

NORTHERN IRELAND RENEWABLE HEAT STRATEGIC OUTLINE CASE

Project Title: Business Case to determine most suitable approach to spend Her Majesty's Treasury Funding for a Renewable Heat Strategy in Northern Ireland

Sponsoring Department/Agency: Department of Enterprise, Trade and Investment

Senior Responsible Officer: Fiona Hepper (Assistant Secretary)

Signed: 

Date: 21/10/11

Section 1: Project Overview

Briefly describe the basic project concept.

The Department of Enterprise, Trade and Investment (the Department) is responsible for the development and maintenance of an appropriate legislative and policy framework for energy in Northern Ireland.

The agenda for developing renewable energy solutions and securing real reductions in energy consumption to enhance sustainability is driven by environmental policy, aimed at reducing harmful emissions. However, pursuing sustainability in energy also offers opportunities to enhance security of energy supply by introducing alternative generation sources, which are not subject to the price volatility of imported fossil fuels. Furthermore, development of indigenous sources offers opportunities for diversification and alternative sources of income.

Renewable Heat Targets

Renewable heat is simply heat produced from renewable sources, for example wood pellet boilers, solar thermal water heating units, heat pumps and, on a larger scale, industrial biomass boilers or biogas plants. The Department published its Strategic Energy Framework (SEF) in 2010 which includes a target for Northern Ireland to achieve 10% renewable heat by 2020. In order to reach the target it is important that support mechanisms are developed to encourage the uptake of renewable heat technologies within the domestic, commercial, industrial and public sectors.

The EU Renewable Energy Directive (2009/28/EC), published in the Official Journal of the European Union on 5 June 2009, requires that member states ensure that 15% of their energy consumption comes from renewable sources by 2020. This requirement extends beyond electricity to heating and cooling and to transport.

As heat energy accounts for almost half of all the energy consumed in the UK and produces around half of the UK's CO₂ it would appear there is considerable scope to explore and increase the use of renewable heat technologies in order to help meet the new Renewable Energy Directive target.

GB Renewable Heat Incentive

The Department of Energy and Climate Change (DECC) has set a target of 12% renewable heat for England and Wales by 2020, this target, coupled with the 30% target for renewable

electricity consumption, will assist in Great Britain meeting its requirements under the Renewable Energy Directive.

In order to achieve this target, DECC has made clear plans to introduce a Renewable Heat Incentive (RHI) in Great Britain (by December 2011) and has published draft Regulations regarding the design and structure of such a scheme. The RHI in Great Britain will initially only be open to the non-domestic sector with the domestic sector to be eligible for RHI payments from October 2012. In the interim, domestic consumers wishing to install renewable heating technologies can apply for 'renewable heat premium payments' to support the capital cost of the installation.

Over the next 4 years, DECC anticipate that £860m will be invested in new renewable heat installations, this investment will go beyond 2015/2016 as new installations are supported for 20 years under fixed tariffs. The tariffs set by DECC are designed to provide a rate of return of 12% (considering the capital costs, operating costs and non-financial 'hassle' costs) across each technology, barring solar thermal which will have a rate of return closer to 6%.

Northern Ireland Heat Study

Northern Ireland is not included as part of the wider Great Britain RHI. There are many differences between the heat and renewable heat markets in Great Britain and Northern Ireland that mean that it has been more appropriate for a separate assessment to be taken on how the local market can be developed. In December 2009, the Department commissioned research into the existing heat and renewable market so an assessment could be made on the optimum growth potential of the market, methods for developing the market and an appropriate target for 2020. The study was carried out by AECOM Ltd and Pöyry Energy Consulting and was part financed by the European Regional Development Fund under the European Sustainable Competiveness Programme for Northern Ireland.

Economic Appraisal of a Northern Ireland RHI

In February 2011, Cambridge Economic Policy Associates (CEPA), in conjunction with AEA Technologies, were commissioned to undertake an economic appraisal on the feasibility and potential design of a Northern Ireland RHI.

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.

Section 2: Aims, Needs, Objectives & Constraints

State the rationale for government intervention e.g. by reference to market failures or equity objectives.

Identify the relevant NI Government/Departmental strategic aims and policy objectives.

Outline the need for the project e.g. demand for services, deficiencies in existing provision etc

List the project objectives as specifically as possible at this stage.

Identify likely constraints e.g. timing issues, legal requirements, professional standards, planning constraints.

The overall aim is to deliver the maximum possible renewable heat in Northern Ireland, but this has to be delivered in a way that is consistent with other Departmental policies and objectives. In September 2010, the Northern Ireland Executive endorsed a target of 10% renewable heat by 2020 (against a baseline of 1.7% in 2010). This target is included in the Strategic Energy Framework.

Taking into account the 300 GWh of renewable heat already present in Northern Ireland, a target of 10% for 2020 equates to an additional 1.3 TWh or 1300 GWh of renewable heat.

HMT has advised that £25million of funding will be made available 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.

Therefore, the Department needs to assess how best to utilise this funding in the most beneficial way that will help Northern Ireland achieve the 10% target of renewable heat whilst also ensuring that there will be significant benefits for fuel security in Northern Ireland and the opportunity to reduce carbon emissions. The Department must also consider the potential to develop 'green jobs' and 'green skills' within the renewable heat industry.

There are several issues to consider in this matter. The heat market in Northern Ireland is very different to the market in GB. Northern Ireland is largely dependent on oil with a developing natural gas market, whereas in GB the gas market is well established and is the predominant fuel source. There are also differences in fuel prices between GB and NI and the amount of our income that goes towards heating our homes and businesses. As a consequence, our levels of fuel poverty tend to be higher. Finally the geography of Northern Ireland is very different to GB, with Northern Ireland being more rural with fewer larger cities and therefore having a very different heat density. All these factors have meant that it has been appropriate to assess the need to develop the heat market in Northern Ireland and how that market might be encouraged and incentivised.

There could be potentially a number of constraints in the development of a Northern Ireland Renewable Heat market:

- A lack of knowledge/awareness regarding renewable heat may act as a barrier to its development. Domestic/community/public and commercial sectors need more education and support to help plan, fund and implement projects;
- Planning constraints could also have a negative impact with the planning applications process being time-consuming therefore causing delays in building new technologies; and
- Lack of skills in the Northern Ireland business sector in developing and building these new technologies.

Section 3: Stakeholder Issues

Identify the key stakeholders and explain their involvement.

Indicate their level of commitment to the project as specifically as possible.

Describe any consultations held or still required.

Are there any outstanding stakeholder issues?

Stakeholders	Involvement
Government	<ul style="list-style-type: none"> • Lead on introduction and set framework for renewable heat in Northern Ireland • Establish Renewable Heat Strategy Group which will have responsibility for the development of the renewable heat market
Domestic	<ul style="list-style-type: none"> • Opportunity to avail of support to convert new renewable heat technologies

Stakeholders	Involvement
Green Economy	<ul style="list-style-type: none"> • Possible creation of new jobs/ growth of the industry
Public	<ul style="list-style-type: none"> • Opportunity to convert public buildings to new renewable heat technologies
Commercial	<ul style="list-style-type: none"> • Opportunity to avail of grant to convert new renewable heat technologies
Existing heating industries	<ul style="list-style-type: none"> • Increasing demand for renewable heat may lead to a reduction in the demand for conventional heating

The Department has taken the views of the energy industry and the wider community on the development of a RHI in Northern Ireland. The consultation paper on the design and implementation of the Northern Ireland RHI was launched in July 2011 and sought views on the Department's proposal for:

- (a) An NI RHI;
- (b) Interim support for domestic consumers;
- (c) Support for heavy industrial market;
- (d) Establishment of a Cross-Departmental Group on Renewable Heat;
- (e) Timescales and next steps; and
- (f) Draft Regulations that outline the potential structure and design of a NI RHI.

The consultation ended on 3rd October 2011. This has allowed work on designing and implementing the final scheme to begin. This, in turn, will allow the Department more time to utilise the allotted £2 million funding from HMT for this financial year.

Section 4: Management & Implementation

Give a preliminary indication of the proposed project management structure and key personnel.

Is any consultancy support likely to be required?

Identify accommodation, staff and TUS issues.

Describe any legal, contractual or procurement issues.

Are there any important outstanding management/implementation considerations?

The Department, in liaison with the Utility Regulator and the Office of the Gas and Electricity Markets (Ofgem) in GB, will monitor the operation of the Northern Ireland renewable heat market to assess if the elements of the incentive scheme are delivering the anticipated benefits.

It is expected that Ofgem will be responsible for administering the scheme on behalf of DETI. Ofgem has significant experience in the delivery of large scale energy incentive schemes such as the Renewables Obligation (RO) and the Feed-in-Tariff (FiT). In addition, Ofgem has administered the Northern Ireland Renewables Obligation (NIRO) since its inception and therefore has an understanding of the local energy market and a working relationship with the Department. While there are benefits of having Ofgem administer the scheme – including utilising their expertise and economies of scale as we can use the IT systems developed in GB,

we are seeking further information from Ofgem on the costs and timescale for implementation of a Northern Ireland RHI. It should be noted that administration costs paid to Ofgem will not come from the £25 million fund therefore DETI will have to pay for these costs from its budget.

Many aspects of the scheme will be implemented by Ofgem by which participants in the incentive scheme must abide. Compliance with the incentive scheme will be enforced by the 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.

Financial incentives are only one part in the wider development of the renewable heat market. There is no guarantee that the Northern Ireland Executive set target will be met through incentives alone. Therefore in order to consider the need for complimentary and additional policy support for renewable heat, a Renewable Heat Strategy Group has been established and met for the first time on 18 October 2011. This group will have responsibility for the development of the renewable heat market, monitoring the roll-out and uptake of the Northern Ireland RHI and ensuring that supporting policies are considered, developed and implemented, where appropriate. The group will be chaired by DETI and will report to the Sustainable Energy Inter-Departmental Working Group (SEIDWG), which the DETI Minister chairs.

Section 5: Consideration of Options

Provide an initial list of options identified that could meet the objectives and briefly describe their main features.

(Consider variations in scale, quality, technique, location, timing etc).

NB A preferred option should not be identified before options have been developed and appraised more fully at OBC stage.

The Department has considered a number of options for its support of a renewable heat market:

Option 1 - Do Nothing

It is determined that under this option that 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. This option is not deemed as viable for a number of reasons. Firstly, the target set in the SEF for renewable heat would not be met and the funding of £25 million provided by Her Majesty's Treasury (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.

Option 2 - A renewable heat challenge fund

The Department could establish a capital grant scheme with the grants being awarded on a competitive basis. 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.

There are several issues to consider under this 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 would be incentivised, namely air source heat pumps or biomass boilers. However, this would not support the development of a more diverse market and could have a negative impact on technologies that require more support, e.g. solar thermal. The final issue is that a capital grant system 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 was also be rewarding the installation of the renewable heat technology but not the actual renewable heat generated.

Option 3 - 50% capital grant

The option would be a 50% grant to cover the capital costs of various renewable heat installations. Lessons learned from the *Reconnect* scheme would support the view that a competitively awarded grant can be more cost-effective and targeted than an administratively awarded grant.

Option 4 - Joining in with the GB RHI scheme

There are many positives for joining in with the existing GB RHI including the consistency of approach with GB, savings in the cost of administering an NI scheme, and the potential speed with which a scheme could be implemented. However, it has been 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 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.

Option 5 - A specifically tailored NI RHI scheme

The Northern Ireland RHI could offer 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.

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 may therefore be lower as they would be based on moving people from a more expensive fuel source.

Similar to the GB scheme, the NI RHI would be made available in the first instance to the non-domestic market, followed by the domestic market in order to provide us ample time to better assess and monitor heat demand in domestic dwellings.

Section 6: Costs, Benefits & Risks

*Provide broad estimates of the capital and revenue costs of the project.
If financial savings are anticipated, explain their nature and quantify them broadly.
Describe the non-monetary costs and benefits that are expected to arise.
Explain the key risks that the project is likely to face and any potential mitigation measures.*

Costs

Funding - HMT has advised that £25million of funding will be made available 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. The funding will come from direct Government expenditure and therefore will have no impact on Northern Ireland consumers' energy bills.

HMT has agreed that funding beyond 2014/15 will be available for those installations that are installed within the Spending Review period (i.e. up to 2014/15). This is subject to funding being basically flat beyond 2014/15, and initial payments being affordable within the Spending Review funding profile.

Additional funding post 2015 will need to be negotiated with DECC and HMT in due course. The GB RHI is open to new applicants until 2020 and therefore additional funding will be required if DECC are to maintain this commitment. DETI would be eligible for a pro-rata share of any additional funding post 2015, similar to the method of allocating the existing funding to 2015.

Administration costs - The administration costs for each option will need to be found from outside the HM Treasury funding. The consultants who undertook the economic analysis examined the administration requirements and costs for other renewable support schemes, and considered that the likely cost would be around 10% of total funding per annum.

The administration costs of any NI RHI, along the lines of the GB RHI model, will depend on the extent to which Department can use the systems already in place for the GB RHI to administer an NI RHI. As noted in section 4, the Department is already in discussions with Ofgem, the administrator for the GB RHI, about this.

Benefits

There are potentially several benefits if a RHI is developed in Northern Ireland:

Employment and capacity building, particularly in green sectors - DECC has estimated¹ that there are 150,000 jobs in the heating industry in Great Britain. In relative terms, this could equate to around 3,750 jobs in this sector in Northern Ireland. The Renewable Energy Installers Academy lists 92 firms or individuals in Northern Ireland that are qualified to install renewable heat; this could be expected to grow significantly with a robust, long term renewable heat subsidy in place. In March 2011 there were 26 firms that were MCS (microgeneration scheme) accredited and qualified to install at least one of the renewable heat technologies and based in Northern Ireland. Investment in renewable energy is likely to create direct jobs as well as indirect jobs across the entire supply chain of the renewable industry including:

- Environmental monitoring;
- Development design;
- Commissioning and procurement;
- Manufacturing;
- Installation;
- Project management;
- Transport and delivery and operations; and

¹ http://www.decc.gov.uk/en/content/cms/news/pn2011_023/pn2011_023.aspx

- Maintenance.

A 2007 European Commission study² found that, overall, a 10% substitution towards renewable energy sources compared to non-renewable sources has a positive impact on jobs.

Reduction in oil imports - Analysis suggests that the majority of the fuel displaced will be oil, which is as expected since nearly 80% of heating in NI is from oil. This reduction in oil imports would reduce Northern Ireland's exposure to the price of oil and to the risk of disruptions in oil supplies.

Air quality - There could be air quality impacts from widespread take-up of biomass heating, particularly if this is in urban areas. However, the relative impact will depend significantly on the fuel displaced. The impact assessment for the GB RHI³ notes that where renewable heat displaces oil, the "[air quality] impacts can be positive".

Risks

The Department recognises that there is some degree of risk and uncertainties in implementing a renewable heat incentive to Northern Ireland:

Risk of incorrect subsidy level - Probably the most obvious risk is that the subsidy levels proposed for the RHI are either too high or too low. In the former case, those installing renewable heat will be over-subsidised and less heat will be delivered than under more optimal subsidy levels. In the latter, renewable heat will not be deployed to the extent expected.

Risk of harm to other sectors - An increase in renewable heat will, inevitably, lead to a reduction in the demand for conventional heating (oil, gas, coal and electric heating).

Risk of low take-up - Other possible barriers include planning restrictions, a lack of awareness, and negative perceptions of the reliability and/ or cost of renewable heat. The delivery of the Green New Deal, an energy efficiency measure being led by the Department of Social Development (DSD), presents a significant opportunity to deliver messages about renewable heat to homes and businesses. The Department will work with DSD to look at how this could be done, and considers whether additional marketing or awareness raising would be appropriate.

Risk of failure to implement targets set by EU Renewable Energy Directive - The EU Renewable Energy Directive (2009/28/EC)⁴ (RED), published in the Official Journal of the European Union on 5 June 2009, 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. This requirement extends beyond electricity to heating and cooling and to transport. This is an important shift in emphasis: almost half of the final energy consumed in the UK is in the form of heat, producing around half of the UK's CO₂.

The RED is the key driver for the work undertaken by the Department on renewable heat. The requirement to meet the very challenging 15% renewable energy target falls at Member State level, not at Devolved Administration (DA) level. However, while energy is a devolved matter for Northern Ireland, each DA is expected to contribute as much as possible to the overall UK target. In light of the obligations within the RED, the Department has undertaken to introduce a renewable heat scheme in Northern Ireland.

² European Commission (2007), DG Environment: Links between the environment, economy and jobs.

³ DECC, 2011, Renewable Heat Incentive Impact Assessment

⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF>

Risk of not receiving State Aid Approval

In order for the Northern Ireland renewable heat scheme to proceed, DETI must obtain the necessary State Aid approvals from the EU Commission. DECC has recently received State Aid approval for their scheme in GB after some amendments were made to measures relating to large biomass boilers.

Section 7: Funding & Affordability

Outline the estimated phasing of cash/DEL requirements.

Identify the expected sources of funding and the degree to which the funders are committed.

Indicate the current cash/DEL provision for the project (if any) and the additional resources that are likely to be required.

State any particular concerns over affordability.

Funding

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HMT has agreed that funding beyond 2014/15 will be available for those installations that are installed within the Spending Review period (i.e. up to 2014/15). This is subject to funding being basically flat beyond 2014/15, and initial payments being affordable within the Spending Review funding profile.

Additional funding post 2015 will need to be negotiated with DECC and HMT in due course. The GB RHI is open to new applicants until 2020 and therefore additional funding will be required if DECC are to maintain this commitment. DETI would be eligible for a pro-rata share of any additional funding post 2015, similar to the method of allocating the existing funding to 2015.

Affordability

The Department would have to consider and find the costs administering a renewable heat scheme from outside the HM Treasury funding. Taking into account costs for other renewable support schemes, it is deemed the likely cost would be around 10% of total funding.

The administration costs of any NI RHI, along the lines of the GB RHI model, will depend on the extent to which Department can use the systems already in place for the GB RHI to administer an NI RHI. The Department is already in discussions with Ofgem, the administrator for the GB RHI, about this. The costs are likely to be higher the more that any NI RHI deviates from the GB RHI, both in terms of rates and in terms of structure. This would have a potential impact on the affordability of any scheme which is implemented in Northern Ireland.