

### Wider Policy

- Renewable Heat Strategy Group
  - 1<sup>st</sup> meeting of this group in October 2011
  - Views of local industry representatives
- Issues for consideration in the Group
  - Opportunities for businesses;
  - Increase skills;
  - Existing and new housing;
  - District/community heat schemes;
  - Fuel poverty;
  - 'Green New Deal' and the 'Sustainable Development Plan';
  - Local biomass resource;
  - Standards for renewable heating fuels; and
  - Opportunities within the public sector.




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\* local biomass resource - standards for quality (beyond DETI's scope) interact with other policies

### Wider Policy

- Gas Network Extension Study
  - Bringing natural gas to new areas will provide -
    - greater consumer choice
    - cleaner, more efficient fuel
  - Principal objective for gas includes the "development and maintenance of an efficient, economic and coordinated gas industry in Northern Ireland."
  - SEF - extension of the gas network has to be economically viable
  - NI RHI incentive measures designed not to have a direct impact on the gas network




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DETI has objectives of

RHI must co-exist with other sources of gas revenue.  
RHI is bi-faceted

### Next Steps

- Consultation and Consideration
  - Consultation ends on 3 October 2011
- Policy
- Legislation and implementation
  - Intend for NI Regulations to be implemented by April 2012




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Brochic example

Biomass v Oil (maintenance, feedstock cost, depreciation etc)

£850 per year over 24 years  $\neq$  £17,500 <sup>lifetime</sup> ~~per year~~ (biomass boiler)

(cover operating costs)

Landlord or tenant?

Social landlords classed as domestic

Food & Fuel

Displacement of agricultural land

Food & fuel debate - need for sustainability reporting

Air v Ground Source Heat pumps

£34 v £124 (Air v ground) Need more evidence between the two

Possible overheating (bad quality equipment not fit for purpose)

MCS accreditation could overcome this.

\*

AD (Over measured steady)

① Capital cost is significant.

② CAP unit need to be considered

③ Things could change (BCs reviewed in 2013)

④ Heat can be used - what if the used heat being dumped

**Renewable Heat Incentive**

**Questions / Comments**

- 1. RHI
- 2. Tariffs and Technologies
- 3. Eligibility – Admin and Standards
- 4. Domestic Support
- 5. Industry
- 6. Wider Policy Issues



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IS RHI the right way forward? (What about capital spend & opex?)  
 IS WE RHI the right way forward for NI landlocked sector? (Q1)

£25m - per capita head? } Average distribution  
 30% ducted demand } of £25m.

NI has such a high level of fuel poverty - should it not have been higher  
 & grants to be reviewed (when will they be reviewed - can NI?)

DETI model suggests that grants are piloted gradually.

District heating - Belfast City Council in favour of this approach

Tariff structure does not take into account capital outlay & return on capital District

DETI model (DETI)

Power NI governor (Gerry Quirke)

Ring-fencing by sector? - No plans

Over spending a year? - no capital spend year?

How do you measure heat in the domestic sector?

- to commit to metering usage. (Demanding v Metering)

\* Domestic metering not  
 entered at this stage

Only capital spend at this  
 stage)

(danger - can be installed but not used)

(can DETI) ① in centralising essential oil in NI

NI always remains a high cost sector

Accepting that we always have high oil prices

② Rural community and gas

DETI want to do

oil or solid fuel

Tariff designed to "level out"

Different tariffs to different regions of NI

- difficult to manage

Joanne McCubbin

\* <sup>How's</sup> 50% decu - ~~off~~ system for

COM-00882

mehe ~~now~~ read in S

Me trans is the key - only way  
it will work

**Development of  
Northern Ireland  
Renewable Heat Incentive**

Renewable Heat Branch  
Energy Division  
Department of Enterprise,  
Trade & Investment

Thursday 8 September 2011



9/8 - getting people off gas

NI - " " on gas

fuel priority in NI

**Renewable Heat Incentive**


This session will cover the following:

- Background to Renewable Heat work
- Northern Ireland Renewable Heat Incentive (RHI)
- Next Steps



**Background**

- EU Renewable Energy Directive
  - Renewable Energy Directive (RED) set target of 20% of EU's energy consumption from renewable sources by 2020
  - UK share of target is 15% by 2020. This requirement extends beyond electricity to heating and cooling and to transport
- Strategic Energy Framework
  - Includes a target of 10% renewable heat by 2020.



## Background

- GB Renewable Heat Incentive
  - In GB, renewable heat levels of around 12%, with 30% renewable electricity consumption, are needed to comply the RED.
  - GB RHI to be introduced from 30 September 2011 for non-domestic sector
  - Domestic sector eligible from October 2012. Initial premium payments in place.
  - Over the next four years, £860m investment to increase levels of renewable heat generation in GB
  - Investment will go beyond 2015/2016 as new installations are supported for 20 years under fixed tariffs
  - Tariffs designed to provide a rate of return of 12%, except for solar thermal with rate of return around 6%



\* State A's delay - similar delay in NI?

## Background

- Northern Ireland is not included as part of the GB RHI. There are many differences between the heat and renewable heat markets in GB and Northern Ireland
  - Oil vs. Gas
  - Prices = Fuel Poverty
  - Lower Heat Density



Why was NI not included?

- ① 2008 Energy Act (GB) not NI
- ② Amendment to 2011 Energy Bill (expected to be passed in the next couple of weeks)
- ③ NI still an emerging gas market
- ④ - more rural means a lower heat density
- ⑤ Revolution

## AECOM Heat Study

- In December 2009, AECOM Ltd and Pöyry Energy Consulting commissioned to undertake a study into the potential for renewable heat in Northern Ireland
- An independent assessment to identify and quantify the current scale, future sustainable growth potential and optimum size and scale of the renewable heat sector in NI



Benchmarking - where NI might want to focus

### Northern Ireland Heat Market

**Current Statistics**

- NI almost wholly dependent on imported fossil fuels
- Implications for fuel security and carbon emissions

Fuel/ Energy	Total GWh	% of Total
Oil	13,344	77%
Gas	2,964	17%
E7	217	1.2%
Renewables	290	1.7%
Coal	547	3.1%
<b>Total</b>	<b>17,362</b>	

Heat demand in Northern Ireland by fuel type →



2001/10 data

Reliance upon imported fossil fuel in NI

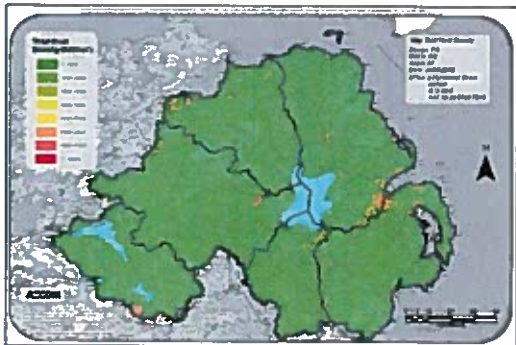
Impact on price volatility.

GB - 10% reliance on oil (77% NI)

### Northern Ireland Heat Market

Sector	Heat Demand (GWh)	% Total
Domestic	10,644	61%
Commercial	2,148	12%
Industrial (EU-ETS sites)	3,828	22%
Public (not housing)	742	4%
<b>Total</b>	<b>17,362</b>	

Heat demand in Northern Ireland by sector



Heat density map of Northern Ireland



60m v 1.75m

**AECOM Heat Study  
Conclusions**

- Significant government subvention needed to achieve 10% target by 2020
- Develop specific NI RHI scheme
- Further economic analysis to assess the actual incentivisation levels
- Agreement on start date for those eligible for support under a Northern Ireland RHI
- Establish Cross Departmental Strategy Group




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£860m in GB - para rda application to NI

**CEPA Economic Appraisal**

- £25million of funding available for the NI RHI over the next four years
- Funding is split as follows:
  - £2million in 2011/12
  - £4million in 2012/2013
  - £7million in 2013/2014
  - £12million in 2014/2015
- Cambridge Economic Policy Associates (CEPA), in conjunction with AEA Technologies, commissioned to undertake an economical appraisal on the feasibility of a NI RHI



Prod from treasury £25m

Runganced

£25m in

UFI would query the para rda application

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**CEPA Economic Appraisal**

- Several options considered for supporting the development of renewable heat, including:
  - Do nothing
  - A Renewable Heat Challenge Fund
  - 50% capital grant support
  - Implementing the GB RHI
  - A Northern Ireland RHI
- Options involving capital grant assistance considered not to offer long term support
- GB RHI deemed inappropriate for the NI heat market with possibility of over-incentivisation



long-term confidence is Volkey

GB RHI would not be opt in NI.

- danger of over incentivisation

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### CEPA Economic Appraisal

- Proposed option is a NI tailored RHI
- Long term stable support for those wishing to install renewable heat technologies
- Tariffs designed to be appropriate for the local heat market
- As the market grows, technologies should be more accessible to all
- Support for new renewable heat installations commissioned after 1 September 2010
- Designed as an incentive to increase the uptake of renewable heat in Northern Ireland



Incentive over 2 years  
and not supp. to capital installation  
UFI - surely up to capital support  
is a key consideration.

### Northern Ireland RHI

- Three elements in proposal to support the renewable heat market:
  - A NI specific RHI: Open to all non-domestic customers from 1 April 2012 (barring heavy industrial sites). Domestic sector to enter the NI RHI no later than October 2012
  - Support for the heavy industrial sector, through regular incentive payments with differences in eligibility and accessibility
  - Interim support for the domestic sector available until a longer term scheme is introduced for this market, in October 2012



Heavy industry - possible impact on the gas market (development of 500 mth)

Domestic - possible policy conflict.

"Renewable heat  
Capital support incentive" - Domestic

### Development of NI RHI

- NI RHI proposed to be available to all non-domestic consumers at the time of introduction, expected at 1 April 2012.
- Opportunity for large-scale deployment of renewable heat at a cost-effective rate
- Domestic market proposed to be brought into a longer term scheme from October 2012
- Does not include district or community heating which is eligible for support under the NI RHI
- Phased approach proposed so that large scale commercial applications incentivised first and act as a primer for the local market



### Eligibility

- Installations contracted from 1 Sept 2010 will be eligible
- Support only available from the outset of the scheme and not back-dated
- Proposed NI RHI scheme will support
  - Useful heat otherwise met by fossil fuels
  - Renewable space/process heating and hot water
  - New renewable heat systems, replacing existing heat systems
  - Additional renewable heating capacity




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"Useful heat"

### Eligibility

- Smaller installations installed to provide heat for one heat source will be defined as one or multiple technologies connected to the same heating system
- Biomass boilers, heat pumps and solar thermal with capacity of 45kWth or less must be certified under the Microgeneration Certification Scheme (MCS)




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### NI Tariffs

Tariff Name	Eligible Technologies	Size (kWth)	Tariff duration (years)	NI levels (pence per kWh)
ASHP		< 45	20	3.3
GSHP	Including water source heat pumps and deep geothermal	< 45 / > 45 excluding large industrial sites	20	4.0 / 0.9
Bioliquids		< 45	20	1.5
Biomass	Solid biomass: municipal solid waste (inc. CHP)	< 45 / > 45 excluding large industrial sites	20	4.5 / 1.3
Biomethane	Biomethane injection and biogas combustion, except from landfill gas	All scales biomethane, biogas combustion < 200	20	2.5
Solar Thermal		< 200	20	0.5




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Why are bioliquids / ASHP not included in SB?

### GB Tariffs


Tariff Name	Eligible Technologies	Size (kWh)	Tariff duration (years)	NI levels (pence per kWh)
Small biomass	Solid biomass: municipal solid waste (inc. CHP)	< 200	20	7.6 / 1.9
Medium biomass		> 200 / < 1,000	20	4.7 / 1.9
Large biomass		> 1,000	20	2.6
Ground Source	GSHP: water source heat pumps and deep geothermal	< 100 / > 100	20	4.3 / 3.0
Biomethane	Biomethane injection and biogas combustion, except from landfill gas	All scales biomethane, biogas combustion < 200	20	6.5
Solar Thermal		< 200	20	8.5




Difference between NF + GB tariffs

① Oil cost in NI

② Newer technology in NI

- ### Administration
- Ofgem proposed to have overall responsibility for the administration of the NI RHI
  - Experience in other large scale energy incentive schemes
  - Responsibilities will include:
    - Applications
    - Accreditation
    - Payments
    - Adherence to conditions of scheme
  - DETI intend to maintain close working relationship with Ofgem throughout the lifetime of the NI RHI
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UK will be critical driver of Ofgem involvement - big delays in ROC restriction

- ### Common Questions
- Lower Tariffs
  - Anaerobic Digestion
  - Heavy Industry (care by care basis)
  - Domestic Sector
- 

(larger tariffs and knock off gas development.

Viable gas market development is the goal of DETI - balance is the key.

AD - danger of over incentivising to (DET I) ROC levels are adequate

ROC levels & RHI interaction

(lower ROC level?)


Domestic feed - should it be included?

\* UK believes that it should not be included!

Danger of domestic market being "over incentivised"

### Domestic Market

- As the sector with the largest heat demand, the domestic sector is vital in achieving the target of 10% renewable heat by 2020
- Domestic sector eligible from October 2012
- In the interim, DETI proposes to introduce *Renewable Heat Premium Payments* for the domestic market available for eligible installations commissioned after 1 September 2010




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### Domestic Market

- Renewable Heat Premium Payments

Technology	Support per unit (£) in a detached dwelling	Support per unit (£) in any other dwelling
Air Source Heat Pump	1860	1170
Biomass boiler	2580	1620
Ground Source Heat Pump	2250	1410
Solar Thermal	480	480

- Installations required to be certified under MCS
- Required to provide routine information on the technology installed
- Eligible for a longer term tariff when domestic scheme introduced in October 2012




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3 years of normal RHI payments?  
c. £800 pa.

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### Heavy Industry

- 17 large industrial sites in Northern Ireland account for 22% of the total heat demand defined by the European Union Emissions Trading Scheme (EU-ETS)
- In supporting the heavy industrial sector it is important that the existing or future gas network is not affected
- NIRO available to encourage the development of renewable fuelled CHP systems through support of renewable electricity generation




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easing form of incentive

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### Heavy Industry

- DETI will seek to provide financial incentives to heavy industrial sites where there is a clear need, where the technical ability exists, and where there is a sustainable fuel source established
- Consideration will also be given to whether co-firing should be allowed within the industrial sector



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- 
- 1 Clear need
  - 2 Technical ability
  - 3 Sustainable fuel source established
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### Heavy Industry - Eligibility

- Heavy industrial sites must outline their proposal to DETI
- Each proposal will be assessed by a specially convened independent panel, chaired by DETI
- Proposal will be assessed and successful applicants will be provided with an appropriate tariff level, specific to the applicant




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outline proposal  
independent panel (Chaired by DETI)

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### Heavy Industry - Eligibility

- DETI will provide a letter of support for the successful applicant to present to Ofgem when seeking accreditation
- Each scheme will be assessed against:
  - Technical capability
  - Economic viability and the need for support
  - Availability of sustainable fuel supply
  - Impact on the existing or future gas network



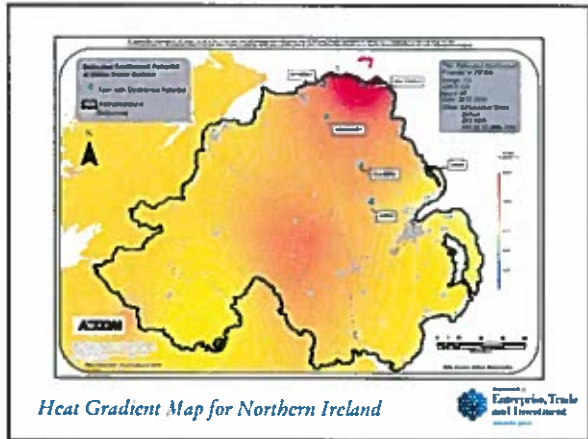
### Deep Geothermal Call for Evidence

- In GB, deep geothermal qualify for the same tariff level as ground source heat pumps
- DETI has considered taking the same approach and may include deep geothermal under the GSHP tariffs
- Six towns identified as having the appropriate geothermal conditions and the necessary heat demand: Ballycastle; Bushmills; Ballymoney; Ballymena; Larne and Antrim



NI has significant potential but no sites going ahead in NI.

"Apt geothermal conditions"



Heat Gradient Map for Northern Ireland



### Deep Geothermal Call for Evidence

- No deep geothermal projects in Northern Ireland
- lack of financial support or incentives and other non-financial barriers
- Call for evidence will assist in identifying the existing barriers, both financial and non-financial, and will advise on the realistic potential of deep geothermal energy by 2020
- Findings considered by DETI and the Geological Survey of Northern Ireland (GSNI) and presented to the Renewable Heat Strategy Group in October 2011



Barriers to development

① Financial

② Non-financial.