

Hot Jobs!

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Housekeeping

- No fire drills (is there ever?)
- Chatham House Rule in place
 - *When a meeting, or part thereof, is held under the **Chatham House Rule**, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.*
- *Twitter = #hotjobsuk*
- *Chatham House Rule Applies there too*
- *Caveat: This is all new stuff and everything I say may be wrong*



About UKERC



- The UK Energy Research Centre (UKERC) carries out world-class research into sustainable future energy systems.
- UKERC research is driven by real-world energy system challenges, and is directly relevant to policy makers and other stakeholders.
- Our interdisciplinary, whole systems research informs UK policy development and strategies of public, private and third sector organisations.

The Heat Network

- Funded through the EPSRC ‘Whole Systems networking Fund’
- Led by 10:10 and myself at Exeter
- Aiming to encourage participation and networking in order to drive UK heat system decarbonisation
- Health/engagement/games/quests



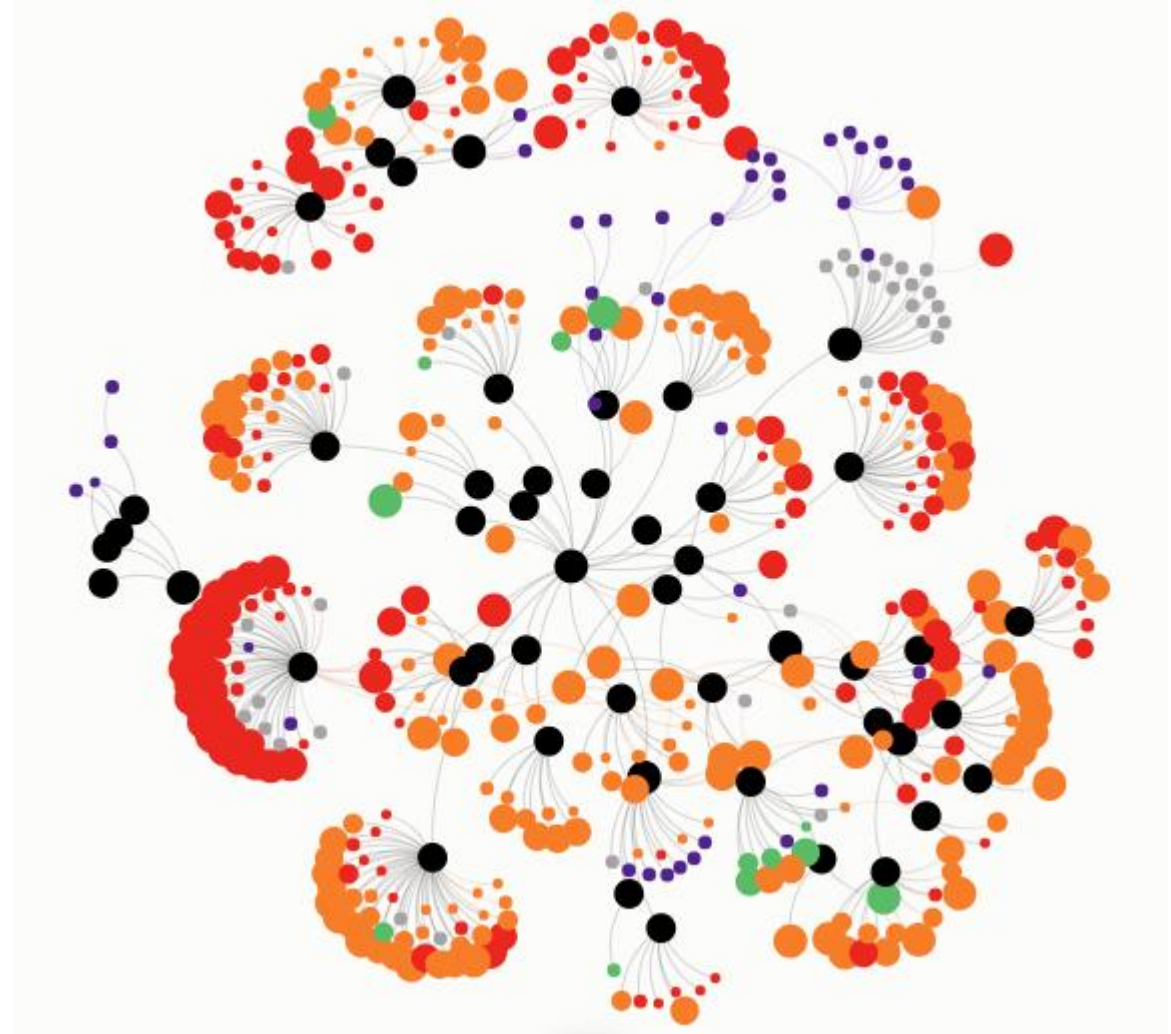
So what's today all about?

- Decarbonising heating is vital if the climate change targets are to be met
- The combustion of fossil fuels effectively needs to be eliminated from buildings
 - Yet 85% of homes are connected to the gas grid
 - Around 1 million homes heated by oil (about 4%).
- 2050 appears to be the date
- Rapid and transformational change is required:
 - Building retrofits
 - New infrastructures
 - New generation
 - New appliances
- Meanwhile, gas imports are rising, 60% imported last year at a rough cost of £10 billion



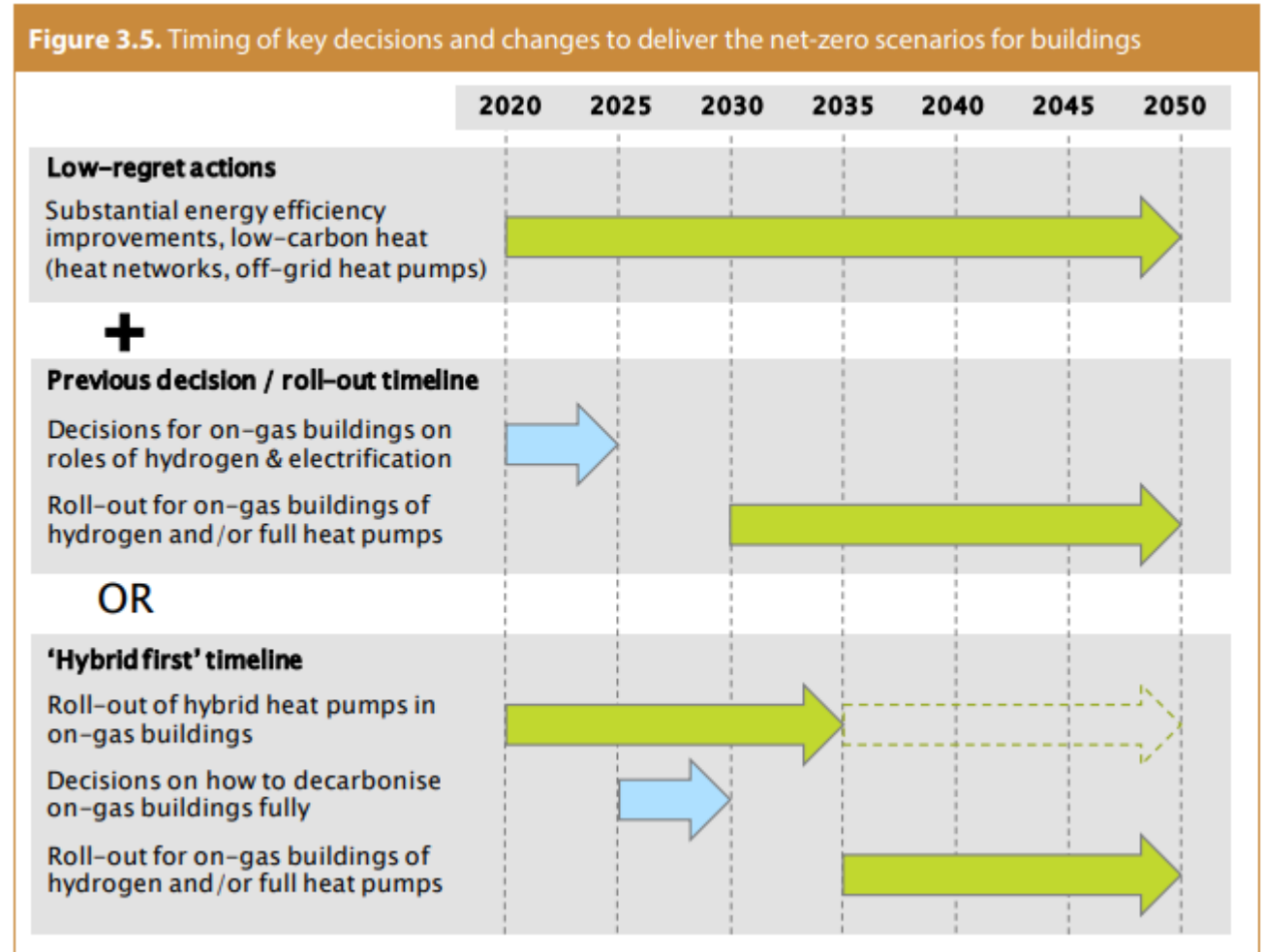
The heating industry today

- Big and diverse
- 115,000 (gas) engineers (Gas Safe)
- 40,000 in upstream oil and gas (Fact Check, 2014)
- 10,000 at the gas networks (own numbers)
- And lots more



Pathways

- The future picture is currently complicated by the fact:
 - There are currently two main heat decarbonisation pathways (in policy documents)
 - 1. Electrification (lots of heat pumps) plus DH
 - 2. Low carbon gas (hydrogen)
 - This picture is complicated by the fact:
 - Combinations of pathways can occur
 - Hybrids
 - Geographical differences



But how can we make this investment fair and maximise value?

- We know a lot of money will be involved
 - Switching buildings to net zero will cost £15 billion/year by 2050 according to the CCC Net zero report, that's 0.4% of GDP in 2050.
 - Approx. £232 billion compared to do nothing
- How we spend that £232 billion could have a major impact on jobs and the wider economy.
 - NHS spending for 18/19 was approx. £126 billion.
 - We spent around £10 billion on gas imports in 2018
- How will existing jobs be affected and how will new jobs be created?
 - What skills are needed?
- How is the UK's wider economy affected and how can heat decarbonisation support the Government's wider industrial strategy?
- How can we decarbonise to increase energy security?



Here's a potential situation:

- Decarbonising heating may see an end to the UK's gas network yet these networks currently employ around 10,000 people.
- Yet retrofitting homes and decarbonising heat would need a larger engineer/installer workforce. This (gas installer) workforce is currently 115,000 people.
- This approach would also likely see the UK import less gas
- Is short term pain worth it?
- How can we make this just?



Conversely

- If we were to decarbonise the gas grid as is proposed by the gas industry and others:
 - A continued reliance on natural gas is implied in order to produce hydrogen
 - This would most likely lock the UK into importing even more gas potentially limiting value to UK PLC (multiplier effects/trade balance).
- Could this be justified if it would maintain the gas workforce?



So to help us consider these issues we have:

- Professor Goran Strbac – Imperial College London
- Lesley Rudd – Sustainable Energy Association
- Unnada Chewpreecha – Cambridge Econometrics
- Stuart Fegan – GMB Union
- 12:30 lunch
- And then all of you!

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References

CCC (2019). Net zero report. <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-Technical-report-CCC.pdf>

Full Fact (2014). Employees in the UK oil and gas industry, <https://fullfact.org/economy/how-many-jobs-are-supported-uks-oil-and-gas-industry/>