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GSHPA Summer Conference

Ground Source Energy Empowered by the RHI

A forward look

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Changing the way we **produce and consume heat** is key to meeting our carbon reduction and renewables targets

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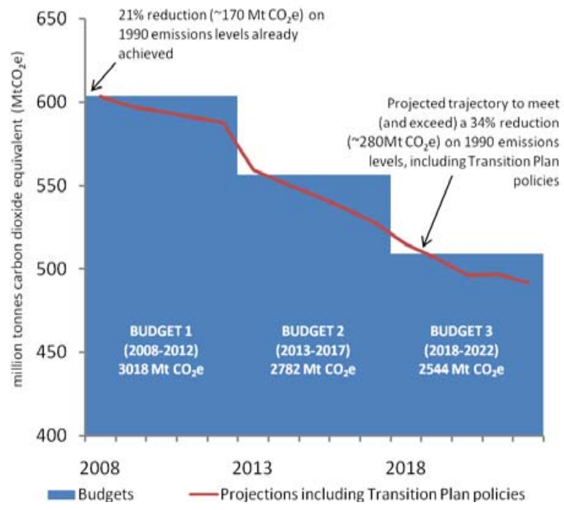
47% Final energy demand

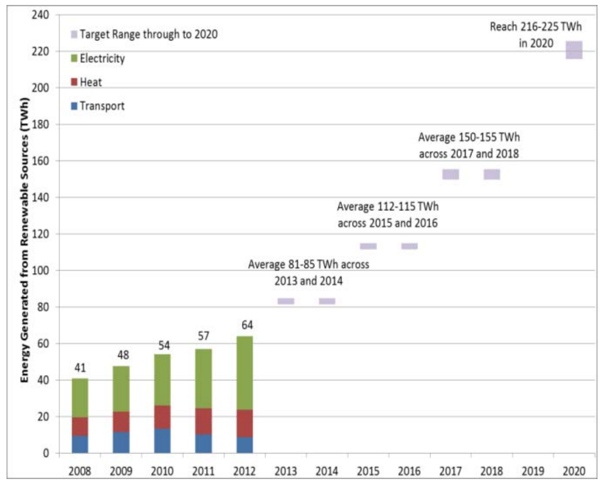
1/3 UK's carbon emissions from heat

2% From renewables

Carbon Budgets

15% by 2020 (RED)





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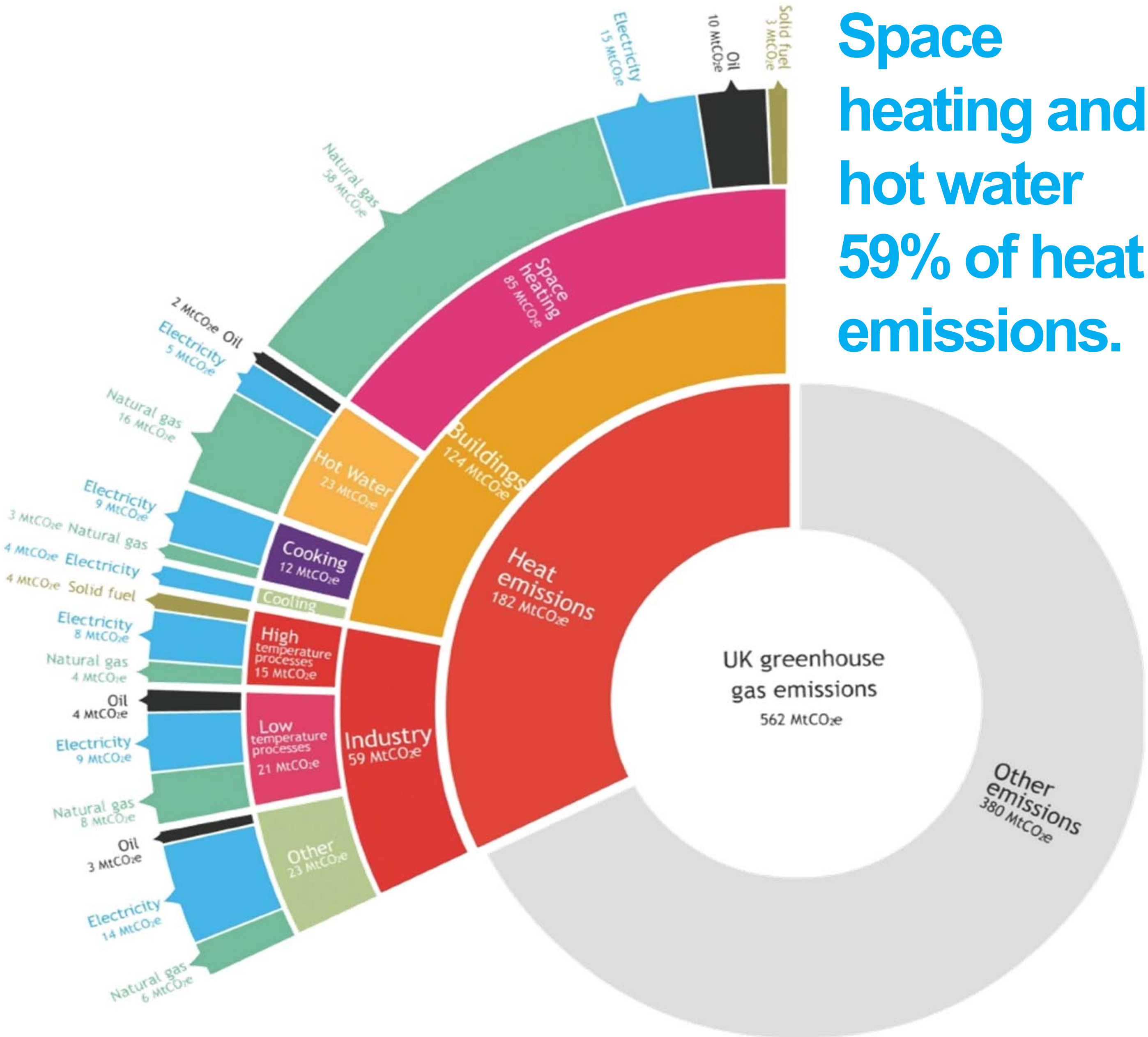
In 2012, heat for buildings and industrial processes consumed 64% of the gas used in UK.



Space heating and hot water 59% of heat emissions.

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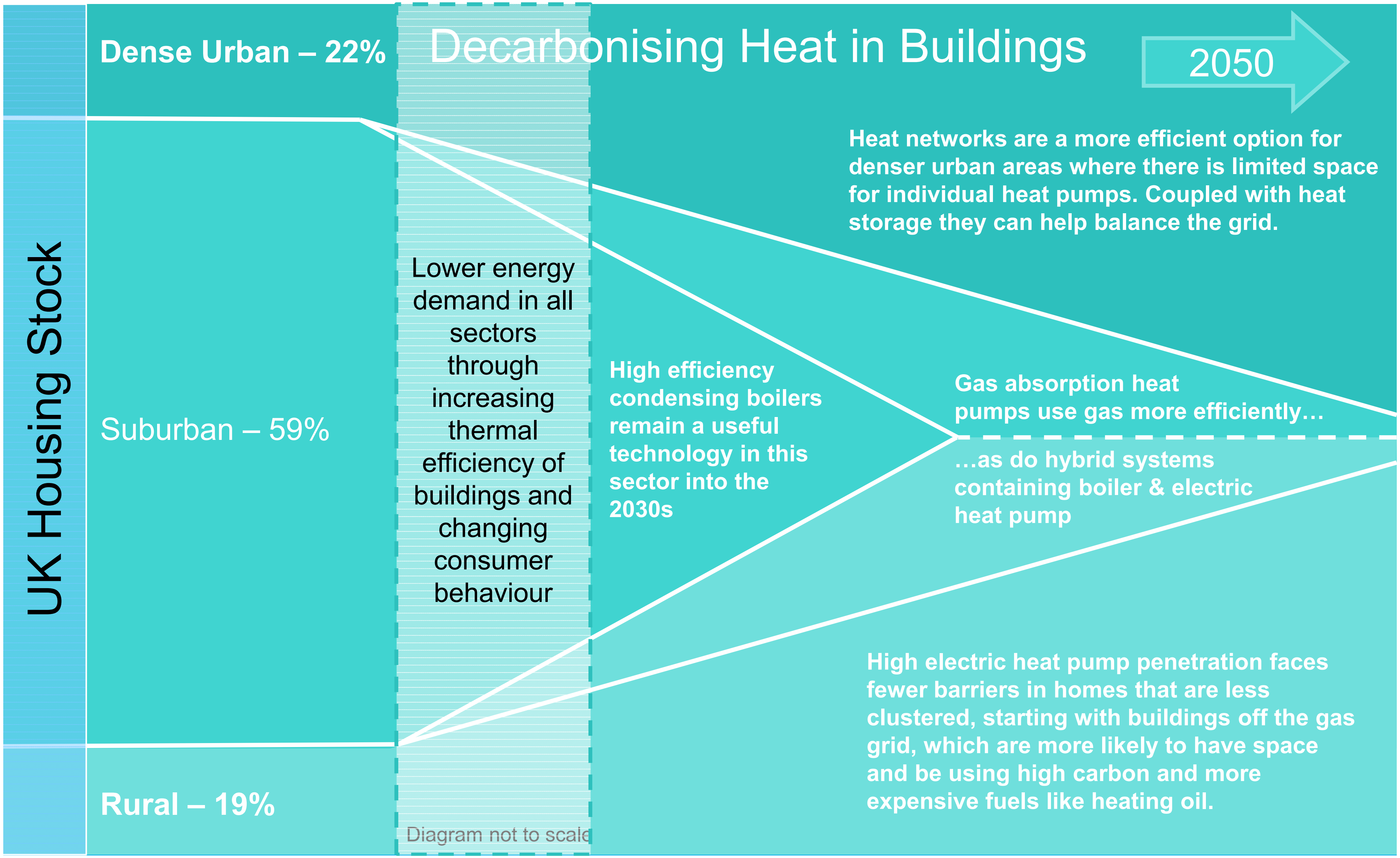
We need our buildings to be virtually zero carbon by 2050 meaning a **greater role for heat pumps** and networks



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14 key stages to create **world's first** long-term financial support programme for renewable heat

Renewable Energy Directive 2007

Energy Act 2008

Renewable Energy Strategy 2009

15% of all energy 239 TWh by 2020

2008-2010

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

Non-domestic scheme launched Nov 2011

Consultation on non-dom improvements
July 2012

Update of cost and performance data commissioned
Aug 2012

Consultation on extensions (& domestic)
Sept 2012

2013-2015

Announcement to commence early tariff review
Jan 2013

Non-dom policy changes
Feb 2013

Consultation on revised tariffs
May 2013

SR 2015/16

Domestic policy announced
July 2013

Non-dom tariff and eligibility changes, Dom policy update
December 2013

Launch of dom RHI & non-dom scheme changes
April / May 2014

Further policy development
2014/2015

SR 2016?

Annual regulatory changes

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Now available across wide range of sectors & technologies, RHI designed to provide **attractive returns**, VfM & **market growth**

Domestic

Non-Domestic

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Non-dom scheme offers 12 tariffs across eight technologies, ranging from **2.0p/kWh** to **10.0p/kWh**, for 20 years

New and increased tariffs for some technologies, from 28 May 2014

- **AWHP** 2.5p
- **Biogas – Small (<200kW)** 7.5p
- **Biogas – Medium (200 – 600kW)** 5.9p
- **Biogas – Large (≥600kW)** 2.2p
- **Biomass – Small (<200kW)*** 6.8p
- **Biomass – Medium (200 – 999kW)*** 4.4p
- 2.0p **Biomass – Large (≥1MW)**
- 7.5p **Biomethane injection**
- 4.1p **CHP**
- 5.0p **Deep geothermal**
- 7.2p **Ground/water source heat pumps***
- 10.0p **Solar thermal (<200kW)**

*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

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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

Payments per kWh

- 12.2p Biomass only boilers
- 12.2p Biomass pellet stoves with integrated boilers
- 7.3p Air source heat pumps
- 18.8p Ground source heat pumps
- 19.2p Solar thermal panels - flat plate / evacuated tube only*

*Solar PV-T eligible for FiTs, but not domestic RHI at present

- Eligible solar thermal panels only provide hot water
- Only one space heating system per property
- Can apply for solar thermal for hot water AND a space heating system
- Metering for second homes & homes retaining secondary heating options

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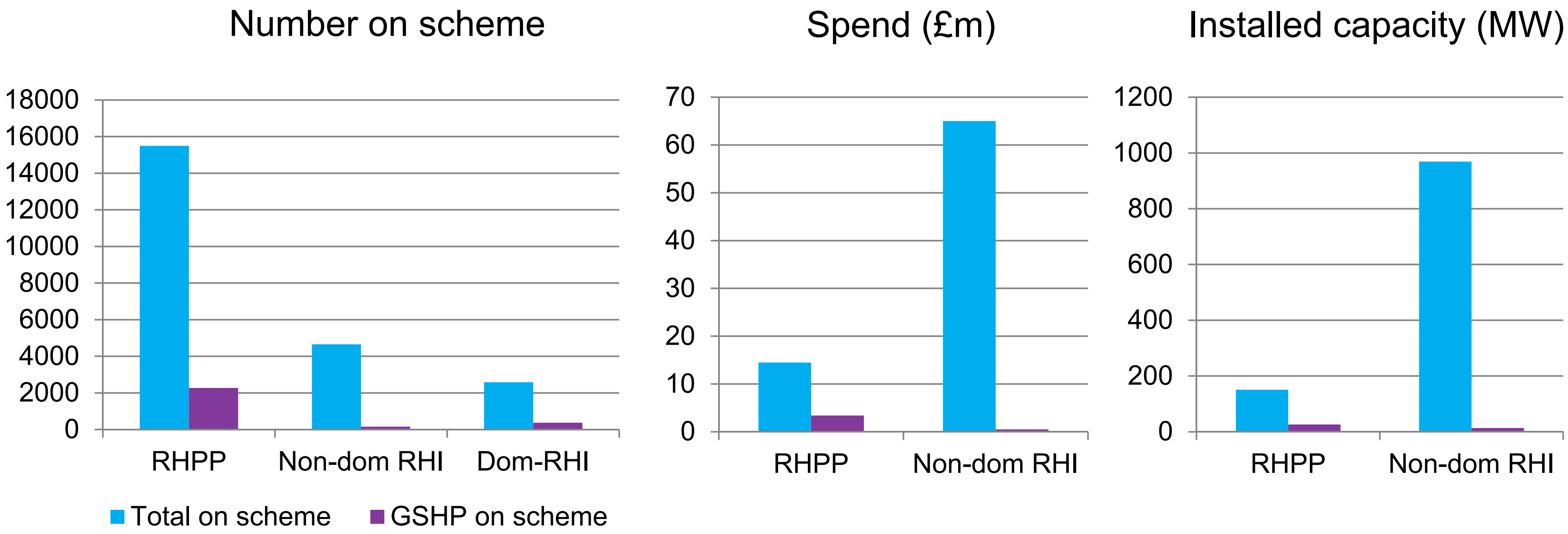
About **2.5K** GSHP installations supported since 2011 with budget set to provide for a further **7K** installations and **£38m** by end 2016



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

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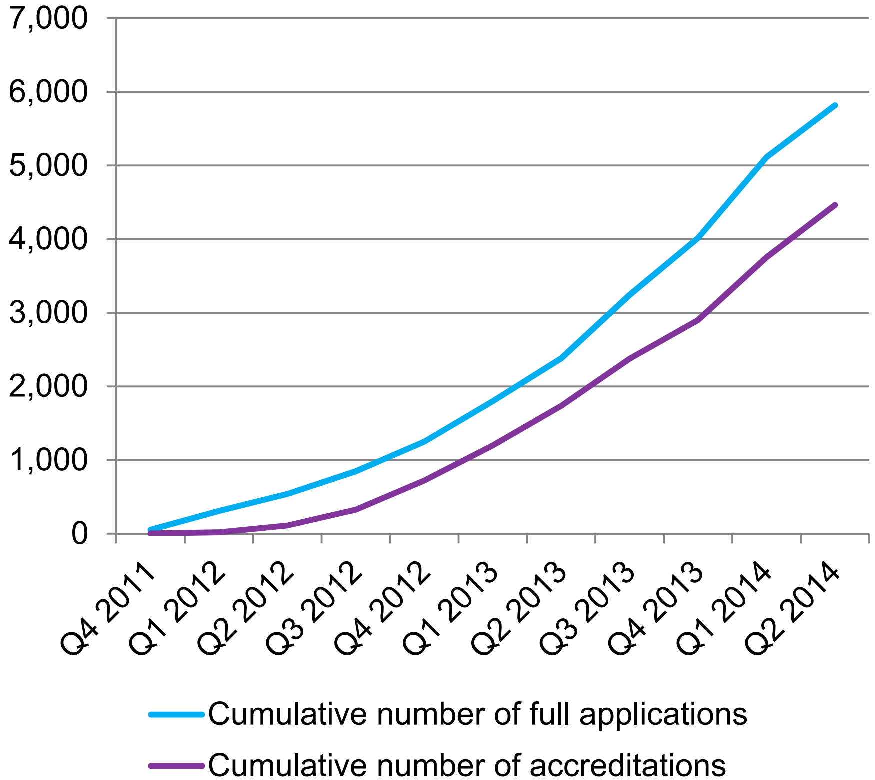
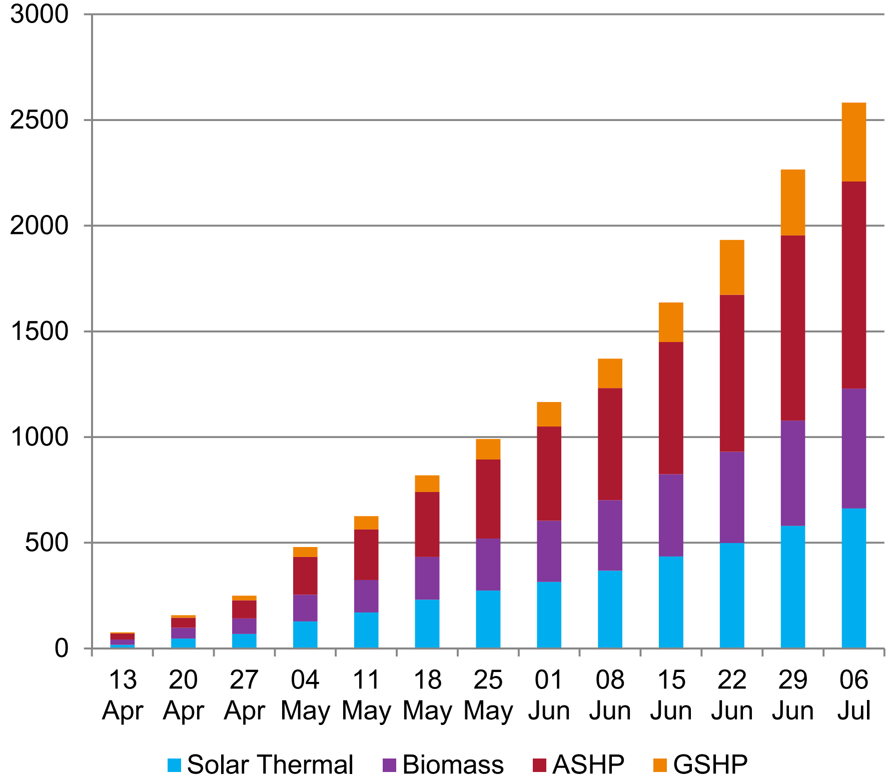
Average monthly application rate for GSHPs has more than doubled over the last 12 months

Non-domestic



Domestic



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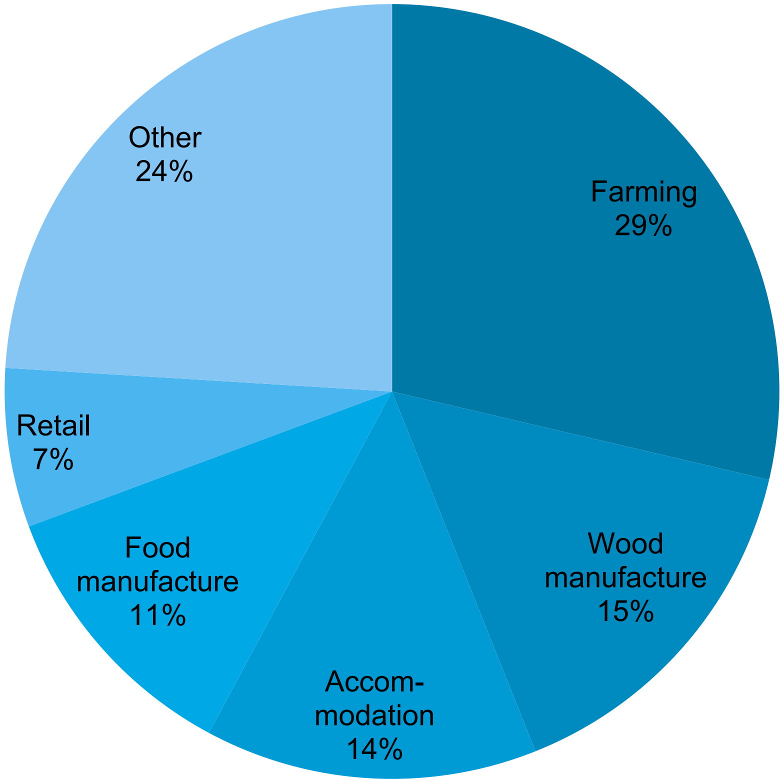
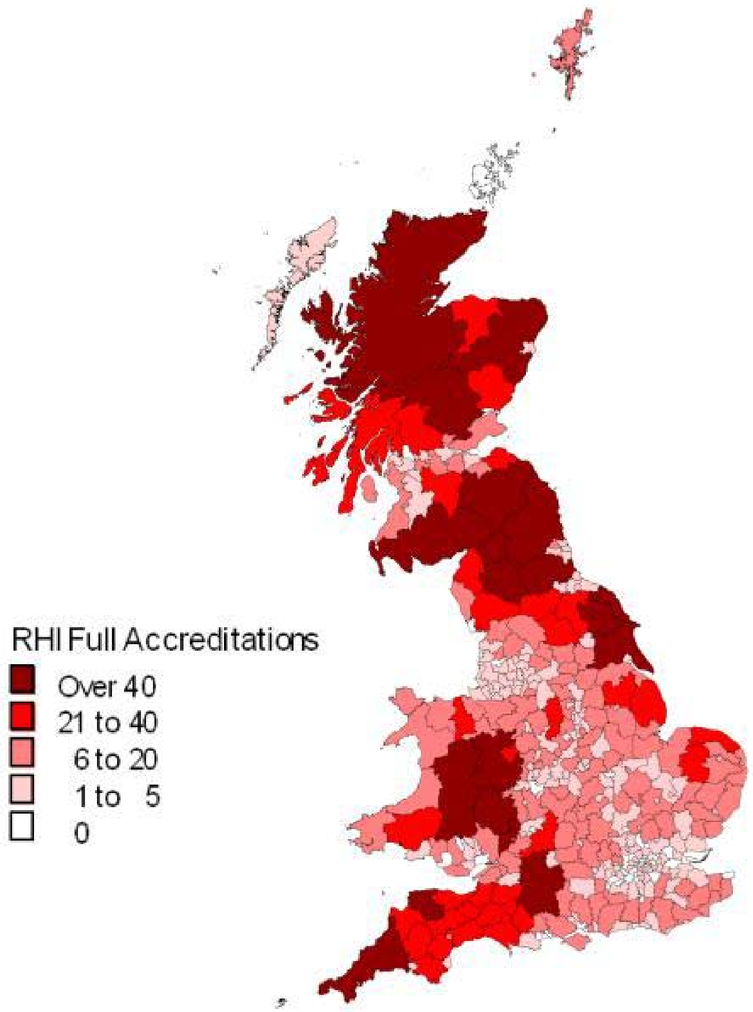
There appears to be **hot and cold** spots of demand by region and sector





Five sectors: ¾ of all heat generated, ⅔ of all accredited installations

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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

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The work ahead - "frequent scheme changes make it **difficult to know the rules** and requirements"

Scheme Delivery

- Budget management
- Application and accreditation rates
- Benefits realisation
- Monitoring and evaluation

Scheme improvements – annual review process

- Technical fixes
- Simplification
- Common issues
  - Fuel records
  - Metering
  - Heat loss calculations

Policy Finalisation

- Biomass sustainability
- Tariff certainty
- Bio-methane tariff review
- Domestic improvements

"New" technologies

- July 2013 guidance
- Evidence reports
- Improve customer journey
- Fostering innovation

Promotion and marketing

- First phase complete – 15 events, evaluation underway
- Second phase under consideration

Training

- £500k voucher scheme extended by £150k in Feb
- Looking at domestic installer and GDA training programmes

Joint working

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Question time

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?

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Finally, to leave you with **two quotes**….

"...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"

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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