

From: John Batch
Sent: 06 March 2015 09:11
To: Sustainable Development Tenders
Cc: Paul Snowdon
Subject: FW: **INC23**

Hi Paul

I have completed the PPE for IMP and I have decided to approve payment (there still remain a few minor changes to be made around carbon calculation)

Time has gone and these need paid promptly – I have an assurance from Bastian that the last changes will be made before releasing to the Client.

Energy £28,895 @10.3p (£20k excluding Heating Electric)

Heating Electric £8,565
Heating Oil £12,000

The outputs are as follows **highlighted below**

Solar PV 12 kW (self Financed)

Capital Cost	£18,000
Potential Savings	£2,127
Total Value	£1,977 (ROC's £1,317 + Electricity Export £810 – O&M £150)
Payback	9.1 years
Carbon	3.1
CT Loan	Not available less than £3,000
Electric Savings	£769

Biomass (2x60W) Option 2

Capital Cost	£75,000
Potential Savings	£-978
Total Value	£21,497 (RHI £22,775 + Cost Savings -£978 – O&M £300)
Payback	3.9 years
Carbon	55 tonnes
CT Loan	£36,666 (Over 2 years)
Oil Savings	-£3,503

For the total Projects

Capital	£93,000
Savings	£1,149
Value	£23,474
Payback	3.9 years
Carbon	58.1
Oil	Cost £ - 3,503
Electric	£769

From: Bastian Abicht [mailto:Bastian.Abicht@actionrenewables.co.uk]
Sent: 05 March 2015 19:01
To: John Batch

Subject: RE: INC23

Hi John,

Please find the amended report attached.
Thank you for your guidance. This was very helpful.

Kind Regards,

Bastian

From: John Batch [mailto:john.batch@investni.com]
Sent: 03 March 2015 12:58
To: Bastian Abicht; Sustainable Development Tenders
Cc: Jonathan Buick
Subject: RE: INC23

Dear Bastian

I have reviewed the report for IMP 691 INC23 and there appears to be several amendments required and points that I need to confirm with you.

1. Will you please confirm the capital cost for 2 x 99kw Biomass Boiler Systems is £50,000 when 1x 99kw costs £40k – was this from a supplier quotation or was this based on an average capital cost per kW. It does seem incredibly low for 2 x 99kW. If this was a supplier quotation could you please include this.

Capital cost for 1 x 60kW and 2 x 60kW Biomass Boiler System referred to cost range of @£450/kW - £600/kW. Amended second option and corrected cost value upwards.

2. Page 5 - refers to CT loan that may be available – the lower limit for a loan is £3k so this would not apply – please qualify consider and amend

Amended

3. Page 5 0 - payback for 12k PV (loan financed table 11.6 years does not agree with text 12.6 year neither does the 20 yr ROI table figures of £16,585 agree with text figure £10,890. Please review consider and amend.

11.6 years is the correct value, £16,585 is the correct value – Both amended

4. Page 6 – table need to be completely reviewed – Option 1 is 1 x 99kw Biomass Option 2 is 2x 99kW figures are in wrong columns, energy outputs are in wrong columns

- Amended

5. Page 6 - carbon calculations appear to be wrong in the CT Carbon Calculator Spreadsheet attached page 52 Net Carbon Savings are correct in table page 6 but the figure of £12,600 on page 6 is wrong should be £24,666. Would you also indicate the CT Loan of the 57 tonnes Carbon emission savings. Maximum potential loan based on rate of £1,000 per 1.5 tonnes. Will you please consider and amend Pages and the spreadsheet. I did check the online calculator and it gives the answer you reported. Perhaps a quick check with Janine at Carbon Trust could clarify the calculation.

I provided much more detail. I will try to – along with all the other calculations – streamline this

calculation as well in the future.

Project	12 kW solar PV System	Biomass System (Option 1)	Biomass System (Option 2)
Annual Site Energy Savings [kWh]	6,504	No savings	No savings
Onsite annual fuel savings / additional expenses	£ 769	£2,380	-£3,503
Annual RHI income / ROC income	£ 1,317	£ 10,710	£ 22,775
Annual value of savings / State Aid	£ 2,086	£ 13,090	£ 19,272
Annual Carbon Savings [tonnes]	3.1	40	55
Maximum Carbon Trust Loan Available	£ 4,650	£60,000	£82,500
Repayment period	2.2 years	4 years	4 years
Annual repayment	£ 2,086	£15,000	£20,625
State Aid over 3-year period - RHI/ROC	£3,951	£32,130	£61,875
State Aid - Carbon Trust Loan (loan based on interest rate of 6% over the eligible period)	£356	£9,000	£12,300
Total 3 years state aid	£4,307	£41,130	£74,175
Maximum 3-years state aid allowance	£200,000	£200,000	£200,000
Remaining 3-years state aid prior to cap	£195,693	£158,870	£125,825

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- Page 6 – could I suggest that under description of Option 1 you include, Retention of air source heat pumps to provide air conditioning and also at bottom of page six include air source heat pumps. This is to avoid confusion over ground source heat pumps which you suggest could be a future solution rather than a second biomass boiler for the under floor heating.(page 7)
Thanks, amended
 - Page 8 – suggest removing the phrase ‘as being replaced by heat pumps in the past.’ this does not read correctly nor make sense of previous sentence.
Amended - And has been replaced by air source heat pumps in the past
 - Page 21 – table showing fuel savings £259 (clarification of figure) – compared with page 6 table value (RHI £11,340 + savings £258 –O&M £500) = £22,755??? – please consider and amend all figures and correct txt at bottom of page 21 if appropriate.

All amended – apologies for that – we will implement a more accurate approach for implementing calculations into word in the future. This will hopefully reduce clerical errors

- Page 35 – Carbon Trust Loan table need amended to reflect correct figures. No figure for Option 2 just N/A – rationale? Explanation of ‘No savings’ for Biomass in table.

Amended

- Page 46 - Table need reviewed and amended – eg 1 x 60kW boiler Fuel demand = 425,294 kWhr and 2 x 60kw boiler Fuel Demand 200,000 kWhr - columns wrong check please.

Amended

- Page 46 – can you please clarify what is being said under Option 1 and simplify, particularly with the insertion of figures for kWhr which just confuses what is being said.

Amended

12. Page 46 – similar for Option narrative – eg the phrase ‘Compared to previous electricity cost of £5,665 and £10,000’ where do these come from and what is being reported here. Where does the figure of £18,476 come from

I hope this has been clarified now. I amended section 4.3. Thanks.

13. Page 52 - reference CT Loan value – correction required.

Amended

If you could please consider the above matters and provide a satisfactory response promptly and we should be able to approve payment.

Regards

John Batch

From: Bastian Abicht [<mailto:Bastian.Abicht@actionrenewables.co.uk>]
Sent: 28 February 2015 15:00
To: Sustainable Development Tenders
Cc: John Batch; Jonathan Buick
Subject: **INC23**

Dear InvestNI team,

Please find attached the feasibility study for **INC23** el.

Apologies for the delay,

Regards

Bastian

Bastian Abicht
Assistant Project Manager

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