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**Subject:** RHI - A worked example - details potential amount of overpayment  
**Date:** 16 January 2017 12:05:54  
**Attachments:** [RHI - A Worked Example.pdf](#)  
[image001.png](#)

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Siobhan,

John Robinson asked for something like this to be produced.

See enclosed.

Regards

Shane

## **Shane Murphy**

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## Illustration of the Proposed RHI Tariffs

### A Worked Example

The aim of the scheme was to cover the additional investment costs and / or operating costs between renewable technologies and traditional fossil fuel technologies.

Based upon a 99kW Biomass Boiler, costing Circa £50,000 compared to an equivalent oil boiler costing Circa £3000, the aim of the scheme is to use payments to cover the additional cost – in this example Circa £47,000.

With something of the order of 1.5p per kWh of the tariff being aimed at covering differences that can arise, over time, in operating and fuel costs<sup>1</sup>, this leaves 5p per kWh to cover capital costs. The below table illustrates that the proposed tariff can enable investors to recoup this additional capital cost over a reasonable investment horizon, and it also compares it to the level of (excessive) compensation inherent in the existing tariffs at higher loads.

#### Annual Payment on an 99kWt Boiler

*- Returns on Proposed Tariff Compared to the "Old" Pre November 2015 Tariff*

Load Factor	Hours Run p.a.	Output p.a.	Output		Proposed Tariff				Old Pre Nov 2015 Tariff				Over Payment
			at 5.0p	at 1.5p	Total Payments	Of Which "Capital"	Payback Period	Levelised RoR	Total Payments	Of Which "Capital"	Payback Period	Levelised RoR	
A	B	C = B x 99	D*	E = C*8	F = D x 5p + E x 1.5p	G = D x 5p			H = C x 6.5p	I = C x 5p			J = I - G
15%	1314	130086	130086	130086	£ 8,456	£ 6,504	7.2yrs	12.9%	£ 8,456	£ 6,504	7.2yrs	12.9%	£ -
20%	1752	173448	130086	173448	£ 9,106	£ 6,504	7.2yrs	12.9%	£ 11,274	£ 8,672	5.4yrs	18.5%	£ 2,168
25%	2190	216810	130086	216810	£ 9,756	£ 6,504	7.2yrs	12.9%	£ 14,093	£ 10,841	4.3yrs	24.0%	£ 4,336
30%	2628	260172	130086	260172	£ 10,407	£ 6,504	7.2yrs	12.9%	£ 16,911	£ 13,009	3.6yrs	29.6%	£ 6,504
45%	3942	390258	130086	390258	£ 12,358	£ 6,504	7.2yrs	12.9%	£ 25,367	£ 19,513	2.4yrs	46.8%	£ 13,009
60%	5256	520344	130086	400,000	£ 12,504	£ 6,504	7.2yrs	12.9%	£ 33,822	£ 26,017	1.8yrs	65.6%	£ 19,513
70%	6132	607068	130086	400,000	£ 12,504	£ 6,504	7.2yrs	12.9%	£ 39,459	£ 30,353	1.5yrs	79.1%	£ 23,849
95%	8322	823878	130086	400,000	£ 12,504	£ 6,504	7.2yrs	12.9%	£ 53,552	£ 41,194	1.1yrs	116.3%	£ 34,690

\* Tier comes in after 1314 hours

\*\* Up to a maximum of 400,000 kWh Heat Output

<sup>1</sup> The differences between the operating costs, and fuel costs, of Biomass and Oil installation vary over time, but are assumed to roughly 1.5p over a period of time.