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To:	Private Office DETI
Cc:	Sterling, David; Thomson, David; McCutcheon, Joanne; Hutchinson, Peter; Connolly, Samuel; Aiken, Glynis; Neth_Energy; Press Office; Ross, Alastair
Subject:	ECONOMIC APPRAISAL ON RENEWABLE HEAT INCENTIVE FOR NORTHERN IRELAND
Date:	08 June 2011 12:14:01
Attachments:	RHI Initial Briefing on outcome of economic appraisal.DOC ANNEX A - RHI IA for the DECC Energy Bill.DOC
Importance:	High

Private Office

See attached - for consideration by Minister and discussion at meeting scheduled for noon Monday 13th June.

Fiona

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From: **Fiona Hepper**
Energy Division

Date: **8 June 2011**

To: **1. Andrew Crawford**
2. Arlene Foster MLA

ECONOMIC APPRAISAL ON RENEWABLE HEAT INCENTIVE FOR NORTHERN IRELAND

Issue:	**To inform you of the conclusions of the economic appraisal on a Renewable Heat Incentive (RHI) for Northern Ireland.**
Timing:	**Immediate: your view is required in order that the consultation document can be finalised for issue.**
PfG implications:	**Not applicable**
Need for referral to the Executive:	**Any future renewable heat strategy will require Executive approval in due course.**
Presentational Issues:	**Not applicable.**
Freedom of Information:	**This submission is exempt under Section 35 of the Freedom of Information Act.**
Financial Implications:	**HMT has advised that £25m of AME is available over the spending period should Northern Ireland choose to introduce a RHI.**
Legislation Implications:	**Energy Division is currently working with colleagues in the Department of Energy and Climate Change (DECC) in London to extend renewable heating powers to Northern Ireland.**

PSA/PFG Implications:	**None at present, but it is likely that new PSA targets in relation to renewable heat will have to be developed.**
Statutory Equality Obligations:	**Not applicable**
Recommendation:	**That you consider the findings and options of the economic appraisal detailed below and agree on the most appropriate option for Northern Ireland.** **As this is a complicated issue, a meeting to discuss has been set up for noon, Monday 13th June.**

Background

You will be aware that a study into the potential development of the renewable heat market in Northern Ireland was completed in June 2010. The study concluded that achieving a 10% renewable heat share by 2020 was possible, but required significant government intervention.

2. The study also advised that long term support, both in terms of policy support and financial incentives, was needed to grow the renewable heat market. In September 2010, you announced that DETI would seek to develop a Renewable Heat Incentive (RHI) for Northern Ireland to assist in achieving the target of 10% renewable heat by 2020.

3. Her Majesty's Treasury (HMT) has provided £25m of AME funding for a Northern Ireland RHI. This funding is spread over the spending period between 2011-2015, with £2million in the first year, followed by £4million and £7million, with £12million available in the final year. Discussions with DECC regarding funding post 2015 have revealed the following : DECC see no difficulties re funding going forward as both DECC and HMT regard RHI as a priority, flag-ship policy; plus, HMT fully recognise that the scheme will be open until 2020 and that significant funding post 2015 will be required. It is also the case that DETI received a pro-rata allocation of the UK RHI funding for the period up to 2015, and HMT are aware that our scheme will complement DECC's, will therefore also require funding in the next spending review and we need our portion of the 'UK pot'.

Economic Appraisal of a Northern Ireland RHI

4. In February 2011, Cambridge Economic Policy Associates (CEPA), in conjunction with AEA Technologies, were commissioned to undertake an economical appraisal on the feasibility of a Northern Ireland RHI. A final draft of this economic appraisal was received on 31 May 2011. There are a number of issues that need to be addressed before the report can be finalised.

5. The economic appraisal has considered various options for incentivising the local renewable heat market, and has advised on appropriate tariff levels. It has also considered the costs/benefits and the impact of each of the options.

Options considered

6. CEPA and AEA initially considered a long list of high-level options which were developed in conjunction with Energy Division. These options included specific targeted support for the heavy industrial sector, the roll-out of capital grants, adopting the GB RHI scheme, the introduction of a Renewable Heat Obligation, the introduction of a NI RHI scheme, as well as others. From this long list of options five options were taken forward for further consideration;
    a. Do Nothing
    b. A renewable heat challenge fund
    c. 50% capital grant
    d. Joining in with the GB RHI scheme
    e. A specifically tailored NI RHI scheme

7. Under each of these scenarios various funding options were considered, within the £25m funding envelop. These were:
    i) No funding post 2015;
    ii) Funding of £12m per annum (total) post 2015 until 2020; and
    iii) Funding of an additional £5m (i.e. £17m in 2016, £22m in 2017, £27m in 2018 etc) post 2015 until 2020 (this is the level of funding is based on the GB impact assessment for the RHI on expected funding levels for the GB scheme post 2015).

8. The funding options detailed in ii) and iii) would allow any NI RHI scheme to remain open to new installations until 2020, as is the case in the GB scheme. If no additional funding was to be available post 2015 it is questionable whether a RHI scheme would be feasible as it would need to close to new applications in March 2015. If a RHI is the preferred option, during the consultation period we will need further engagement with DFP, DECC and HMT to copper fasten the funding position – even though **HMT has already indicated that adequate budget cover would be available to ensure existing financial commitments would be honoured and that those within the NI scheme by 2015 would receive the full 20 year tariffs.**

9. It should be noted that preliminary modelling, within the economic appraisal, would suggest that none of the options above, in themselves, will deliver the target of 10% renewable heat by 2020. (This is also true of the GB RHI, which DECC expect will deliver 10% as against a 12% target). There will therefore be a need for supporting policies that will assist in increasing the uptake of incentive measures and ensuring that levels of renewable heat are maximised. These include;
    i) Maximising indigenous biomass supply;
    ii) Communications and education;
    iii) Increased energy efficiency;
    iv) Building standards for new builds;
    v) Renewable heat within public estate;
    vi) Increasing skills; and
    vii) Planning issues.

10. There may be merit in establishing a cross-departmental group to consider some of these issues.

11. The options considered in the economic appraisal were;

a. Do Nothing

12. As in all economic appraisals the 'do nothing' option was assessed. It was determined that under this option there would be limited deployment of renewable heat, the amount of which would largely be dependent on fossil fuel prices and the understanding of renewable alternatives. It was estimated that by 2020 renewable heat would account for around 4.8% of heating demand if no financial support was available. This is well short of the 10% target set.

13. 'Do nothing' option is not deemed as a viable option for a number of reasons. Firstly, the target set in the Strategic Energy Framework (SEF) for renewable heat would not be met and the funding provided by HMT would not be used. Secondly, the Northern Ireland renewable heat market would be distinctly disadvantaged in comparison to Great Britain and there would be a potential loss of skills and expertise to the Great Britain market. Finally, there would be widespread criticism of the Department if no action was taken, especially given previous commitments on the issue.

b. Renewable Heat Challenge Fund

14. A 'Renewable Heat Challenge Fund' would be a capital grant with the grants being awarded on a competitive basis, rather than 'first come first served'. In this scenario interested parties would be invited to apply for funding and would provide information on the intended installation, expected heat output and required funding (there would be a maximum allowed grant based on % of total cost). Applications would then be ranked based on the cost-effective renewable heat output and grants awarded according to rank. This process would be repeated on either a bi-annual or annual basis.

15. If no funding is guaranteed post 2015, a capital grant system would be preferable to a RHI scheme. A challenge fund grant scheme would ensure that the most cost-effective installations were supported and that the £25m was utilised to good effect. Under this option around 5.6% renewable heat could be delivered by 2015 when the existing funding is due to end. The challenge fund could continue post 2015 if funding was available and could possibly achieve over 7.5-8.75% renewable heat by 2020 depending on funding levels.

16. There are several issues to consider under the challenge fund option. The scheme would need to be administered either by the Department or a contracted third party organisation and therefore could result in additional resource pressures or governance issues. It could also be potentially complicated and would require applicants to have an understanding of their heat demands and most appropriate technology requirements. There would also be a danger that only certain technologies, which ranked highly on the scoring matrix, would be incentivised, namely air source heat pumps or biomass boilers; this could be controlled by the Department in designing the

scheme. However, this would not support the development of a more diverse market and could have a negative impact on technologies that require more support, eg solar thermal.

17. The final issue with a 'challenge fund' is that it is in essence a capital grant system and does not provide long term stable support. Previous experience shows that grant schemes tend to lead to the market ramping up but then failing once the funding ends. It is also not certain that such a fund would be in the spirit of the terms under which HMT is providing the funding. The experience of the NIRO for renewable electricity, which provides long term stable support, is a more favourable approach.

c. Capital grant funding

18. CEPA also considered a straight forward administratively awarded capital grant system. In comparison to the competitively awarded challenge fund this would be undertaken on a 'first come first served' basis, similar to the *Reconnect* programme. The option considered by CEPA would be a 50% grant to cover the capital costs of various renewable heat installations. Under this scheme 5.35% renewable heat could be delivered by 2015. No projections were made to 2020 as CEPA advised that if additional funding was available post 2015 it would be more effectively used in the challenge fund format.

19. If a grant scheme is the preferred option then a challenge fund scheme would be the preferred option and would ensure deliver more cost effective renewable heat. Lessons learned from the *Reconnect* scheme would support CEPA's view that a competitively awarded grant can be more cost-effective and targeted than an administratively awarded grant.

d. The Great Britain Renewable Heat Incentive

20. CEPA also assessed the appropriateness of joining in with the existing GB RHI. There are many positives for doing so, including the consistency of approach with GB, savings in the cost of administrating an NI scheme, and the potential speed with which a scheme could be implemented.

21. However, CEPA has concluded that, given the differences between the GB and Northern Ireland heat markets implementing the GB RHI as it is currently devised and using the proposed GB tariffs in Northern Ireland would not be appropriate. The major issue that would arise would be that customers could be potentially over-incentivised and inefficient technologies supported; there would also be an unintended negative impact on the gas market. The GB tariff levels are largely based on the assumption of a household or business switching from gas to renewables. Whereas, given the prevalence of oil in Northern Ireland, tariff levels for a Northern Ireland scheme would need to be set on the assumption of moving from oil to renewables. If GB tariff levels were implemented there would potentially be an incentive for existing gas customers to switch to renewables and not just those using oil. Under statute, DETI has an obligation to develop and maintain an efficient gas industry and therefore it is important to develop tariff levels that make it attractive for oil customers to switch but **not** necessarily existing gas users.

e. A Northern Ireland Renewable Heat Incentive

22. CEPA has developed and assessed an appropriate RHI for the Northern Ireland. The tariff levels have been developed to encourage the movement of existing oil users to renewable heat, whilst protecting (to a degree) the existing gas market.

23. The NI RHI option is the preferred approach and offers the highest potential renewable heat output at the best value. It also would incentivise a wide range of technologies and provide investors with long-term support. Whilst it would only be open to non-domestic market, in the first instance, it would eventually be open to all consumers and therefore provide greater accessibility.

24. Preliminary tariffs are shown below, in comparison to the GB proposed levels (all tariffs are for 20 years and in pence per kWh). Column 1 details the tariffs set within the latest DECC publication and will apply to all non-domestic buildings in GB; Column 2 are tariffs developed by CEPA using the same methodology as DECC and are based on existing Northern Ireland energy costs; and Column 3 are tariffs set by CEPA which take into account the limited funding that is available.

	Column 1	Column 2	Column 3
	GB RHI Consultation	**NI Levels – DECC methodology**	**NI levels – Alternative methodology**
ASHP – all levels	-	-	-
Biogas Injection – all	6.5	2.9	2.2
Biomass boilers - small	7.6 (1.9 after a certain level)	4.0	1.8
Biomass boilers – medium	4.7 (1.9 after a certain level)	1.4	1.4
Biomass boilers – large	2.6	-	-
GSHP – small	4.3	3.8	4.1
GSHP – medium	3.0	1.8	1.0
Biofuels – small	-	1.0	1.5
Biofuels – medium	-	-	-
Biofuels – large	-	-	-
Solar thermal – small	8.5	17.0	8.5
Solar thermal - large	8.5	-	-

25. The purpose of the RHI (in GB and NI) is to incentivise people to move from carbon-based heating to renewable energy sources. The 'cost' of the carbon fuel is therefore important and differs in the GB and NI markets. The tariffs for the Northern Ireland scheme are therefore lower as they are based on moving people from a more expensive fuel source, therefore the required incentive to move is deemed to be lower. In addition, the tariffs are based on an oil counterfactual, increasing the tariff levels could lead to consumers currently on gas switching to renewable heat, this would **not** be desirable as it could lead to long term price increases in gas distribution charges. The two NI options refer to tariffs developed using the DECC methodology for the GB scheme and an alternative set of tariffs developed using a different methodology. These tariffs are indicative and subject to further analysis and development.

26. Similar to the GB scheme, the NI RHI would be made available to the non-domestic market in April 2012, with the domestic market introduced in October 2012. The reason for this is difficulties in assessing and monitoring heat demand in domestic dwellings. DECC has recently gone to tender for an economic appraisal of phase 2 of the GB RHI which will consider incentives for the domestic market. In our consultation document a commitment to consider this issue and introduce the RHI to the domestic market as soon as possible, and in line with GB, could be included.

27. Some specific issues to be considered under a potential Northern Ireland scheme are;

i) **Solar thermal:** Solar thermal is an expensive technology, this is primarily due to the fact that it can not meet space heating requirements. Whilst solar thermal will provide around 50% of yearly hot water requirements there still remains the need to retain a primary heat source such as gas, oil or renewables. To incentivise this technology using the same rationale as the other tariff levels there would be a danger of over-incentivisation and given the limited funding available this could divert funding from other more economical technologies. To this end, CEPA would recommend not including solar thermal within the RHI. This, however, could be open to criticism especially in light of solar thermal being a well-known and well established technology. Consideration could therefore be given to setting a tariff for solar thermal with a much lower rate of return, similar to the approach taken in GB, this would mean providing a rate of 8.5p per kWh.

ii) **Use of biofuels** – the GB scheme does not include biofuels. However CEPA do recommend their inclusion given the high use of oil in Northern Ireland and the many circumstances where neither renewables nor gas may be an alternative.

iii) **Support for anaerobic digestion** – given the increased support for AD under the NIRO, it is proposed not to support any heat generated from this technology, as to do so would amount to double incentivisation. RHI support could be made available for heat only AD plants that would not receive NIRO support. However given the level of support under the NIRO it is unlikely any heat only AD plants will be developed.

iv) **Support for the heavy industrial sector** – CEPA recommend that the heavy industrial sector (17 sites accounting for 22% of heat demand) is not supported under the RHI. This is because in some cases renewable heat technologies would already be cost-effective by 2020 and in other scenarios switching to renewable heat may badly affect the current gas network as well as its future development. As detailed later in the submission, there may be merit in supporting **some** heavy industrial sites and introducing different eligibility requirements, outside of the mainstream NI RHI.

Possible Approach

28. In considering the economic appraisal, previous analysis, funding profile and the overarching policy objectives for renewable heat, I wish to get your view on the proposed design of an incentive scheme for Northern Ireland.

29. CEPA made two recommendations which are dependent on the funding profile;

    a. If there is to be no funding guaranteed post 2015 then a grant funding scheme should be implemented. This scheme should be in the form of a competitively awarded challenge fund; or

    b. If there is confidence that additional funding can be provided by DECC/HMT post 2015 then a NI RHI should be introduced based on tariff levels set out in the table above. The GB RHI scheme is open to 2020 and DECC/HMT have stated that additional funding will be available in the next spending period.

30. If your preferred approach is a Northern Ireland RHI, the scheme would have a number of elements;

    i) **A Northern Ireland RHI to be in place by 1 April 2012** and open to all non-domestic customers (excluding the large industrial sector). The domestic sector is not due to be eligible for the GB RHI until October 2012, the delay relates to issues to do with monitoring heat use and is timed to coincide with the introduction of the Green New Deal in Great Britain. If the issues surrounding estimating heat usage in domestic dwellings can be resolved before April 2012 the NI scheme could be open to all at its introduction, however no firm commitment can be made.

    ii) **Should the Heavy Industrial sector be eligible for incentives?** As outlined in para 28, CEPA has recommended excluding the heavy industrial sector from any incentive scheme due to the fact that in some cases renewable heat could already be cost effective and there may also be an impact on the gas network if large industrial sites switched to renewable heat. An alternative option to total exclusion would be to have an additional layer of eligibility for industrial sites wishing to avail of RHI support, with permission needing to be sought and gained from the Department in advance of sites seeking accreditation from Ofgem. This additional eligibility requirement would focus on the economic benefit of incentives (i.e. is financial support necessary or is renewable heat already cost-effective) and the potential impact on the gas industry (i.e. sites on or viable for gas could be excluded). This proposal would ensure that appropriate heavy industrial sites are incentivised whilst those that are already economically viable or would negatively impact on the existing or future gas network could be excluded.

    iii) **Should interim grant support be made available for the domestic sector until April 2012?** Under the funding arrangements from HMT, £2m is available for renewable heat support this financial year, this money must be used for renewable heat and not administration costs. Therefore, in order for this funding to be utilised I would propose that grant support is made available for renewable heat installations in the domestic sector. This scheme would be similar to the 'renewable heat premium payments' proposed by DECC for the domestic sector.

    iv) **Call for evidence on the costs of and the barriers to the deployment of deep geothermal energy.** Under the renewable heat consultation I would

propose including a call for evidence on geothermal energy to better understand how this technology might be best incentivised. Geothermal energy could be deemed eligible for support under the GSHP tariffs in the NI RHI however because of the scale of geothermal projects this may be an inappropriate level of support. A call for evidence could inform a specific tariff level to be included from April 2013.

v) **Establishment of a renewable heat strategy group.** As demonstrated, none of the options identified, at this stage, will provide 10% renewable heat by 2020. It was always the case that the development of the renewable heat market would require a cross-departmental approach, with the £25m incentive scheme DETI's contribution to the market. I would therefore propose the establishment of renewable heat group, to act as a sub group to SEIDWG, Membership might include;

- DARD: biomass sustainability and agricultural uptake
- DFP: building regulations, public procurement and the public estate
- DEL: renewable energy skills
- DOE: carbon savings and planning
- DSD: domestic energy efficiency and fuel poverty
- OFMDFM: linkages to the Sustainable Development Plan
- Invest NI: opportunities for business and 'green jobs'

31. As you will be aware, an overarching concern whilst developing an appropriate incentive scheme has been the potential impact on the gas network, both the existing market and any future extension. The issue is that if existing gas customers or potential future customers (within the existing network) switch to renewables there could be an impact on gas distribution costs and prices. In considering the future extension, if large industrial and commercial loads in Cookstown, Dungannon, Omagh, Enniskillen etc switched to renewable heat then the economic case for extension would be weakened.

32. CEPA has considered this issue extensively and concluded that the impact on the gas market, both existing and future, to 2020 would be minimal. Analysis within the economic model would suggest that 266 small commercial properties, which might have taken up gas, will switch to renewable heat under a RHI. There should not be many circumstances where existing gas customers switch to renewable heat as the tariffs have been designed based on an oil counterfactual and therefore there would be no economic benefit for a gas customer switching to renewable heat. However, the only way to completely prevent this scenario would be to deem all existing gas customers as ineligible for RHI payments.

33. I would welcome your initial thoughts on the proposed approach, specifically;

i) Should Energy Division develop proposals for a Challenge Fund Scheme or a NI RHI?
ii) How should the heavy industrial sector be treated under any incentive scheme?
iii) Should any specific eligibility requirements be included in an incentive scheme to protect the gas market?
iv) Should Energy Division develop proposals to utilise the funding for this year (£2m) in a grant scheme for the domestic sector?

v) Are you content for a call for evidence on the costs and barriers to deep geothermal energy be included in any future consultation?

Next Steps

34. Following your consideration of this submission, I will finalise the proposed consultation document and provide a more detailed overview of the scheme. In order to begin a public consultation in July 2011, you will need this by **16 June 2011**. In this submission there will also be letters to Ministerial Colleagues and the ETI Committee; plus, the ETI Committee is expecting a written briefing on this issue on 30 June 2011.

35. I would also propose speaking with DFP colleagues to understand when DFP approval will be required to implement the proposed scheme. This may be more appropriate following the consultation so a final scheme can be submitted for DFP approval rather than a draft scheme which is subject to change.

36. You will be aware that Energy Division officials have been liaising with DECC colleagues in order to secure an amendment to the 2011 Energy Bill to provide DETI with powers to introduce a RHI. This is progressing well and we are also preparing a timetable for subordinate legislation. As part of the DECC amendment, an impact assessment has been produced by Energy Division and cleared by Departmental Economists. DECC officials have requested that this is formally signed off by you; therefore I have attached this at **Annex A** (attached separately) for your clearance and signature. This will be placed on the Departmental website.

Recommendation

37. It is recommended that you;

i) Consider the overview of the CEPA economic appraisal and the options developed;
ii) Indicate your preferred option for incentivisation ie either a Challenge Fund or RHI;
iii) Consider the issues identified approach outlined in paras 30 and 33 ;
iv) Agree that a consultation paper is now developed for your consideration; and
v) Approve and sign the impact assessment at **Annex A**, to support the amendment to the 2011 Energy Bill.

38. I am conscious that this is a lengthy and complicated submission and have secured a meeting in your diary (noon, 13th June) to discuss.

Fiona Hepper

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Summary: Intervention & Options

Department /Agency:	Title:	
DETI	Impact Assessment for Renewable Heat Incentive	
Stage: Consultation	**Version: 1**	**Date: 19 May 2010**
Related Publications:		

Available to view or download at:

Contact for enquiries: Peter Hutchinson, DETI **Telephone: 02890 529532**

What is the problem under consideration? Why is government intervention necessary?

This IA analyses options to increase the uptake of renewable heat technologies to help meet the Northern Ireland Executive agree target of 10% renewable heat by 2020. This target also contributes to the UK share of the EU 2020 renewable energy target, and the 80% reduction in GHG by 2050. It is widely agreed that Government intervention is necessary because many renewable energy technologies are less developed or deployed at a lower scale and higher cost than traditional energy technologies. Without Government support, it is likely that the private sector will not invest sufficiently in innovation and deployment to meet our longer term goals

What are the policy objectives and the intended effects?

To achieve a substantial increase in renewable heat in the Northern Ireland, reaching a level of the order of 10% of total heat demand or more by 2020, compared with 1.7% today. Current heat demand in Northern Ireland is estimated at 17.4 TWh however this will drop to 16.7 TWh by 2020, therefore the 10% target equates to 1.7 TWh by 2020 (this is an additional 1.3-1.4 TWh). Analysis of this target and the associated costs has been carried out by AECOM and Pöyry in a 2010 DETI commissioned study.

What policy options have been considered? Please justify any preferred option.

The 10% target has been agreed by DETI and the Executive following substantial analysis. The most appropriate method of reaching this target has been assessed with consideration given to several options including specific industrial support, capital grant schemes and a Northern Ireland RHI. The Northern Ireland RHI option is consistent to the GB position and provides long-term, stable support for those wishing to invest.

When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?

The potential costs and expected benefits have been assessed through a economic appraisal (following the NIGEAE ten steps) carried out by CEPA and AEA. A full impact assessment will be carried out in advance of consultation on the final design of the Northern Ireland RHI.

Ministerial Sign-off For consultation stage Impact Assessments:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister:

..... Date:

Summary: Analysis & Evidence

Policy Option:	Description: Increased Uptake of Renewable Heat Technologies

COSTS

ANNUAL COSTS	
One-off (Transition) **Yrs**	Description and scale of **key monetised costs** by 'main affected groups' Costs include the resource cost of the renewable technologies, which include costs to overcome supply side and demand side barriers.
£	
Average Annual Cost (excluding one-off)	
£	**Total Cost** (PV) **£**

Other **key non-monetised costs** by 'main affected groups' Other costs include the cost to consumers of any subsidies, and the indirect cost to the economy resulting from increased energy prices.

BENEFITS

ANNUAL BENEFITS	
One-off **Yrs**	Description and scale of **key monetised benefits** by 'main affected groups' Benefits are monetised carbon benefits from the replacement of fossil fuels in heat generation. Carbon savings outside the EUETS are valued at the shadow price of carbon in line with Green Book guidance.
£	
Average Annual Benefit (excluding one-off)	
£	**Total Benefit** (PV) **£**

Other **key non-monetised benefits** by 'main affected groups' There may be some benefit resulting from a greater diversification of the fuel mix. A large number of installations will be made in domestic and local premises, which may have benefits in terms of users becoming more conscious of their energy consumption.

Key Assumptions/Sensitivities/Risks Results are sensitive to assumptions on fuel prices: reductions in fossil fuel prices will increase the resource cost of renewables and vice versa.

Price Base Year 0	Time Period Years	**Net Benefit Range** (NPV) **£**	**NET BENEFIT** (NPV Best estimate) **£**

What is the geographic coverage of the policy/option?			Northern Ireland	
On what date will the policy be implemented?			2011/2012	
Which organisation(s) will enforce the policy?			DETI/Ofgem	
What is the total annual cost of enforcement for these organisations?			£ unknown	
Does enforcement comply with Hampton principles?			Yes	
Will implementation go beyond minimum EU requirements?			No	
What is the value of the proposed offsetting measure per year?			£ unknown	
What is the value of changes in greenhouse gas emissions?			£ n/a	
Will the proposal have a significant impact on competition?			Yes	
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	Yes/No	Yes/No	N/A	N/A

Impact on Admin Burdens Baseline (2005 Prices) (Increase - Decrease)

Increase of £ Decrease of £ **Net Impact** **£**

Evidence Base (for summary sheets)

A. Overview

1. This Impact Assessment focuses on potential measures to increase renewable heat uptake in the Northern Ireland. DETI has carried out [1]substantial research into the potential development of the Northern Ireland renewable heat market, this research has demonstrated that Northern Ireland could achieve 10% renewable heat by 2020 however government support, both in terms of financial incentives and policy levers, would be required. Preliminary analysis would suggest that £2.5m per % per annum might be required.
2. Her Majesty's Treasury (HMT) has provided DETI with £25m to support the development of renewable heat. DETI is currently carrying out a full economic appraisal of potential options, including consideration of a Northern Ireland Renewable Heat Incentive (RHI), similar to the GB RHI scheme but specifically tailored for the Northern Ireland market. The Northern Ireland heat market is quite different to the GB market (dependency on oil, developing gas market, rural geography, high levels of fuel poverty etc) and therefore it is necessary that any incentive scheme is designed to consider these issues.
3. [2]DETI has already indicated that a Northern Ireland RHI is the preferred method of incentivisation however before this can be designed and delivered a full economic appraisal is required. Cambridge Economic Policy Associates (CEPA) and AEA technologies are carrying out this appraisal. This research will advise a future consultation on a preferred method of supporting the renewable heat market, the appraisal will be published alongside this consultation.
4. For a RHI to be introduced in Northern Ireland primary legislative powers are required, DECC and DETI have agreed that a clause can be inserted into the 2011 Energy Bill to provide this powers, these powers will be similar in nature to the powers granted to [3]DECC for renewable heat in the 2008 Energy Act.
5. This impact assessment considers the potential development of the renewable heat market. A full regulatory impact assessment and equality assessment will be carried out in advance of a future consultation on the proposed method of incentivisation for Northern Ireland.

B. Objectives

6. The objective of the potential measures in the renewable heat sector is to achieve a substantial increase in renewable heat in the Northern Ireland in the most cost-effective way utilising the funding provided by HMT. In September 2010 the Northern Ireland Executive agreed to a target of 10% renewable heat by 2020, this is a challenging target considering current renewable heat levels of 1.7%. An ongoing economic appraisal of a Northern Ireland RHI, being carried out by CEPA and AEA Technologies, is assessing all possible options for developing the renewable heat market in Northern Ireland. The 'do nothing' scenario is aslo being considered however this is unlikely to be deemed a viable option considering developments in the GB renewable heat market which has the potential to leave Northern Ireland at a distinct disadvantage.
7. Looking towards 2020, analysis undertaken indicates that Northern Ireland's overall heat demand is predicted to fall from 17.4 TWh per year to 16.7 TWh with rises in demand from new development being outweighed by reductions in demand and energy efficiency

[1] AECOM Ltd and Pöyry Energy Consulting (2010): Assessment of the potential development of the Northern Ireland Renewable Heat Market

[2] http://www.northernireland.gov.uk/index/media-centre/news-departments/news-deti/news-deti-september-2010/news-deti-200910-foster-recognises-importance.htm

[3] http://www.legislation.gov.uk/ukpga/2008/32/section/100

improvements. Taking into account the existing 300 GWh of renewable heat already present a target of 10% for 2020 equates to an additional 1.3 TWh or 1300 GWh of renewable heat. Consideration witll also need to be given, in due course, to reasonable targets to 2050 and beyond.

8. Secondary objectives in developing the renewable heat market include increasing Northern Ireland's fuel security by reducing dependence on imported fossil fuels and the associated reduction in carbon emissions that this would bring. DETI also wish to promote the 'green economy' and see renewable heat as having a role to play in developing new green skills and jobs.

C. Potential measures to address constraints and barriers

9. A full economic appraisal of the various options for incentivising the Northern Ireland renewable heat market is currently being carried out. This appraisal will be published along with a future consultation on the design and implementation of the Northern Ireland incentive scheme. This appraisal has been carried out following NIGEAE guidelines[4].

(i) Non-financial

10. As previously mentioned, DETI commissioned research in 2009/2010 (carried out by AECOM and Pöyry) aimed at determining the optimum potential of the renewable heat market to 2020 and to assess methods of incentivisation and possible barriers. This work determined that a 10% renewable heat target by 2020 was reasonable and achievable however would require substantial government intervention, both in terms of financial incentives and policy levers.

11. In terms of non-financial constraints the major barrier identified related to resource and maximising indiginous fuel sources. Other potential constraints were the number of registered installers and need for additional skills, and the lack of understanding amongst consumers about renewable heat technologies.

12. Whilst these non-financial barriers are potential constraints to the uptake of renewable heat technologies the should be able to be overcome as increase demand and deployment makes investment worthwhile and increases consumer confidence in the technologies in question.

(ii) Financial barriers: Renewable Heat Incentive

13. The current economic appraisal is considering a number of options that would increase the level of renewable heat from the current level of 1.7% to a potential 10% by 2020. The appraisal is also considering the most effective method of utilising the funding provided to DETI for a Northern Ireland renewable heat scheme (£25m over the CSR period, £2m in year one; £4m in year two; £7m in year three and; £12m in year four.) Some of these potential options are:
    a. A "Northern Ireland Renewable Heat Incentive" – similar to the DECC proposals, a set level of financial support paid to generators of renewable heat at a given £/MWh. This scheme would however by designed and tailored specifically for the Northern Ireland heat market.
    b. Joining in with the GB Renewable Heat Incentive – seeking to be a part of the wider GB scheme due to come into affect in July 2011 for the non-domestic sector and October 2012 for domestic consumers.

[4] http://www.dfpni.gov.uk/index/finance/eag/eag-step-by-step.htm

c. A capital grant scheme – those wishing to install renewable heat technologies could apply for capital grant support, the level of support would be determined by the size and type of technology installed..
d. A "Renewable Heat Challenge Fund" – a competitively awarded grant scheme where applicants would be ranked on the amount of cost-effective heat delivered and awarded funding dependent on their ranking.

14. Other options were also considered but ruled out. Options were selected and assessed on the basis of set criteria, some of which were:
    - Fit with existing Northern Ireland Executive energy policy
    - Level of cost-effective renewable heat delivered
    - Fit with profile of existing funding
    - Simplicity and accessibility for those wishing to avail of the scheme
    - Administrative complexity/costs
    - Carbon savings associated with the policy
    - Capability building: i.e. the long term development of the market, growth of 'green job', increase in trained installers and skills, presence of a mature supply chain etc.
    - Impact on the emerging natural gas market

15. DETI analysis of the various options is still ongoing. These options will soon be considered by the DETI Minister and a public consultation will then issue over Summer 2011 which will advise on the design and implementation of an appropriate scheme.

16. DETI has already expressed a preference for a Northern Ireland RHI, this is based on earlier research and a expectation that a consistent approach with Great Britain and DECC would be beneficial, however the unique circumstances in the Northern Ireland heat market need to be considered in a specifically tailored scheme. These issues include the prevalence of heating oil (77% of total demand), an emerging and developing natural gas market (17% of demand), higher levels of fuel poverty, varying fuel prices and a much more rural geography.

17. DETI will shortly consult on a preferred option; early indications are that local stakeholders wish a similar scheme to the GB RHI to be implemented locally.

18. The proposed amendment to the 2011 Energy Bill establishing powers to introduce a Renewable Heat Incentive in Northern Ireland, will allow work to begin immediately on the design of a NI RHI, minimising delays that could translate into lost opportunities for renewable heat delivery by 2020. Any delay would also leave Northern Ireland at a disadvantage in comparison to Great Britain and could lead to local skills being lost.

D. Costs and benefits of package to promote uptake of renewable heat

19. Initial analysis on developing the Northern Ireland heat market estimated that 10% renewable heat could be achievable at a cost of £2.5m per % per annum. The ongoing economic appraisal will provide more detailed costings as they will relate to actual proposed expenditure and set RHI tariffs. Similarly to GB, the costs and benefits are heavily dependent upon a range of factors including fossil fuel and biomass prices, the price of carbon within the EU ETS as well as assumptions underlying the renewable heat cost curve in the UK. The economic appraisal will provide a detailed evidence base for DETI to base decisions; this research will be published alongside future proposals.

E. Impacts

20. The most obvious impact will be the increased level of renewable heat deployed in Northern Ireland. It is also expected that there will be related impacts such as reduced carbon

emissions, displacement of existing fossil fuel supplies (predominantly displacement of imported heating oil), and potential for 'green jobs' within the supply chain of renewable heating.

21. As the scheme will be funded directly through AME money provided by HMT there will be minimal impact on fossil fuel prices. The ongoing economic appraisal, previously referenced, will consider all the intended and unintended impacts of incentivising the renewable heat market and will be published alongside a future public consultation.

F. Impact on the rest of the heat sector, including small firms

22. Policies to promote renewable heat are expected to increase deployment of renewable technologies across a range of sectors (industrial, commercial, domestic and public). As the natural gas market is still developing in Northern Ireland and DETI is considering the potential extension of the existing grid, the Northern Ireland RHI tariffs will be based on a heating oil counterfactual to ensure, as far as possible, that gas and renewable heat are not competing but in the majority of circumstances that heating oil is being displaced. In rural areas of Northern Ireland renewable heat may be the only alternative to heating oil and therefore incentives present opportunities for SMEs in these areas not previously possible.

23. Further to this, the need to install, maintain and fuel (in the case of biomass) the renewable heating technologies will also generate jobs, and in many cases the firms best-placed to enter these new market segments will be those previously providing fossil fuel alternatives.

G. Risks

24. The biggest risk with the implementation of a NI RHI, or an alternative incentive scheme, is that it does not deliver the required increase in renewable heat uptake. The reasons for an incentive scheme not adequately increasing renewable heat uptake may include a poorly designed scheme, insufficient tariff/support levels, lack of confidence in the market, poor communications, limited fuel resource etc. Switching from established fossil fuels to relatively unknown renewable heating technologies presents a fundament change in Northern Ireland's heat markets and will require consumers, both domestic and commercial, to pay upfront capital costs in return for incentive based payments over up to 20 years. The level of uptake remains a major risk for any incentive scheme.

25. There are also risks associated with fuel supply and maximising the indigenous supply of biomass, biogas and bio-liquids. For the 10% renewable heat target to be met there will need to be confidence that sufficient fuel supply will exist and that the cost of renewable heat fuels will not become prohibitive. The uptake of biomass fuels and the increase in farming of energy crops may also present have an environmental impact such as air quality issues in urban areas utilising biomass boilers. Increasing use of biomass for heat may also divert biomass feedstocks used by other industries (e.g. the chemical, woodchip and paper), to the production of renewable heat. This could adversely affect these industries in a way that gives a net environmental and social disbenefit.

26. The ongoing economic appraisal will identify potential risks and assist in identifying options to mitigate the possible impact. DETI will also work with other departments to ensure that barriers to deployment are identified (planning issues, biomass sustainability, skills, public confidence) and addressed. DETI will also consider developing and publishing a Renewable Heat Strategy for Northern Ireland that will explain the key incentive measures but also propose secondary actions, other than financial incentives, that should be taken forward to ensure that the chosen incentive scheme is successful and meets its key objectives.

H. Inequality impacts

27. The RHI could have an impact on groups vulnerable such as fuel poor if targeted appropriately and third party organisations such as Housing Associations, the Northern Ireland Housing Executive or Energy Service Companies (ESCos) were utilised. The capital cost of installations will still remain an issue for many domestic customers however the use of ESCos could ensure renewable heat was available to all.

28. The delivery of renewable heat will provide an alternative fuel choice for people, many people in Northern Ireland currently rely on heating oil and for those who live off the gas grid this remains their only choice. As the gas grid is still only developing, renewable heat could provide alternative heating for many domestic consumers and businesses.

29. Similarly to the GB RHI, the distributional impact on different income groups will depend on a number of factors such as: which groups take-up renewable heat measures; energy consumption; how much energy companies pass on the cost of the RHI to different groups through different tariff structures; the potential for households to undertake energy efficiency measures in order to reduce their energy consumption.

I. Implementation and Monitoring and Evaluation

30. Detailed measures on how to increase renewable heat in Northern Ireland will be set out in a public consultation from DETI, scheduled for Summer 2011. The economic appraisal, used to inform decisions, will be published alongside this consultation along with full impact assessments.

31. Following consultation, DETI will seek to introduce an appropriate scheme through subordinate legislation. DETI will also consider developing a wider cross-departmental renewable heat strategy which will build on financial incentives and seek to remove barriers and create opportunities through policy support.

DETI MINISTER INVITATION CASES - ADVICE PROFORMA

Completed by: FIONA HEPPER, ENERGY DIVISION Ext: 29215

INVITATION NUMBER:	**INV/1100/2011**
INVITATION FROM:	**Dr John Gilliland OBE**
EVENT / MEETING:	**Meeting to discuss the introduction of a Renewable Heat Incentive (RHI) in Northern Ireland and the barriers to deployment of renewable heat in Northern Ireland.**
DATE OF EVENT / MEETING (IF KNOWN)	**Not yet known.**
PROPOSED VENUE:	**Netherleigh/Parliament Buildings (at discretion of Private Office).**
REASONS TO ACCEPT / DECLINE THE INVITATION	**Accept – Mr Gilliland is an important stakeholder within the renewable heat industry and it might be useful to hear his views on the potential with the market and barriers to deployment. If the meeting is held after the launch of the consultation his views could be taken on the design of the scheme and a more detailed discussion on the implementation of an incentive scheme could take place.**
ANY OTHER RELEVANT INFORMATION	**Energy Division expect to shortly submit a draft consultation paper on the development of the Northern Ireland renewable heat market in advance of consultation in July 2011.**
FOI STATUS OF ADVICE	**Fully disclosable**
RECOMMENDATION IF MINISTER SHOULD ATTEND / MEET (YES/NO)	**Diary permitting, I would recommend meeting with Mr Gilliland, once the consultation on the development of the renewable heat market has been launched.**
PRIVATE OFFICE COMMENTS	

SPECIAL ADVISOR'S COMMENTS	
MINISTER'S DECISION	