

**From:** [Connolly, Samuel](#)  
**To:** [Hutchinson, Peter](#)  
**Subject:** RE: Draft RIA - Renewable Heat Regulations  
**Date:** 04 July 2011 16:58:05

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Peter,

I've not much to say on this apart from:

Are you intending to state the likely net impact on employment in terms of the actual number of jobs?

Is one of the non-monetary benefits, having a policy that contributes towards our 10% target and wider EU obligations?

Sam

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-----Original Message-----

**From:** Hutchinson, Peter  
**Sent:** 28 June 2011 12:03  
**To:** Connolly, Samuel  
**Cc:** McCutcheon, Joanne; Stewart, Susan  
**Subject:** Draft RIA - Renewable Heat Regulations

Sam,

Please see attached the draft RIA for the Renewable Heat Incentive.

I still need to insert a bit on "Summary and Recommendation" however apart from that I think most areas are covered.

Grateful if you would consider and provide necessary input regarding potential costs/benefits etc.

Happy to discuss if needed.

Many thanks,

Peter

Version numbers added by RHI Taskforce - 30/3/17  
VERSION 4

## **IMPLEMENTATION OF A RENEWABLE HEAT POLICY IN NORTHERN IRELAND**

### **REGULATORY IMPACT ASSESSMENT**

#### **1. Title of Proposal**

The Renewable Heat Incentive Regulations (Northern Ireland) 2012

#### **2. Purpose and intended effect of measure**

##### **a) The background**

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 vision is for a competitive, sustainable, reliable energy market at the minimum cost necessary. Four key policy goals have been identified to support this vision as follows

- Competitiveness
- Security of Supply
- Infrastructure
- Sustainability

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**

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 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 CO<sub>2</sub> 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. Scotland has a separate target of 11%.

In order to achieve this target, DECC legislated for an incentive scheme in the Energy Act 2008 and, following a consultation process, published final proposals on the RHI in March 2011. DECC obtained parliamentary approval of the GB Regulations in November 2011<sup>1</sup>.

The RHI in Great Britain opened to applications in November 2011, the scheme is initially for the non-domestic sector with the domestic sector to be eligible for RHI payments as part of 'phase 2' of the scheme. 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. These premium payments have been available since July 2011 and will close on 31 March 2012.

Over the next 4 years, DECC has anticipated 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 Office of the Gas and Electricity Markets (Ofgem) is responsible for developing and administering the scheme on behalf of DECC.

#### **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, DETI 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 economical appraisal on the feasibility 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.

Following a public consultation on the introduction of a Northern Ireland RHI further economic analysis was carried out. This analysis focussed on issues raised by stakeholders and assisted in developing final tariff levels and banding. This has, therefore, informed the final policy position.

<sup>1</sup> <http://www.legislation.gov.uk/ukdsi/2011/9780111512753/contents>

**b) The objective**

The overall objective 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 addition, the target must be delivered within the agreed budget of £25m to 2015 provided by Her Majesty's Treasury (HMT).

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.

The achievement of this target is the overall objective of developing the renewable heat market, in doing so there will be significant benefits for fuel security in Northern Ireland and the opportunity to reduce carbon emissions. There may also be the potential to develop 'green jobs' and 'green skills' within the renewable heat industry.

**c) Risk assessment**

The Department recognises that there is some degree of risk and uncertainties in implementing a renewable heat incentive to Northern Ireland and seeks to consider those uncertainties in this paper.

***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 per pound than under more optimal subsidy levels. In the latter, renewable heat will not be deployed to the extent expected.

The normal method of dealing with this risk is firstly to have carefully analysed and researched data in developing the tariffs. The tariffs have been developed by CEPA and AEA Technologies, subject to a public consultation and then subsequently reviewed by CEPA and AEA. Departmental Economists have also assessed the tariffs and assumptions behind the calculations and have deemed them appropriate.

In addition it is planned to have regular, planned, reviews of subsidy levels after a number of years of experience with the subsidy. This will provide an opportunity to amend tariffs if required and ensure they remain appropriate given potential changing market conditions. It is currently proposed that the first review will begin in January 2014 with any required changes implemented by 1 April 2015. This timescale ensures issues can be rectified but does not disturb confidence in the market.

***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). At a high level, the short term harm to any sector should be relatively small. However, even this, if it impacted disproportionately on the gas sector, could have negative consequences for the extension of the gas network.

***Risk of failure of renewable heat supply***

Just as supplies of conventional fuels may be disrupted, there is a risk that supplies of renewable fuel (i.e. biomass, biogas and bioliquids) will be disrupted. Biogas can be replaced with conventional gas in the short term, so disruptions to it should be relatively low risk. Bioliquids, since locally sourced by assumption, should be less risky than biomass, much of which will be imported. This suggests that the biomass supply chain, and the security of biomass imports, will be an important factor in the actual or perceived riskiness of renewable heat.

***Risk of low take-up***

This could be a result of tariffs or other possible barriers include planning restrictions, a lack of awareness, and negative perceptions of the reliability and/ or cost of renewable heat.

***Risk of failure to implement targets set by EU Renewable Energy Directive***

The RED 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. 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.

***Risk of insufficient budget for administration or future payments***

There may be the possibility of a higher than expected uptake leading to overspends in annual budget and higher administration costs. This will be mitigated with ongoing engagement with Ofgem to assess uptake levels and expected spend against profiled budget.

***Risk of not receiving State Aid Approval***

The EU Commission may refuse to approve the NI RHI scheme because of a lack of information provided to Commission; the inability to justify the need for, or the design of, the NI RHI scheme; or possibly the tariffs are set at too high a level and amounting to over-incentivisation.

The Department has consistently kept the Commission informed of proposed changes to the Scheme and took on board the lessons learned from the GB state aid application. In December 2011, the Department sent a detailed submission outlining the NI RHI proposals which was based on the GB application that was approved in November 2011. An addendum to December application was submitted in February 2012 advising on proposed changes.

***Risk of instances of fraud***

Instances of fraud could include duplicate applications, unusual meter readings (too high for expected output), lack of information being provided to the administrator and using unregistered installers.

The Department has put in place measure to counteract instances of fraud including:

- Assessment of applications and verification of installations and meter readings;
- Liaison with Ofgem on instances of suspected fraud;
- Physical verification of sites under RHPP scheme;
- Random checks to sites and meters under RHI scheme;
- Requirements of detailed information for each installation;
- Use of MCS under 45kw installations; and
- Meter readings assessed against expected output.

Where there are Instances of suspected fraud, the participant will be investigated and payments will be stopped.

### *Risk of failure in administration of RHI*

There is the potential for delays in dealing with applications, accreditations and payments for the NI RHI scheme which would lead to stakeholders complaining about application process. This could be as a result of difficulties in IT systems or a lack of communication between Ofgem and the Department.

In order to mitigate this risk, the Department will establish a joint project team with Ofgem as the scheme is implemented. The Department has also acknowledged the lessons from the GB RHI implementation. It has also developed a robust and detailed feasibility and ensured that there are sufficient resources earmarked for the NI RHI scheme. The IT systems have been well developed and tested (through GB scheme).

## 3. Options

A number of options for DETI's support of the renewable heat market were considered:

### Option 1 - Do Nothing

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 7% of heating demand if no financial support was available. This option is not deemed as viable 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.

### Option 2 - 50% capital grant

The option considered 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. 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 the view that a competitively awarded grant can be more cost-effective and targeted than an administratively awarded grant.

### Option 3 - A renewable heat challenge fund

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.

There are several issues to consider under the challenge fund option. The first to consider is that the administration costs are likely to be prohibitive. Previous experience of running *Reconnect* demonstrated administration costs of £1.48m for a grant scheme worth £10.5m (14%). The *Reconnect* scheme was for domestic customers only, and on a 'first-come-first-served' basis. A challenge fund, dealing with commercial applications and involving complex evaluation metrics, could be expected to be at least as, if not more, costly than the *Reconnect* scheme, equating to potentially £3.5m over the first 4 years. This would not be available within DETI budget.

The scheme could 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. This would not support the development of a more diverse market.

The final issue with a 'challenge fund' is that of risk. As the Challenge Fund would be contributing to the capital costs of the installation (rather than the whole life costs under the RHI) a risk would develop that, after a short time, installations would stop generating renewable heat. This could be because the renewable heat fuel is no longer affordable, that a fossil fuel alternative (such as gas) become available or more attractive, that the site is no longer in business etc. In these circumstances clawback arrangements would need to be initiated, which could be costly and complicated, and the target would be hindered.

### 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.

Option 5 - A specifically tailored NI RHI scheme

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.

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.

Similar to the GB scheme, the NI RHI would be made available to the non-domestic market first, with the domestic market introduced at a later date. The reason for this is difficulties in assessing and monitoring heat demand in domestic dwellings. DECC is currently considering the incentives for the domestic market. The Department's consultation also highlighted a commitment to consider this issue and introduce the RHI to the domestic market as soon as possible.

#### 4. Benefits

##### Quantitative Benefits for options 2 to 5

- **10% target for renewable heat**

The overarching benefit would be the achievement of the 10% target of renewable heat, set by the Executive within the Strategic Energy Framework. The achievement of this target would contribute to the UK renewable energy targets set under the Renewable Energy Directive.

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 improvements. 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.

- **Carbon Savings**

In addition, there would be quantitative benefits driven by carbon savings. Under the Northern Ireland RHI it is estimated that 5.1 million tonnes of carbon emissions. The value of these savings is in the order of £240million.

##### Qualitative benefits

This section covers the benefits that are not quantified and looks at the qualitative benefits of the implementation of renewable heat in Northern Ireland.

- **Employment and capacity building, particularly in green sectors**

DECC has estimated<sup>2</sup> that there are 150,000 jobs in the heating industry in Great Britain. In relative terms, this equates 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
- Maintenance.

A 2007 European Commission study<sup>3</sup> found that, overall, a 10% substitution towards renewable energy sources compared to non-renewable sources has a positive impact on jobs.

Employment can be created or safeguarded in the following ways:

- Direct employment in the installation, construction or operation of a project.
- Direct employment in the manufacturing of renewable heat technologies.
- Indirect employment from supplying goods and services to a project.
- Induced employment through jobs created due to increase spending due wealth creation by the project.

Biomass and bioenergy schemes in particular offer the greatest potential for jobs relating to the ongoing operation of a facility. Jobs may be created both from the operation of larger plants, and also from the ongoing management and supply of fuels. Bio-energy schemes can result in additional jobs through:

- The management of forestry and production of forestry residues.
- Transport and delivery of fuels.
- Utilising unused land for energy crop production.

- **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. For comparison purposes, NI's current demand for oil is around 17,558 GWh/ year<sup>4</sup>, which is around 10.3 million barrels<sup>5</sup>. The NI RHI with the highest level of renewable heat deployment displaces less than 10% of oil imports. 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.

<sup>2</sup> [http://www.decc.gov.uk/en/content/cms/news/pn2011\\_023/pn2011\\_023.aspx](http://www.decc.gov.uk/en/content/cms/news/pn2011_023/pn2011_023.aspx)

<sup>3</sup> European Commission (2007), DG Environment: Links between the environment, economy and jobs.

<sup>4</sup> Source: AECOM/ Pöyry, 2010, op. cit.

<sup>5</sup> Assuming 1 barrel of oil =6.119GJ, source: Energy Information Agency [www.eia.gov](http://www.eia.gov)

- **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 RHI<sup>6</sup> notes that where renewable heat displaces oil, the “[air quality] impacts can be positive”.

### Sectors affected

The following sectors are likely to be affected by the introduction of these Regulations:

Sector	Effect
Domestic	Opportunity and availability of support to convert new renewable heat technologies
Green	Possible creation of new jobs/ growth of the industry
Public	Opportunity to convert public buildings to new renewable heat technologies
Commercial	Opportunity and availability of grant to convert new renewable heat technologies
Existing heating industries	Increasing demand for renewable heat may lead to a reduction in the demand for conventional heating

### Other impact assessments

#### Equality

In accordance with the requirements of Section 75 of the Northern Ireland Act 1998, an equality screening exercise has established that the proposed Regulations do not have any implications for equality of opportunity, and are instead engineered to promote equality of opportunity.

## 5. Costs

- **Funding**

HMT has advised that £25m 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. DETI has sought and received approval for the funding profiled for year 1 of the scheme to be made available in year 2. The funding will come from direct Government expenditure and therefore will have no impact on Northern Ireland consumers' energy bills. HMT have already indicated that any spending commitments made via the initial NI RHI (i.e. through the £25m) will be met by ongoing RHI payments from HMT. Additional funding post 2015 will need to be negotiated with DECC and HMT in due course.

<sup>6</sup> DECC, 2011, Renewable Heat Incentive Impact Assessment

- **Administration costs**

The introduction of a NI RHI requires an administrative system capable of managing enquiries and applications, ensuring participants meet ongoing obligations throughout the life of the scheme, processing payments, preventing fraud and providing management information. Ofgem has developed such a system for DECC and is already managing the administration of the GB RHI. In addition, it has experience of delivering other large scale incentive schemes such as the Renewables Obligation and the Feed-in-Tariff. It is considered that there could be significant advantages in utilising the existing systems and so a direct award contract was awarded to Ofgem to carry out a feasibility study into how the DECC GB RHI system could be used as a basis for an administrative system for the NI RHI.

The study concluded that Ofgem had the operational structures in place to deliver an administrative system, tailored specifically for NI, following a development phase of approximately 4 months. The cost of the development work would be £386K. Forecasts of operating costs for the next four years are £136K, £157K, £ 198K and £249K based on NI accounting for a 3% share of the workload.

Exploiting synergies with the GB RHI will drive down the costs of administering the scheme whilst maintaining a high quality service to generators. For example, using the existing Customer Relationship Management (CRM) Software will save NI an estimated £100-150K, while using the existing SUN system to make generator payments, instead of a payment service provider, could save in the range of £100 -500K. In addition, using the main existing RHI register instead of commissioning a bespoke IT system is expected to save between £2m and £3m. Overall, it is estimated that using Ofgem's existing systems could save somewhere between £3.2million and £5.15million with additional ongoing operational savings.

## **6. Consultation with small business: The Small Business Impact Test**

The businesses most affected by these proposed Regulations will be those companies which install and manufacture renewable components. As previously mentioned under the Benefits section of this impact assessment, there is likely to be a positive effect on installers of renewable technologies as 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
- Maintenance.

The incentive scheme will also be available to businesses across NI as well as the public sector and the other elements of the non- domestic sector (community groups, not-for-profit organisations etc). It is expected that the domestic sector will be introduced into the NI RHI from during phase 2 of the scheme, following further analysis, in the interim support in the form on “*Renewable Heat Premium Payments*”.

This scheme will help to incentivise the industrial sector into changing its heating from oil which produces high carbon emissions to one of the “green” heating technologies offered under the incentive scheme which could help them cut costs on their fuel bills significantly.

## **7. Enforcement and Sanctions**

Many aspects of the Renewable Heat Regulations 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.

Ofgem’s powers include the following –

- Temporarily withholding periodic support payments for a maximum period of 6 months commencing from the date of the notice served on the participant;
- Suspend periodic support payments where ongoing failure to comply with an eligibility criterion or ongoing obligation for a maximum period of 1 year;
- Stop or reduce participants’ periodic support payments where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation during any quarterly period; and
- Exclude a participant from the scheme where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation.

Ofgem can also at any time revoke a sanction imposed.

## **8. Monitoring and Review**

The Department, in liaison with Ofgem, 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 developing and 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.

## **9. Consultation**

The Department went out to consultation on a proposed RHI scheme including the draft the Renewable Heat Regulations (Northern Ireland) 2012 on 20 July 2011, closing on 3 October 2011. A number of consultation seminars were also held over the summer period. In total, 78 formal responses were received, of which two offered no comment. The responses have been analysed and the vast majority of respondents were in favour of the proposals and provided useful comments which the Department considered.

## **10. Summary and Recommendation**

A specifically tailored NI RHI scheme will provide long term support for the local industry, with tariffs developed specifically for the Northern Ireland heat market which will utilise available funding most efficiently. The Department also anticipates that there will be secondary benefits to the development of the renewable heat market other than increased renewable uptake. These associated benefits include a reduction in CO<sub>2</sub> emissions as fossil fuels are displaced, an increase in fuel security as Northern Ireland's dependence on imported heating fuel diminishes and growth for 'green jobs' as companies benefit from opportunities presented by renewable heat.

The RHI will be open to all non-domestic consumers in the first instance, with the domestic market introduced at a later date. In the interim, the domestic sector will be able to avail of support in the form of *Renewable Heat Premium Payments*.

## **11. Declaration**

"I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs."

Signed

Date

**ARLENE FOSTER MLA**  
**Minister of Enterprise, Trade and Investment**

### **Contact point**

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VERSION 3

## IMPLEMENTATION OF A RENEWABLE HEAT POLICY IN NORTHERN IRELAND

### REGULATORY IMPACT ASSESSMENT

#### 1. Title of Proposal

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<sup>1</sup> <http://www.legislation.gov.uk/ukdsi/2011/9780111512753/contents>

**b) The objective**

The overall objective 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 addition, the target must be delivered within the agreed budget of £25m to 2015 provided by Her Majesty's Treasury (HMT).

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.

The achievement of this target is the overall objective of developing the renewable heat market, in doing so there will be significant benefits for fuel security in Northern Ireland and the opportunity to reduce carbon emissions. There may also be the potential to develop 'green jobs' and 'green skills' within the renewable heat industry.

**c) Risk assessment**

The Department recognises that there is some degree of risk and uncertainties in implementing a renewable heat incentive to Northern Ireland and seeks to consider those uncertainties in this paper.

***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 per pound than under more optimal subsidy levels. In the latter, renewable heat will not be deployed to the extent expected.

The normal method of dealing with this risk is firstly to have carefully analysed and researched data in developing the tariffs. The tariffs have been developed by CEPA and AEA Technologies, subject to a public consultation and then subsequently reviewed by CEPA and AEA. Departmental Economists have also assessed the tariffs and assumptions behind the calculations and have deemed them appropriate.

In addition it is planned to have regular, planned, reviews of subsidy levels after a number of years of experience with the subsidy. This will provide an opportunity to amend tariffs if required and ensure they remain appropriate given potential changing market conditions. It is currently proposed that the first review will begin in January 2014 with any required changes implemented by 1 April 2015. This timescale ensures issues can be rectified but does not disturb confidence in the market.

***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). At a high level, the short term harm to any sector should be relatively small. However, even this, if it impacted disproportionately on the gas sector, could have negative consequences for the extension of the gas network.

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***Risk of failure of renewable heat supply***

Just as supplies of conventional fuels may be disrupted, there is a risk that supplies of renewable fuel (i.e. biomass, biogas and bioliquids) will be disrupted. Biogas can be replaced with conventional gas in the short term, so disruptions to it should be relatively low risk. Bioliquids, since locally sourced by assumption, should be less risky than biomass, much of which will be imported. This suggests that the biomass supply chain, and the security of biomass imports, will be an important factor in the actual or perceived riskiness of renewable heat.

***Risk of low take-up***

This could be a result of tariffs or other possible barriers include planning restrictions, a lack of awareness, and negative perceptions of the reliability and/ or cost of renewable heat.

***Risk of failure to implement targets set by EU Renewable Energy Directive***

The RED 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. 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.

***Risk of insufficient budget for administration or future payments***

There may be the possibility of a higher than expected uptake leading to overspends in annual budget and higher administration costs. This will be mitigated with ongoing engagement with Ofgem to assess uptake levels and expected spend against profiled budget.

***Risk of not receiving State Aid Approval***

The EU Commission may refuse to approve the NI RHI scheme because of a lack of information provided to Commission; the inability to justify the need for, or the design of, the NI RHI scheme; or possibly the tariffs are set at too high a level and amounting to over-incentivisation.

The Department has consistently kept the Commission informed of proposed changes to the Scheme and took on board the lessons learned from the GB state aid application. In December 2011, the Department sent a detailed submission outlining the NI RHI proposals which was based on the GB application that was approved in November 2011. An addendum to December application was submitted in February 2012 advising on proposed changes.

***Risk of instances of fraud***

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Instances of fraud could include duplicate applications, unusual meter readings (too high for expected output), lack of information being provided to the administrator and using unregistered installers.

The Department has put in place measure to counteract instances of fraud including:

- Assessment of applications and verification of installations and meter readings;
- Liaison with Ofgem on instances of suspected fraud;
- Physical verification of sites under RHPP scheme;
- Random checks to sites and meters under RHI scheme;
- Requirements of detailed information for each installation;
- Use of MCS under 45kw installations; and
- Meter readings assessed against expected output.

Where there are Instances of suspected fraud, the participant will be investigated and payments will be stopped.

#### ***Risk of failure in administration of RHI***

There is the potential for delays in dealing with applications, accreditations and payments for the NI RHI scheme which would lead to stakeholders complaining about application process. This could be as a result of difficulties in IT systems or a lack of communication between Ofgem and the Department.

In order to mitigate this risk, the Department will establish a joint project team with Ofgem as the scheme is implemented. The Department has also acknowledged the lessons from the GB RHI implementation. It has also developed a robust and detailed feasibility and ensured that there are sufficient resources earmarked for the NI RHI scheme. The IT systems have been well developed and tested (through GB scheme).

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### **3. Options**

A number of options for DETI's support of the renewable heat market were considered:

#### **Option 1 - Do Nothing**

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 7% of heating demand if no financial support was available. This option is not deemed as viable 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.

#### **Option 2 - 50% capital grant**

The option considered 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. 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 the view that a competitively awarded grant can be more cost-effective and targeted than an administratively awarded grant.

#### Option 3 - A renewable heat challenge fund

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.

There are several issues to consider under the challenge fund option. The first to consider is that the administration costs are likely to be prohibitive. Previous experience of running *Reconnect* demonstrated administration costs of £1.48m for a grant scheme worth £10.5m (14%). The *Reconnect* scheme was for domestic customers only, and on a 'first-come-first-served' basis. A challenge fund, dealing with commercial applications and involving complex evaluation metrics, could be expected to be at least as, if not more, costly than the *Reconnect* scheme, equating to potentially £3.5m over the first 4 years. This would not be available within DETI budget.

The scheme could 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. This would not support the development of a more diverse market.

The final issue with a 'challenge fund' is that of risk. As the Challenge Fund would be contributing to the capital costs of the installation (rather than the whole life costs under the RHI) a risk would develop that, after a short time, installations would stop generating renewable heat. This could be because the renewable heat fuel is no longer affordable, that a fossil fuel alternative (such as gas) become available or more attractive, that the site is no longer in business etc. In these circumstances clawback arrangements would need to be initiated, which could be costly and complicated, and the target would be hindered.

#### 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 administrating 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.

#### Option 5 - A specifically tailored NI RHI scheme

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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.

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.

Similar to the GB scheme, the NI RHI would be made available to the non-domestic market first, with the domestic market introduced at a later date. The reason for this is difficulties in assessing and monitoring heat demand in domestic dwellings. DECC is currently considering the incentives for the domestic market. The Department's consultation also highlighted a commitment to consider this issue and introduce the RHI to the domestic market as soon as possible.

#### 4. Benefits

##### Quantitative Benefits for options 2 to 5

- **10% target for renewable heat**

The overarching benefit would be the achievement of the 10% target of renewable heat, set by the Executive within the Strategic Energy Framework. The achievement of this target would contribute to the UK renewable energy targets set under the Renewable Energy Directive.

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 improvements. 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.

- **Carbon Savings**

In addition, there would be quantitative benefits driven by carbon savings. Under the Northern Ireland RHI it is estimated that 5.1 million tonnes of carbon emissions. The value of these savings is in the order of £240million.

##### Qualitative benefits

This section covers the benefits that are not quantified and looks at the qualitative benefits of the implementation of renewable heat in Northern Ireland.

- **Employment and capacity building, particularly in green sectors**

DECC has estimated<sup>2</sup> that there are 150,000 jobs in the heating industry in Great Britain. In relative terms, this equates to around 3,750 jobs in this sector in Northern Ireland. The

<sup>2</sup> [http://www.decc.gov.uk/en/content/cms/news/pn2011\\_023/pn2011\\_023.aspx](http://www.decc.gov.uk/en/content/cms/news/pn2011_023/pn2011_023.aspx)

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
- Maintenance.

A 2007 European Commission study<sup>3</sup> found that, overall, a 10% substitution towards renewable energy sources compared to non-renewable sources has a positive impact on jobs.

Employment can be created or safeguarded in the following ways:

- Direct employment in the installation, construction or operation of a project.
- Direct employment in the manufacturing of renewable heat technologies.
- Indirect employment from supplying goods and services to a project.
- Induced employment through jobs created due to increase spending due wealth creation by the project.

Biomass and bioenergy schemes in particular offer the greatest potential for jobs relating to the ongoing operation of a facility. Jobs may be created both from the operation of larger plants, and also from the ongoing management and supply of fuels. Bio-energy schemes can result in additional jobs through:

- The management of forestry and production of forestry residues.
- Transport and delivery of fuels.
- Utilising unused land for energy crop production.

- **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. For comparison purposes, NI's current demand for oil is around 17,558 GWh/ year<sup>4</sup>, which is around 10.3 million barrels<sup>5</sup>. The NI RHI with the highest level of renewable heat deployment displaces less than 10% of oil imports. 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

<sup>3</sup> European Commission (2007), DG Environment: Links between the environment, economy and jobs.

<sup>4</sup> Source: AECOM/ Pöyry, 2010, op. cit.

<sup>5</sup> Assuming 1 barrel of oil =6.119GJ, source: Energy Information Agency [www.eia.gov](http://www.eia.gov)

on the fuel displaced. The impact assessment for the GB RHI<sup>6</sup> notes that where renewable heat displaces oil, the “[air quality] impacts can be positive”.

### Sectors affected

The following sectors are likely to be affected by the introduction of these Regulations:

Sector	Effect
Domestic	Opportunity and availability of support to convert new renewable heat technologies
Green	Possible creation of new jobs/ growth of the industry
Public	Opportunity to convert public buildings to new renewable heat technologies
Commercial	Opportunity and availability of grant to convert new renewable heat technologies
Existing heating industries	Increasing demand for renewable heat may lead to a reduction in the demand for conventional heating

### Other impact assessments

#### Equality

In accordance with the requirements of Section 75 of the Northern Ireland Act 1998, an equality screening exercise has established that the proposed Regulations do not have any implications for equality of opportunity, and are instead engineered to promote equality of opportunity.

## 5. Costs

### • Funding

HMT has advised that £25m 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. DETI has sought and received approval for the funding profiled for year 1 of the scheme to be made available in year 2. The funding will come from direct Government expenditure and therefore will have no impact on Northern Ireland consumers’ energy bills. HMT have already indicated that any spending commitments made via the initial NI RHI (i.e. through the £25m) will be met by ongoing RHI payments from HMT. Additional funding post 2015 will need to be negotiated with DECC and HMT in due course.

### • Administration costs

The introduction of a NI RHI requires an administrative system capable of managing enquiries and applications, ensuring participants meet ongoing obligations throughout the life of the scheme, processing payments, preventing fraud and providing management information. Ofgem has developed such a system for DECC and is already managing the

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<sup>6</sup> DECC, 2011, Renewable Heat Incentive Impact Assessment

administration of the GB RHI. In addition, it has experience of delivering other large scale incentive schemes such as the Renewables Obligation and the Feed-in-Tariff. It is considered that there could be significant advantages in utilising the existing systems and so a direct award contract was awarded to Ofgem to carry out a feasibility study into how the DECC GB RHI system could be used as a basis for an administrative system for the NI RHI.

The study concluded that Ofgem had the operational structures in place to deliver an administrative system, tailored specifically for NI, following a development phase of approximately 4 months. The cost of the development work would be £386K. Forecasts of operating costs for the next four years are £136K, £157K, £198K and £249K based on NI accounting for a 3% share of the workload.

Exploiting synergies with the GB RHI will drive down the costs of administering the scheme whilst maintaining a high quality service to generators. For example, using the existing Customer Relationship Management (CRM) Software will save NI an estimated £100-150K, while using the existing SUN system to make generator payments, instead of a payment service provider, could save in the range of £100 -500K. In addition, using the main existing RHI register instead of commissioning a bespoke IT system is expected to save between £2m and £3m. Overall, it is estimated that using Ofgem's existing systems could save somewhere between £3.2million and £5.15million with additional ongoing operational savings.

## 6. Consultation with small business: The Small Business Impact Test

The businesses most affected by these proposed Regulations will be those companies which install and manufacture renewable components. As previously mentioned under the Benefits section of this impact assessment, there is likely to be a positive effect on installers of renewable technologies as 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
- Maintenance.

The incentive scheme will also be available to businesses across NI as well as the public sector and the other elements of the non- domestic sector (community groups, not-for-profit organisations etc). It is expected that the domestic sector will be introduced into the NI RHI from during phase 2 of the scheme, following further analysis, in the interim support in the form of *“Renewable Heat Premium Payments”*.

This scheme will help to incentivise the industrial sector into changing its heating from oil which produces high carbon emissions to one of the “green” heating technologies offered under the incentive scheme which could help them cut costs on their fuel bills significantly.

## 7. Enforcement and Sanctions

Many aspects of the Renewable Heat Regulations 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.

Ofgem's powers include the following –

- Temporarily withholding periodic support payments for a maximum period of 6 months commencing from the date of the notice served on the participant;
- Suspend periodic support payments where ongoing failure to comply with an eligibility criterion or ongoing obligation for a maximum period of 1 year;
- Stop or reduce participants' periodic support payments where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation during any quarterly period; and
- Exclude a participant from the scheme where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation.

Ofgem can also at any time revoke a sanction imposed.

## 8. Monitoring and Review

The Department, in liaison with Ofgem, 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 developing and 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.

## 9. Consultation

The Department went out to consultation on a proposed RHI scheme including the draft the Renewable Heat Regulations (Northern Ireland) 2012 on 20 July 2011, closing on 3 October 2011. A number of consultation seminars were also held over the summer period. In total, 78 formal responses were received, of which two offered no comment. The responses have been analysed and the vast majority of respondents were in favour of the proposals and provided useful comments which the Department considered.

## 10. Summary and Recommendation

A specifically tailored NI RHI scheme will provide long term support for the local industry, with tariffs developed specifically for the Northern Ireland heat market which will utilise available funding most efficiently. The Department also anticipates that there will be secondary benefits to the development of the renewable heat market other than increased renewable uptake. These associated benefits include a reduction in CO<sub>2</sub> emissions as fossil fuels are displaced, an increase in fuel security as Northern Ireland's dependence on

imported heating fuel diminishes and growth for 'green jobs' as companies benefit from opportunities presented by renewable heat.

The RHI will be open to all non-domestic consumers in the first instance, with the domestic market introduced at a later date. In the interim, the domestic sector will be able to avail of support in the form of *Renewable Heat Premium Payments*.

## 11. Declaration

"I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs."

Signed

Date

**ARLENE FOSTER MLA**  
**Minister of Enterprise, Trade and Investment**

### Contact point

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VERSION 2

**IMPLEMENTATION OF A RENEWABLE HEAT POLICY IN NORTHERN IRELAND****REGULATORY IMPACT ASSESSMENT****1. Title of Proposal**

The Renewable Heat Incentive Regulations (Northern Ireland) 2012

**2. Purpose and intended effect of measure****a) The background**

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 vision is for a competitive, sustainable, reliable energy market at the minimum cost necessary. Four key policy goals have been identified to support this vision as follows

- Competitiveness
- Security of Supply
- Infrastructure
- Sustainability

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**

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 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 CO<sub>2</sub> 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. Scotland has a separate target of 11%.

In order to achieve this target, DECC legislated for an incentive scheme in the Energy Act 2008 and, following a consultation process, published final proposals on the RHI in March 2011. DECC obtained parliamentary approval of the GB Regulations in November 2011<sup>1</sup>.

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 has anticipated 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 Office of the Gas and Electricity Markets (Ofgem) is responsible for developing and administering the scheme on behalf of DECC.

### **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, DETI 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 economical appraisal on the feasibility 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.

#### **b) The objective**

The overall objective 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 addition, the target must be delivered within the agreed budget of £25m to 2015 provided by Her Majesty's Treasury (HMT).

<sup>1</sup> <http://www.legislation.gov.uk/ukdsi/2011/9780111512753/contents>

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.

The achievement of this target is the overall objective of developing the renewable heat market, in doing so there will be significant benefits for fuel security in Northern Ireland and the opportunity to reduce carbon emissions. There may also be the potential to develop 'green jobs' and 'green skills' within the renewable heat industry.

### **c) Risk assessment**

The Department recognises that there is some degree of risk and uncertainties in implementing a renewable heat incentive to Northern Ireland and seeks to consider those uncertainties in this paper.

#### **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. The normal method of dealing with this risk is to have regular, planned, reviews of subsidy levels after a number of years of experience with the subsidy.

#### **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). At a high level, the short term harm to any sector should be relatively small. However, even this, if it impacted disproportionately on the gas sector, could have negative consequences for the extension of the gas network. However, the Department will mitigate this so that 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. The Department considers this will help to limit the impact of the policy on the gas network.

#### **Risk of failure of renewable heat supply**

Just as supplies of conventional fuels may be disrupted, there is a risk that supplies of renewable fuel (i.e. biomass, biogas and bioliquids) will be disrupted. It has been suggested that around 35% of the additional renewable heat deployed would be powered by biomass (22%), biogas (5%) or bioliquids (9%). Biogas can be replaced with conventional gas in the short term, so disruptions to it should be relatively low risk. Bioliquids, since locally sourced by assumption, should be less risky than biomass, much of which will be imported. This suggests that the biomass supply chain, and the security of biomass imports, will be an important factor in the actual or perceived riskiness of renewable heat.

#### **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.

### **Risk of failure to implement targets set by EU Renewable Energy Directive**

The EU Renewable Energy Directive (2009/28/EC)<sup>2</sup> (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 CO<sub>2</sub>.

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.

### **Risk of insufficient budget for administration or future payments**

When the RHI is implemented and launched in Northern Ireland, there may be the possibility of a higher than expected uptake leading to overspends in annual budget and higher administration costs. The cause of this may be due to tariffs being set at too high or too generous a level leading to a higher than expected uptake. Also, external circumstances may make the tariffs more generous i.e. increase in oil costs, reduction in renewable heating costs.

The Department intends to mitigate this with ongoing engagement with key industry stakeholders to assess uptake and monitor energy costs and also to liaise with Ofgem to assess uptake levels and expected spend against profiled budget. The Department also intend to undertake planned reviews of the scheme so tariffs can be revised depending on market conditions. The Department has already commissioned an economic appraisal consistent with NIGEAE guidelines which has supported the development of appropriate tariff levels. Equally, external consultants have advised on technology assumptions and appropriate methodology for determining tariff levels including an economic model which has been developed to assess future potential uptake and expected costs.

Additional economic analysis has been carried out and tariffs have been amended to ensure they are appropriate for the Northern Ireland market place. The Department has also been liaising with the DECC finance team regarding future financing and with HMT relating to the budget for existing commitments.

### **Risk of failure to receive State Aid approval**

The EU Commission may refuse to approve the NI RHI scheme because of a lack of information provided to Commission; the inability to justify the need for, or the design of, the NI RHI scheme; or possibly the tariffs are set at too high a level and amounting to over-incentivisation.

<sup>2</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF>

The Department has consistently kept the Commission informed of proposed changes to the Scheme and took on board the lessons learned from the GB state aid application. In December 2011, the Department sent a detailed submission outlining the NI RHI proposals which was based on the GB application that was approved in November 2011. An addendum to December application was submitted in February 2012 advising on proposed changes.

**Risk of instances of fraud**

Instances of fraud could include duplicate applications, unusual meter readings (too high for expected output), lack of information being provided to the administrator and using unregistered installers.

The Department has put in place measure to counteract instances of fraud including:

- Assessment of applications and verification of installations and meter readings;
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Where there are Instances of suspected fraud, the participant will be investigated and payments will be stopped.

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There is the potential for delays in dealing with applications, accreditations and payments for the NI RHI scheme which would lead to stakeholders complaining about application process. This could be as a result of difficulties in IT systems or a lack of communication between Ofgem and the Department.

In order to mitigate this risk, the Department will establish a joint project team with Ofgem as the scheme is implemented. The Department has also acknowledged the lessons from the GB RHI implementation. It has also developed a robust and detailed feasibility and ensured that there are sufficient resources earmarked for the NI RHI scheme. The IT systems have been well developed and tested (through GB scheme).

**3. Options**

A number of options for DETI's support of the renewable heat market were considered:

**Option 1 - Do Nothing**

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 7% of heating demand if no financial support was available. This option is not deemed as viable 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.

### Option 2 - A renewable heat challenge fund

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.

There are several issues to consider under the challenge fund option. The scheme could 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. This would not support the development of a more diverse market and could have a negative impact on technologies that require more support.

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.

### Option 3 - 50% capital grant

The option considered 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. 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 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 administrating 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.

### Option 5 - A specifically tailored NI RHI scheme

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.

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.

Similar to the GB scheme, the NI RHI would be made available to the non-domestic market first, with the domestic market introduced at a later date. The reason for this is difficulties in assessing and monitoring heat demand in domestic dwellings. DECC is currently considering the incentives for the domestic market. The Department's consultation also highlighted a commitment to consider this issue and introduce the RHI to the domestic market as soon as possible.

#### 4. Benefits

##### Quantitative Benefits for options 2 to 5

- **10% target for renewable heat**

The overarching benefit would be the achievement of the 10% target of renewable heat, set by the Executive within the Strategic Energy Framework. The achievement of this target would contribute to the UK renewable energy targets set under the Renewable Energy Directive.

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 improvements. 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.

- **Carbon Savings**

In addition, there would be quantitative benefits driven by carbon savings. Under the Northern Ireland RHI it is estimated that 5.1 million tonnes of carbon emissions. The value of these savings is in the order of £240million.

##### Qualitative benefits

This section covers the benefits that are not quantified and looks at the qualitative benefits of the implementation of renewable heat in Northern Ireland.

- **Employment and capacity building, particularly in green sectors**

DECC has estimated<sup>3</sup> that there are 150,000 jobs in the heating industry in Great Britain. In relative terms, this equates 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

<sup>3</sup> [http://www.decc.gov.uk/en/content/cms/news/pn2011\\_023/pn2011\\_023.aspx](http://www.decc.gov.uk/en/content/cms/news/pn2011_023/pn2011_023.aspx)

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
- Maintenance.

A 2007 European Commission study<sup>4</sup> found that, overall, a 10% substitution towards renewable energy sources compared to non-renewable sources has a positive impact on jobs.

Employment can be created or safeguarded in the following ways:

- Direct employment in the installation, construction or operation of a project.
- Direct employment in the manufacturing of renewable heat technologies.
- Indirect employment from supplying goods and services to a project.
- Induced employment through jobs created due to increase spending due wealth creation by the project.

Biomass and bioenergy schemes in particular offer the greatest potential for jobs relating to the ongoing operation of a facility. Jobs may be created both from the operation of larger plants, and also from the ongoing management and supply of fuels. Bio-energy schemes can result in additional jobs through:

- The management of forestry and production of forestry residues.
- Transport and delivery of fuels.
- Utilising unused land for energy crop production.

- **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. For comparison purposes, NI's current demand for oil is around 17,558 GWh/ year<sup>5</sup>, which is around 10.3 million barrels<sup>6</sup>. The NI RHI with the highest level of renewable heat deployment displaces less than 10% of oil imports. 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 RHI<sup>7</sup> notes that where renewable heat displaces oil, the "[air quality] impacts can be positive".

<sup>4</sup> European Commission (2007), DG Environment: Links between the environment, economy and jobs.

<sup>5</sup> Source: AECOM/ Pöyry, 2010, op. cit.

<sup>6</sup> Assuming 1 barrel of oil =6.119GJ, source: Energy Information Agency [www.eia.gov](http://www.eia.gov)

<sup>7</sup> DECC, 2011, Renewable Heat Incentive Impact Assessment

## Sectors affected

The following sectors are likely to be affected by the introduction of these Regulations:

Sector	Effect
Domestic	Opportunity and availability of support to convert new renewable heat technologies
Green	Possible creation of new jobs/ growth of the industry
Public	Opportunity to convert public buildings to new renewable heat technologies
Commercial	Opportunity and availability of grant to convert new renewable heat technologies
Existing heating industries	Increasing demand for renewable heat may lead to a reduction in the demand for conventional heating

## Other impact assessments

### Equality

In accordance with the requirements of Section 75 of the Northern Ireland Act 1998, an equality screening exercise has established that the proposed Regulations do not have any implications for equality of opportunity, and are instead engineered to promote equality of opportunity.

## 5. Costs

### • Funding

HMT has advised that £25m 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 [DN – should we say this money has rolled over to year 2?], 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 have already indicated that any spending commitments made via the initial NI RHI (i.e. through the £25m) will be met by ongoing RHI payments from HMT. Additional funding post 2015 will need to be negotiated with DECC and HMT in due course.

### • Administration costs

The introduction of a NI RHI requires an administrative system capable of managing enquiries and applications, ensuring participants meet ongoing obligations throughout the life of the scheme, processing payments, preventing fraud and providing management information. Ofgem has developed such a system for DECC and is already managing the administration of the GB RHI. In addition, it has experience of delivering other large scale incentive schemes such as the Renewables Obligation and the Feed-in-Tariff. It is considered that there could be significant advantages in utilising the existing systems and

so a direct award contract was awarded to Ofgem to carry out a feasibility study into how the DECC GB RHI system could be used as a basis for an administrative system for the NI RHI.

The study concluded that Ofgem had the operational structures in place to deliver an administrative system, tailored specifically for NI, following a development phase of approximately 4 months. The cost of the development work would be £386K. Forecasts of operating costs for the next four years are £136K, £157K, £198K and £249K based on NI accounting for a 3% share of the workload.

Exploiting synergies with the GB RHI will drive down the costs of administering the scheme whilst maintaining a high quality service to generators. For example, using the existing Customer Relationship Management (CRM) Software will save NI an estimated £100-150K, while using the existing SUN system to make generator payments, instead of a payment service provider, could save in the range of £100 -500K. In addition, using the main existing RHI register instead of commissioning a bespoke IT system is expected to save between £2m and £3m. Overall, it is estimated that using Ofgem's existing systems could save somewhere between £3.2million and £5.15million with additional ongoing operational savings.

## 6. Consultation with small business: The Small Business Impact Test

The businesses most affected by these proposed Regulations will be those companies which install and manufacture renewable components. As previously mentioned under the Benefits section of this impact assessment, there is likely to be a positive effect on installers of renewable technologies as 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
- Maintenance.

The incentive scheme will also be available to businesses across NI as well as the public sector and the other elements of the non- domestic sector (community groups, not-for-profit organisations etc). It is expected that the domestic sector will be introduced into the NI RHI from October 2012 following further analysis, in the interim support in the form on *“Renewable Heat Premium Payments”*.

This scheme will help to incentivise the industrial sector into changing its heating from oil which produces high carbon emissions to one of the “green” heating technologies offered under the incentive scheme which could help them cut costs on their fuel bills significantly.

## 7. Enforcement and Sanctions

Many aspects of the Renewable Heat Regulations 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.

Ofgem's powers include the following –

- Temporarily withholding periodic support payments for a maximum period of 6 months commencing from the date of the notice served on the participant;
- Suspend periodic support payments where ongoing failure to comply with an eligibility criterion or ongoing obligation for a maximum period of 1 year;
- Stop or reduce participants' periodic support payments where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation during any quarterly period; and
- Exclude a participant from the scheme where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation.

Ofgem can also at any time revoke a sanction imposed.

## **8. Monitoring and Review**

The Department, in liaison with Ofgem, 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 developing and 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.

## **9. Consultation**

The Department went out to consultation on a proposed RHI scheme including the draft the Renewable Heat Regulations (Northern Ireland) 2012 on 20 July 2011, closing on 3 October 2011. A number of consultation seminars were also held over the summer period. In total, 78 formal responses were received, of which two offered no comment. The responses have been analysed and the vast majority of respondents were in favour of the proposals and provided useful comments which the Department considered and, where appropriate, incorporated in the final design of the scheme.

## **10. Summary and Recommendation**

A specifically tailored NI RHI scheme will provide long term support for the local industry, with tariffs developed specifically for the Northern Ireland heat market which will utilise available funding most efficiently. The Department also anticipates that there will be secondary benefits to the development of the renewable heat market other than increased renewable uptake. These associated benefits include a reduction in CO<sub>2</sub> emissions as fossil fuels are displaced, an increase in fuel security as Northern Ireland's dependence on imported heating fuel diminishes and growth for 'green jobs' as companies benefit from opportunities presented by renewable heat.

The RHI will be open to all non-domestic consumers in the first instance, with the domestic market introduced at a later date. In the interim, the domestic sector will be able to avail of support in the form of *Renewable Heat Premium Payments*.

**11. Declaration**

“I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.”

Signed

Date

**ARLENE FOSTER MLA**  
**Minister of Enterprise, Trade and Investment**

**Contact point**

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VERSION 1

## **IMPLEMENTATION OF A RENEWABLE HEAT POLICY IN NORTHERN IRELAND**

### **REGULATORY IMPACT ASSESSMENT**

#### **1. Title of Proposal**

The Renewable Heat Incentive Regulations (Northern Ireland) 2012

#### **2. Purpose and intended effect of measure**

##### **a) The background**

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 vision is for a competitive, sustainable, reliable energy market at the minimum cost necessary. Four key policy goals have been identified to support this vision as follows

- Competitiveness
- Security of Supply
- Infrastructure
- Sustainability

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**

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 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 CO<sub>2</sub> 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. Scotland has a separate target of 11%.

In order to achieve this target, DECC legislated for an incentive scheme in the Energy Act 2008 and, following a consultation process, published final proposals on the RHI in March 2011. DECC obtained parliamentary approval of the GB Regulations in November 2011<sup>1</sup>.

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 has anticipated 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 Office of the Gas and Electricity Markets (Ofgem) is responsible for developing and administering the scheme on behalf of DECC.

### **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, DETI 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 economical appraisal on the feasibility 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.

#### **b) The objective**

The overall objective 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 addition, the target must be delivered within the agreed budget of £25m to 2015 provided by Her Majesty's Treasury (HMT).

<sup>1</sup> <http://www.legislation.gov.uk/ukdsi/2011/9780111512753/contents>

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.

The achievement of this target is the overall objective of developing the renewable heat market, in doing so there will be significant benefits for fuel security in Northern Ireland and the opportunity to reduce carbon emissions. There may also be the potential to develop 'green jobs' and 'green skills' within the renewable heat industry.

### **c) Risk assessment**

The Department recognises that there is some degree of risk and uncertainties in implementing a renewable heat incentive to Northern Ireland and seeks to consider those uncertainties in this paper.

#### **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. The normal method of dealing with this risk is to have regular, planned, reviews of subsidy levels after a number of years of experience with the subsidy.

#### **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). At a high level, the short term harm to any sector should be relatively small. However, even this, if it impacted disproportionately on the gas sector, could have negative consequences for the extension of the gas network. However, the Department will mitigate this so that 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. The Department considers this will help to limit the impact of the policy on the gas network.

#### **Risk of failure of renewable heat supply**

Just as supplies of conventional fuels may be disrupted, there is a risk that supplies of renewable fuel (i.e. biomass, biogas and bioliquids) will be disrupted. It has been suggested that around 35% of the additional renewable heat deployed would be powered by biomass (22%), biogas (5%) or bioliquids (9%). Biogas can be replaced with conventional gas in the short term, so disruptions to it should be relatively low risk. Bioliquids, since locally sourced by assumption, should be less risky than biomass, much of which will be imported. This suggests that the biomass supply chain, and the security of biomass imports, will be an important factor in the actual or perceived riskiness of renewable heat.

#### **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.

#### **Risk of failure to implement targets set by EU Renewable Energy Directive**

The EU Renewable Energy Directive (2009/28/EC)<sup>2</sup> (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 CO<sub>2</sub>.

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.

#### **Risk of insufficient budget for administration or future payments**

When the RHI is implemented and launched in Northern Ireland, there may be the possibility of a higher than expected uptake leading to overspends in annual budget and higher administration costs. The cause of this may be due to tariffs being set at too high or too generous a level leading to a higher than expected uptake. Also, external circumstances may make the tariffs more generous i.e. increase in oil costs, reduction in renewable heating costs.

The Department intends to mitigate this with ongoing engagement with key industry stakeholders to assess uptake and monitor energy costs and also to liaise with Ofgem to assess uptake levels and expected spend against profiled budget. The Department also intend to undertake planned reviews of the scheme so tariffs can be revised depending on market conditions. The Department has already commissioned an economic appraisal consistent with NIGEAE guidelines which has supported the development of appropriate tariff levels. Equally, external consultants have advised on technology assumptions and appropriate methodology for determining tariff levels including an economic model which has been developed to assess future potential uptake and expected costs.

Additional economic analysis has been carried out and tariffs have been amended to ensure they are appropriate for the Northern Ireland market place. The Department has also been liaising with the DECC finance team regarding future financing and with HMT relating to the budget for existing commitments.

#### **Risk of failure to receive State Aid approval**

The EU Commission may refuse to approve the NI RHI scheme because of a lack of information provided to Commission; the inability to justify the need for, or the design of, the NI RHI scheme; or possibly the tariffs are set at too high a level and amounting to over-incentivisation.

<sup>2</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF>

The Department has consistently kept the Commission informed of proposed changes to the Scheme and took on board the lessons learned from the GB state aid application. In December 2011, the Department sent a detailed submission outlining the NI RHI proposals which was based on the GB application that was approved in November 2011. An addendum to December application was submitted in February 2012 advising on proposed changes.

**Risk of instances of fraud**

Instances of fraud could include duplicate applications, unusual meter readings (too high for expected output), lack of information being provided to the administrator and using unregistered installers.

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##### Quantitative Benefits for options 2 to 5

- **10% target for renewable heat**

The overarching benefit would be the achievement of the 10% target of renewable heat, set by the Executive within the Strategic Energy Framework. The achievement of this target would contribute to the UK renewable energy targets set under the Renewable Energy Directive.

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 improvements. 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.

- **Carbon Savings**

In addition, there would be quantitative benefits driven by carbon savings. Under the Northern Ireland RHI it is estimated that 5.1 million tonnes of carbon emissions. The value of these savings is in the order of £240million.

##### Qualitative benefits

This section covers the benefits that are not quantified and looks at the qualitative benefits of the implementation of renewable heat in Northern Ireland.

- **Employment and capacity building, particularly in green sectors**

DECC has estimated<sup>3</sup> that there are 150,000 jobs in the heating industry in Great Britain. In relative terms, this equates 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

<sup>3</sup> [http://www.decc.gov.uk/en/content/cms/news/pn2011\\_023/pn2011\\_023.aspx](http://www.decc.gov.uk/en/content/cms/news/pn2011_023/pn2011_023.aspx)

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
- Maintenance.

A 2007 European Commission study<sup>4</sup> found that, overall, a 10% substitution towards renewable energy sources compared to non-renewable sources has a positive impact on jobs.

Employment can be created or safeguarded in the following ways:

- Direct employment in the installation, construction or operation of a project.
- Direct employment in the manufacturing of renewable heat technologies.
- Indirect employment from supplying goods and services to a project.
- Induced employment through jobs created due to increase spending due wealth creation by the project.

Biomass and bioenergy schemes in particular offer the greatest potential for jobs relating to the ongoing operation of a facility. Jobs may be created both from the operation of larger plants, and also from the ongoing management and supply of fuels. Bio-energy schemes can result in additional jobs through:

- The management of forestry and production of forestry residues.
- Transport and delivery of fuels.
- Utilising unused land for energy crop production.

- **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. For comparison purposes, NI's current demand for oil is around 17,558 GWh/ year<sup>5</sup>, which is around 10.3 million barrels<sup>6</sup>. The NI RHI with the highest level of renewable heat deployment displaces less than 10% of oil imports. 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 RHI<sup>7</sup> notes that where renewable heat displaces oil, the "[air quality] impacts can be positive".

<sup>4</sup> European Commission (2007), DG Environment: Links between the environment, economy and jobs.

<sup>5</sup> Source: AECOM/ Pöyry, 2010, op. cit.

<sup>6</sup> Assuming 1 barrel of oil =6.119GJ, source: Energy Information Agency [www.eia.gov](http://www.eia.gov)

<sup>7</sup> DECC, 2011, Renewable Heat Incentive Impact Assessment

## Sectors affected

The following sectors are likely to be affected by the introduction of these Regulations:

Sector	Effect
Domestic	Opportunity and availability of support to convert new renewable heat technologies
Green	Possible creation of new jobs/ growth of the industry
Public	Opportunity to convert public buildings to new renewable heat technologies
Commercial	Opportunity and availability of grant to convert new renewable heat technologies
Existing heating industries	Increasing demand for renewable heat may lead to a reduction in the demand for conventional heating

## Other impact assessments

### Equality

In accordance with the requirements of Section 75 of the Northern Ireland Act 1998, an equality screening exercise has established that the proposed Regulations do not have any implications for equality of opportunity, and are instead engineered to promote equality of opportunity.

## 5. Costs

### • Funding

HMT has advised that £25m 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 [DN – should we say this money has rolled over to year 2?], 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 have already indicated that any spending commitments made via the initial NI RHI (i.e. through the £25m) will be met by ongoing RHI payments from HMT. Additional funding post 2015 will need to be negotiated with DECC and HMT in due course.

### • Administration costs

The introduction of a NI RHI requires an administrative system capable of managing enquiries and applications, ensuring participants meet ongoing obligations throughout the life of the scheme, processing payments, preventing fraud and providing management information. Ofgem has developed such a system for DECC and is already managing the administration of the GB RHI. In addition, it has experience of delivering other large scale incentive schemes such as the Renewables Obligation and the Feed-in-Tariff. It is considered that there could be significant advantages in utilising the existing systems and

so a direct award contract was awarded to Ofgem to carry out a feasibility study into how the DECC GB RHI system could be used as a basis for an administrative system for the NI RHI.

The study concluded that Ofgem had the operational structures in place to deliver an administrative system, tailored specifically for NI, following a development phase of approximately 4 months. The cost of the development work would be £386K. Forecasts of operating costs for the next four years are £136K, £157K, £198K and £249K based on NI accounting for a 3% share of the workload.

Exploiting synergies with the GB RHI will drive down the costs of administering the scheme whilst maintaining a high quality service to generators. For example, using the existing Customer Relationship Management (CRM) Software will save NI an estimated £100-150K, while using the existing SUN system to make generator payments, instead of a payment service provider, could save in the range of £100 -500K. In addition, using the main existing RHI register instead of commissioning a bespoke IT system is expected to save between £2m and £3m. Overall, it is estimated that using Ofgem's existing systems could save somewhere between £3.2million and £5.15million with additional ongoing operational savings.

## **6. Consultation with small business: The Small Business Impact Test**

The businesses most affected by these proposed Regulations will be those companies which install and manufacture renewable components. As previously mentioned under the Benefits section of this impact assessment, there is likely to be a positive effect on installers of renewable technologies as 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
- Maintenance.

The incentive scheme will also be available to businesses across NI as well as the public sector and the other elements of the non- domestic sector (community groups, not-for-profit organisations etc). It is expected that the domestic sector will be introduced into the NI RHI from October 2012 following further analysis, in the interim support in the form on *“Renewable Heat Premium Payments”*.

This scheme will help to incentivise the industrial sector into changing its heating from oil which produces high carbon emissions to one of the “green” heating technologies offered under the incentive scheme which could help them cut costs on their fuel bills significantly.

## **7. Enforcement and Sanctions**

Many aspects of the Renewable Heat Regulations 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.

Ofgem's powers include the following –

- Temporarily withholding periodic support payments for a maximum period of 6 months commencing from the date of the notice served on the participant;
- Suspend periodic support payments where ongoing failure to comply with an eligibility criterion or ongoing obligation for a maximum period of 1 year;
- Stop or reduce participants' periodic support payments where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation during any quarterly period; and
- Exclude a participant from the scheme where there has been a material or repeated failure by a participant to comply with an eligibility criterion or ongoing obligation.

Ofgem can also at any time revoke a sanction imposed.

## **8. Monitoring and Review**

The Department, in liaison with Ofgem, 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 developing and 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.

## **9. Consultation**

The Department went out to consultation on a proposed RHI scheme including the draft the Renewable Heat Regulations (Northern Ireland) 2012 on 20 July 2011, closing on 3 October 2011. A number of consultation seminars were also held over the summer period. In total, 78 formal responses were received, of which two offered no comment. The responses have been analysed and the vast majority of respondents were in favour of the proposals and provided useful comments which the Department considered and, where appropriate, incorporated in the final design of the scheme.

## **10. Summary and Recommendation**

Following consideration of a range of options, DETI is now consulting on the design of a Renewable Heat Incentive (RHI), specifically tailored for the Northern Ireland heat market. The RHI is designed to deliver the 10% renewable heat target by incentivising consumers to switch from existing fossil fuels to renewable heat technologies. Tariffs have been set to provide an adequate rate of return to incentivise consumers and are based on a counterfactual position of oil.

The RHI will be open to all non-domestic consumers in the first instance. The domestic sector will be able to avail of support in the form of *Renewable Heat Premium Payments* until a longer term incentive scheme is in place, scheduled by October 2012.

**11. Declaration**

“I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.”

Signed

Date

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