Sustainable Thermal Energy Technologies for the Future

The Future of Domestic Heat

HHIC
HEATING & HOTWATER INDUSTRY COUNCIL

The Heating and Hotwater Industry Council

The Heating and Hotwater Industry Council (HHIC) is a member organisation committed to effectively driving, supporting and influencing the sustained growth of the UK domestic heating and hot water industry.

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The Heating and Hotwater Industry Council

- We provide:
- Representation
- Information
- Influence
- Networking & Events
- Technical expertise
- Market data
- Benchmark commissioning checklist
- Press and PR
- Consumer Website
- Consultation responses, to name but a few…….

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The Heating and Hotwater Industry Council

We have been at the **heart of the heating industry for over 100 years**. Making sure our members are always informed and their interests represented.

One voice, united, to influence change.

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Setting the scene

- The heating needs of 86% of English households are met by central heating
- Around 60,000 new customers are connected to the gas network annually
- In 2014, natural gas accounted for nearly 30% of final energy demand
- In 2013, the average British household consumed 13,500 kWh of gas and 4,000 kWh of electricity

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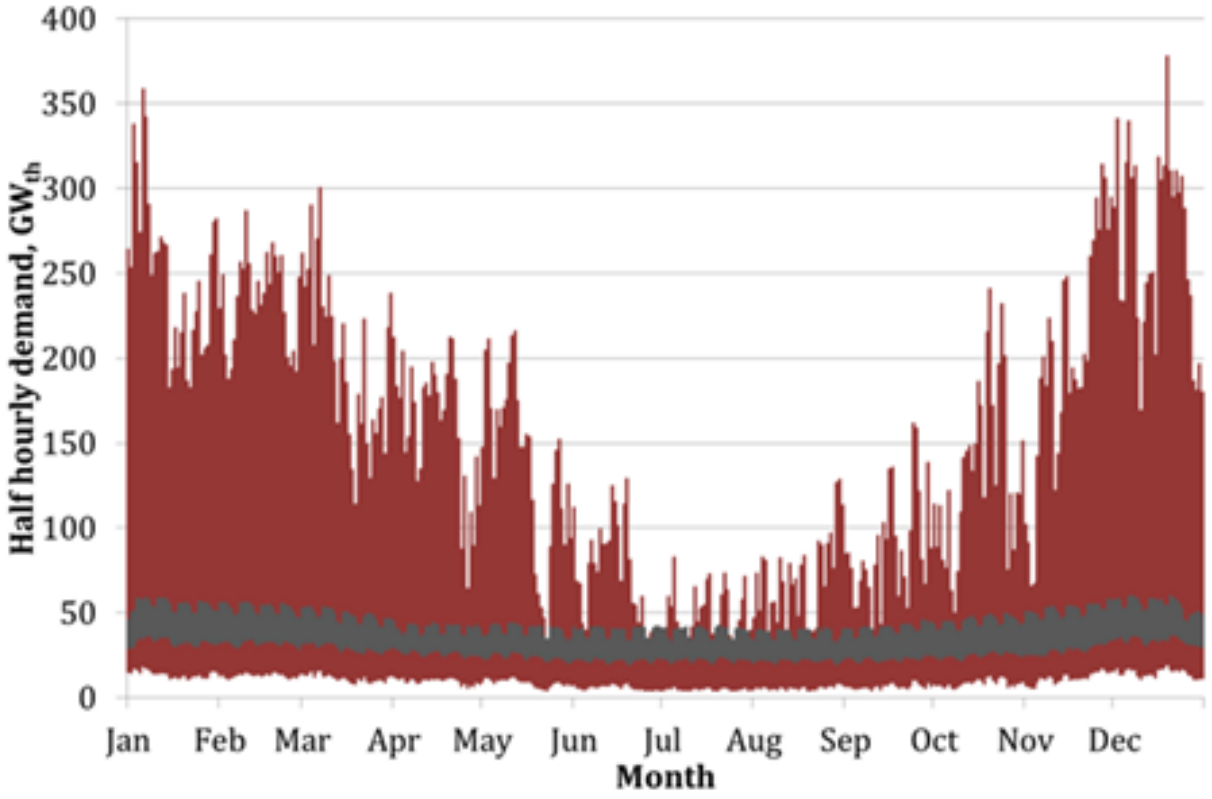
UK energy demand



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Current heat strategy

- 2010: Eventually all systems will be electric by 2050 and electricity will be decarbonised by 2030

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Reality

- No funding for CCS
- Slow progress of RHI
- New nuclear looking unlikely
- 1.6m new gas boilers sold every month

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New heat strategy

- DECC are expected to publish a new strategy later this year
- Expecting it to be less technology prescriptive

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New thinking

- In the past we have looked at end appliances but the fuel is probably going to dictate
- A no regrets scenario is more likely which will allow for a gas future

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How

- Start to look at simple measures now
- Allow a greater role for innovation
- Start to tighten regulation

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Boiler Plus

- 2005 move to condensing boilers is the benchmark
- Hard to replicated
- Marginal gains theory
- DECC are likely to implement from 2017

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Domestic heat policy proposals

Domestic Heat Strategy Group
3 March 2016

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This presentation sets out DECC thinking as of 3 March 2016. The policy and process proposals are not the final, approved position of HM Government.

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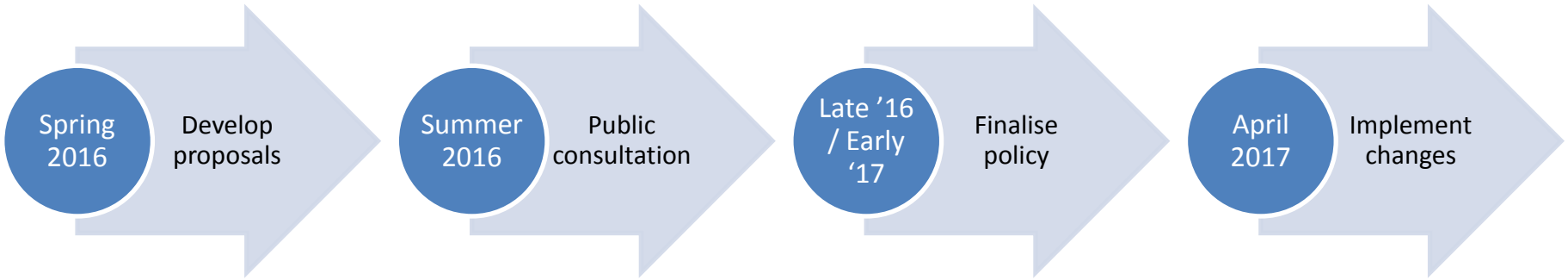
Rationale for intervention at point of boiler replacement

- Large opportunity (1.2 million in England)
- Tolerable for consumers and industry
  - Affordable
  - Easy to do and understand
- Concern for homes with inadequate control
- Supports the UK market on the global stage



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Current policy thinking

When a gas or oil boiler is replaced in a domestic property in England…

Boiler performance

- Efficiency of the new unit to be no less than [X]%
- No more than 2 percentage points lower than the unit being replaced

+ either of

- Thermostat and timer
- Programmable thermostat

+ at least one of

- Zonal control
- FGHR
- Weather compensation
- Time Proportional Integral control
- Automated optimisation

Data and evidence

Still a lot of uncertainty…

Boiler performance

- Level of ambition for the new minimum
- Cost to business
- Cost to consumer

Heating controls

- Wide ranges and high uncertainty:
- Thermostats, timers, TRVs, weather compensation, TPI and automated optimisation

Original research

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Wider opportunities

Domestic

- Hydraulic Balancing
- Radiator sizing
- Lower temperature systems
- Mandatory requirement for TRVs
- Reducing and preventing ‘sludge’

Non-domestic

- Heating and cooling requirements based on diverse uses
- Different ownership structures and impact on decisions about building services
- Current understanding of building requirements and levers (potentially covering regulatory and industry driven approaches)

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Open Policy Making

Engaging stakeholders online

Please disseminate…

https://www.gov.uk/government/groups/heat-in-buildings

DECC would like to publish minutes

GOV.UK

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Questions for DHSG

- What views on the 3-part model, as opposed to holistic system requirement?
- Initial feelings about an appropriate level of ambition?
- What are the costs and where might they land?
- What are the costs for the consumer?
- General thoughts on controls?
- Any other comments?

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Green gas

UK Government has recognised the potential contribution of ‘greengas’

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Green gas

- Biomethane
  - The technology is proven, it has worked for years
  - Severn Trent clean up the Biomethane from their Minworth sewerage works and inject the “green” gas into the grid.

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Green gas

- Bio-SNG
  - Ofgem have recently awarded National Grid funding to develop a commercial scale plant in Swindon.
  - The Swindon plant envisages supplying gas for HGVs but there is nothing to stop it being fed into the gas grid

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Green gas

- Hydrogen;
  - Northern Gas Networks are looking at the feasibility of making the grid in Leeds run on hydrogen
  - Hydrogen could be the next step in the life of the gas grid

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Green gas for the off grid sector……

- Biopropane
- EUA's report- '*Biopropane for the off-grid sector*'

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Green gas

- National Grid expect around 50% of gas to be ‘green’ by 2050
- Biomethane, Bio SNG are already being injected into the grid
- Does require a commitment to improving energy efficiency
- Tests in Oban to analyse effects of different quality gas on appliances

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Thank you

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