From:	Adair, Joanne
To:	McCormick, Andrew (DFE); McMurray, Stephen
Cc:	Moore, Stephen (DfE); McAdams, Jonathan; Smith, Alan; McCann, Brendan; McEvoy, Martin
Subject:	Emailing: SA 47501 RHI Response to Questions Arising from 8 Feb Teleconference
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Importance:	High

Andrew and Stephen

Please see attached for your comment and approval, a letter to the European Commission. The letter responds to questions raised by DG Competition (following a recent teleconference) in relation to the State aid RHI amendment pre notification paper. The Commission has asked for a reply by end today. To this end, I would be grateful if any comments could be provided directly to Stephen Moore to allow for a response this afternoon.

Martin

In line with Lucy Marten's email on Thursday last week, I would be grateful if you could consider the attached letter and provide any views you think necessary

Many thanks

Joanne

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Dear Kate

SA 47501 Renewable Heat Incentive Amendments Pre-Notification

Please see below responses to the questions raised in relation to SA 47504 Renewable Heat Incentive Amendments:

1. Scope of the Measure

Q. Please confirm that the scheme will remain suspended, and therefore not open to new installations for the duration of the notified amendment i.e. until 31 March 2018.

A. We can confirm that the scheme will remain suspended and will not open to new installations for the duration of the notified amendment.

2. Objectives of the Scheme

Q. Please provide us with an update of your progress against your 10% RES target since the implementation of the 2012 RHI Scheme.

A. Data on the proportion of heat generated from renewable sources is not routinely collected for NI. However, in order to inform the development of the RHI scheme a specific modelling exercise was conducted in 2010 which estimated that 1.7% (300 GWh) of the total heat generated in NI (17,400 GWh) was from renewable sources.

In the absence of the scheme it was projected that that the amount of renewable heat would increase to 1,300 GWh or 7.65% of the total (16,700GWh) by 2020. This implied that the RHI scheme would need to incentivise the generation of at least 400 GWh per annum in renewable heat by 2020 in order for NI to meet the 10% target.

Based on meter readings from accredited participants in the Non-Domestic RHI scheme, these installations generated approximately 650 GWh in renewable heat in 2016.

However, it should be noted that it is expected that the changes to tariff levels in 2017 will reduce the amount of heat generated per annum by the accredited installations. On the other hand, the meter readings do not include the non-accredited installations as well as the additional renewable heat, which will be generated as part of the domestic element of the scheme.

3. Rates of Return

Q. It is our understanding that under the notified changes, an installation would typically make a return of 12% based on your current projections. However, if an installation would run longer (e.g. in case of a cold winter) the maximum return is estimated at 19% IRR – We understand this data was also used as the basis for the November 2015 tariff change. Please explain and confirm if this is correct.

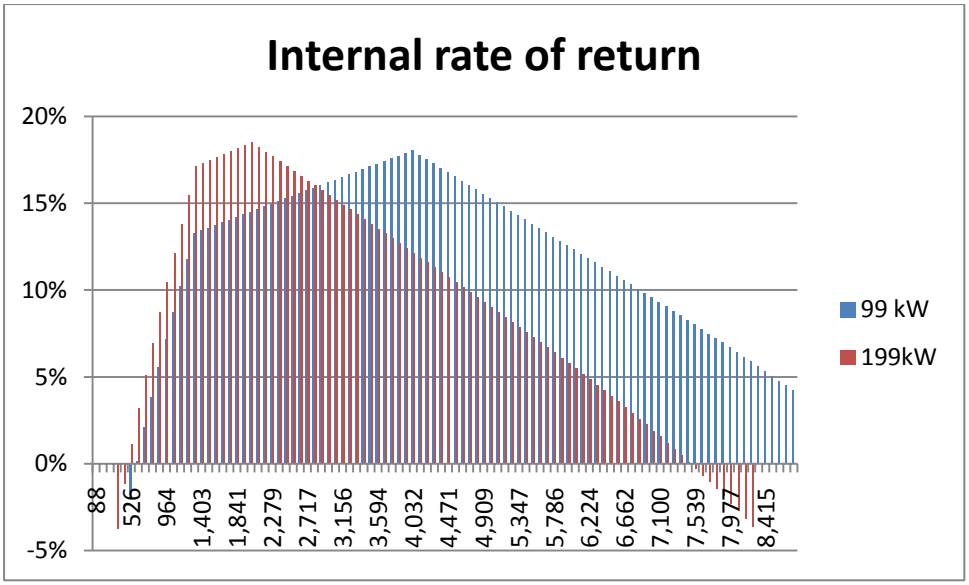
A. Yes, this is correct.

As with the GB scheme, the return to investment under the RHI scheme depends on a number of factors, including capex outlay, operating costs and the subsidy received. Because the subsidy is set on a pence per kilowatt-hour basis the total subsidy to each boiler will also be dependent on the load factor or numbers of hours that the boiler operates each year.

Under the initial tariffs - with no tiering and no caps - the boilers could potentially earn very high subsidies and therefore excessive returns if they operated at very high load factors.

The introduction of tiering and caps in the November 2015 tariff change eliminated the ability to earn excessive returns for installations accepted onto the scheme after that date. The November 2015 tariff was set at 6.5p for the first 1,314 hours (15% of possible running time) followed by reduced tariff of 1.5p up to a cap of 400,000kWh after which no further payment for heat generated was paid.

The following chart shows the potential earnings that a 99kW and a 199kW biomass boiler would make under the November 2015 tariff. These returns are based on assumptions of capex, and running costs (against the counterfactual of an oil boiler).



If the boiler is operated for a very low number of hours each year then the returns to the investment are negative. Returns increase as the heat produced (and therefore subsidy) increases. After the tier at 1,314 hours, returns continue to increase (at a slower rate) until the cap is reached after which returns fall as no more subsidy is paid.

For a 199kW boiler, with a cap at 400,000kWh, which equates to a load factor of approximately 23% (around 2,000 hours), the maximum return is 19%.

This is a theoretical maximum. To achieve the maximum return, each year, for 20 years, the boiler would have run at its maximum output, until the heat output reaches the 400,000 kWh cap and then the boiler is switched off for the rest of the year. There is unlikely to be any justifiable case for such a pattern of heat production and therefore, in reality, the real return would be less than 19%.

Evidence to date shows that average load factor for all biomass boilers installed under the scheme is 43%. Therefore, for a 199kW boiler operating at the average load factor of 43% the maximum possible return is 13%. Similarly, for a 99kW boiler operating at the average load factor of 43% the maximum possible return is 18%.

It should be noted however, the IRR is calculated by forecasting subsidy paid on annual running hours over 20 years. As this is a forward looking analysis, it does not take into account any returns already earned by boilers at previous higher tariff rates. This issue will be investigated further as part of the review and consultation planned for 2017.

4. The Quantum of the Tiered Tariff

Q. Can you please provide us with the data that supported the setting of the tiered tariff at the chosen rate (1.5p/kWh?)

A. The data that was used to set the tiered tariff at 1.5p was based on analysis by the former Department of Agriculture and Rural Development (DARD). The DARD analysis shows that 388,000kWh of biomass heat is the upper limit of the expected annual heat requirement for a typical poultry shed.

The November 2015 changes were based on the GB tariffs at the time of policy development (June 2015). The GB Tier 2 tariff for Small Commercial Biomass in June 2015 was 1.58 p/kWh. The DARD analysis was used as a check to compare biomass and LPG costs to ensure the Tier 2 tariff was not too high / low.

The following operating cost estimates were sourced from DARD and used to calculate the appropriate tariff rate. Assuming a worst case scenario (i.e. 80% efficiency), the cost of biomass pellets would be:

4.66p (pellet cost based on 80% efficiency)

+ 0.3p (electricity)

+ 0.25p (boiler servicing)

+ 0.1p (remedial repairs)

= 5.31 p / kWh

Cost of LPG = 3.79 p/KWh

The Opex Difference = 1.52 p/kWh

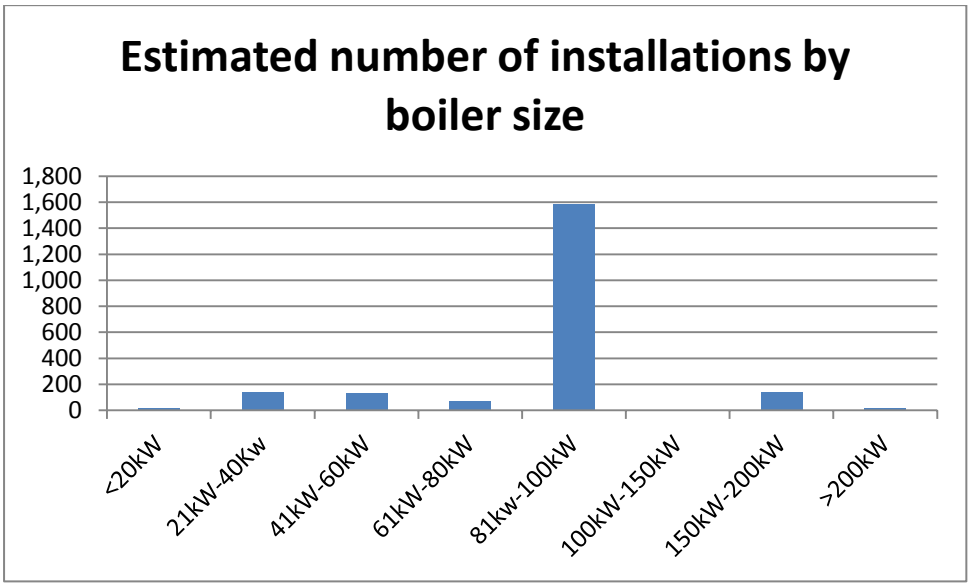
This confirmed that 1.5p/kWh was a reasonable level.

5. Re-banding of the Medium Biomass Band

We understand that in November 2015 the 'medium biomass' category of installations was re-banded from a maximum of 99kW to 199kW of installed capacity and that this re-banding is maintained in the 2017 variations now pre-notified.

Q. Can you provide us with the data that led to the selection of this re-banding threshold?

A. The changes to the Biomass Tariff were introduced as the 2012 tariff banding, (20-99kW), resulted in a large number of applications for 99kW boilers. The Department believed that widening this banding up to 199kW would encourage larger, therefore more efficient, installations.



6. Eligible Technologies

Q. Please confirm that the eligible technologies described in the 2012 decision remain unchanged.

A. The eligible technologies remain unchanged since 2012.

7. Budget

Q. It is our understanding that the budget will be derived from central budgetary funds (a combination of AME and NIE funding); is this correct?

A. The understanding that budget will be derived from central budgetary funds is correct. The estimated cost of the scheme for 2017/2018 is £25.3m with an AME budget of £22.3m. The balance will be from the NI Block.

8. Eligible RES heat

As described in your PN memo (points 53 - 56) further work is now ongoing to investigate the potential to take enforcement action where there is evidence that there has been non-

compliance with the eligibility requirements. From the phone call, we understand that the DoE is currently designing a response plan that will include enforcement actions.

Q. Can you please provide us with headline details of your enforcement plans and how it will ensure that only eligible renewable heat is supported.

A. The inspection and enforcement work is a high priority for the Department and the Executive. The Department is currently in the process of procuring independent consultants to conduct onsite inspections of all installations in the NI RHI Scheme by the end of 2017. Each installation will be assessed for compliance against the Regulations and Scheme guidelines and enforcement will be progressed by either Ofgem or the Department as set out in a Memorandum of Understanding. A number of installations identified as non-compliant by the initial review (of a sample of 300 installations, which were assessed as high risk) have already been passed to Ofgem for follow up enforcement action.

Q. Could you please outline the respective roles of Ofgem and DoE in the monitoring and enforcement of the use of the scheme?

A. The Department is responsible for the development and implementation of the Northern Ireland Non Domestic Renewable Heat Incentive Scheme and publication of guidance.

Ofgem is responsible for

- Determination of applications for accreditation of installations under the RHI scheme;
- Calculating and paying periodic support payments to participants;
- Compliance and enforcement provisions (including audit) and a non-legislative review process; and
- Responding to enquiries from scheme applicants and participants

Although Ofgem is responsible for administering the scheme, they seek the Departments approval for any proposed enforcement action that they uncover during the course of audits.

Through these actions, the Department, in partnership with Ofgem, will make its best endeavours to ensure Ofgem take enforcement action where there is evidence that there has been non-compliance with the eligibility requirements. The Department remains fully committed to recover payments where there is clear evidence of non-compliance.