Will the Scottish Government's conditions for approving Forth Energy's biomass power station prevent forest-destruction for low-efficiency electricity generation?

Background:

On 3rd June, Scottish Energy Minister Fergus Ewing approved Forth Energy's planning application for a 100 MWe biomass power station at Grangemouth Port. According to Forth Energy, the power station will burn 1.5 million tonnes of biomass, most of it imported wood. The original application referred primarily to the south-eastern US and Canada as likely sourcing regions for the wood, however the developers have made it clear that wood could come from anywhere in the world.

This is the first of three planning applications for large biomass power stations by Forth Energy to be determined – ones for Rosyth and Dundee (also 100 MWe capacity each) are still pending.

Falkirk Council and nearly 1,000 local residents had objected to the application. During a Public Local Inquiry in May 2012, Grangemouth Community Council led an Interested Party Coalition which also included Polmont Community Council, Bo'ness Community Council, Biofuelwatch, Friends of the Earth Falkirk, Friends of the Earth Stirling and the River Carron Fisheries Management Group. The Coalition provided detailed witness evidence opposing the development on grounds of five different planning grounds, including impacts on climate change and sustainability, on air quality and on aquatic life in the River Carron and River Carron Estuary.

The Scottish Government's press release about their approval of the application[1] states: "*The consent includes conditions to ensure the plant burns fuel from sustainable and responsible sources, to control the appearance of the development, to protect the environment and air quality and to keep the local community informed about the progress of the development, as well as a condition for a Domestic Virgin Wood Biomass Fuel Supply Strategy to ensure appropriate management of any use by the generating station of domestic virgin wood biomass.* "

Below, we look specifically at what the planning conditions imposed by the Scottish government[2] mean in terms of sustainability, carbon emissions and efficiency/heat delivery. This briefing does not look at the serious and important concerns relating to local impacts, especially air quality and ecosystem/fisheries impacts and about the inadequacy of planning conditions in those respects, too.

Sustainability and climate impacts:

The relevant conditions (4, 11 and 12) provide that:

+ Forth Energy has to submit a biomass sustainability plan to the Scottish Minister for approval before the power station is commissioned. Falkirk Council, Scottish Ministers, SEPA and SNH shall be consulted on this plan which must be adhered to.

[1] http://www.scotland.gov.uk/News/Releases/2013/06/grangemouth-consent03062013
[2] http://www.scotland.gov.uk/Resource/0042/00423590.pdf

+ All wood burned must be "certified by accepted sustainability certification systems" and written wood sourcing records must be available for inspection

Forth Energy have stated in all three applications that they intend to only use wood certified by a voluntary certification scheme, including the Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC), Sustainable Forestry Initiative (SFI) and Canadian Standards Authority (CSA). The Scottish Government has announced that certification under any of those schemes guarantee that forthcoming biomass sustainability standards are met.[3]

What will these provisions mean in practice?

As Biofuelwatch has shown in detail elsewhere, certification and sourcing policies cannot by their nature address the wider indirect impacts that arise from increasing the overall demand for wood. As the experience with European biofuel policy has shown, those indirect impacts can be far more serious than the direct impacts of different companies' feedstock sourcing. However, the question here is whether planning conditions would prevent the most serious direct impacts of biomass sourcing – such as oldgrowth and other highly biodiverse forests being cut down to supply Forth Energy's power station in future.

1) During May, investigative reports for the BBC and Wall Street Journal[4] revealed that wood from clearcutting of ancient swamp forests in the southern US is being used to make pellets for export to UK power stations. Those pellets, made by one of the largest US pellet producers, Enviva, have all been granted certificates by the Sustainable Forestry Initiative which are approved by the UK /Scottish Government as 'sufficient evidence' that sustainability standards are being met[5]. ***Meeting the 'certification' condition will thus not prevent Forth Energy from burning woodchips or pellets directly linked to forest destruction, such as clearcutting of old-growth wetland forests***.

2) None of the voluntary certification scheme standards address the greenhouse gas impacts of bioenergy – and nor do any of the planning conditions. This means that ***the Scottish Government's decision to approve the Grangemouth biomass power station entirely ignores its carbon impacts***. The UK Bioenergy Energy Strategy, assumes that, compared to coal, burning wood from whole UK conifers will result in 49% **greater** CO2 emissions over 40 years and 80% **greater** CO2 emissions over 20 years[1]. Clearly, the carbon impacts from clearcutting 100+ year old trees in ancient swamp forests in the USA and transporting fuel to Scotland will be even worse.

3) None of the three bodies that will be consulted on Forth Energy's sustainability policy – Falkirk Council, SEPA and SNH – have any expertise or resources related to assessing the sourcing of imported wood, something which falls outwith their remits.

What was the Reporters view?

The Reporter, when recommending conditional approval, did not find that the power station would be sustainable or low-carbon. Instead, he said that under Scottish planning policy, sustainability of imported wood was not a ground for refusing an

[3] http://www.scotland.gov.uk/Resource/0040/00404106.PDF, read in conjunction with the UK's Public Procurement Policy on Timber: http://www.cpet.org.uk/uk-government-timber-procurement-policy/evidence-of-compliance/category-a-evidence/approved-schemes

[4] http://www.bbc.co.uk/news/science-environment-22630815 and http://online.wsj.com/article/SB10001424127887324082604578485491298208114.html

[5] http://64.34.105.23/Company/CompanyDataEntry.aspx?sR=1&tab=CompanyInfo&sId=1638

application. He stated: "*There are concerns about the sustainability of future biomass fuels, but these are not issues that affect this project under current policies*".[6] In relation to climate impacts, he said: "*I do not believe I have sufficient information to make a clear judgement on the benefits or otherwise in carbon balance terms as to the impact of the proposed renewable energy plant...Government policy supports the use of biomass fuel for such plants... Sustainability would be reserved to the Scottish Ministers. The overall positive or negative impact on carbon balance does not justify the granting or refusal of consent".* If correct, this would have serious implications for the definition of 'sustainable development' in Scottish Planning Policy.

Efficiency and Combined Heat and Power production:

The relevant conditions (5, 6 and 7) provide that:

+ A framework to establish a 'Community Heat Enterprise Group' must be submitted to Scottish Ministers for approval and be implemented within one year.

+ The plant must be built in such a way that it is "capable of delivering up to 200 MWth unless otherwise agreed in writing with the Scottish Ministers".
+ The power station must have a "proposed Combined Heat and Power Scheme" approved by Scottish Ministers and it must be accredited under the CHP Quality Assurance programme within five years of starting operations.

What will these provisions mean in practice?

During the Public Local Inquiry, Forth Energy's Managing Director, Calum Wilson, promised on behalf of the company[7]: "*The proposed development will… meet 25% of the 2020 renewable heat target*". He further stated: " *As well as generating renewable, low-carbon electricity, the plant can supply both 'process' heat to surrounding industrial users, and also the heat to power a district heating system. In doing so, the plant will achieve an efficiency within the range of 60% to 76%, depending on the final design of the plant*." The Coalition argued that high efficiency rates were unlikely to be achieved because of serious technical obstacles to waste heat being supplied to the Grangemouth Ineos refinery (the largest potential heat customer) and because Forth Energy had not agreed to fund a District Heating network and the local authority had no funds themselves for installing one.

The conditions set by the Scottish Government do not require Forth Energy to fulfil these promises. Instead they merely require:

+ a group to be set up to look at the possibility of a District Heat Network – but without any requirement to fund one;
+ that the plant must have the capacity to supply up to 200 MW tonnes of heat – without any requirement to actually supply that heat to anybody, instead of all or most of it being discharged into the atmosphere and the River Carron Estuary as waste heat;
+ a small amount of heat being used (possibly by Forth Energy on site), and only after five years: For CHPQA accreditation, 35% efficiency levels or less have to be reached.

Contrary to what Forth Energy had promised at the Local Public Inquiry, the Scottish Government thus allows them to run the power station without any heat delivery for five years and with hardly any heat delivery and overall efficiency of 35% or less thereafter.

What was the Reporter's view?

[6] http://dpea.scotland.gov.uk/Documents/qJ14364/A6071880.pdf
[7] http://dpea.scotland.gov.uk/Documents/qJ14364/A3034753.pdf

The Reporter did not comment on how efficient he thought the power station was likely to be, although he said: "*There are uncertainties about the heat output with regard to a district heating scheme and I have expressed doubts as to the likelihood of this going ahead*." Instead, he claimed that under Scottish policy, biomass power stations did not have to be efficient: "*The fact that smaller plants may be more efficient does not make the proposal contrary to policy. This acknowledges that to meet renewable energy targets there is need for increased investment in biomass fuelled power output, including baseload electricity*."

Domestic wood sourcing:

Planning condition 8 provides that a Domestic Virgin Wood Biomass Fuel Supply Strategy must be submitted to and approved by the Scottish Ministers, following consultation with Falkirk Council, SNH, Forestry Commission Scotland and "such other parties as the Scottish Ministers consider appropriate". Following the same process, this strategy can be amended in future.

What will this mean in practice?

This condition raises a series of legal concerns, such as compatibility with the Scottish Government's proposed biomass sustainability and greenhouse gas standards. Introducing stricter standards for and restrictions to domestic compared to imported wood sourcing could well be open to challenge. The principle of applying stricter standards for domestic than for imported wood also raises serious ethical and policy questions.

Conclusion:

The Scottish Government's decision to approve Forth Energy's biomass power station application in Grangemouth raises serious concerns about their planning and renewable energy policy. It is difficult to see how it can be reconciled with the Government's policy set out in the current version of the Electricity Generating Statement, which states: "*Biomass should be used in small heat only and CHP applications, off gas-grid, the better to contribute to meeting the Scottish Government's target of 11% of heat demand to be sourced from renewables by 2020*". Contrary to the Energy Minister's claims, the planning conditions will do nothing to ensure sustainable wood sourcing. The greenhouse gas impacts of wood burning are ignored entirely. Instead of holding Forth Energy to their stated promises of ensuring 60-76% efficiency and meeting 25% of Scotland's renewable heat target with the Grangemouth plant, planning conditions allow them to use only a small fraction of waste heat and achieve just 35% efficiency levels, and even those only after five years of operation.