

## **Synopsis of the case for a Domestic Renewable Heat Incentive for Northern Ireland.**

This paper outlines why a Renewable Heat Incentive (RHI) is required in Northern Ireland, the progress made to date on the incentivisation of renewable heat through Phase 1 of the RHI and the Renewable Heat Premium Payment Scheme (RHPP) and the proposals for extending the scheme to the domestic market.

### **a) Background**

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 under the EU Renewable Energy Directive. Subsequently, the Strategic Energy Framework (SEF) was agreed by the Northern Ireland Executive in September 2010 and a target of 10% renewable heat by 2020 was included; this is a challenging target given that the baseline level at that time was 1.7%.

Renewable heat technologies are currently unable to compete with existing fossil fuel alternatives, given the higher capital costs and also the lack of understanding and awareness amongst consumers of what are often seen as innovative technologies. In order to help develop this market and meet the targets, economic analysis has shown that financial incentives are required.

£860million has been made available from central Government funding to support the introduction of a RHI in GB over the period 2011-2015; HMT notified the Northern Ireland Executive that £25million of funding was available for a NI RHI over the same period.

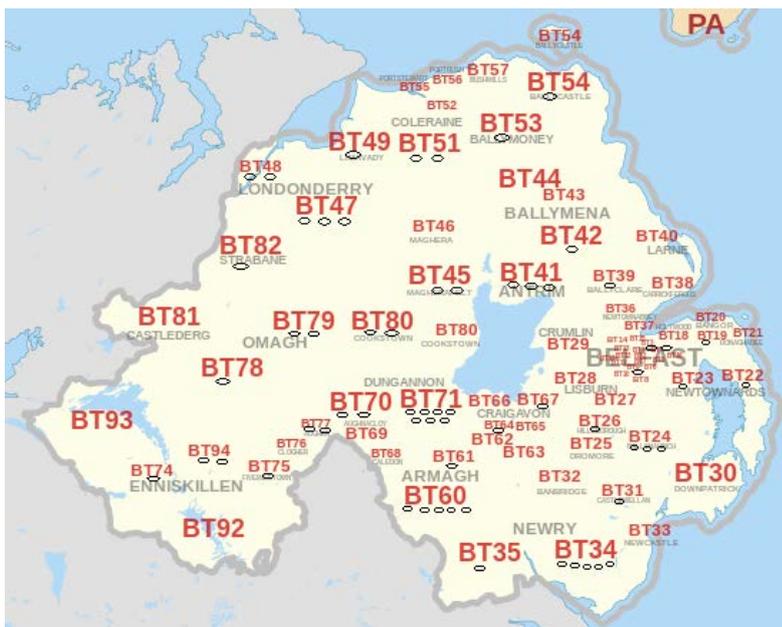
DECC introduced a GB Renewable Heat Incentive for the non-domestic market in November 2011. Northern Ireland was not included within that scheme because of the marked difference in the two heat markets i.e. in GB the natural gas market accounts for 68.8% of heating demand with oil only accounting for 10% whereas in Northern Ireland oil accounts for around 77%. It was therefore considered appropriate to separately assess

how the NI renewable heat market could be developed. Following an economic appraisal and public consultation, proposals for Phase 1 of the NI RHI (for non domestic installations) and for the RHPP (for domestic installations) were approved by DETI Casework, DFP and the Minister. It was made clear at that time that the Department intended to develop a second phase of the RHI which would extend it to include domestic installations.

## b) Update on Phase 1 of the RHI

Phase 1 was launched in November 2012. It provides long term financial support for non-domestic properties wishing to switch from conventional heating to renewable heating solutions, such as biomass; heat pumps and solar thermal. Payments are made quarterly, for the lifetime of the installation (maximum 20 years) and are determined by the heat output of the installation and the relevant tariff for the technology installed.

The scheme is administered by Ofgem (the GB Utility Regulator) and as at 7 May 2014 they have received 145 applications. All applications bar one are for solid biomass boilers and the majority have installation capacity in the 20-99 kWh range. The total capacity of the applications to date is in the order of 17MW. The applications received are from across Northern Ireland as shown in the following diagram.



The GB RHI was launched a year before the NI RHI. However, the current NI uptake compares favourably with the GB uptake at the same point in time. The NI scheme is currently tracking at around 7% of GB applications, 7% of accreditations and 4% of heat capacity, suggesting that NI will experience a higher volume of applications but for smaller installations.

**c) Update on the Renewable Heat Premium Payment (RHPP) scheme**

The Renewable Heat Premium Payment (RHPP) scheme was launched in May 2012 as a forerunner to a domestic RHI. This scheme provides grant support to eligible domestic installations and is managed within Energy Division, DETI. As at 7 May 2014, 1700 applications have been received and Energy Division has issued offers to 1223 of these. This represents support of £2.29 million and a total investment in the sector of over £7.7 million.

Four types of technology are supported by the RHPP; Air Source Heat Pumps, Biomass Boilers, Ground Source Heat Pumps and Solar Thermal Panels.

The breakdown of offers by technology is given in the table below.

<b>Technology</b>	<b>Offers of Support</b>
<b>Air Source Heat Pumps</b>	11%
<b>Biomass Boilers</b>	50%
<b>Ground Source Heat Pumps</b>	10%
<b>Solar Thermal Panels</b>	29%

At the time of launching the RHPP, the Minister made it clear that the scheme would remain in place until the final domestic RHI policy was considered and all RHPP installations would remain eligible to apply for any RHI.

**d) Consultation on Phase 2 of RHI**

In February 2013, DETI commissioned CEPA/AEA to undertake an economic appraisal to consider the development of a RHI for domestic installations and some potential amendments to the non domestic scheme

Policy proposals were subject to a public consultation from July - October 2013. The Department received 50 responses to the consultation; these included responses from installers, trade bodies, public sector organisations and members of the public. Analysis of these responses shows that respondents were broadly content with the proposals. In particular, proposals relating to the domestic scheme were almost universally accepted with only very minor suggestions put forward. While responses in relation to the non domestic amendments were also supportive a number of suggestions and queries were raised which require some further consideration. A number of these issues will require liaison with DECC and it is likely that this additional work will take some time to complete. In addition any non domestic scheme amendments will require State Aid approval and European colleagues have advised that this is likely to take 6+ months.

For these reasons it makes sense to launch the domestic scheme ahead of the changes to the non domestic RHI. The domestic RHI could be launched as soon as the required legislation is drafted and passed by the Assembly and an administrative system is designed to manage the application and accreditation process.

**e) Proposals for Domestic RHI**

Following the economic appraisal into the incentivisation of renewable heat, the following design of the Northern Ireland RHI is proposed. Details of all the options considered are included in the Business Case. The scheme represents a long term approach to developing the renewable heat market by providing consistent, secure, long term payments for renewable heat generation.

The incentivisation involves payments to installers of renewable heat technologies, with tariffs dependent on the type and size of technology installed, and in the form of pence per kilo watt hour (p/kWh) for deemed heat. Payments will be made annually over a 7 year

period. In addition, where an applicant has not previously availed of a RHPP payment, they will receive an upfront payment, equivalent to the RHPP, at the point of accreditation.

The tariffs have been calculated to cover the cost difference between traditional fossil fuel heating systems and a renewable heat alternative. The tariffs account for the variances in capital costs, in operating costs, as well as seeking to address non-financial 'hassle' costs. The tariff is generated against a counterfactual position of heating oil; this is due to the fact that Northern Ireland is primarily dependent on oil and most of those switching to renewable heat will be oil consumers.

Tariffs vary depending on the type and size of technology to ensure that financial support is targeted for the specific installation and so over-compensation is avoided. Tariffs are paid for 7 years and are 'grandfathered'<sup>1</sup>, however they will be amended on a yearly basis, for existing installers and new schemes, to reflect the rate of inflation. The proposed tariffs are outlined below, for ease of reference the equivalent tariffs for the GB scheme are also included. The NI tariffs are generally lower than the GB tariffs; this is because the GB tariffs are based on a gas counterfactual to reflect the difference in the heat market i.e. less incentive is required to encourage customers to change from oil to renewable technologies.

<b>Technology</b>	<b>Initial payment on accreditation (if not a recipient of RHPP)</b>	<b>NI Proposed tariff (p/kWh)</b>	<b>GB proposed tariff (p/kWh)</b>
<b>Solar Thermal</b>	£320	13.1	19.2
<b>Biomass boiler</b>	£2500	5.5	12.2
<b>Bioliquids</b>	£500	2.7	n/a
<b>Ground Source Heat Pump</b>	£3500	8.	18.8
<b>Air to Water Heat Pump</b>	£1700	3.4	7.3

To achieve accreditation, the applicant must have already installed an eligible technology and had it commissioned by a MCS installer. Applicants will need to provide evidence of

<sup>1</sup> Provides certainty for an investor by setting a guaranteed support level for projects for their lifetime in a scheme, regardless of future reviews.

installation including invoices, MCS commissioning certificate, building control certificate, Energy Performance Certificate (EPC) etc. Following accreditation, all beneficiaries will be required to submit an annual declaration to the scheme administrator to confirm that the installation is still in working order, being maintained and is being used for eligible purposes. A sample of claimants will be visited each year to confirm the information provided and all claimants can expect at least one visit over the payment period. RHI payments will continue to be made on an annual basis and will be determined by multiplying the applicant's deemed heat output (calculated from information provided on the EPC) with the relevant tariff level.

The NI RHI will have scheduled reviews built-in to the scheme to allow DETI to ensure that the scheme remains fit for purpose and value for money for the duration. The scope of these reviews will include analysis of tariffs (either to be reduced or increased), the appropriateness of technologies (remove existing technologies or add new innovative ones) and the assessment of effectiveness and success.

#### **f) Administration of the domestic RHI**

The domestic RHI will require an administrative system capable of managing enquiries and applications, ensuring participants meet ongoing obligations throughout the life of the scheme, processing payments, preventing fraud and providing management information. The options for providing this are considered in the Business Case.

It is proposed that the scheme is initially administered within Renewable Heat Branch whilst the specification for an external service provider is determined and procurement undertaken. This has the benefit of allowing the scheme to launch sooner and is also possible because initially the system only needs to facilitate application/accreditation, as it will be a year after accreditation before annual payments become due.

The application/accreditation process will have many similarities with the existing RHPP scheme in terms of the information the applicant needs to provide. The existing RHPP administrative system therefore forms a sound basis for the initial processing and accreditation of installations. Discussions with the DETI IT personnel who developed the

RHPP database have confirmed that the changes required to enable the accreditation of applicants are minimal and can be managed in house.

The current RHPP team consists of a part time DP, an EO1 and 2 part time EO2s. The team has processed around 1500 applications during time the RHPP has been running (approx 2 years). It is anticipated that we may have up to 800 new applications in the first year of a domestic RHI together with the migration of existing RHPP installations.

The current team therefore could not manage the work load beyond the first year as the number of accreditations will rise with an associated rise in the number of payments to be processed and site inspections. In any case DETI IT colleagues have indicated that for data security reasons they are not in a position to develop the ongoing payments part of the system. It is therefore proposed that a procurement exercise is undertaken to appoint an administrator to run the scheme. The costs of developing such a system have been estimated at approximately £60-100k with ongoing annual costs in the region of £600-1500 per application. Exact costs cannot be determined until the procurement exercise is underway. An external IT provider may also be required to facilitate annual payments should in-house delivery have to continue beyond the first year, the cost of which is estimated at around £30k.

## **g) Benefits**

It is expected that the domestic RHI would have a number of benefits, primarily a contribution to the achievement of 10% renewable heat target but also the wider benefits associated with renewable heat in terms of fuel security, lower emissions and 'green jobs'. Currently Northern Ireland is overly dependent on imported fuel, leaving consumers vulnerable to price fluctuations beyond our control; this is especially true within the heat market. Increased renewable heat will support the promotion of a more diverse, secure, sustainable and competitive heating market – providing greater energy choice for consumers limited by infrastructure issues.

It is expected that the introduction of the domestic RHI will support the deployment of up to 860GWh of renewable heat by 2020 (when considering support for commercial installations the expected level of total renewable heat by 2020 is 1400GWh.)

The expected carbon savings over the lifetime of the RHI policy (domestic and non-domestic) is in the order of 5 million tonnes of CO<sub>2</sub>. The value of this carbon, using the DECC carbon saving methodology (central carbon prices), is in the order of £250m.

#### **h) Displacement**

The main area where displacement will occur, as a result of initiatives on renewable heat, will be in the established heating markets i.e. oil, gas and coal. This displacement will impact on expected market share of these heating types and, if uptake was significantly higher than expected, could impact on jobs and/or prices. Displacement is likely to be most in the oil market given the fact that tariffs are set against an oil counterfactual and most appropriate for existing oil customers switching to renewables.

However given the size of the heat market and the incremental nature of the expected increase in renewable heat the overall displacement is expected to be limited.

As detailed in the SEF, it is a stated policy objective for DETI to extend the gas grid in NI. Renewable heat, as an alternative source of heat, has the potential to impact on this. The deployment of renewable heat is not expected to have any significant impact on the natural gas market – the fact that tariffs are designed against an oil counterfactual means that it is less attractive for natural gas customers to switch to renewable heat. Under the RHPP only 8 systems have been supported where a primary renewable technology has displaced natural gas. This equates to 0.5% of applications. In comparison 89% of applicants advise that the renewable system will displace oil.

In terms of job displacement, whilst new skills are required for the installation of renewables this would displace work that would have otherwise been undertaken on installing the counterfactual technology. The current market developments are that traditional heating companies are developing teams and up skilling staff with expertise in renewable heat technologies.

#### **i) Net present value**

Options considered for the development of the renewable heat market, purely on the basis of monetised costs and benefits, have a negative net monetised cost benefit. This of course takes no account of non-monetised costs and benefits. This was also the case when the non domestic RHI was approved in 2012.

In monetised cost-benefit terms; however, the option selected for the domestic RHI is both the most preferable in terms of NPV and the most cost effective in terms of the cost of carbon saved. The NPV for the domestic RHI is calculated at £-56m.

In addition, the option selected is the most cost effective with it estimated that a tonne of carbon will be saved for £66.31. This compares to a tonne of carbon saved for £107.79 - £114.72 for other options. This also compares favourable in terms of the cost of offshore wind which is assessed at £80-90 per tonne of carbon saved.

#### **j) Affordability**

As previously stated, funding of £25m is available to 2015/16 for this scheme. HMT have already indicated that any spending commitments made via the initial NI RHI (i.e. through the £25m) will be met by ongoing RHI payments from HMT.

DECC has secured £430m for the GB RHI for 2015/16. The DECC Minister has indicated to Minister Foster that the Barnett consequential of this funding should be forthcoming to Northern Ireland.

DETI Finance Branch has advised that DFP has indicated that AME budgets are formulated using the information provided in AME forecasting exercises, and there is no separate bidding process. Therefore, for RHI the current profile is £6.35m 2014/15, £9.5m 2015/16, £13.5m 2016/17, £18.5m 2017/18, £24.5m 2018/19 and £31.0m 2019/20.

#### **Risks**

A number of potential risks have been identified in the development and implementation of the domestic RHI. These are detailed in the Risk Register (attached at **Annex B**) along with proposed mitigating actions. Risks identified at this stage include;

- Incorrect subsidy set, either too high or too low;
- Lack of uptake;
- Harm to other sectors;
- Failure of renewable heat supply;
- Insufficient budget for administration or future payments;
- Failure to meet EU and Executive set targets;
- Inadequate resource to deliver project/separate key functions including staff
- Instances of Fraud
- Failure in Administration

These risks will be monitored and managed as part of the risk register, with additional risks added if required.

#### **k) Legislation**

The primary power to enable DETI to make regulations for schemes to encourage renewable heat was incorporated into the Energy Act 2011<sup>2</sup> which was given Royal Assent on 18 October 2011. Secondary legislation was laid in November 2012 for the non domestic scheme and is currently being drafted for the domestic RHI. The Domestic Renewable Heat Regulations will be laid through draft affirmative resolution procedure in the Assembly.

#### **l) Approvals**

A final business case for the domestic RHI will be submitted to DFP for approval once DETI Casework approval has been obtained and in parallel with seeking Ministerial approval.

#### **m) Economists Comments**

This business case has been considered by G7 economist within DETI Energy Division. He is content that this appraisal has been carried out in accordance with the NIGEAE guidance and that the approach adopted represents value for money and is the most effective way of

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<sup>2</sup> <http://www.legislation.gov.uk/ukpga/2011/16/part/3/crossheading/northern-ireland-renewable-heat-incentives>

allocating resources provided by HMT for the purpose of incentivising domestic renewable heat installations.

Whilst there is a significant cost associated with this policy, it will reduce carbon emissions and facilitate the development of a renewable heat sector within Northern Ireland. This, in turn, will help Northern Ireland to achieve its 10% renewable heat target by 2020.

#### **n) Next Steps**

- The first step is to secure all necessary approvals and lay the secondary legislation.
- It is proposed that the domestic RHI will then commence as soon as possible and ideally early summer 2014. Once approvals have been obtained for the scheme, the first step will be to announce the closure of the RHPP scheme. Vouchers already issued under this scheme will remain valid for up to 6 months.
- The introduction of the domestic RHI will then be staggered with existing RHPP installations being migrated across prior to opening the scheme to new applicants.

#### **Conclusion**

The evidence shows that a RHI is required to incentivise the renewable heat market, in order to achieve an EU renewable energy target which necessitates NI producing 10% of its heat from renewable sources by 2020. The development of the renewable heat market locally will also support the energy goals contained in the Department's Strategic Energy Framework, specifically in regards to Northern Ireland's sustainability and energy security.