

To: David Mark[david.mark@moypark.com]
From: The Biomass Centre
Sent: Mon 11/3/2014 5:59:08 PM
Importance: Normal
Subject: Dragon Biomass
MAIL_RECEIVED: Tue 11/4/2014 8:19:29 AM
[email-logo\[1\].png](#)
[email-suppliers\[1\].png](#)
[RHI Air Quality Emissions Certificate - Dragon D20 - 195kW \(2\).pdf](#)
[D30 Emission certificate.pdf](#)

Dear David,

Thank you for your call earlier today regarding the use of Dragon boilers for heating poultry houses.

You have recently been to see a boiler working in Scotland and raised a couple of points that were struggling with if the Dragon boilers are to be passed onto your "considered list"

The two issues were the emissions that you saw from the start up of the burn using straw as a main fuel. And secondly, the output of the 99 kW boiler and whether this was the peak performance of the boiler or the average over a period of time.

Firstly, regarding the emissions.

The Dragon boiler is a batch biomass boiler which is perfectly capable of burning wood, pallets, cardboard as well as straw. The advantage of burning fuels such as these is that there is little or no processing involved which obviously reduces the initial cost of the fuel considerably. The disadvantage is that there are different issues with each fuel which has to be overcome. Straw is a natural product that always has a certain amount of moisture during baling as well as moisture within the straw as well. This moisture has to be removed during the first part of the burn before a calorific value can be achieved. This uses the kilowatt content of some of the straw in order to achieve that result.

When the moisture is burned off, it appears as steam from the flue, which is a white 'smoke' There should be no smell or discolouring of the steam. Any discolouration or smell would be due to particulates also being emitted from the boiler along with the steam.

The boiler that you went to look at is an efficient boiler as far as kilowatts are concerned. It is being used on a long-standing chicken farm which is why Dermot took you to see it. However, the boiler we have developed more recently burns the particulates from start up so that there are very few particulate emissions. It does this using changes that have been made between the furnace chamber and the flue. This development has happened in the past 6 months within our boiler range and has significantly reduced the amount of visual smoke as well as the odour of burning straw.

However, it cannot change a natural reaction which is the steam that is produced.

We have spoken to the Environmental Agency here in England and also in Northern Ireland and have agreed that 5 to 10 minutes of white smoke on start up is well under the regulations of permitted smoke during start up. They also added that if there is little or no smell to the smoke, there is very little likelihood of an issue with local residents. The worse case scenario is, unfortunately, what you were faced with in Scotland, where the smoke dropped back down due to the moisture content of the atmosphere around the boiler. This occasion proved that the 'smoke' was mostly steam and therefore could not rise due to the rain in the air at that time. The new style boiler will also not enable any particulates to be included in this steam and therefore, there would be no smell and not a nuisance.

The second issue that you mentioned was the output of the boiler and whether the 99 kW was a peak output of the boiler or an average. Dermot has spoken to OFGEM and discussed, in particular, the NI version of the rules and regulations. This part of the rules appears to be the same as the English version.

When a claim is put into OFGEM, it is done quarterly. The figure from the meter is read and e-mailed to OFGEM. They then compare this to the previous reading and also to similar installations. They will then also calculate what the maximum would be achieved from a 99 kW boiler working 24 hours a day over a 3 month period. In this particular instance, the answer would be around 216,000 kilowatts.

OFGEM would not be concerned about how this was achieved. In other words, a 99 kW boiler can work at 200 kW for 12 hours a day for 3 months and will gain the same amount of credit and this would be of no concern to them. As far as they are concerned, the boiler is rated at 99 kW and as long as the recipient is not trying to defraud them by making it achieve 200 kW for 24 hours a day (for example), they will not have an issue with a boiler over performing boiler at certain times of the day.

A straw burner will perform at different stages throughout a burn purely because of the burn cycle of a natural product. It will be dryer in certain areas of the bale, it will be more compact in some places and so on. All these things affect the burn cycle, so averaging the performance and the number of kilowatts produced over a period of time is the only way to achieve an accurate and fair result.

We already have plenty of boilers that were able to get into the RHI scheme before the changes in September 2013 and they all burn straw in such a way and report back to OFGEM, in a way that is approved and accredited.

COM-108910

I hope these answers have been useful and I look forward to your response. I have enclosed the certification that we have achieved on the type of boilers you went to see in Scotland and we are about to test on the 99 kW boiler that you are looking at. When we test, it will be for burning wood, but we expect to complete a test run on straw as well.

I would also like to add, once again, that if you wish to see one of our new boilers burning straw, I would be delighted to bring you over to Boston to see one on action.

Phil Ampson

Personal information
redacted by the RHI Inquiry

01205 461594

sales@thebiomasscentre.co.uk

The Biomass Centre



Loves Lane, Sutterton, Boston, Lincs. PE20 2EU



<http://thebiomasscentre.co.uk> | sales@thebiomasscentre.co.uk | amy@thebiomasscentre.co.uk