

**From:** [Wightman, Stuart](#)  
**To:** [Clydesdale, Alison](#); [Woods, Michael \(DETI\)](#)  
**Cc:** [Marten, Lucy](#)  
**Subject:** FW: RHI information  
**Date:** 09 June 2016 12:14:14

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fyi

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**From:** Wilkinson, Tomas  
**Sent:** 09 June 2016 11:06  
**To:** Wightman, Stuart  
**Cc:** O'Neill, Brian  
**Subject:** RE: RHI information

Stuart

Yes we will use the 30k cost for replacements but 45k for the initial cost.

Thanks

Tomas

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**From:** Wightman, Stuart  
**Sent:** 09 June 2016 10:17  
**To:** Wilkinson, Tomas  
**Cc:** Clydesdale, Alison; 'Marten, Lucy'  
**Subject:** RE: RHI information

Yes Tomas, I would use the 4.01p/kwh figure. My only caveat is that these figures are current (may 2016). If your comparison is to be May 2015, I would still use £45k as the boiler cost rather than £30k.

Stuart

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**From:** Wilkinson, Tomas  
**Sent:** 09 June 2016 09:58  
**To:** Wightman, Stuart  
**Cc:** Clydesdale, Alison  
**Subject:** RE: RHI information

Stuart

Thanks for this.

Can I confirm two things:

- 1 We have used a pellet cost of 4.4 p in our calculations – we should now change this to 4.01p which will include electricity service costs etc
- 2 We will add the cost of 3 boiler replacements to the 168 hours a week case – each costing 30,000-3000=27000

Is this correct?

Also can you please follow up with your financial accounts colleagues that we now **urgently** need the figures for the projected costs of RHI in the future to be included in the report. We need to audit these and any further delay will risk the achievement of summer recess closure.

Thanks

Tomas

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**From:** Wightman, Stuart  
**Sent:** 08 June 2016 21:35  
**To:** O'Neill, Brian  
**Cc:** Clydesdale, Alison; Higgins, Pauric; Wilkinson, Tomas; Woods, Michael (DETI)  
**Subject:** RE: RHI information

Brian

Sorry for the delay, I've been tied up in meetings for the last 3 days.

I attach a paper provided by CAFRE which sets out the current costs (May2016) of running a biomass (pellet)

versus an oil boiler. The key figures are that an oil boiler would cost £3k versus a biomass boiler at £30k (this could increase to as much as £50k for completely new installations). Biomass boilers will cost an extra 1.16 p/kwh to run because of the higher fuel, electricity and maintenance costs.

The operating cost for a 99kW pellet boiler are assumed to be 4.01p/kWh. This is made up of:

Pellet cost £150 per Tonne @4416kWh/Tonne (Assuming 4800kW/Tonne at 92% efficiency)	3.36p
Average increased use of electricity by biomass boiler @12p/kWh	0.30p
Average Boiler servicing cost	
0.25p	
Average Remedial Repairs	
0.10p	
Total	
4.01p/kWh	

With regard to running 24/7, CAFRE have confirmed that a biomass boiler running for 8760 full load hours would require 5.84 services per year. Each service requires boiler shut down for at least 6 hours.  $6 \times 5.84 = 35.04$  hours. The boiler would therefore run for  $8760 - 35 = 8725$  hours.  $8725 \times 99 = 862775$ kWh. CAFRE have spoken with a number of installers who suggest that if a boiler was to run continuously on full load hours it would need replacing after 5 (five) years. This is backed up by CAFRE's experience with its own 300kW biomass boiler (Enniskillen campus) which has undergone extensive repairs after 2861300kWh. If this boiler was running at full load 24/7 these repairs would be necessary on an annual basis.

It should also be noted that the original 5.9p biomass tariff was based on meeting:

- an annuitised capital cost of 12% for 20 years (covering the capital costs plus 12% return factoring inflation)
- annuitised upfront barrier costs associated with biomass (£718yr was used in 2012 business case)
- Ongoing barrier costs associated with biomass (£828/yr was assumed in 2012 business case)
- Ongoing additional running costs (fuel, maintenance, electricity, etc) associated with biomass over oil

Tables 3 and 4 in the draft report don't appear to factor in any barrier costs or maintenance costs. More importantly, the capital costs have not been presented in an annuitised basis. Annuitising the capital costs takes account of depreciation / inflation – i.e. for the original 2012 tariff calculation to provide a rate of return of 12% over 20 years on a £30,400 initial investment (50kw boiler), £81,460 must be recovered over the 20 years (over and above barrier and operating costs) and not just £34,048 (or 112% of original outlay) which is what Tables 3 and 4 assume.

Happy to discuss.

Thanks

St

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**From:** O'Neill, Brian  
**Sent:** 08 June 2016 09:00  
**To:** Wightman, Stuart  
**Cc:** Higgins, Pauric; Wilkinson, Tomas  
**Subject:** RHI information

Hi Stuart

Grateful if you could please forward on the RHI information as requested.

Many thanks

Regards

Brian

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