing recently said:[1]

"I have grave concerns about the UK Government's ambition for biomass electricity. Large-scale woody biomass used for electricity generation is much less efficient than smaller scale neighbourhood plants.

Huge electricity-only biomass plants require vast quantities of wood - far more than the UK can provide. Even if every stick of wood grown commercially in the UK went to biomass, it would supply less than a third of the fuel we will require by 2020 if the UK Government's plan for biomass goes ahead.

Large scale electricity-only biomass will make us reliant on overseas timber markets for our energy. Both oil and gas prices have shown us the importance of a secure, local supply, and if we rely too heavily on imported timber there is a risk of energy security problems in the future.

Extensive use of large scale biomass for electricity only is likely to push up timber prices and risk hundreds of jobs in traditional wood industries.

That is why I am urging the UK Government to join the Scottish Government in removing subsidies from large-scale biomass electricity generation."

[1] Scottish Government Press Release, 'Call for a Biomass Rethink' 30 October 2011, available at http://www.scotland.gov.uk/News/Releases/2011/10/28105521

It is laudable that the Scottish Government is acknowledging the environmental implications of ROCs as well as the economic implications of the subsidy scheme.

It is worth noting, however, that such a proposal could simply see more smaller or medium-sized biomass power stations proposed in Scotland which are below the level of the cap, and which would overall burn the same tonnage of biomass as a combined whole, and continue to subsidise unsustainable imports. In Scotland, the net availability of all wood for use across all industries is currently 432,400 oven dry tones per year. This is forecast by industry to increase to 867,100 between 2012-2016, and 1,183,700 per year between 201-2021, although there are serious questions about the feasibility and the environmental implications of increasing logging and plantation areas in Scotland.[2] Yet regardless of any such increase, just a few 20MW biomass power stations, for example, would require more wood than is available in Scotland. Furthermore, a cap is so far only a proposal, not a commitment.

One step that the Scottish Government could in theory take would be to ban imports of woody biomass; this would require it to take out an exception to WTO trading rules. Under the WTO, quantitative restrictions or prohibitions on imports are banned. It is possible to take out an exception which includes exceptions on environmental grounds. The burden of proof lies on the country taking out the exception to demonstrate that it is not a hidden way to give preferential treatment to domestic suppliers. It is unlikely that the Scottish Government would go down that route. Moreover, responsibility for international trade policy is not devolved. Finally, the UK as a whole is already a net importer of wood and if we burn all or most of the wood produced in Scotland we will have to import even more wood and wood products, including paper from overseas.

The only realistic way of stopping preventing large-scale wood imports for bioenergy is to stop all subsidies for biomass electricity. Under EU legislation, if would be perfectly legal for Scotland and the UK to meet the renewable energy target from other sources such as wind and solar power.

Q1: Should a threshold be set to incentivise smaller scale electricity plants, and at what level?

No overall cap for the amount of bioenergy to be subsidised is proposed, only a possible cap on the size of individual power stations, so companies could simply build far more medium-sized ones, causing just as much harm to communities, forests and climate as a few large-scale ones.

Furthermore, Forth Energy appear to be lobbying for all CHP plants to be exempt from a cap, but under the Renewables Obligation, even very inefficient power stations that make use of just a small proportion of the heat are classed as 'CHP'. Forth Energy therefore think that an exemption for CHP plants would allow them to still get subsidies for the four power stations they have proposed.

Subsidies for biomass electricity encourages the least efficient use of biomass. Heat from biomass, including through cogeneration, will already be subsidised under the Renewable Heat Incentive. Note that biomass electricity is between 25-30% efficient if heat is not made use of.[3] Y Article 13(6) of the Renewable Energy Directive states, 'In the case of biomass, Member States shall promote conversion technologies that achieve a conversion efficiency of at least 85% for residential and commercial applications and at least 70% for industrial applications.'

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[2] 'Wood Fuel Task Force 2: The Supply Of Wood For Renewable Energy Production In Scotland' (March 2011), Table 3, p 31, available at http://www.forestry.gov.uk/pdf/WoodfuelTaskForceUpdateReport_2011.pdf/$FILE/WoodfuelTaskForceUpdateReport_2011.pdf (accessed 11 August 2011)

[3] DECC, 'Heat and Energy Saving Strategy Consultation: Chapter 7 - Combined heat and power and surplus heat', available at http://hes.decc.gov.uk/consultation/chapter-7/executive-summary/index.html

Q2: Should UK proposals on enhanced co-firing and conversion be mirrored in Scotland, and why?

This is a key question: by mirroring the UK proposals on to pay even higher subsidies for coal power stations (double the current rate) which co-fire 15% or more biomass with the coal, the Scottish Government proposes to create a new incentive for much larger-scale biomass burning than before.

It is worth noting in this vein that at present, the single biggest producer of biomass electricity south of the border is Drax, who co-fired more than 1.1 million tonnes of mostly imported biomass last year. Drax has recently had plans for two biomass-only power stations approved which will burn just under 3 million tonnes per year. And Peel Energy want to co-fire even more biomass in their proposed new coal power station in Ayrshire than Drax does at present.

This banding review will give energy suppliers financial certainty to burn more biomass. Drax has been heavily lobbying for more ROCs for both biomass co-firing and dedicated biomass. Of the proposals on co-firing, CEO Dorothy Thompson has said, '"*The proposed level of 1.0 ROC/MWh for enhanced co-firing will enable us to increase our co-firing*."[4]
This *may* allow fossil fuel stations such as Longannet and Cockenzie to switch to biomass. Chris Moore, director of MGT, said, '*At 1.0 ROCs per MWhr we calculated that the increased profitability resulting from cofiring at Longannet and Cockenzie will be sufficient to displace gas fired generation. It looks like cofiring could be the winner after all. If the government had gone ahead with a proposal at say 0.7 ROCs per MWhr, maybe a different answer.*'[5]

Longannet and Cockenzie have a MW capacity of 2400 and 1200 MW respectively: a combined megawattage of 3600. If they were to supply 15% biomass, this would total 540MW: equivalent to the Forth Energy proposals, and again, they would have to source their wood from overseas in the same way that Forth Energy is planning.

The proposals therefore effectively undermine the Scottish Government's stated commitment not to create an unsustainably large market for biomass, including biomass imports.

Whilst we support a move away from fossil fuels, fossil fuels must be replaced by a reduction in energy consumption coupled with ***genuine*** renewable energy solutions. This banding proposal does neither of these things.

Undermining Environmental Justice?

Increased biomass co-firing or coal-to-biomass conversion are not subject to the same public scrutiny as new dedicated biomass power stations. They simply require a change in the planning consent over the development. This effectively means that the public is not able to express concerns over large scale biomass use such as this through any other means than engaging with this consultation process.

Q3: What are your views on whether a maximum threshold for biomass CHP plants is required?

ROCs should also be made unavailable for biomass CHP plants: Please see comments for question 1. Although CHP should in theory allow for a more efficient use of the energy supplied, the concerns about carbon accounting, deforestation, human rights abuses, and land grabs cannot be addressed by virtue of the fact that energy sequestered would make use of heat as well as electricity. And under the Renewables Obligation, the level of heat that needs to be supplied for a power station to be classed as CHP is so small that it makes little difference.

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4 www.businessgreen.com/bg/news/2118661/biomass-eyes-firing-renewables-obligation-subsidies

5 Personal correspondence, 26 October

Subsidies for heat from biomass, including from CHP, will already be available through the Renewable Heat Incentive. The more heat compared to electricity is produced, the more efficient a CHP plant is – so subsidising biomass electricity is inherently inefficient.

It is also worth noting that, although the greenhouse gas balance is even worse for biomass electricity than for efficient biomass CHP plants or heat from biomass, large-scale use of efficient biomass CHP plants has still been shown to result in a carbon debt of several decades. According to a US study for example, an efficient biomass CHP plant will still result in higher carbon emissions than a gas CHP plant for over 40 years – exactly during the time that carbon emissions must be drastically reduced to avoid the worst impacts of climate change[6].

Q5: Do you believe there is a need to revisit the biomass content threshold of 90%?

Under the legislation as currently drafted, fuels must contain a minimum of 90% plant or animal matter to classify as 'biomass'; the argument has been raised that this limits the uses of certain fuel streams which have a high biomass content but which don't meet that threshold. A definition of biomass which lowered the minimum of 90% organic matter would effectively lead to more fossil fuel derived waste being incentivised as 'renewable energy'. This is incompatible with EU legislation – under the Renewable Energy Directive, fossil-fuel based waste cannot be treated as renewable energy.

Important additional comments for the consultation response:

However, our overall view is that there is a need to revisit the subsidies for biomass altogether. There are environmental/human rights consequences associated with the ROCs banding proposals, which we have addressed below:

1. **Bioliquids:** The burning of bioliquids remains subsidised, as bioliquids fall under the definition of 'biomass' and 'energy crops'. In England and Wales, there is a proposed cap on the overall amount of subsidies for electricity from bioliquids. Such a cap would still allow for new power stations that would require some 110,000 hectares of new oil palm plantations to feed them, leading to more rainforest destruction and more land-grabbing. No cap appears to be proposed for Scotland so companies which could not get subsidies south of the border might therefore move to Scotland to burn palm oil here instead. Biofuels are a key factor behind the recent rise in food prices and responsible for a large proportion of land grabs in the Global South, with the UNEP naming the UK as the world's third largest land-grabbing country after China, and Saudi Arabia.[7] Biofuels have been shown to significantly worsen climate change due to direct and indirect deforestation, destruction of other ecosystems and increased use of agro-chemicals, including artificial fertilisers.[8]
2. **Anaerobic Digestion:** 2 ROCs are proposed for Anaerobic Digestion (the breakdown of organic matter to produce energy), going to 1.9 in 2015/16 and 1.8 in 2016/17, regardless if the feedstock is waste, e.g. food waste, or crops grown for this purpose.

   Experience with similar subsidies in Germany shows that biogas from new dedicated monocultures, especially maize, are particularly likely to benefit from such generic subsidies. The vast majority of biogas in Germany is produced from energy crops and not from waste. The first UK plans for making biogas from whole maize plants have already been submitted, for example in Kenninghall in Norfolk.

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[6] www.catf.us/resources/whitepapers/files/201007-Review_of_the_Manomet_Biomass_Sustainability_and_Carbon_Policy_Study.pdf

[7] The United Nations Environment Programme 2011 Report, 'The Rush for Land and Its Potential Environmental Consequence', can be found at http://na.unep.net/geas/newsletter/Jul_11.html

[8] "BROAD SCIENTIFIC CONSENSUS ON THE IMPORTANCE OF LAND USE IMPACTS IN CARBON CALCULATIONS FOR BIOFUELS PRODUCTION": http://www.ucsusa.org/global_warming/solutions/forest_solutions/EU-ILUC-Letter.html

Note that the UK Consultation states, "*If evidence shows large-scale use of crops in AD and a resulting change in land used, we will consider measures to exclude from RO support the large scale use of crops in AD*.' However, the German example already illustrates the dangers. In the Netherlands, on the other hand, subsidies are only available from biogas from waste.

3. **Waste:** The Scottish Government proposes to reduce ROCs for waste incineration with CHP to 0.5 ROCs per MWh, down from 1 ROC/ MWh. However, waste (as well as biomass) gasification and pyrolysis would still attract the 2 ROCs/MWh. Note that waste that is at least 90% derived from "plant matter, animal matter, fungi or algae" is classed as 'biomass'. Waste that is up to 90% derived from fossil fuels is classed as 'waste'. Note that biomass power stations burning organic waste must apply for planning permission under the Waste Incineration Directive, so effectively if granted permission would be able to switch to incinerating any kind of waste. Currently, no waste incineration projects in Scotland receive ROCs.

   'Waste' should certainly not be eligible for any form of ROCs, seeing as by definition waste can be up to 90% fossil fuel-derived, and, as such, there can be little debate surrounding the fact that this is certainly not a 'renewable' energy. Indeed, subsidising waste incineration as renewable energy appears incompatible with EU legislation.

4. **Alternatives:** Finally, you might wish to point out what you would rather see the money that is being used for ROCs in biomass be spent on. Home insulation schemes? Better transport? Note that Friends of the Earth Scotland has found that Scotland's electricity demand can be met using very little biomass, whereas, across the UK, biomass currently contributes around 82.5% of the UK's renewable electricity. The Scottish Government does not need to follow the UK's lead on biomass and bioliquids and could meet its renewable energy demand through a combination of other renewable electricity technologies, and investing in serious measures to curb our consumption.