

To: David Mark[David.Mark@moypark.com]
From: Ellis, Cathal
Sent: Fri 10/30/2015 11:32:00 AM
Importance: High
Subject: Biomass Cost caculator post November 11th. [UNSCANNED]
MAIL_RECEIVED: Fri 10/30/2015 11:33:22 AM
CAFRE Biomass system cost comparison calculator 2015 version master.xls.xlsx

David,

Please find attached cost calculator for biomass boilers as discussed yesterday. I have provided an example below of costs generated by 2 x99kW boilers as opposed to a single 199kW boiler. This illustrates the importance of looking carefully at each installation. I trust this provides clarification. Please don't hesitate to call me if you have any questions.

The RHI for biomass boilers applies to installations using solid biomass, municipal solid waste (including combined heat and power).

The commercial scheme has been running since autumn 2012 and current tariffs for the 3 size ranges are:

Less than 20kWth	6.7p per kWh
20kWth and above, up to but not including 100kWth	6.4p per kWh
100kWth and above, up to but not including 1000kWth.	1.5p per kWh

The length of tariff is 20 years with RPI adjustments each year.

From 11th November 2015 The tariff structure for Biomass Boilers will change to a tiered structure and the size range for the middle range will increase from 99kW to 199kW.

The incentive for boilers up to but not including 200kWth will change:

Tier 1 The first 1314 full load hours will receive a payment of:

Less than 20kWth	6.7p per kWh
20kWth and above, up to but not including 200kWth	6.4p per kWh

Tier 2 Up to 400,000kWh 1.5p per kWh

Tier3 Over 400,000kWh will receive no further payment. 0.0p per kWh

Boilers 200kWth and above, up to but not including 1000kWth remain unchanged at 1.5 p per kWh.

Example 1 : A farmer has installed two 99kW boilers to dry wood chip. Each boiler generates 450,000kWh heat per year:

To work out his payment for each boiler:

Tier 1 Size of Boiler X 1314 = kWh used X Tariff = payment tier 1

$$99 \times 1314 = 130,086 \text{ kWh} \times 6.4 = \mathbf{\pounds 8325.50}$$

Tier 2 400,000 - kWh used Tier 1 X Tier 2 tariff = payment tier 2

$$400,000 - 130,086 = 269,914 \times 1.5 = \mathbf{\pounds 4048.71}$$

Tier 3 Additional 50,000kWh used – No Payment

Total Payment = Tier 1 + Tier 2

$$8325.50 + 4048.71 = \mathbf{\pounds 12,374.21}$$

Therefore 2 x 99kW boilers would generate a payment of $2 \times \pounds 12,374.21 = \mathbf{\pounds 24,748.42}$

Example 2: A farmer has installed a single 199kW boiler to dry wood chip. The boiler generates 900,000kWh heat per year:

Tier 1 Size of Boiler X 1314 = kWh used X Tariff = payment tier 1

$$199 \times 1314 = 261,486 \text{ kWh} \times 6.4 = \mathbf{\pounds 16,735.10}$$

Tier 2 400,000 - kWh used Tier 1 X Tier 2 tariff = payment tier 2

$$400,000 - 261,486 = 138,514 \times 1.5 = \mathbf{\pounds 2077.71}$$

Tier 3 Additional 500,000kWh used – No Payment

Total Payment = Tier 1 + Tier 2

$$16,735.10 + 2077.71 = \mathbf{\pounds 18,812.81}$$

Therefore a single 199kW boiler would generate a payment of **£18,812.81**

A single 199kW boiler will generate £5935.61 less than 2 99kW boilers (hydraulically independent).

Cathal

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Inquiry

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