Hot Jobs!

Richard Lowes – University of Exeter
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
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!
References
