Contents

1. A short retrospective
   Why heat matters
   The RHI journey so far

2. The live schemes
   Domestic
   Non-domestic

3. What’s next
   Forward workplan
Changing the way we **produce and consume heat** is key to meeting our carbon reduction and renewables targets.

- **47%** Final energy demand
- **1/3** UK’s carbon emissions from heat
- **2%** From renewables

15% by 2020 (RED)

**Carbon Budgets**

- **21% reduction (~170 Mt CO₂e)** on 1990 emissions levels already achieved
- Projected trajectory to meet (and exceed) a 34% reduction (~280 Mt CO₂e) on 1990 emissions levels, including Transition Plan policies

---

**Renewable Heat Incentive**
In 2012, heat for buildings and industrial processes consumed 64% of the gas used in UK.
Decarbonising Heat in Buildings

We need our buildings to be virtually zero carbon by 2050 meaning a greater role for heat pumps and networks.

Heat networks are a more efficient option for denser urban areas where there is limited space for individual heat pumps. Coupled with heat storage they can help balance the grid.

Gas absorption heat pumps use gas more efficiently...

Gas heat pumps use gas more efficiently...

...as do hybrid systems containing boiler & electric heat pump.

High electric heat pump penetration faces fewer barriers in homes that are less clustered, starting with buildings off the gas grid, which are more likely to have space and be using high carbon and more expensive fuels like heating oil.

Lower energy demand in all sectors through increasing thermal efficiency of buildings and changing consumer behaviour.

High efficiency condensing boilers remain a useful technology in this sector into the 2030s.

UK Housing Stock

Dense Urban – 22%

Suburban – 59%

Rural – 19%

Diagram not to scale
14 key stages to create world’s first long-term financial support programme for renewable heat

- **2008-2010**
  - Energy Act 2008
  - Renewable Energy Strategy 2009
  - 15% of all energy 239 TWh by 2020
  - Renewable Energy Strategy Consultation Summer 2008
  - Assessment of costs and potential commissioned 2008
  - Renewable heat supply curve produced 2009
  - Draft tariffs published 2010

- **2011-2012**
  - Consultation on extensions (& domestic) Sept 2012
  - Update of cost and performance data commissioned Aug 2012
  - Consultation on non-dom improvements July 2012
  - Non-dom policy changes Feb 2013
  - Consultation on revised tariffs May 2013
  - Domestic policy announced July 2013

- **2013-2015**
  - Announcement to commence early tariff review Jan 2013
  - Non-dom policy changes Aug 2012
  - Consultation on non-dom improvements July 2012
  - Non-dom policy changes Feb 2013
  - Consultation on revised tariffs May 2013
  - Domestic policy announced July 2013
  - Non-dom tariff and eligibility changes, Dom policy update December 2013
  - SR 2015/16
  - Launch of dom RHI & non-dom scheme changes April / May 2014
  - Further policy development 2014/2015
  - Annual regulatory changes

SR 2016?
Now available across wide range of sectors & technologies, RHI designed to provide attractive returns, VfM & market growth.
New and increased tariffs for some technologies, from 28 May 2014

<table>
<thead>
<tr>
<th>Technology</th>
<th>Tier 1</th>
<th>Tier 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWHP</td>
<td>2.5p</td>
<td></td>
</tr>
<tr>
<td>Biomass – Large (≥1MW)</td>
<td>2.0p</td>
<td></td>
</tr>
<tr>
<td>Biogas – Small (&lt;200kW)</td>
<td>7.5p</td>
<td>7.5p</td>
</tr>
<tr>
<td>Biogas – Medium (200 – 600kW)</td>
<td>5.9p</td>
<td>4.1p</td>
</tr>
<tr>
<td>Biogas – Large (≥600kW)</td>
<td>2.2p</td>
<td>5.0p</td>
</tr>
<tr>
<td>Biomass – Small (&lt;200kW)*</td>
<td>6.8p</td>
<td>7.2p</td>
</tr>
<tr>
<td>Biomass – Medium (200 – 999kW)*</td>
<td>4.4p</td>
<td>10.0p</td>
</tr>
<tr>
<td>Biomethane injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomethane injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomethane injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep geothermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep geothermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground/water source heat pumps*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground/water source heat pumps*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar thermal (&lt;200kW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar thermal (&lt;200kW)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figures provided are untiered – this equate to tiered tariffs of: Small Biomass 8.4p/2.2p; Medium Biomass 5.1p/2.2p, G/WSHP 8.7p/2.6p
Domestic scheme offers four tariffs across five technologies, ranging from 7.3p/kWh to 19.2 p/kWh, for seven years.

Tariffs are dependent on the type of technology installed:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Payments per kWh</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomass only boilers</td>
<td>12.2p</td>
<td>Eligible solar thermal panels only provide hot water</td>
</tr>
<tr>
<td>Biomass pellet stoves with integrated boilers</td>
<td>12.2p</td>
<td>Only one space heating system per property</td>
</tr>
<tr>
<td>Air source heat pumps</td>
<td>7.3p</td>
<td>Can apply for solar thermal for hot water AND a space heating system</td>
</tr>
<tr>
<td>Ground source heat pumps</td>
<td>18.8p</td>
<td>Metering for second homes &amp; homes retaining secondary heating options</td>
</tr>
<tr>
<td>Solar thermal panels - flat plate / evacuated</td>
<td>19.2p</td>
<td>*Solar PV-T eligible for FiTs, but not domestic RHI at present</td>
</tr>
<tr>
<td>tube only*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Solar PV-T eligible for FiTs, but not domestic RHI at present.
About 2.5K GSHP installations supported since 2011 with budget set to provide for a further 7K installations and £38m by end 2016

Central estimates of GSHP potential in 2015 and 2016

**Non-domestic**
- 330 – 550 installations
- £10m – £24m spend

**Domestic**
- 2,000 – 4,000 installations
- £4m – £14m spend
Overall growth rates in both schemes are encouraging but very early days for the domestic scheme.

Average monthly application rate for GSHPs has more than doubled over the last 12 months.

Non-domestic

Cumulative number of full applications
Cumulative number of accreditations

Domestic

Overall growth rates in both schemes are encouraging but very early days for the domestic scheme.

Average monthly application rate for GSHPs has more than doubled over the last 12 months.
There appears to be **hot and cold** spots of demand by region and sector.

Five sectors: \( \frac{3}{4} \) of all heat generated, \( \frac{2}{3} \) of all accredited installations.
Recent case studies appear to show new opportunities

Lincolnshire Herbs
- UK’s largest grower of herbs for supermarkets
- 5MW GSHP system under construction for glass house heating
- Major cost and carbon savings over fossil fuel alternatives

Kingston Heights – Hotel and apartments
- Innovative water source heat pump uses Thames as an energy source
- 200 bed hotel and 140 apartments
- All heating and hot water provided by the Mitsubishi heat pumps
- RHI income for the management company
The work ahead - “frequent scheme changes make it **difficult to know the rules** and requirements”

<table>
<thead>
<tr>
<th>Scheme Delivery</th>
<th>Scheme improvements – annual review process</th>
<th>Policy Finalisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Budget management</td>
<td>• Technical fixes</td>
<td>• Biomass sustainability</td>
</tr>
<tr>
<td>• Application and</td>
<td>• Simplification</td>
<td>• Tariff certainty</td>
</tr>
<tr>
<td>accreditation rates</td>
<td>• Common issues</td>
<td>• Bio-methane tariff review</td>
</tr>
<tr>
<td>• Benefits realisation</td>
<td></td>
<td>• Domestic improvements</td>
</tr>
<tr>
<td>• Monitoring and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>evaluation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>“New” technologies</th>
<th>Promotion and marketing</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>• July 2013 guidance</td>
<td>• First phase complete – 15 events</td>
<td>• £500k voucher scheme</td>
</tr>
<tr>
<td>• Evidence reports</td>
<td>evaluation underway</td>
<td>extended by £150k in Feb</td>
</tr>
<tr>
<td>• Improve customer</td>
<td></td>
<td>• Looking at domestic</td>
</tr>
<tr>
<td>journey</td>
<td></td>
<td>installer and GDA training</td>
</tr>
<tr>
<td>• Fostering innovation</td>
<td></td>
<td>programmes</td>
</tr>
</tbody>
</table>
Joint working

Working together will give us the best chance of success

RHI
IAG

Policy
development

IAG
training
sub-group

Issue
resolution

Promotion
& marketing

Working
Together
1. Level of market confidence?
2. Biggest opportunities in non-domestic space?
3. Your innovative ideas for promotion and marketing?
4. Where is greater policy clarity needed?
5. What are the priority policy development areas?
6. Training and installer competency?
"...make no mistake we are in a global race and the countries that succeed in that race, the economies in Europe that will prosper, are those that are the greenest and the most energy efficient."

"The choice between going green and going for growth is a false choice. Green and growth do go together, and the statistics back this up"
For more information:

**Domestic**

- Pre-application enquiries by ESAS in England & Wales: 0300 123 1234
- Or contact Home Energy Scotland: 0808 808 2282
- Ofgem to deliver scheme – guidance will be available soon
- Check www.ofgem.gov.uk

**Non-domestic**

- Ofgem deliver scheme
- Guidance on www.ofgem.gov.uk
- RHI enquiry line: 0845 200 2122
- Email: rhi.enquiry@ofgem.gov.uk