From:	Clydesdale, Alison
To:	Woods, Michael (DETI)
Cc:	Wightman, Stuart; Stewart, Chris (DFE); McMurray, Stephen; Bagdonaite, Dovile; Marten, Lucy; Hughes, Seamus
Subject:	RE: Initial findings on Domestic RHI
Date:	17 June 2016 18:24:38
Attachments:	image001.gif Audit - Domestic RHI summary of matters arising.tr5 Audit - Domestic RHI summary of matters arising.DOCX

Michael

Please find attached our initial comments to inform your draft report on the domestic RHI scheme.

Once you have considered I think it would be useful to arrange a meeting so that we can discuss any further queries before you finalise your draft audit report.

Best Regards

Alison

From: Woods, Michael (DETI)
Sent: 31 May 2016 15:37
To: Clydesdale, Alison
Cc: Wightman, Stuart; Stewart, Chris (DFE); McMurray, Stephen; Bagdonaite, Dovile
Subject: Initial findings on Domestic RHI

Alison

We have completed our review on Domestic RHI, while the scheme is affected by the overall funding issues in relation to the funding of the RHI scheme we have also identified a number of findings specific to Domestic RHI which i have set out in the attached document. I would be grateful if you could consider and if you could let me have any comments or indicate those findings where you feel there is further explanation that you could provide on the points raised. In the interim we will draft our report and we will organise a formal wash up meeting before issuing the report.

Michael Woods
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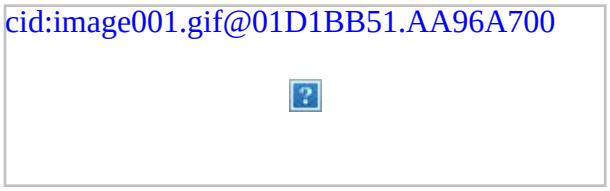

NI Year of Food & Drink 2016

Please consider the environment - do you really need to print this e-mail?

Summary of matters arising from review and testing

1. RHPP levels set higher than the ones recommended by CEPA (2011)

CEPA carried out a review to inform the introduction of the NIRHI scheme in 2011. In this CEPA provided their assumption of the average capital costs of the domestic renewable technology and advised that a discount/subsidy at a level of 16% should be offered by the NI Domestic RHPP scheme. However, the actual rates offered by the Department appear to be significantly higher. Table 1 below provides for information a comparison of the rates as advised by CEPA, those actually offered by DETI and the rates provided by the GB scheme. This clearly demonstrates that if capital costs assumed by CEPA are accurate, the NI RHPP were subsidising certain technologies by providing more than twice the subsidy level suggested by CEPA and for one type of technology (solar thermal) only providing half of the subsidy level recommended.

Table 1

Technology	**Assumed Capital cost**	**CEPA recommended RHPP level (at 16% discount)**	**Approved RHPP rate for DETI**	**RHPP rate in GB before May 13***	**RHPP rate in GB after May 13***
ATW ASHP	£9,100	£1,400	£1,700 (18%)	£850	£1,300
Biomass	£7,600 - £7,900	£1,200	£2,500 (33% - 32%)	£950	£2,000
GSHP	£10,300 - £16,300	£1,600 - £2,600	£3,500 (34% - 22%)	£1,250	£2,300
Solar Thermal	£4,400	£704	£320 (7%)	£300	£600

The Department requested that applicants provide copies of invoices of equipment cost and installation. IAS testing, of a sample of RHPP applications, demonstrated that on some occasions the rates of the RHPP offered represented more than 50% of cost of equipment and installation.

We have not been able to establish how the Department arrived at the rates for RHPP that have been offered. When we raised this during the audit management were unable to provide an adequate audit trail demonstrating why the CEPA advice on the levels of rates was not followed.

Comment from Management

According to the Department's 2012 Business Case, it would appear that the RHPP grants for NI were based on 2 years of future RHI payments (based on a 20 year domestic scheme). Whereas, the GB RHPP grants were based on 1 years of RHI payments. This accounts for the difference. It was always intended that RHPP recipients would transfer onto any future Domestic RHI Scheme and their annual payments reduced as necessary to take account of their RHPP grants.

2 Domestic RHI Rate of Return

CEPA review of the Phase 2 (2013) recommended that Domestic RHI scheme provides to accredited installations an upfront payment (set at the levels previously provided by RHPP) followed by 7 annual incentive payments (per KWh) depending on the technology installed. No upfront payments were provided by the GB Domestic RHI but it offered higher annual incentive tariffs. See Table 2.

Table 2

Technology	Upfront payment NI	Annual Incentive NI	Annual Incentive GB in 2014	Annual Incentive GB current
ATW ASHP	£1,700	3.5p	7.30p	7.51p
Biomass	£2,500	5.6p	12.20p	5.20p
GSHP	£3,500	8.2p	18.80p	19.33p
Solar Thermal	£320	13.5p	19.20p	19.74p

The CEPA review also indicated that the tariff rates offered by the NIRHI Domestic scheme should provide applicants a 7.5% rate of return on their investment and it also provided as a reference point, a series of annual average annual kilowatt hours used by different types of property (semi/detached urban or rural) which ranged from 6185 to 34283 kWh p/a (for detached solid wall house pre 1980). IAS obtained a briefing paper to the Casework Committee before the approval and introduction of the scheme, which stated that the NI Domestic RHI scheme is aiming to provide a 10% of return.

IAS testing identified that the actual rate of return received by some applicants may be substantially higher than the 7.5 or the 10% planned and especially for one type of very popular technology – biomass (see example 1). In addition, it appears that the biomass tariff provided by the scheme covers annual cost of fuel for biomass in full and provides a compensation of 121% as per DFP SAP rate 2009 which is used for calculating the annual kWh of heating needed. See also issue No3.

We understand that the Department has not yet carried out a value for money review of the scheme however we would recommend that this is done at the earliest opportunity to ensure that the rate of return provided is in line with CEPA recommendations and is in accordance to the scheme design intended by the Department.

Example 1
RHI Personal information

Capital costs (purchase of the equipment and installation) - £9,429
Annual cost of purchasing wood pellets - £1,124 (as per DFP SAP rate 2009)
Upfront payment - £2,500
Annual Incentive - £1,310 (22938 kWh p/a)

According to these figures it would appear that this applicant during the 7 years of the life of the scheme may receive £11,670 from the Domestic NIRHI which in accordance to our rough calculation represents more than 40% rate of return over 7 years.

Comment from Management

The assessment above does not factor in the additional opex and barrier costs associated with biomass pellets and relies on SAP 2009 fuel price assumptions which are out of date. When these costings are factored in, there is in fact no return on the initial capital outlay.

The basis for the Domestic RHI Biomass tariff is setout in the 2013 CEPA report (pages 61 and 117). It was originally envisaged that the domestic scheme would be a 20 year scheme. The assumed costings for this are set out below. These are based on comparing a reference case 12kw boiler costing £7836 against a 20kw oil boiler costing £3,240 in a domestic property with an annual heat demand of 18,088 kwh. These costs were then annuitized using a 7.5% discount rate to provide the difference in annual costs between a biomass and oil boiler.

	Annuitized Capital cost at 7.5% rate	Annual operating costs	Annual fuel costs
Biomass	715	237	1363
Oil	296	194	1157
Difference	419	43	206

	In addition, barrier costs of £1,043 were included. In any assessment of rate of return, opex, fuel and barrier costs must be deducted from the RHI payments. For opex and barrier, in the absence of any other information, the figures the table above can be used. However, for fuel costs it is important to factor in the current difference between pellets and oil. The SAP 2009 figures are now over 7 years old and are used to provide indicative fuel costing in EPCs. Taking the example above: Annual Heat Requirement = 22,938 kwh Oil is currently £297 for 1000 litres (Bangor Fuels Website) = 2.73p / kwh (1 litre = 10.85 kwh) Pellets £250 / tonne (bagged for domestic use) = 5.21 p / kwh (1 tonne = 4800 kwh) Net Fuel Cost (difference) = 2.43 p/kwh Net Annual fuel cost = £557 Net Annual Opex (difference) = £43 Total Additional Annual Costs (for bagged pellets against oil) = £600 Annual Incentive = 22,938 x 0.057 = £1,310 Annual Return (net of additional pellet costs) = £1310 - £600 = £710 Upfront payment = £2,500 Barrier Costs = £1043 (taken from CEPA report p117) Total Return (after 7 years) = £2500 + (7 x £710) - £1043 = £6,427 Initial capital outlay = Biomass boiler cost – cost of comparable oil boiler = £9,429 - £1,800 (based on DfC figures for BRS) = £7,629 **When barrier costs, additional fuel and opex costs are factored in to this example, there is in fact no return on the £7,629 initial investment. This would appear to be primarily due to the low oil prices that we're currently experiencing. It is recognised that over the 7 year lifetime of the scheme this may change.**
3	**RHI Payment Cap**
	As a means to control cost and budget the Department have designed their Domestic NIRHI scheme with an annual payment cap of £2,500 which applies to an annual incentive payment. This is an improvement on the design if compared to the Non Domestic RHI scheme where no caps to annual payments have been originally planned. However it is not clear as to how this amount was determined or how effective it was considered to be. CEPA review of 2013 indicates that they expect that the annual payment for the most generous of the technologies of biomass was to be at just over £1000. Having that in mind what other research has there been carried out to inform the Department that the £2,500 cap will be an effective control? How was this cap level determined? With reference to example 1 above it can be seen that even with a £2,500 cap the return on investment may exceed the intended rates.
	Comment from Management

	Officials calculated potential RHI payment amounts from a selection of EPCs and used the results to inform their decision to introduce a figure of £2000 as the cap on RHI payments. This figure was included in the policy proposals to avoid the scenario of excessive payments being made to inefficient properties. Representatives from the renewable heat industry raised concerns that maximum annual payments of £2,000 a year would not be enough to incentivise the owners of larger properties to switch to renewable heating. Similar concerns were raised about inefficient domestic properties that are listed and prevented from making improvements such as insulation to reduce their excessive energy bills. The Minister asked officials to explore if anything could be done to accommodate listed buildings. The solution considered most appropriate at the time was to increase the annual cap thereby avoiding complex legislation and administrative arrangements. Officials used the EPC register to examine the heating needs of a number of different property types and found that a cap of £2,500 would cover the estimated heating needs of most properties. The Minister agreed this final policy change to increase the annual cap to £2,500 on 21/11/2014. [Sub611 – DT1/14/0210089 – reason for increase from £2000 to £2500.] GB has no cap on payments.
4	**RHI Payment Calculation Methodology**
	IAS were provided with a spreadsheet calculator tool which is used by the staff administrating the scheme to determine the level of annual incentive for each type of technology. The calculation methodology on which this calculator tool is predicated was also provided to IAS. We were not able to obtain documentation or advice to demonstrate whether an analysis was carried out by Departmental economists to advise whether the calculator tool is fit for purpose and whether the methodology of calculation is accurate and delivers the results intended. Has the Department carried out a comparative analysis of how are GB rates calculated? Is similar methodology used by the GB scheme to calculate Domestic RHI incentive? The calculation methodology is used to convert the estimated heating need for a property for a value stated in "£'s" to a value stated in KWh. This is then used to calculate the annual payment by multiplying the KWh figure by the rate per KWh. IAS would like confirmation that the algorithm used is fit for purpose and was been QA'd.
	Comment from Management
	The Northern Ireland EPC's are currently calculated on 2009 SAP fuel rates. We apply a calculation using these fuel figures to calculate the annual heat demand in kWhs and this is then multiplied by the RHI tariff to produce the annual deemed RHI payment. This calculation method was agreed with DFP as the work around to be used until the Northern Ireland EPCs are brought into line with GB, which may be some years away, and of course the RHI is now closed to new applications. Unlike NI, the GB EPCs already provide the actual heat demand in kWh for the property which is then multiplied by the appropriate tariff rate for the heating technology used.
5	**Domestic RHI Site Inspections**
	In accordance to the Domestic RHI scheme model, site inspections provide significant assurance element over the validity of payments. IAS

	were able to see that 25% of the RHPP applications had been inspected as intended and that all non compliances identified were addressed by management. However, at the time of IAS fieldwork we were advised that no site inspections of the new accredited Domestic RHI installations have been carried out. In addition, at the time of the audit we were advised that the methodology for how these inspections will be carried out and by whom and how the sites will be selected, have yet to be developed. IAS were advised that this had not been done due to the high volume of applications that were yet to be accredited and that there had only been relatively few new installations that had received annual payments to date therefore was deemed to be less risk. Whilst we agree that there have not indeed been many of the annual payments paid by the Department at the time this review was carried out, the upfront payment is made on accreditation. At the time of the review there were approx 700 new accredited RHI installations and around the same number was still outstanding. We also acknowledge that some targeted inspection visits were planned to be carried out in May 2016 however we still consider absence of the programme of site visits and in particular absence of the clear methodology to be a weakness in control the design of which should have ideally been addressed at the time of planning of the scheme.
	Comment from Management
	Seven targeted site inspections were carried out on 3 June 2016, resulting in one installation being investigated further. A number of further targeted inspections are to be carried out but it is acknowledged that a programme of site inspections would have been preferable from the outset and would have been in place had resource been available. Arrangements are now being put in place for a programme of site inspections to commence from autumn 2016. However, experience from site inspections undertaken for the RHPP scheme during the period May 2012 to October/November 2014 did not reveal any significant issues or problems. When the backlog of applications is processed it is expected that existing RHI staff will resume carrying out a full programme of audits.
6	**Risk Management. Identification of Relevant Risks**
	IAS acknowledge that risk registers have been developed at different business planning stages of the NIRHI scheme. There was a risk register developed before the introduction of the Domestic RHPP and Non Domestic RHI scheme. An issue was already raised in the review of the Non Domestic RHI scheme where it was noted that although the Risk Register was present it was not maintained or updated as the scheme developed. In terms of the Domestic RHI we obtained 2 Risk Registers – one for the scheme in general (developed for the purposes of the Business Case), another for the scheme operations. We note that some relevant operational risks have not been identified, among which is a potential risk of scamming the scheme, i.e. for example, a request by phone or email to change the bank details or etc. and the protocol that staff should follow any time such requests come in to ensure personal sensitive information is protected. We would recommend therefore that a risk assessment is carried out to ensure that all significant risks are identified and relevant mitigations agreed.
	Comment from Management

Comment [AW1]: still needed?

Comment [LM2]: Yes, I think so. We will be undertaking independent site inspections via Michael's work or by ourselves so I think this is still applicable.

	A further risk assessment will be carried out to identify any further risks, including those mentioned in relation to scamming..
7	**Decision to Include ESCO's**
	We were able to obtain email communication between Energy staff and DECC in relation to the treatment of ESCO's. DECC advised that they were not planning to include ESCO's in their Domestic RHI scheme. However, it would appear that the department has included them in the NI scheme, IAS would wish to understand the decision by the Department to include ESCO's and what informed this decision? Given the scheme is a domestic scheme, IAS understands that State Aid approval was not needed, however if ESCOs are included does this not mean an aid was provided.
	Comment from Management
	It is our understanding that the DECC state aid approval did not preclude ESCOs under the domestic RHI but they took the approach of seeking formal notification for them. We have taken the view that specific state aid approval is not required for ESCOs. Unlike the non domestic RHI scheme where the users of heat are in competition with others and could receive a competitive advantage through the grants, the main beneficiaries under the domestic ESCO model are the householders. In addition the domestic scheme provides a much lower level of incentive than the Non Domestic scheme which already has State Aid approval. We still have to notify the Commission of the November tariff changes to the Non Domestic scheme and can take this opportunity to also notify the Domestic RHI grants to ESCOs if required.
8	**Calculation of Payments where 2 Renewable Technologies are Installed**
	In accordance to the annual incentive payment calculator, the annual incentive is calculated by adding the potential heat costs with potential costs of hot water to obtain the annual overall heat requirement in kWh. For the properties where solar hot water equipment and another renewable technology is installed, the calculation should disregard the water heating costs as it would be covered by the RHI incentive for the solar thermal installation. If this is not done, it would potentially mean that hot water production is double funded. Management should therefore carry an exercise to ensure this is not the case.
	Comment from Management
	EPCs produced for properties that have secondary solar thermal heating in addition to another primary renewable heating technology (such as biomass, Ground Source or Air Source Heat Pump) take account of the solar thermal contribution in the hot water requirements (costs). In such cases, page 4 of the EPC states that the hot water is from the 'main system, plus solar' and this would be reflected in the hot water figure on page 2, i.e, the cost of heating water will have been reduced accordingly.. This is consistent with the GB scheme.

Comment [PB3]: DECC allow solar + 1 and the applications are made separately (ie the solar application doesn't appear to affect the space heating application).

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/237084/RHI_web_chat_FAQ_15.8.pdf

https://www.ofgem.gov.uk/environmental-programmes/domestic-renewable-heat-incentive/about-domestic-rhi/tariffs-and-payments-domestic-rhi

It might be worth checking with Ofgem to confirm?

9	**EPC Assessors. Potential Conflict of Interest**
	IAS evidenced that on some occasions the EPC assessment was carried out by the same company that carried out the installation of the renewable technologies. It is IAS view that in such cases there is potential for an element of conflict of interest where the costs of heating could be artificially inflated to guarantee the applicant a better return. Has Energy considered this risk? How and by what institution is the work carried out by EPC assessors controlled to ensure quality of the results of the service provided?
	Comment from Management
	The Energy Performance Certificate is a government recognised standard. EPC assessments are undertaken by accredited assessors. A copy of each EPC generated is lodged on a national register.

Summary of matters arising from review and testing

1. RHPP levels set higher than the ones recommended by CEPA (2011)

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The Department requested that applicants provide copies of invoices of equipment cost and installation. IAS testing, of a sample of RHPP applications, demonstrated that on some occasions the rates of the RHPP offered represented more than 50% of cost of equipment and installation.

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Comment from Management

According to the Department's 2012 Business Case, it would appear that the RHPP grants for NI were based on 2 years of future RHI payments (based on a 20 year domestic scheme). Whereas, the GB RHPP grants were based on 1 years of RHI payments. This accounts for the difference. It was always intended that RHPP recipients would transfer onto any future Domestic RHI Scheme and their annual payments reduced as necessary to take account of their RHPP grants.

~~The rates set for RHPP are taken from the 2012 CEPA report and these are the same rates that were carried across to the domestic RHI. It would appear that, through public consultation, concerns were raised over the size of technology used as the reference case to calculate the proposed tariffs/grants. and cConcerns were also raised over the price of biomass assumed (as NI prices were higher than GB). The tariffs/grants were then revisited using larger reference cases (in terms of size of plant) and increased biomass prices which led to the increased RHPP grants which were finally included in the 2012 Business Case. TRIM reference - DT1/12/0035326.~~

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Comment [AW1]: I found this explanation in an email from Stuart – are we content with this explanation? This applies to Non Domestic only.

2 Domestic RHI Rate of Return

CEPA review of the Phase 2 (2013) recommended that Domestic RHI scheme provides to accredited installations an upfront payment (set at the levels previously provided by RHPP) followed by 7 annual incentive payments (per KWh) depending on the technology installed. No upfront payments were provided by the GB Domestic RHI but it offered higher annual incentive tariffs. See Table 2.

Table 2

Technology	Upfront payment NI	Annual Incentive NI	Annual Incentive GB in 2014	Annual Incentive GB current
ATW ASHP	£1,700	3.5p	7.30p	7.51p
Biomass	£2,500	5.6p	12.20p	5.20p
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	The CEPA review also indicated that the tariff rates offered by the NIRHI Domestic scheme should provide applicants a 7.5% rate of return on their investment and it also provided as a reference point, a series of annual average annual kilowatt hours used by different types of property (semi/detached urban or rural) which ranged from 6185 to 34283 kWh p/a (for detached solid wall house pre 1980). IAS obtained a briefing paper to the Casework Committee before the approval and introduction of the scheme, which stated that the NI Domestic RHI scheme is aiming to provide a 10% of return. IAS testing identified that the actual rate of return received by some applicants may be substantially higher than the 7.5 or the 10% planned and especially for one type of very popular technology – biomass (see example 1). In addition, it appears that the biomass tariff provided by the scheme covers annual cost of fuel for biomass in full and provides a compensation of 121% as per DFP SAP rate 2009 which is used for calculating the annual kWh of heating needed. See also issue No3. We understand that the Department has not yet carried out a value for money review of the scheme however we would recommend that this is done at the earliest opportunity to ensure that the rate of return provided is in line with CEPA recommendations and is in accordance to the scheme design intended by the Department. Example 1 RHI Personal information Capital costs (purchase of the equipment and installation) - £9,429 Annual cost of purchasing wood pellets - £1,124 (as per DFP SAP rate 2009) Upfront payment - £2,500 Annual Incentive - £1,310 (22938 kWh p/a) According to these figures it would appear that this applicant during the 7 years of the life of the scheme may receive £11,670 from the Domestic NIRHI which in accordance to our rough calculation represents more than 40% rate of return over 7 years.
	Comment from Management
	~~[STUART TO PROVIDE WORK THROUGH FOR FURTHER DISCUSSION]~~ The assessment above does not factor in the additional opex and barrier costs associated with biomass pellets and relies on SAP 2009 fuel price assumptions which are out of date. When these costings are factored in, there is in fact no return on the initial capital outlay. The basis for the Domestic RHI Biomass tariff is setout in the 2013 CEPA report (pages 61 and 117). It was originally envisaged that the domestic scheme would be a 20 year scheme. The assumed costings for this are set out below. These are based on comparing a reference case 12kw boiler costing £7836 against a 20kw oil boiler costing £3,240 in a domestic property with an annual heat demand of 18,088 kwh. These costs were then annuitized using a 7.5% discount rate to provide the difference in annual costs between a biomass and oil boiler.

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	Annuitized Capital cost at 7.5% rate	Annual operating costs	Annual fuel costs
Biomass	715	237	1363
Oil	296	194	1157
Difference	419	43	206

In addition, barrier costs of £1,043 were included. In any assessment of rate of return, opex, fuel and barrier costs must be deducted from the RHI payments. For opex and barrier, in the absence of any other information, the figures the table above can be used. However, for fuel costs it is important to factor in the current difference between pellets and oil. The SAP 2009 figures are now over 7 years old and are used to provide indicative fuel costing in EPCs. Taking the example above:

Annual Heat Requirement = 22,938 kwh

Oil is currently £297 for 1000 litres (Bangor Fuels Website) = 2.73p / kwh (1 litre = 10.85 kwh)
Pellets £250 / tonne (bagged for domestic use) = 5.21 p / kwh (1 tonne = 4800 kwh)
Net Fuel Cost (difference) = 2.43 p/kwh
Net Annual fuel cost = £557
Net Annual Opex (difference) = £43
Total Additional Annual Costs (for bagged pellets against oil) = £600

Annual Incentive = 22,938 x 0.057 = £1,310
Annual Return (net of additional pellet costs) = £1310 - £600 = £710
Upfront payment = £2,500
Barrier Costs = £1043 (taken from CEPA report p117)
Total Return (after 7 years) = £2500 + (7 x £710) - £1043 = £6,427

Initial capital outlay = Biomass boiler cost – cost of comparable oil boiler = £9,429 - £1,800 (based on DfC figures for BRS) = £7,629

When barrier costs, additional fuel and opex costs are factored in to this example, there is in fact no return on the £7,629 initial investment. This would appear to be primarily due to the low oil prices that we're currently experiencing. It is recognised that over the 7 year lifetime of the scheme this may change.

3	**RHI Payment Cap**
	As a means to control cost and budget the Department have designed their Domestic NIRHI scheme with an annual payment cap of £2,500 which applies to an annual incentive payment. This is an improvement on the design if compared to the Non Domestic RHI scheme where no

	caps to annual payments have been originally planned. However it is not clear as to how this amount was determined or how effective it was considered to be. CEPA review of 2013 indicates that they expect that the annual payment for the most generous of the technologies of biomass was to be at just over £1000. Having that in mind what other research has there been carried out to inform the Department that the £2,500 cap will be an effective control? How was this cap level determined? With reference to example 1 above it can be seen that even with a £2,500 cap the return on investment may exceed the intended rates.
	Comment from Management
	Officials calculated potential RHI payment amounts from a selection of EPCs and used the results to inform their decision to introduce a~~n arbitory~~ figure of £2000 as the cap on RHI payments. This figure was included in the policy proposals to avoid the scenario of excessive payments being made to inefficient properties. Representatives from the renewable heat industry raised concerns that maximum annual payments of £2,000 a year would not be enough to incentivise the owners of larger properties to switch to renewable heating. Similar concerns were raised about inefficient domestic properties that are listed and prevented from making improvements such as insulation to reduce their excessive energy bills. ~~[Sub611 – DT1/14/0210089 – reason for increase from £2000 to £2500.]~~ The Minister asked officials to explore if anything could be done to accommodate listed buildings. The solution considered most appropriate at the time was to increase the annual cap thereby avoiding complex legislation and administrative arrangements. Officials used the EPC register to examine the heating needs of a number of different property types and found that a cap of £2,500 would cover the estimated heating needs of most properties. The Minister agreed this final policy change to increase the annual cap to £2,500 on 21/11/2014. [Sub611 – DT1/14/0210089 – reason for increase from £2000 to £2500.] GB has no cap on payments.
4	**RHI Payment Calculation Methodology**
	IAS were provided with a spreadsheet calculator tool which is used by the staff administrating the scheme to determine the level of annual incentive for each type of technology. The calculation methodology on which this calculator tool is predicated was also provided to IAS. We were not able to obtain documentation or advice to demonstrate whether an analysis was carried out by Departmental economists to advise whether the calculator tool is fit for purpose and whether the methodology of calculation is accurate and delivers the results intended. Has the Department carried out a comparative analysis of how are GB rates calculated? Is similar methodology used by the GB scheme to calculate Domestic RHI incentive? The calculation methodology is used to convert the estimated heating need for a property for a value stated in "£'s" to a value stated in KWh. This is then used to calculate the annual payment by multiplying the KWh figure by the rate per KWh. IAS would like confirmation that the algorithm used is fit for purpose and was been QA'd.

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	Comment from Management
	The Northern Ireland EPC's are currently calculated on 2009 SAP fuel rates. We apply a calculation using these fuel figures to calculate the annual heat demand in kWh's and this is then multiplied by the RHI tariff to produce the annual deemed RHI payment. This calculation method was agreed with DFP as the work around to be used until the Northern Ireland EPC's are brought into line with GB, which may be some years away, and of course the RHI is now closed to new applications. Unlike NI, the GB EPC's ~~calculate~~already provide the actual heat demand in kWh for the property which is then multiplied by the appropriate tariff rate for the heating technology used.
5	**Domestic RHI Site Inspections**
	In accordance to the Domestic RHI scheme model, site inspections provide significant assurance element over the validity of payments. IAS were able to see that 25% of the RHPP applications had been inspected as intended and that all non compliances identified were addressed by management. However, at the time of IAS fieldwork we were advised that no site inspections of the new accredited Domestic RHI installations have been carried out. In addition, at the time of the audit we were advised that the methodology for how these inspections will be carried out and by whom and how the sites will be selected, have yet to be developed. IAS were advised that this had not been done due to the high volume of applications that were yet to be accredited and that there had only been relatively few new installations that had received annual payments to date therefore was deemed to be less risk. Whilst we agree that there have not indeed been many of the annual payments paid by the Department at the time this review was carried out, the upfront payment is made on accreditation. At the time of the review there were approx 700 new accredited RHI installations and around the same number was still outstanding. We also acknowledge that some targeted inspection visits were planned to be carried out in May 2016 however we still consider absence of the programme of site visits and in particular absence of the clear methodology to be a weakness in control the design of which should have ideally been addressed at the time of planning of the scheme.
	Comment from Management
	Seven targeted site inspections were carried out on 3 June 2016, resulting in one installation being investigated further. A number of further targeted inspections are to be carried out but it is acknowledged that a programme of site inspections would have been preferable from the outset and would have been in place had resource been available. Arrangements are now being put in place for ~~an independent assessment body to undertake~~ a programme of site inspections to commence from autumn 2016. However, experience from site inspections undertaken for the RHPP scheme during the period May 2012 to October/November 2014 did not reveal any significant issues or problems. When the backlog of applications is processed it is expected that existing RHI staff will

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Comment [AW2]: still needed?

Comment [LM3]: Yes, I think so. We will be undertaking independent site inspections via Michael's work or by ourselves so I think this is still applicable.

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	resume carrying out a full programme of audits.
6	**Risk Management. Identification of Relevant Risks**
	IAS acknowledge that risk registers have been developed at different business planning stages of the NIRHI scheme. There was a risk register developed before the introduction of the Domestic RHPP and Non Domestic RHI scheme. An issue was already raised in the review of the Non Domestic RHI scheme where it was noted that although the Risk Register was present it was not maintained or updated as the scheme developed. In terms of the Domestic RHI we obtained 2 Risk Registers – one for the scheme in general (developed for the purposes of the Business Case), another for the scheme operations. We note that some relevant operational risks have not been identified, among which is a potential risk of scamming the scheme, i.e. for example, a request by phone or email to change the bank details or etc. and the protocol that staff should follow any time such requests come in to ensure personal sensitive information is protected. We would recommend therefore that a risk assessment is carried out to ensure that all significant risks are identified and relevant mitigations agreed.
	Comment from Management
	TheA further risk assessment will be reviewedcarried out to identify any further risks, including those mentioned in relation to scamming..
7	**Decision to Include ESCO's**
	We were able to obtain email communication between Energy staff and DECC in relation to the treatment of ESCO's. DECC advised that they were not planning to include ESCO's in their Domestic RHI scheme. However, it would appear that the department has included them in the NI scheme, IAS would wish to understand the decision by the Department to include ESCO's and what informed this decision? Given the scheme is a domestic scheme, IAS understands that State Aid approval was not needed, however if ESCOs are included does this not mean an aid was provided.
	Comment from Management
	It is our understanding that the DECC state aid approval did not preclude ESCO's under the domestic RHI but they took the approach of seeking formal notification for them. We have taken the view that specific state aid approval is not required for ESCO's. Unlike the non domestic RHI scheme where the users of heat are in competition with others and could receive a competitive advantage through the grants, the main beneficiaries under the domestic ESCO model are the householders. In addition the domestic scheme provides a much lower level of incentive than the Non Domestic scheme which already has State Aid approval. We still have to notify the Commission of the November tariff changes to the Non Domestic scheme and can take this opportunity to also notify the Domestic RHI grants to ESCO's if required.

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8	**Calculation of Payments where 2 Renewable Technologies are Installed**
	In accordance to the annual incentive payment calculator, the annual incentive is calculated by adding the potential heat costs with potential costs of hot water to obtain the annual overall heat requirement in kWh. For the properties where solar hot water equipment and another renewable technology is installed, the calculation should disregard the water heating costs as it would be covered by the RHI incentive for the solar thermal installation. If this is not done, it would potentially mean that hot water production is double funded. Management should therefore carry an exercise to ensure this is not the case.
	Comment from Management
	EPCs produced for properties that have secondary solar thermal heating in addition to another primary renewable heating technology (such as biomass, Ground Source or Air Source Heat Pump) ~~as well as solar hot water will~~ take account of the ~~water produced by both means, i.e the main system and~~ solar thermal ~~solar~~ contribution in the hot water requirements (costs). In such cases, ~~P~~page 4 of the EPC ~~will~~ states that the hot water is from the 'main system, plus solar' and this would be reflected in the hot water figure on page 2, i.e, the cost of heating water ~~would be calculated proportionality between the main system and solar~~will have been reduced accordingly.. This is consistent with the GB scheme.
9	**EPC Assessors. Potential Conflict of Interest**
	IAS evidenced that on some occasions the EPC assessment was carried out by the same company that carried out the installation of the renewable technologies. It is IAS view that in such cases there is potential for an element of conflict of interest where the costs of heating could be artificially inflated to guarantee the applicant a better return. Has Energy considered this risk? How and by what institution is the work carried out by EPC assessors controlled to ensure quality of the results of the service provided?
	Comment from Management
	The Energy Performance Certificate is a government recognised standard. EPC assessments are undertaken by accredited assessors. A copy of each EPC generated is lodged on a national register.

Comment [PB4]: DECC allow solar + 1 and the applications are made separately (ie the solar application doesn't appear to affect the space heating application).

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