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John / Trevor / Shane

Please see attached draft Supplementary Business Case which I've prepared. To inform our discussion. This is very much work in progress so can be amended as necessary.

Thanks

Stuart

## 1. INTRODUCTION

- 1.1 In its Programme for Government (PfG) the Executive has a target of achieving 4% renewable heat by 2015. This is an interim milestone to achieving 10% renewable heat by 2020 in line with the Executive endorsed Strategic Energy Framework (SEF). In pursuit of these targets, the interim Renewable Heat Premium Payment (RHPP) and the Non Domestic Renewable Heat Incentive (ND RHI) schemes were introduced in May and November 2012 respectively. The full Domestic RHI Scheme was introduced in December 2014 to replace the RHPP. The proposed tariffs for both RHI schemes were developed on behalf of DETI through an external consultancy exercise carried out by Ricardo-AEA. Copies of these reports are attached at **Annexes B & C.**
- 1.2 This Supplementary Business Case seeks DFP approval to continue the ND RHI scheme for the 5 year period 1 April 2015 to 31 March 2020. This would align with the approval for the Domestic RHI Scheme. It also seeks approval to continue to use the Office of Gas and Electricity Markets (Ofgem) to administer the scheme and to widening the scheme out to new technologies in the future. This paper is structured as follows:

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## BACKGROUND

### The Northern Ireland Renewable Heat Incentive (RHI)

- 2.1 The EU Renewable Energy Directive (2009/28/EC) set a binding target that 20% of the EU's energy consumption should come from renewable sources by 2020. The UK share of this target commits the UK to increasing the share of renewable energy to 15% by 2020 and Northern Ireland is expected to contribute to this share. The Department of Energy and Climate Change (DECC) has indicated that renewable heat levels of around 12%, coupled with 30% renewable electricity consumption are required for the UK to meet its requirements.
- 2.2 Heating energy accounts for around half of all total energy consumed within Northern Ireland with over 98% of our heating fuels coming from imported fossil fuels. Renewable heat is simply heat produced from renewable sources such as solar radiation, biomass materials, heat pumps, geothermal energy and waste materials. The Executive's 2010 Strategic Energy Framework (SEF) includes a target of 10% renewable heat by 2020 against a 2010 base of 1.7%.
- 2.3 In order to achieve the UK renewable heat target, DECC introduced a GB Renewable Heat Incentive for the non-domestic market in November 2011. Northern Ireland (NI) was not included within that scheme because of the differences in the two heat markets. In GB the natural gas market is prevalent and accounts for 68.8% of heating demand with oil only accounting for 10%. This is very different from the NI situation where refined oil products account for over 70% of the overall heat demand.
- 2.4 A separate assessment on the level of incentive (tariff) for the NI RHI was completed ([Annex A](#)) to inform the final business case ([Annex B](#)). This was approved by DfP in [April 2012](#) and the NI ND RHI scheme introduced in November 2012. A revised assessment was also completed in 2013 to inform the Phase 2 Review of the RHI ([Annex C](#)).
- 2.5 £860million was made available from central Government funding to support the introduction of a Renewable Heat Incentive (RHI) in GB over the period 2011-2015. £25million of funding was made available by HMT for a NI RHI over the same period. A further allocation of £11.6m was made available for 2015/16 in line with the Department's AME forecast submitted in November 2014. However due to a significant increase in uptake of the NI RHI scheme over the past 9 months, an increased 2015/16 budget requirement of £23m was submitted in June 2015 as part of a 6 year AME forecast to inform the Chancellor's July 2015 Budget.
- 2.6 The NI RHI supports the uptake of renewable heat technologies (biomass, heat pumps, solar thermal, geothermal, etc) by providing regular incentive payments over the lifetime of the technology for actual heat energy generated. The level of tariff is dependent on

the size and type of technology and is calculated to cover capital costs, operating costs and non-financial 'hassle' costs over the lifetime of the technology. To date, the NI RHI schemes have increased renewable heating to around 3½% and the Executive's interim target of 4% is expected to be achieved before the end of 2015. The RHI is expected to continue to increase the level of renewable heat in line with the longer term targets set by the EU and by the Executive.

### Previous DFP Approval

2.7 The interim domestic Renewable Heat Premium Payment (RHPP) and the ND RHI schemes were introduced in May and November 2012 respectively. The full Domestic RHI Scheme was introduced in December 2014 to replace the RHPP. The proposed tariffs for the ND RHI and RHPP schemes were developed on behalf of DETI through an assessment carried out by Ricardo-AEA ([Annex A](#)). This assessment informed the business case for both schemes ([Annex B](#)). This was approved by DFP in April 2012 on the basis that:

- *Whilst the scheme is envisaged to be open to new installations until 2020, approval is given for the period 1 July 2012 to 31 March 2015, representing the period for which HMT funding has been secured. Any decision to continue the scheme beyond 2015 would require further/separate DFP approval;*
- *As outlined in Section 7.53 of the Business Case, arrangements are put in place for scheduled reviews to allow the progress of the scheme to be monitored, assessed and if necessary, changes implemented. It is noted that the first review is scheduled to start in 2014 and that the reviews will be carried out by DETI.*

2.8 With low levels of uptake and under spends with both RHI schemes, the Department undertook a Phase 2 Review of the RHI in 2013 to improve scheme performance. This included proposals to:

- extend the Non Domestic scheme to further renewable heating technologies;
- introduce a full Domestic RHI Scheme with annual tariff payments (to replace the RHPP scheme);
- introduce biomass sustainability and emission standards; and
- introduce annual cost control measures.

The proposals were subject to public consultation in October 2013 ([Annex D](#)) and informed by a further detailed assessment carried out by Ricardo-AEA ([Annex C](#)).

2.9 Following the public consultation, the Department prioritised implementation of the domestic scheme over the non domestic phase 2 proposals. This involved securing EU State Aid and DFP approval and putting in the place the necessary Domestic RHI legislation.

### Need for Further DFP Approval

- 2.10 Regrettably, with the focus on implementing the domestic scheme, the need to secure further DFP approval to continue the ND RHI scheme beyond 31 March 2015 was overlooked and not sought. **DETI Energy officials had wrongly assumed that like the domestic scheme, approval for the Non-domestic scheme had been secured until scheme closure in March 2020.**
- 2.11 Given this position on approvals for the ND RHI Scheme, the Department has been urgently assessing options to prevent ongoing, irregular funding. This concerns committed expenditure for new non domestic applications approved from 1 April 2015. Committed expenditure (over 20 years) for applications approved prior to 1 April 2015 is covered by the original Business Case approval in 2012.
- 2.12 Unfortunately any room for manoeuvre is limited. The basis for the scheme is statutory and it is not possible to cease, suspend or otherwise delay applications. This has been confirmed by DSO (**Annex E**). Effecting legislative change requires affirmative resolution of the NI Assembly and will take at least 3 months to complete. The Department is urgently taking work forward legislative proposals to reduce tariffs for new biomass installations (which make up 97% of all applications). This is covered in more detail in **Section 5.**
- 2.13 The Department is seeking DFP approval to regularise the position in relation to the ND RHI Scheme expenditure (both RHI payments and administration costs) both retrospectively from 1 April 2015 and prospectively to 31 March 2020 on the basis of the scheme's continuous and continuing provision of value for money. **Section 3** includes an assessment of the ND RHI scheme's continuous and continuing provision of value for money has been completed and request.

### 3. VALUE FOR MONEY (VFM) ASSESSMENT

#### VFM Assessment of Scheme Expenditure up to 31 March 2015

- 3.1 A cost benefit analysis of the renewable heat incentive was undertaken in the original business case for the scheme by the consultants CEPA and Ricardo-AEA ([Annex A](#)). They developed an economic model which assessed the expected uptake of renewable heat together with the displacement of oil and gas that this implied. Carbon and oil savings were calculated with carbon savings being monetised. The analysis found that the NPV for the scheme was £-242m assessed against a do nothing approach.
- 3.2 CEPA and Ricardo-AEA also undertook an assessment of the development of Phase 2 of the Renewable Heat Incentive in 2013 ([Annex C](#)) which included development of the Domestic RHI Scheme and a number of new technologies/tariffs for the Non-domestic scheme. Quantifiable benefits identified again related to carbon emissions which were valued using DECC's methodology. Quantifiable costs are made up of the subsidy payments plus an allowance for administration costs. The consultants' conclusion was that none of the options had a positive NPV purely on a quantitative basis. They did conclude that the net effect of renewable heat on employment would be positive but did not attempt to quantify this. While concluding that the costs appear to outweigh the benefits for all options they calculated the cost-effectiveness of the options.
- 3.3 It was concluded that introducing a seven year tariff for the Domestic RHI together with a number of new Non Domestic tariffs / technologies (e.g. CHP, District Heating, large biomass, etc) was the most cost-effective option. The full Domestic RHI Scheme was introduced in December 2015. Some of the Phase 2 Non Domestic proposals are to be taken forward in 2016. [These are covered in Section 6.](#)

#### VFM Assessment of Scheme Expenditure from 1 April 2015

- 3.4 To assess the Non Domestic RHI scheme's continuous and continuing provision of value for money in achieving the Executive's sustainable energy objectives, we have calculated the costs and benefits of new installations accredited onto the scheme since March 2015. The costs of the scheme relate to the actual payments made or anticipated to be made for the projects assisted. The benefits relate to the carbon savings using the DECC methodology as before. For the first time we have attempted to quantify the employment benefits.
- 3.5 Estimated annual RHI payments have been calculated by taking the estimated monthly payment for each individual application and factoring up to an annual basis. Three months of actual data was used. This was doubled to give an estimate of scheme expenditure for the six month period from March to September 2015. Tariff reductions will be proposed from October 2015. Total committed annual expenditure for the six

months of new applications is estimated to be £7.64m. This expenditure is then forecast to be paid for 20 years.

- 3.6 The benefits of the carbon savings were calculated using DECC's central forecast of carbon values for appraisal in the non-traded sector. These carbon values were applied to the total estimated tonnes of carbon equivalent saved by the RHI to get an annual cost saving. Taking the costs and carbon benefits would result in the scheme for the six months of applications having **a net present cost of £56.79m.**
- 3.7 The previous consultants' studies did mention positive employment benefits but did not attempt to quantify them. In a separate piece of analysis for DETI in relation to the costs and benefits of the Executive's 40% renewable electricity target, consultants Ricardo-AEA estimated the job-years created by different renewable technologies and the gross value added to the NI economy that this employment would bring. We have used the same methodology to estimate the benefits of the RHI scheme to NI. Using the estimate of 74.5 job-years per MW of biomass installed and an average GVA per job of £51,092, it is estimated that the six month tranche of RHI installations generates an annual benefit of **£5.44m<sup>1</sup>.**
- 3.8 The overall NPV of the six months tranche of RHI support, taking into account the subsidy costs together with the environmental and employment benefits is **£2m.** This is shown in the table below. The detailed analysis is attached at **Annex F.**

| Cost / Benefit Description        | Total (£m)   |
|-----------------------------------|--------------|
| Cost of RHI for projects Apr-Sept | -£160.53     |
| Carbon reduction benefits (£)     | £53.95       |
| Estimated Jobs GVA (£)            | £114.17      |
| Net                               | £7.59        |
| <b>NPV (£m)</b>                   | <b>£2.02</b> |

- 3.9 Previous studies have shown that the RHI has a net present cost to the economy and the most cost-effective tariff scheme was chosen for both sectors (Non Domestic / Domestic) to attempt to meet the 10% target for renewable heat delivered in 2020. The analysis for the six months tranche of assistance also shows a negative NPV. However when the employment benefits are quantified the CBA becomes marginally positive.

<sup>1</sup> Source of figures: 'Ricardo AEA review of the Costs and Benefits of the Northern Ireland Executive's 40% Renewable Electricity Target'- Report for DETI, May 2015. With 74.5 job-years per MW, biomass is one of the highest energy employers. For example, Solar PV is estimated to create 16.7 job-years per MW. The higher biomass jobs figure is likely to be explained by ongoing cultivation of fuel and greater O&M needs. Ricardo has calculated the GVA figures as a weighted average of employment type associated with renewables based on economic data published by NISRA. As a sense check GVA figures used in analysis by DETI economics branch fall within Ricardo's range and imply that Ricardo's GVA figures may be conservative.

3.10 It should be noted that the estimate of employment benefits is very much reliant on assumptions taken with regard to the Northern Ireland electricity sector and further analysis would be needed to confirm these assumptions for the heat sector. Care should therefore be taken in quantifying the employment benefits because of this degree of uncertainty and whether additionality of jobs has been fully tested. Nevertheless it can be concluded that the job creation will be positive to the economy and has the potential of making the RHI scheme positive as a whole.

**The Department is seeks DFP approval to regularise the position in relation to ND RHI Scheme expenditure (both RHI payments and administration costs) both retrospectively from 1 April 2015 and prospectively to 31 March 2020 on the basis that the scheme's continuous and continuing provision of value for money has been demonstrated.**

#### 4. SCHEME PERFORMANCE AND AFFORDABILITY

- 4.1 Both RHI schemes are demand led. It is therefore difficult to predict and manage future uptake and expenditure. For this reason HMT agreed to fund the RHI through Annual Managed Expenditure (AME). £25m of AME was initially allocated to the NI RHI for the 4 year 2011-15 period. This initial allocation was based on the Barnett's formula with NI receiving 2.98% of the DECC allocation of £860m.
- 4.2 A delay in securing EU State Aid approval meant that the ND RHI scheme couldn't be introduced until November 2012. This delay together with low levels of uptake generated an under spend of around £14m during the first 4 years. This is much needed investment that the NI economy has effectively lost out on, particularly given our current economic climate. The Department's focus over the past 12 months has therefore been on trying to improve the performance of the RHI to achieve the Executive's PfG target of 4% renewable heat in 2015 and ensure that the renewable heating sector and the wider NI economy benefits from this investment. This included introducing the full Domestic RHI Scheme in December 2014 and completing an extensive advertising campaign during 2014/15.
- 4.3 Table 4.3 shows how the ND RHI has performed over its first 4 years in terms of application numbers, expenditure and the amount of renewable heat incentivised. Despite the drop in oil prices over the winter months, there has been a significant increase in scheme uptake over the last 12 months.

| Year                | Average Application Nos |        | Committed RHI Expenditure                      |                          |                      | Incentivised Renewable Heat (GWhr) |       |                           |
|---------------------|-------------------------|--------|--|--------------------------|----------------------|------------------------------------|-------|---------------------------|
|                     | Monthly                 | Annual | Commitment Monthly Expenditure (at year start) | Average Monthly Increase | Financial Year Total | Annual Increase                    | Total | % of total NI Heat Demand |
| 2012/13*            | 3                       | 9      | £0   | £6,204                   | £18,612              | 3.5                                | 3     | 2.04%**                   |
| 2013/14             | 10                      | 119    | £18,612  | £20,680                  | £650,000             | 46.1                               | 50    | 2.29%                     |
| 2014/15             | 36                      | 435    | £266,772                                       | £74,473                  | £6,540,280           | 168.7                              | 218   | 3.30%                     |
| 2015/16** (Apr-Sep) | 53                      | 318    | £1,160,148                                     | £109,604                 | £21,071,364          | 123.3                              | 342   | 4.04%                     |
| 2015/16 (Oct-Mar)   | 40                      | 240    |  | £42,960                  |                      | 93.1                               | 435   | 4.60%                     |

\*Based on only 3 months in 2012/13.

\*\*Includes base levels of 300GWh (1.7%) in 2010 and 33GWh incentivised through Domestic RHI / RHPP by 25/7/15.

\*\*\*Estimated figures for quarters 1 & 2 of 2015/16 are based on actual application numbers from April to June.

- 4.4 The total number of applications has increased from 200 to over 750 during the last 12 months. Over 50 applications are now being received every month. If these uptake levels are retained, the PfG 4% target will be achieved before the end of the calendar year. This recent increase in applications has been driven by a move in the NI poultry sector away from LPG to biomass heating systems for its broiler houses. Table 4.4 shows the technology mix of applications received to date.

| Technology                        | Banding    | Tariff / kwh | Applications |
|-----------------------------------|------------|--------------|--------------|
| Ground Source Heat Pump           | < 20 kw    | 9.0p         | 3 (0.4%)     |
|                                   | 20 – 99 kw | 4.6p         | 3 (0.4%)     |
|                                   | > 100 kw   | 1.3p         | 0            |
| Solar Thermal                     | < 200 kw   | 9.1p         | 3 (0.4%)     |
| Biomass                           | < 20 kw    | 6.7p         | 3 (0.4%)     |
|                                   | 21 – 99 kw | 6.4p         | 725 (96.7%)  |
|                                   | > 100 kw   | 1.5p         | 13 (1.7%)    |
| Biomethane Combustion & Injection | All sizes  | 3.3p         | 0            |
| Total                             |            |              | 750          |

- 4.5 Biomass heating systems in the 21-99 kw banding make up 725 (or 97%) of all applications received to date. Over 75% of current biomass applications are for 99kw installations for the poultry sector. Conversion to biomass heating under the NI RHI not only provides the poultry industry with a cost effective, low carbon alternative to gas, but more importantly keeps chicken litter drier, reducing ammonia levels, boosting bird growth and improving bird welfare.
- 4.6 The ND RHI scheme clearly has an important role to play in the future performance of the poultry industry which forms an essential part of the NI economy in terms of jobs and investment. However, it is important that the ND RHI scheme not only remains affordable and provides the right level of incentive but also that an appropriate mix of renewable heating technologies is incentivised for security of supply purposes.
- 4.7 With only nine (1.2%) applications received for technologies other than biomass, there is clearly a need to try and increase uptake of the other technologies. [Section 6](#) outlines the Phase 2 proposals to extend the ND RHI to a number of new technologies and tariffs including increasing the tariff for biomethane to encourage applications. [Section 5](#) covers the Department's proposals to reduce incentives for new biomass installations.

### **Scheme Affordability**

- 4.8 The recent increase in uptake has seen committed monthly ND RHI payments rise from £430k to over £1.4m over the last 12 months. Forecast expenditure for both RHI schemes in 2015/16 is now £23m. This is nearly twice the Department's previous AME 2015/16 forecast (made in November 2014) although with previous underspends total

scheme expenditure during the 2011/12 - 2015/16 period is still expected to be within the 5 year budget allocation of £37.8m (£25m + £12.8m).

- 4.9 The initial 4 year AME allocation of £25m (£2m/£4m/£7m/£12m) was profiled to reach £12m by 2014/15. The original 2012 business case (Annex B) assumed that the 10% renewable heat target could be achieved by 2020 by continuing to increase the annual allocation by £5m to reach a maximum of £42m in 2020/21. However, the revised CEPA / Ricardo-AEA assessment completed in 2013 (Annex C) concluded that the 1,000 GWh of renewable needed to achieve the 10% target in 2020 could not be achieved within a £42m constraint in 2020/21.
- 4.10 To achieve 1,000 GWh within these assumed allocations, the average heat costs (tariffs) for both RHI schemes would have to be 4.2 p/KWh or less for all technologies. Experience with both the GB and NI RHI schemes has shown that rates of 4.2p/KWh or less would not provide the investment returns necessary (i.e. 12%) to attract investors into a new industry and generate sufficient levels of uptake to meet UK and EU targets. Apart from the sharp increase in biomass applications over the last 12 months, uptake of the ND RHI scheme for other technologies has been low even with rates significantly higher than 4.2p/KWh. A fine balance therefore exists between providing an incentive/tariff that is high enough to attract applications and uptake but is low enough to be affordable and provide value for money. Section 3 provides an assessment of the ND RHI scheme's continuous and continuing provision of value for money.
- 4.11 In light of the recent increase in ND RHI uptake and expenditure, a revised AME forecast was submitted to DFP in June 2015 to inform the Chancellor's July 2015 budget. Table 4.11 compares this recent forecast against the profile assumed in the original 2012 RHI business case. It also includes a profile based on the Barnett's consequential (2.98%) of DECC's most recent forecasts for the GB RHI.

| Forecast                                    | 14/15             | 15/16             | 16/17             | 17/18             | 18/19             | 19/20             | 20/21             | Total              |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| Domestic Capital                            | 1,140,000         | 1,002,500         | 2,385,000         | 4,285,000         | 4,710,000         | 4,710,000         | 852,500           | 19,085,000         |
| Domestic Resource                           | 245,085           | 1,727,035         | 2,561,363         | 4,263,763         | 6,554,163         | 8,872,563         | 10,326,963        | 34,550,935         |
| Non Domestic Resource                       | 6,540,280         | 20,735,029        | 25,809,062        | 32,109,062        | 38,769,062        | 42,339,062        | 43,554,062        | 209,855,619        |
| <b>June 2015 AME Forecast</b>               | <b>7,925,365</b>  | <b>23,464,564</b> | <b>30,755,425</b> | <b>40,657,825</b> | <b>50,033,225</b> | <b>55,921,625</b> | <b>54,733,525</b> | <b>263,491,554</b> |
| <b>Assumed Business Case Profile (2012)</b> | <b>12,000,000</b> | <b>17,000,000</b> | <b>22,000,000</b> | <b>27,000,000</b> | <b>32,000,000</b> | <b>37,000,000</b> | <b>42,000,000</b> | <b>189,000,000</b> |
| <b>Barnett's % of GB RHI Forecast</b>       | <b>6,496,400</b>  | <b>13,976,200</b> | <b>19,966,000</b> | <b>26,283,600</b> | <b>36,236,800</b> | <b>49,170,000</b> | <b>65,917,600</b> | <b>218,046,600</b> |

- 4.12 The June 2015 forecast factors in the Department's proposed reductions to ND RHI incentives for biomass from the autumn 2015 and assumes that new application numbers and associated expenditure will reduce as a result. But the June forecast is

still significantly higher than the AME profile assumed in the original business case. Forecast expenditure in 2020/21 is now £54.7m compared to the £42m originally assumed in the business case. This reflects the fact that the current tariffs for both the domestic and non domestic schemes have had to be higher than 4.2p kw/h to try and attract uptake and stimulate a new market.

- 4.13 Although forecast expenditure in 2020/21 is over £11m lower than the DECC based figure of £65.9m, it is significantly higher in earlier years. This highlights the need for future AME allocations for the NI RHI to be determined by need and not constrained by DECC's forecasts/profile through the Barnett's formula. Application numbers for the NI RHI scheme are currently running at 6% of the GB scheme so despite the difference in population and size the Barnett's 2.98% allocation isn't appropriate going forward.
- 4.14 As highlighted in Section 2, the GB RHI and NI RHI are different schemes targeting significantly different heating markets. With oil accounting for 70% of the NI heating market (unlike GB where natural gas is prevalent), there is much more scope for incentivising both households and businesses to switch to renewable heating technologies. Not only does oil tend to be more expensive than gas, the rural nature of NI makes it more suitable for renewable technologies such as biomass and Combined Heat and Power (CHP). In addition, the poultry sector in NI, currently the largest convert to renewable heating (biomass), with 800 broiler houses is four times the size of that in England (with 200 houses). Moy Park's current expansion will see the number of NI poultry houses (and biomass applications) increase even further.
- 4.15 Table 4.15 provides an estimated projection of the levels of renewable heat that might be incentivised through the ND RHI scheme and afforded within the most recent expenditure forecast after changes are made to the biomass tariff in the autumn. It doesn't factor in any increases in uptake or expenditure associated with the Phase 2 proposals for the scheme. These are set out in [Section 6](#).

| Year  | Ave Applications |        | Committed ND RHI Expenditure       |                          |                      | Incentivised Renewable Heat (GWhr) |               |                           |
|---|------------------|--------|------------------------------------|--------------------------|----------------------|------------------------------------|---------------|---------------------------|
|   | Monthly          | Annual | Monthly Commitment (at year start) | Average Monthly Increase | Financial Year Total | Annual Increase                    | Running Total | % of total NI Heat Demand |
| 2015/16   | 46.5             | 558    | £1,160,148                         | £76,282                  | £21,071,364          | 216.4                              | 435           | 4.60%                     |
| 2016/17   | 30               | 360    | £2,075,532                         | £32,220                  | £27,419,544          | 139.6                              | 574           | 5.43%                     |
| 2017/18   | 20               | 240    | £2,462,172                         | £21,480                  | £31,221,504          | 93.1                               | 667           | 5.99%                     |
| 2018/19   | 15               | 180    | £2,719,932                         | £16,110                  | £33,895,764          | 69.8                               | 737           | 6.41%                     |
| 2019/20   | 10               | 120    | £2,913,252                         | £10,740                  | £35,796,744          | 46.5                               | 784           | 6.69%                     |
| 2020/21   | N/A              | N/A    | £3,042,132                         | £0                       | £36,505,584          | N/A                                | 784           | 6.69%                     |
| <b>Future Domestic RHI Contribution (2015-2020)</b> |                  |        |                                    |                          |                      | 167                                | 951           | 7.69%                     |
| <b>NIRO (CHP) Contribution (2010-2020)</b>          |                  |        |                                    |                          |                      | 50                                 | 1,001         | <b>7.99%</b>              |

\*Includes base levels of 300GWh (or 1.7%) in 2010 and 33GWh of heat already incentivised through Domestic RHI / RHPP

4.16 With the Department's increased expenditure forecast, it estimated that 8% renewable heat can be achieved by 2020. In the longer term, oil prices are expected to increase again which will in theory make the current RHI tariffs more attractive and possibly enable them to be reduced to deliver increased uptake without increasing scheme expenditure. However, this is unlikely to be enough to achieve the 10% target. This is why the Department completed a Phase 2 review of the RHI. **Section 6** sets out the Phase 2 proposals for the Non Domestic Scheme which include:

- introducing a number of new tariffs and technologies including Combined Heat and Power (CHP) and Air Source Heat Pumps;
- increasing the tariffs for poor performing technologies such as biogas injection/combustion to stimulate interest; and
- introducing a system of annual cost control (including the ability to adjust tariffs in year without legislation).

4.17 Even with the Phase 2 proposals, it will clearly be a challenge to achieve 10% renewable heat within the current AME forecast. It is likely that higher tariffs and increased expenditure will be needed to deliver the necessary levels of uptake. However, this cannot be assessed until the Phase 2 proposals are fully implemented.

#### **Expenditure Forecasts**

4.18 The biggest challenge with forecasting future ND RHI expenditure is that uptake levels and individual payments fluctuate month by month. Estimated ND RHI quarterly payments must be accrued for all accredited systems until such time as the individual businesses submit their meter readings online to Ofgem. This can take many months. There can also be quite a variation on the payment amount depending on the type of business and of course the weather. This is what happened with the large increase in biomass applications from the poultry industry. Forecast payments for new applications had been based on the average operating hours of previously accredited installations which had typically been around 2000 hours / year generating a payment of around £12,700. The poultry installations subsequently proved to have average operating hours of 4800 and annual payments of up to £30,000.

4.19 Similar variations can arise when forecasting increased ND RHI expenditure for new applications. The current forecast assumes £100k of additional monthly expenditure based on receiving 50 applications. If more or less applications are received in any given month, this can have a significant impact on financial year expenditure particularly if it occurs early in the year. For example, if expenditure associated with new applications proves to be £150k (i.e. £50k more) in April, this increases the annual expenditure by £600k (i.e. 12 x £60k).

4.20 Tariff changes can also generate over/under spends. If new tariffs are too low, poor uptake will lead to underspends. If tariffs are too high, there could be overspends. Tariff changes require legislation which can take 6 months or more to implement whilst over/under spends continue to grow. To address this and provide much more flexible in-year budgetary controls, the Department plans to introduce an annual system of degression where tariffs can be changed to address low or high levels of uptake. More information on these proposals is covered in [Section 6](#).

4.21 All these difficulties around forecasting are why DECC produce 3 different forecasts (low / medium / high) for the GB RHI scheme. The Domestic RHI scheme on the other hand is much easier to predict with fixed upfront payments and annual payments determined by the Energy Performance Certificate (EPC) for the property. However, the Domestic RHI Scheme currently only accounts for 13% of total RHI expenditure. To manage the difficulties around ND RHI forecasting, rather than seeking approval for a specific expenditure profile which will no doubt continue to increase or reduce to reflect in-year changes to scheme uptake, it would be much more practical to forecast an expenditure range like DECC based on the future cost of incentivising renewable heat.

| Year                                    | Current ND RHI Exp Forecast (June 2015) | Proposed Forecast Range |                   |               | Incentivised Renewable Heat (GWhr) |               |                  |
|---|---|-------------------------|-------------------|---------------|------------------------------------|---------------|------------------|
|   |   | Low (1p/KWh)            | Medium (2.5p/KWh) | High (4p/KWh) | Annual Increase                    | Running Total | % NI Heat Demand |
| 2015/16                                 | £21,071,364                             | £21,071,364             | £21,071,364       | £21,071,364   | 216.4                              | 435           | 4.60%*           |
| 2016/17                                 | £27,419,544                             | £25,881,384             | £27,343,884       | £28,806,384   | 180.0                              | 615           | 5.67%            |
| 2017/18                                 | £31,221,504                             | £27,681,384             | £31,843,884       | £36,006,384   | 180.0                              | 795           | 6.75%            |
| 2018/19                                 | £33,895,764                             | £29,427,217             | £36,208,467       | £42,989,717   | 170.0                              | 965           | 7.77%            |
| 2019/20                                 | £35,796,744                             | £31,073,051             | £40,323,051       | £49,573,051   | 160.0                              | 1,125         | 8.73%            |
| 2020/21                                 | £36,505,584                             | £31,806,384             | £42,156,384       | £52,506,384   | -                                  | 1,125         | 8.73%            |
| <b>Future Domestic RHI Contribution</b> |   |                         |                   |               | 167                                | 1,292         | 9.73%            |
| <b>NIRO (CHP) Contribution</b>          |   |                         |                   |               | 50                                 | <b>1,342</b>  | <b>10.03%</b>    |

\*Includes base levels of 300GWh renewable heat in 2010 and 33GWh of heat already incentivised through Domestic RHI / RHPP

4.22 Table 4.22 provides three different forecasts of the levels of future ND RHI expenditure needed to achieve the 10% target based on incentivising at rates of 4p/KWh, 2½ p/KWh & 1½ p/KWh. The Department's current ND RHI expenditure forecast falls in between the low and medium range.

**The Department is seeking DFP approval for future Non Domestic RHI scheme expenditure within the range set out in Table 3.22 above. The Department will continue to submit regular AME forecasts within this range as part of in year monitoring rounds.**

## 5. BUDGET MANAGEMENT / COST CONTROL

### Background

- 5.1 The need for additional cost control measures has arisen primarily as a result of high uptake of ND RHI biomass from the poultry industry over the past 12 months which has seen committed monthly payments rise from £430k to over £1.4m. The Department currently forecasts £23m of expenditure for both RHI schemes in 2015/16. This is almost twice the previous forecast made in November 2015 which had been based on historic application and payment levels.
- 5.2 In addition to average application numbers increasing from under 30 to over 50/month, more significant was the increase in average payment. The poultry industry requires constant utilisation of its heating, which results in much longer operating hours than other sectors and therefore attracts much higher RHI payments.
- 5.3 The ND RHI Scheme's continuous and continuing value for money is demonstrated in Section 3. However, the recent increase in biomass applications demonstrates that the tariffs now need reduced to reflect a drop in technology costs. However, making changes to tariffs requires legislation which can take up to 6 months to complete depending on the complexity.
- 5.4 To address this recent surge in applications and committed expenditure, the Department is currently drafting legislation to reduce biomass tariffs for future applicants. Subject to Ministerial and Assembly clearance, it is hoped these initial changes can be implemented in October 2015. In the longer term, the Department also plans to introduce an annual system of degression where tariffs will automatically change if in-year expenditure or application triggers are reached.

### Current Incentives (Rate of Return) for Biomass

- 5.5 Since 2012, the ND RHI scheme has received 749 applications. Of these the vast majority, (740), are for biomass technology and 555 of these (or 75% of the biomass applications), are for 99kW boilers mostly in the poultry sector. To inform the tariff changes, the Department therefore asked the Department of Agriculture and Rural Development (DARD) to complete an assessment of the heating needs of a typical poultry house (Annex G).
- 5.6 All the original biomass tariffs were based on providing a Rate of Return of 12% where the initial capital outlay for installing the renewable heating system would be paid back within 7-8 years. The DARD report shows that 388,000kWh of biomass heat is the upper limit of the expected annual heat requirement for a typical poultry shed. Taking the 99kW boiler as the main provider of heat in most situations and 90% efficiency, this equates to some 4,355 annual hours of operation (388000 / (99x0.9)). The DARD report

Comment [EW1]: Could we set an annual kWh cap or operating hours cap ??

shows that a maximum incentive of 1.5p/kWh is now required over a comparable LPG heating system to cover the difference in fuel and running costs.

If fuel/running costs (1.5p/kWh) are deducted from the current tariff of 6.4p/kWh, this leaves a tariff of 4.9p/kWh for determining the Rate of Return. If we assume 90% boiler efficiency the maximum estimated annual payment for a typical poultry house is:-

$$388,000 \times 90\% \times 0.049 = \pounds 17,111$$

- 5.7 The capital cost of a typical 99kW biomass heating system is £50,000. The current RHI tariffs are therefore currently delivering payback in around 3 years (or 33%). However, it must be emphasised that the Rate of Return for other sectors with different boiler sizes or lower operating hours will much less. For example, the Rate of Return for a 99kW boiler with 2,000 annual hours (typical for other sectors) is just under 6 years (or 17%).
- 5.8 Given that the expected payback for capital investments of this nature would be 7 – 8 years (or 12%), the position above reflects the reduction over time in biomass technology costs. This situation plus the issue of affordability going forward requires the biomass RHI tariffs to be reduced whilst still maintaining a sufficient incentive to ensure uptake of the technology.

#### Proposed Changes to Biomass Tariff

- 5.9 The current tariff banding, (20-99kW), has resulted in a large number of applications for 99kW boilers. It is proposed to widen this banding up to 199kW, (as is the position in GB), to reduce the number of smaller inefficient boilers and encourage larger more efficient installations. A two tier tariff system will also be introduced. The standard tariff will apply to the first 1314 peak hours (15% of total possible hours). This is in line with the position introduced by DECC for the GB scheme. Hours over and above these peak hours will be paid at the reduced tariff rate of 1.5p/kWh. The rationale for the introduction of the tiered tariff is that the RHI uplift for the peak hours is towards the capital repayment, whilst the 1.5p/kWh is towards running costs.

- 5.10 Using the example as quoted above the revised annual figures would be:-

**Tier 1:  $1314 \times 99 \times 90\% \times 0.049 = \pounds 5,737$  (contribution towards return on capital)**

**Tier 2:  $4,355 \times 99 \times 90\% \times 0.015 = \pounds 5,820$  (contribution towards running costs)**

**Total Annual Payment = £11,557**

This example shows that capital payback (at £5,737/yr) would be achieved in 8.7 years (or 11.5%). The Rate of Return will be the same for all boilers if the same size if the operating hours are 1314 or higher.

- 5.11 Evidence from the poultry industry would suggest that 99kW biomass boilers don't meet all the heating requirements of a poultry house during certain stages of chicken

development or during periods of colder weather. LPG is used to meet the additional heating requirements during these periods. Extending the 6.4p/kWh tariff to biomass plants up to 199kW in size is therefore likely to incentivise the poultry industry to install boilers significantly larger than 99kW to meet all its heating needs and remove the need for LPG. Using 388,000 kWh as the maximum heat requirement of a typical poultry house and assuming 90% boiler efficiency, the annual incentives for a 150kW and 199 kW are shown below:-

| Boiler Size                            | 150 kW   | 199 kW   |
|--|--|--|
| Assumed Capital Cost                   | £75,000  | £90,000  |
| Annual Operating Hours                 | $388,000 / (150 \times 90\%) = 2,874$ hours                | $388,000 / (199 \times 90\%) = 2,166$ hours                |
| Tier 1 Payment (capital return)        | $1314 \times 150 \times 90\% \times 0.049 = £8,692$        | $1314 \times 199 \times 90\% \times 0.049 = £11,531$       |
| Rate of Return                         | 11.6% (8.6 years)  | 12.8% (7.8 years)  |
| Tier 2 Payment (towards running costs) | $(2874-1314) \times 150 \times 90\% \times 0.015 = £3,159$ | $(2166-1314) \times 199 \times 90\% \times 0.015 = £2,289$ |
| Total Annual Payment                   | £11,851  | £13,820  |

- 5.12 The proposals to extend the 6.4p/kWh biomass tariff banding up to and including 199 kW boilers and to introduce a tiered tariff of 1.5p/kWh will provide a reduced Rate of Return of between 11.6% (8.6 years) and 12.8% for new applications from the poultry industry depending on boiler size. **This brings the ND RHI tariffs back into line with the 12% Rate of Return included in the EU State Aid approval.**
- 5.13 The introduction of the tiered tariff will reduce the risk of 'gaming' and installations being operated over and above the required kilowatt hours just to generate RHI income. However, the Department also proposes to introduce an annual cap on eligible kilowatt hours above which no further incentives will be paid. DARD has determined the maximum annual heat requirement for a typical poultry house to be 388,000 kWh.
- 5.14 Allowing for 12,000 kWh of additional heat for exceptionally cold years, the Department proposes to introduce a cap of 400,000 kWh (or 2,233 hours for 199kW boiler). As shown below, the maximum possible annual payment under this cap would be £14,001.

**Tier 1:  $1314 \times 199 \times 90\% \times 0.049 = £11,531$**

**Tier 2:  $(2233-1314) \times 199 \times 90\% \times 0.015 = £2,470$  (costs)**

**Total Annual Payment = £14,001**

**Future Proposals for Annual Degression / Tariff Reduction**

***Proposal – Automatic System of Tariff Degression (both RHI Schemes)***

5.15 [DN: to set out proposals for degression]

***Proposal – Enhance Preliminary Accreditation***

5.16 [DN: to set out proposals for preliminary accreditation]

The Department is seeking .....

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## 6. PHASE 2 PROPOSALS FOR NON DOMESTIC RHI

- 6.1 In July 2013 the Department consulted on proposals for Phase 2 of the NI RHI. A copy of the Consultation Document is attached ([Annex D](#)). This included extending the RHI to the domestic sector, increasing the list of eligible technologies in the non domestic scheme, introducing biomass sustainability and emissions standards and introducing an annual system of cost control (as set out in Section 4). The Phase 2 proposals were informed by a detailed assessment completed by Consultants CEPA and Ricardo-AEA ([Annex C](#)).
- 6.2 The full Domestic RHI Scheme was introduced in December 2014 but the other phase 2 proposals have yet to be taken forward. The Department plans to introduce some of the ND RHI Phase 2 proposals during the next 12 months subject to EU State Aid approval and funding availability. These are summarised below.

### *Proposal - Biomass and Bioliqid Combined Heat & Power (CHP)*

- 6.3 Biomass and bioliqid CHP is currently incentivised under the Northern Ireland Renewables Obligation (NIRO) with an additional 0.5 Renewable Obligation Certificate (ROC) uplift. From October 2015 the 0.5 ROC uplift will be withdrawn and CHP projects accredited after this date would be eligible for the relevant electricity only ROC level together with the appropriate RHI tariff. This position is largely consistent with GB
- 6.4 In developing an appropriate CHP tariff under the non domestic RHI, an investment lifetime of 10 years and a plant lifetime of 20 years has been assumed. A tariff of 3.5p/kWh for new biomass and bioliquids CHP systems is proposed. A second tariff will also be introduced for existing fossil fuel CHP systems that wish to convert to renewable CHP. For existing CHP fossil fuel sites converting to renewable fuelled CHP the proposed tariff is 1.7p/kWh.
- 6.5 The Department expects heat from CHP sites to provide a significant contribution towards the development of the renewable heat market and the achievement of the renewable heat target. The new CHP tariff(s) will be introduced in October 2015 to coincide with the change in the NIRO ROC regime. [More information on how proposed CHP tariffs are calculated is set out the attached CEPA Ricardo-AEA assessment \(p48\).](#)

### *Proposal – Large Biomass (over 1MW)*

- 6.6 Biomass installations over 1MW were not included in the ND RHI in 2012. Evidence available at the time suggested that these types of installations were already cost-effective over the 20 year time period. Whilst it was accepted that a biomass installation over 1MW size was considerably more expensive than an equivalent oil system in terms of capital outlay, the differential in assumed fuel price outweighed the capital costs, given the fuel intensity of these systems, therefore rendering a tariff unnecessary.

However, this position was reassessed as part of phase 2 and the revised assumptions have led to a proposed tariff of 0.6p/kWh for 20 years.

6.7 This proposed tariff is linked to RPI, similar to all other tariffs. [More information on how the large Biomass tariff was calculated is set out in the attached CEPA Ricardo-AEA assessment \(p48\).](#)

#### **Proposal – Air Source Heat Pumps (ASHP)**

6.8 Air source heat pumps were initially excluded from the ND RHI due to a lack of detailed evidence on the costs and performance of the technology and issues surrounding the accurate measurement of heat output. Air to water heat pumps have the potential to displace existing fossil fuel heating systems by providing buildings with space heating and hot water heating by utilizing heat from the outside air transferring this directly to a liquid. These systems are often used alongside under-floor heating but can also integrate with conventional radiator systems.

6.9 The Department has assessed the costs of these systems and developed a proposed tariff of 2.5 pence per kWh that would be available for systems less than 100kW<sub>th</sub> in size. A larger banding for this technology may be considered in due course. More information on how the ASHP tariff was calculated is set out in [the attached CEPA Ricardo-AEA assessment \(p8,9,75\).](#)

#### **Proposal – Deep Geothermal**

6.10 Under Phase 1 of the RHI deep geothermal installations were eligible through the tariffs set for large ground source heat pumps. At the time of the July 2011 consultation, DETI sought evidence on the potential deployment of deep geothermal energy in Northern Ireland and the existing barriers both financial and non-financial. Early analysis work demonstrated that a tariff range between 1.6p-4.6p could be appropriate depending on the assumptions on the heat being displaced. It was agreed however that further analysis was required and specific support for deep geothermal would be included as part of Phase 2.

6.11 In developing support or incentive measures for deep geothermal, DETI considered two potential options. The first of which was the introduction of a specific tariff for deep geothermal energy. To design the tariff the counterfactual position was re-assessed in line with evidence from stakeholders and experience of recent geothermal developments, this involved new assumptions relating to the likelihood of a geothermal energy developer selling heat to a third party or ESCO rather than taking the heat to individual consumers. This proposed tariff for deep geothermal heating is 3.7 pence per kWh for a maximum of 20 years. More information on how the deep geothermal tariff was calculated is set out in [the attached CEPA Ricardo-AEA assessment \(p48,88\).](#)

6.12 A second option considered for deep geothermal was to provide support on a competitive basis, whereby potential developers would submit proposals to DETI on a case-by-case basis and DETI would award support, either on the basis of capital grant or a set incentive level, depending on the financial need of the project. However, there are currently no plans to proceed with this option.

#### **Proposal – Bioliquids (Heat Only)**

6.13 As well as considering supporting bioliquids boilers in the domestic sector and bioliquids CHP in the non-domestic sector, DETI also proposes to introduce support for bioliquids boilers (heat only) under the non-domestic RHI. Bioliquids have been incentivised under the NIRO for renewable electricity generation for sometime and DETI is aware that such bioliquids could also have the potential to contribute to renewable heating targets.

6.14 Two tariffs are proposed depending on the scale of the boiler in place, under 100kW<sub>th</sub> the proposed tariff is 2.6 pence kWh and above 100kW<sub>th</sub> a tariff of 2.1 pence per kWh is proposed. No tariff above 1MW<sub>th</sub> is proposed as it is assumed that projects of this scale would be CHP systems and could therefore avail of those relevant tariffs. DETI will, however, consider extending the cap on support for heat only bioliquids to beyond 1MW<sub>th</sub> if there is sufficient evidence those projects could be developed in Northern Ireland. More information on how the Bioliquids tariff were calculated is set out in [the attached CEPA Ricardo-AEA assessment \(pages 6, 8,9,32,34,47,59,127 & 128\)](#).

#### **Proposal – District Heating**

6.15 A 2010 study in the development of the Northern Ireland renewable heat market demonstrated that 31 per cent of Northern Ireland's heat demand lies in areas that could be suitable for district or community heating schemes, where one heat source supplies heating for a number of different buildings. These projects often have additional capital costs because of the need for pipe work to transport heat from the heat source to the buildings connected to the network. As part of this second phase of the RHI, DETI has considered whether renewable district heating required a specific 'uplift' tariff under the RHI to account for the additional costs incurred.

6.16 A tariff range for the uplift of 4p/kWh to 14p/kWh was developed, highlighting the differences in the scenarios and the variables within each potential district heating. At this stage, DETI are considering introducing an uplift tariff of 7p/kWh for community heating or district heating schemes. This would apply to the first 1314 peak load hours, after which the tariff would reduce to the standard biomass tariff. More information on how the District Heating tariff was calculated is set out in [the attached CEPA Ricardo-AEA assessment \(p50, 63, 107\)](#).

**Proposal – Increased Tariff for Biomethane Injection**

- 6.17 Currently biomethane injection is incentivised at a tariff of 3.2 pence and there has been no uptake of projects since the RHI was introduced in November 2012. This suggests that the current rate is not sufficient to stimulate growth in this area. Although not included in the phase 2 consultation evidence has come forward from the sector to suggest that an increased incentive such as that in the GB RHI is required to “**kick start**” projects here and anecdotal evidence would suggest that there are a number of projects that are ready to go if the right incentive was in place. The proposal therefore is to increase the tariff for biomethane to the GB tiered tariff limits to test the readiness of the market.
- Tier 1 first 40,000 MWh 7.5 pence
  - Tier 2 next 40,000 MWh 4.4 pence
  - Tier 3 remaining MWh 3.4 pence
- 6.18 The Department plans to consult on this proposal as it was not part of the original Phase 2 Consultation in 2013.

**Phase 2 Proposals – Next Steps**

- 6.19 The proposed phase 2 measures to introduce new technologies/tariffs to broaden the appeal of the RHI will be taken forward in 2016,(including possible further consultation on some aspects), subject to the approval of this business case and state aid approval for the new technologies.

**The Department is seeking DFP approval to implement the Phase 2 RHI proposals set out above subject to public consultation and EU State Aid approval.**

## 7. SCHEME ADMINISTRATION

- 7.1 Under Section 114 of the Energy Act 2011<sup>2</sup>, the Department can directly administer the RHI or outsource this function to either NIAUR<sup>3</sup> or Ofgem<sup>4</sup>. The Domestic RHI scheme is currently administered inhouse within the Department's Energy Division.
- 7.2 The ND RHI on the other hand is administered by Ofgem which has effectively administered the scheme since 2012. Ofgem has considerable experience in managing large scale renewable energy grant schemes and in addition to the NI ND RHI currently administers: the Renewable Obligation in GB and the NIRO; the Feed-in-tariff in GB; and the GB commercial and domestic RHI schemes.

### Value for Money

- 7.3 The Domestic RHI scheme calculates annual tariff payments based on a property's heating requirements set out in its Energy Performance Certificate (EPC), only a percentage of properties need to be checked for audit purposes. The ND RHI Scheme on the other hand requires that all accredited non domestic RHI installations must be metered and all new installations checked on site before approval. Neither the Department nor NIAUR have the resource or expertise available to effectively carry out these functions. To outsource the scheme's administration to another private or public sector organisation (other than Ofgem or NIAUR) would require primary legislation which could take up to 12 months to put in place.
- 7.4 In addition, Ofgem operates an online application and metering facility where owners of accredited plants record their quarterly metered readings. Developing a similar web based IT system specifically for the NI ND RHI scheme wouldn't be a cost effective use of public funding.
- 7.5 A copy of the Department's Administration Agreement with Ofgem is attached at **Annex G**. The agreement means that the Department is charged 3% of Ofgem's total administration costs for the GB and NI non domestic schemes. This is despite the fact that NI application numbers are currently running at 6% of the GB total. Any GB specific costs ( legal, IT, etc) are removed before the NI costs are calculated. Similarly, any NI specific costs for things like scheme changes are added at the end and not charged to DECC for the GB scheme. Table 7.6 summarises Ofgem's administration costs over the last 3 years.
- 7.6 In 2015/16, Ofgem is expected to process over £23m of RHI payments for the NI scheme at a cost of **£218k** (or 1.1%). Administration costs for government grant schemes are typically between **8-10%** of total grant expenditure. The Department therefore clearly benefits from the economies of scale of effectively being treated as a small addition to the GB Scheme,

<sup>2</sup> <http://www.legislation.gov.uk/ukpga/2011/16/contents/enacted>

<sup>3</sup> Northern Ireland Authority for Utility Regulation

<sup>4</sup> Office of Gas and Electricity Markets

7.7 Similarly, the Department also benefits from administrative changes already made by Ofgem for the GB Scheme. Whenever DECC make changes to the GB Scheme such as tariff changes, new technologies, etc, Ofgem have to upgrade their IT systems and processes. They charge DECC development costs for this work. Once these changes are made for the GB scheme, similar changes can be introduced for the NI scheme for much less cost. For example, to implement the administrative changes (IT, staff, etc) needed for the Phase 2 proposals set out in Section 5, Ofgem's development costs will be between £80k - £100k. DECC paid over £300k for similar changes for the GB scheme.

#### Future Administration Costs

7.8 Ofgem's actual administration costs for the NI RHI scheme will continue to be based on 3% of the actual costs for administering both GB and NI schemes. An estimate of Ofgem's annual administration costs for the next 5 years is set out in Table 7.8. There may also be some additional annual costs for any changes the Department makes to the NI scheme that are not fully automated and require manual processes.

| Year    | Total Scheme Expenditure | Annual Administration Costs | Development Costs (for DETI changes) | Total |
|---------|--------------------------|-----------------------------|--------------------------------------|-------|
| 2015/16 |                          |                             | £100,000                             |       |
| 2016/17 |                          |                             | £100,000                             |       |
| 2017/18 |                          |                             | -                                    |       |
| 2018/19 |                          |                             | £100,00                              |       |
| 2019/20 |                          |                             | -                                    |       |
| 2020/21 |                          |                             | -                                    |       |

7.9 Development costs have been included in 2015/16 and 2016/17 to allow for implementation of the Phase 2 proposals and system if tariff degression. Development costs are included in 2018/19 for possible future changes.

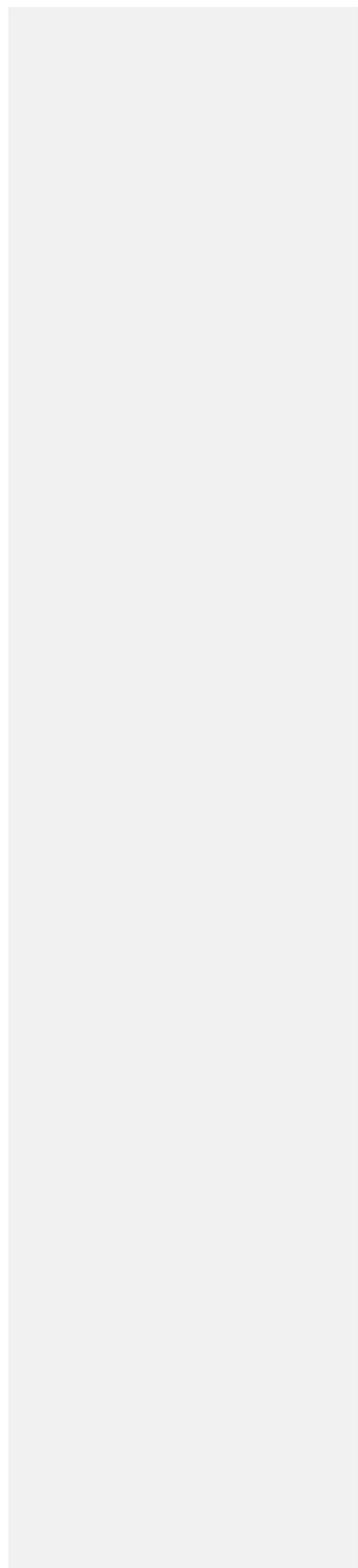
**The Department is seeking DFP approval to continue to using Ofgem to administer the ND RHI Scheme for the period 1 April 2015 to 31 March 2021 on the basis that the NI administration costs will continue to be based on 3% of total administration costs for both the GB and NI Non Domestic RHI Schemes .**

**Comment [SW2]:** We're awaiting estimated costings from Ofgem but we anticipate annual increases of 10-15% as increased accreditations lead to more quarterly payment, more site checks, etc.

**8. RECOMMENDATIONS**

8.1 The recent

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**9. ANNEXES**

- A. *Original CEPA Report (2011)*
- B. *Non-domestic Business Case (2012)*
- C. *Revised CEPA Report (2013)*
- D. *Phase 2 Consultation Document*
- E. *DSO Advice on Scheme Suspension*
- F. *VFM Analysis (Before and After Tariff changes)*
- G. *DARD Paper on Poultry Shed Heating Requirements*

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