

## Economic Appraisal Branch

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**To: Sylvia Sands**

**Our Ref: FS11109**

**From: Stuart McAllister**

**TRIM Ref:  
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**Date: 29<sup>th</sup> November 2011**

**Subject: DETI – NI Renewable Heat SOC – Economist Comments**

1. You requested comments on the above Strategic Outline Case on 23<sup>rd</sup> November 2011.

### Summary

2. HMT would provide £25m funding for a NI Renewable Heat<sup>1</sup> Incentive (RHI) over the period 2011-15. This funding would allow the NI Executive to meet its target of producing 10% of NI's heating requirements from renewable sources by 2020 and would assist the UK to meet the EU's target of producing 15% of all energy from renewable sources. It is envisaged that a NI RHI subsidy would stimulate job creation in the renewable energy sector, improve air quality and reduce imports of oil. The scheme would be implemented and administered on DETI's behalf by Ofgem<sup>2</sup> which has the power to impose sanctions upon participants that do not comply with set regulations and criteria.
3. DETI commissioned consultants to undertake an economic appraisal on the feasibility, potential design, options, costs and benefits associated with a NI RHI in February 2011. In July 2011, DETI launched a consultation paper seeking the views of the energy industry and the wider community on the design and implementation of the NI RHI. The consultation ended on 3<sup>rd</sup> October 2011 and has allowed work to commence on designing and implementing the final scheme and has enabled the, "...Department additional time to utilise the allotted £2m funding from HMT for this financial year." The economic appraisal and consultation document can be found here: [DETI - NI RHI Consultation Document and NI RHI Economic Appraisal](#).

### Options

4. Section 5 provides detail on 5 options, including the 'Do Nothing' option, considered to support a renewable heat market. The 'do something' options include; establishing a renewable heat challenge fund, providing a 50% capital grant to cover capital costs of renewable heat installations, joining the GB RHI scheme and adopting a specifically tailored NI RHI scheme. Further detail and information regarding the options should be provided at OBC stage.

### Funding

5. According to section 6, HMT has advised that £25m funding would be provided direct from Government expenditure for the NI RHI across the period 2011-2015. It is envisaged that the funding would be profiled as £2m in year 1, £4m in year 2, £7m in year 3 and £12m in year 4. HMT state that funding would be made available beyond

<sup>1</sup> Renewable heat sources include: wood pellet boilers, biogas plants and solar thermal water heating units. (see section 1)

<sup>2</sup> Ofgem is the Office of the Gas and Electricity Markets and promotes competition, wherever appropriate, and regulates the monopoly companies which run the gas and electricity networks to ensure the consumer is protected. (see [www.ofgem.gov.uk](http://www.ofgem.gov.uk))

2014/15 for those installations installed within the Spending Review period (i.e. up to 2014/15), given, "...funding being basically flat beyond 2014/15, and initial payments being affordable within the Spending Review funding profile." Any additional funding post 2015 would be negotiated with the DECC and HMT and DETI would be eligible for a share of any additional funding, given the GB RHI is open to new applicants to 2020.

### **Cost**

6. Section 6 states that, "*the administration costs for each option will need to be found from outside the HMT funding.*" Administration costs are estimated to be 10% of total annual funding and would, "...depend on the extent to which [the] Department can use the systems already in place for the GB RHI to administer an NI RHI." It appears that DETI is in discussion with Ofgem the administrator for the GB RHI regarding the use of their systems for the NI RHI. Further cost detail should be provided at OBC stage, including benchmarking information as to how the level of administration fee for the NI RHI scheme compares to that of the GB regions.

### **Affordability**

7. According to section 7, the affordability of the scheme would depend on how well the GB RHI system could be utilised to administer the NI RHI scheme as, "*the costs are likely to be higher the more that any NI RHI deviates from the GB RHI...in terms of rates...and...structure.*" Further detail regarding affordability should be provided at OBC stage.

### **Risk**

8. Section 4 states that according to the EU Renewable Energy Directive (RED) 2009, the UK is committed to increasing its share of renewable energy to 15% by 2020, however, "*this requirement extends beyond electricity to heating and cooling to transport.*" Although energy targets are the responsibility of member states, "...each Devolved Administration is expected to contribute as much as possible to the overall UK target." It is not entirely clear that in the event of the UK not meeting the EU RED target of 15% by 2020, if NI would be subject to any infraction fines. This point should be addressed at OBC stage.

### **Implementation**

9. Section 4 states that, "...Ofgem will be responsible for administering the scheme on behalf of DETI." Ofgem has delivered large scale energy incentive schemes including the Renewables Obligation, the Feed-In-Tariff and has also administered NI Renewables Obligation from its inception and has, "...an understanding of the local energy market..." Supply might wish to note that, "*compliance within the incentive scheme will be enforced by Ofgem who has the power to impose sanctions on those participants in the event of a failure to comply with the eligibility criterion or ongoing obligation set out in the Regulations.*" It is not entirely clear how Ofgem would administer a NI RHI scheme, what the eligibility criterion is, what the ongoing obligations are and what DETI's responsibilities would be. Also it is not clear what the likely cost of Ofgem's management/administration services would be. Further detail should be provided at OBC stage it might also

### **Constraints**

10. Section 2 identifies a number of constraints including a lack of knowledge/awareness regarding the development of renewable heat in NI, planning constraints and a lack of skills in NI's business sector to build and develop these new technologies. Further information detailing how these constraints could be overcome should be provided in the OBC document.

### **Benefits**

11. Section 7 states that the potential benefits associated with the development the RHI in NI would include; the creation of direct and indirect jobs (e.g. installation,

manufacturing, environmental monitoring, development design etc.) across the entire supply chain of the renewable energy industry, reduction in oil imports and potentially improved air quality. Further detail regarding project/option benefits, their delivery and monitoring should be provided at OBC stage.

**Project Monitoring, Management and Evaluation**

12. Section 4 states that Renewable Heat Strategy Group has been established and would consider the need for complimentary and additional policy support for renewable heat as, *“there is no guarantee that the NI Executive set target (i.e. 10%) will be met through [financial] incentives alone.”* The Group would be responsible for, *“...development of the NI renewable heat market, monitoring and roll out and uptake of NI RHI and ensuring that supporting policies are considered, developed and implemented...”* Further detail and clarification on project monitoring, management and evaluation should be provided at OBC stage.

**Conclusion**

13. Supply might wish to consider the comments/points raised in this note and also the information attached in Annex A.
14. Happy to discuss

**Stuart McAllister**  
**Economic Appraisal Branch**

Additional Information

NI RHI Economic Appraisal/Report – Overview

Section	Reference	Comment
Executive Summary & Introduction	Pages 5, 15 & 16	The aim of the report is to produce a recommendation on the most appropriate form of a RHI for NI. The report considers available renewable heat technologies, their cost(s), associated legislation, the rationale for government intervention, potential funding, potential options – costs, risk, benefits etc. Recommendation on way forward.
Context	Sections 2.1 - 2.3, 2.4.2, 2.5	Provides detail of domestic and non-domestic renewable heat technology and detail on Renewable Heat Policy in GB and the RoI. NI's current energy mix has also been considered - approximately 1.7% of energy produced in 2010 in NI is from renewable sources.
Government Intervention	Section 3	Without government intervention it's unlikely that the NI Executive's target of 10% of energy to be derived from renewable sources would be met. This would be in part due to the relative cost of renewable heat technologies. Furthermore, GB is introducing its own RHI scheme and associated benefits (e.g. RH installation) are unlikely to accrue to NI should an NI RHI support scheme not be implemented.
Objectives	Section 4.1	Indicative objectives for 2013 have been quantified in table 4.1. The report states that all objectives would be achieved to the greatest extent when renewable heat displaces oil rather than current or future gas consumption.
Funding	Section 4.2, table 4.2 and page 46	DETI has £25m funding from HMT for renewable heat for the period 2011/12-2014/15. Funding beyond this period would be made available. "Since any policy based on the GB RHI would be long term, it would not be compatible with funding only for the period to 2014/15." The report has considered 2 long term funding streams.
Option Development	Section 5	Detail has been provided of the primary (i.e. technologies available, who benefits? and how would the subsidy be awarded) and secondary (i.e. payment mechanism, means of verification and delivery agent) design parameters and also provides information on further issues (e.g. fairness) pertaining to option development.
Detailed Option Design	Section 6	The report would focus on, "...an RHI and on capital grants that apply across technologies and the economy." This section states that there are issues with renewable technologies (e.g. cost) and the NI approach would follow that used in GB, "...except on bioliquids and ASHP. We consider that there is a case for support for domestic bioliquids, particularly once the current OFTEC/NIHE field trials have concluded in 2012. Section 6.3 considers 4 main options, Do nothing, Administratively allocated Capital Grant, Challenge fund and 3 variants of a NI version of the GB RHI. The methodology assumes that 12% is the weighted cost of capital that companies require to justify the additional spending needed for a renewable heat project. It is unlikely that domestic consumers would be fully included in an NI RHI. Section 6.7.2 states that NI RHI rates would be below GB RHI rates in cases except solar thermal. This is due to higher prices paid in NI for fossil fuel heating than in GB, "meaning less of a subsidy is required to make renewable heat economic." According to section 3, "...we have

		taken care to look at the extent to which the renewable heat they [the options] deliver is additional...that would not happened in any case.”
Option Assessment	Section 7	Details assessment criteria, the level of renewable heat each option would provide in 2020, the % of renewable energy each option would provide, the cost of additional renewable heat per option, cost associated with each option. The total cost of the do something options compared to the do nothing option ranges between £108m and £405m depending on funding period.
Non-Monetary Impacts	Section 9	This section details the non-monetary benefits associated with each option including; employment in green sectors, job displacement, reduce barriers to uptake, reduce oil imports, impact on gas network and air quality
Costs and Benefits	Section 10	Details the monetized costs and benefits associated with each option considered.
Monitoring	Sections 11 & 12.3.3	Costs of administration would have to be found outside the HMT funding. DETI is in discussion with Ofgem to use their systems to administer the NI RHI and for Ofgem to manage the scheme. “...Table 10.3 shows that the net cost/benefit of the “NIRHI – alternative” rates, compared to the net cost benefit of applying the GB RHI rates to NI, are substantial (between £41m and £152m, depending on funding). This would likely outweigh any additional administration cost burden. However, it needs to be recognised that there are constraints on administration budgets.” The report recommends monitoring 2 aspects: the type of technologies being utilized and the number of renewable energy installations operational years later.
Overall Summary	Section 12	<ul style="list-style-type: none"> <li>• Included modeling to determine how the necessary support (i.e. subsidy) would be provided to households and businesses for a range renewable heating technologies.</li> <li>• A change from oil and gas heating to renewable heating would require a significant financial outlay. The analysis considers how this gap could be fund either over 20 years or via an upfront payment.</li> <li>• There is a strong case for applying a NI RHI to the commercial sector, however, the case to include the domestic sector is less strong due to upfront capital cost barriers.</li> <li>• Recommended that no final decision is made on the inclusion of domestic consumers until the GB is more clear.</li> </ul>

UK & NI CO<sub>2</sub> Emissions

Section 4 states that, "...almost half of the final energy consumed in the UK is in the form of heat, producing around half of the UK's CO<sub>2</sub>." To provide some context to this statement, Supply might wish to note the following CO<sub>2</sub> statistics.

Total CO <sub>2</sub> Emissions by UK Region - 2009		
UK Region	CO <sub>2</sub> Emissions (kt CO <sub>2</sub> Equivalent)	% Contribution to Total UK CO <sub>2</sub> Emissions
<i>England</i>	372,975	81.5
<i>Scotland</i>	36,505	8.0
<i>Wales</i>	34,821	7.6
<i>Northern Ireland</i>	<b>13,561</b>	<b>3.0</b>
<b>Total</b>	<b>457,862*</b>	<b>100%</b>

\*Excludes 'unallocated' CO<sub>2</sub> emissions

Total NI CO <sub>2</sub> Emissions By Industry Sector - 2009		
NI Sector	CO <sub>2</sub> Emissions Produced (kt CO <sub>2</sub> Equivalent)	% of Total NI CO <sub>2</sub> Emissions
<i>Agriculture</i>	424	3.1
<i>Business</i>	1,534	11.3
<i>Energy Supply</i>	<b>3,656</b>	<b>27.0</b>
<i>Industrial Process</i>	178	1.3
<i>Land Use Change</i>	73	0.5
<i>Public Sector Combustion</i>	198	1.5
<i>Residential</i>	3,282	24.2
<i>Transport</i>	4,213	31.1
<i>Waste Management</i>	3	0.02
<b>Total</b>	<b>13,561</b>	<b>100.0</b>

## Points to Note:

- Statistics are taken from the National Atmospheric Emissions Inventory's (NAEI) Green House Gas Inventories for 2009.
- The NAEI is funded by DEFRA and the Welsh, Scottish and the DoENI. NAEI compiles estimates of emissions to the atmosphere from UK sources such as cars, trucks, power stations and industrial plant.
- Data Source: [http://naei.defra.gov.uk/report\\_link.php?report\\_id=677](http://naei.defra.gov.uk/report_link.php?report_id=677)