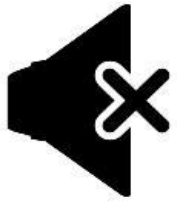
Welcome to our Clean Heat webinar



Due to a large audience, **please put yourself on mute and turn your video off**

Please use Slido for all questions and comments:
www.slido.com
Slido code:
#67453

As we're expecting a large number of attendees, we probably won't get to answer all questions or address all comments today. If you want a response, please leave your name on slido, or email FES@nationalgrideso.com, we'd be delighted to follow up with you separately.
Please note we will be recording the session.

Clean Heat

Heat decarbonisation and its implications for electricity and gas system operation

Alex Hart and Archie Corliss

08 December 2020

nationalgridESO

Agenda

1100 – 1110	**Welcome and introduction**
1110 – 1125	**Overview of our Clean Heat thought piece**
1125 – 1145	**Our questions to you**
1145 – 1155	**Q&A**
1155 – 1200	**Wrap up and next steps**

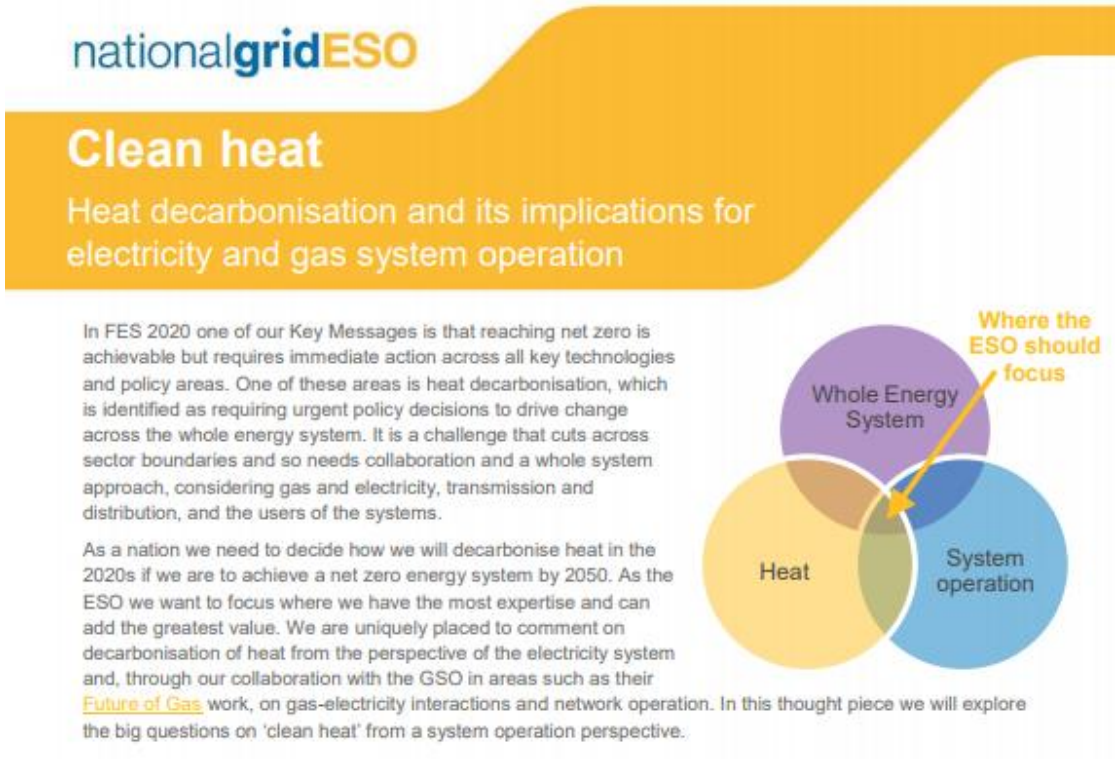
Please ask questions as we go on sli.do #67453

Please fill in our feedback survey here – open until 15/12/20.

Sli.do code #67453

We published a thought piece on the future of clean heat

- What are the options for the future of heat?
- How to ensure that the lights stay on and homes stay warm?
- What are the external factors that could affect clean heat pathways?
- How to collaborate for whole system clean heat solutions?
- What are the next steps needed to deliver clean heat?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Clean heat

Heat decarbonisation and its implications for electricity and gas system operation

In FES 2020 one of our Key Messages is that reaching net zero is achievable but requires immediate action across all key technologies and policy areas. One of these areas is heat decarbonisation, which is identified as requiring urgent policy decisions to drive change across the whole energy system. It is a challenge that cuts across sector boundaries and so needs collaboration and a whole system approach, considering gas and electricity, transmission and distribution, and the users of the systems.

As a nation we need to decide how we will decarbonise heat in the 2020s if we are to achieve a net zero energy system by 2050. As the ESO we want to focus where we have the most expertise and can add the greatest value. We are uniquely placed to comment on decarbonisation of heat from the perspective of the electricity system and, through our collaboration with the GSO in areas such as their Future of Gas work, on gas-electricity interactions and network operation. In this thought piece we will explore the big questions on 'clean heat' from a system operation perspective.

Thought piece published here on the 16th November
https://www.nationalgrideso.com/future-energy/future-energy-scenarios/bridging-the-gap-to-net-zero

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Our questions for you

Now we want to know what you think on:

- How will people heat their homes,
- How do they make their decisions
- What will they and won't they be willing to do

We're asking for feedback in multiple ways:

- Responses on sli.do in this webinar
- The survey we sent out before the webinar

Please also put questions for us in on sli.do

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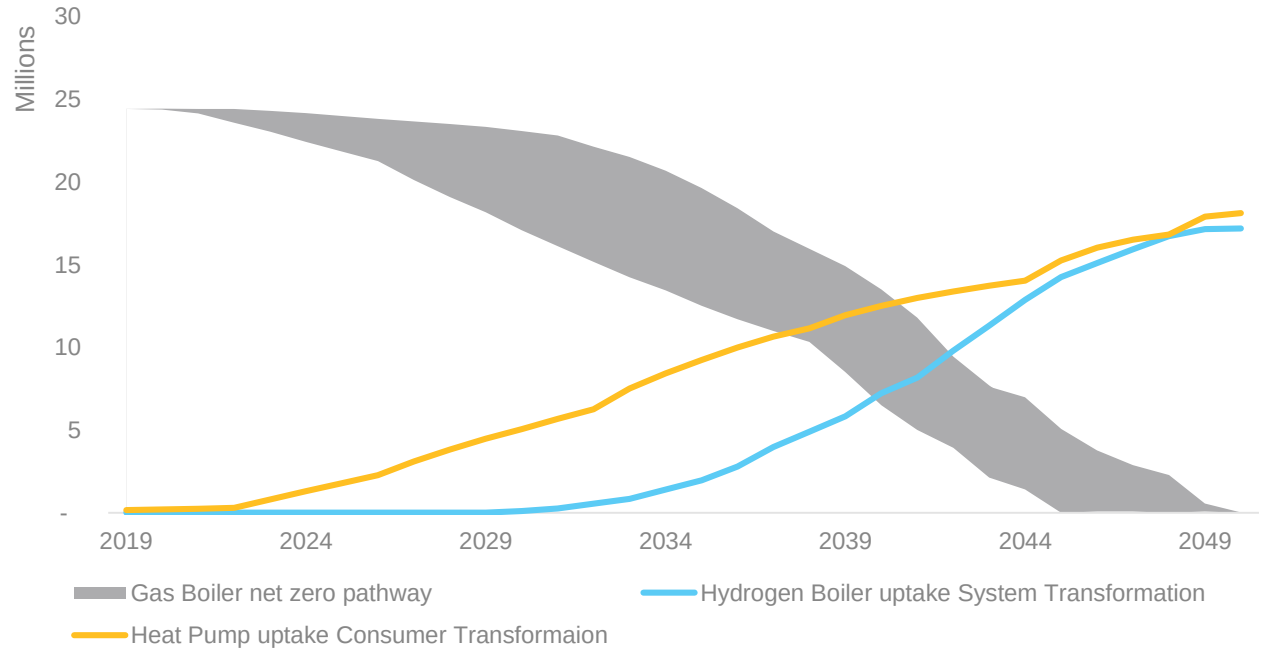
Question 1

What are the limitations of the different types of clean heat?

Could it be any of:

- Consumer awareness?
- Capital costs?
- Consumer experience?
- Technology performance?

Heating technology take-up by scenario in FES 2020 (FES CV.10, ED3)



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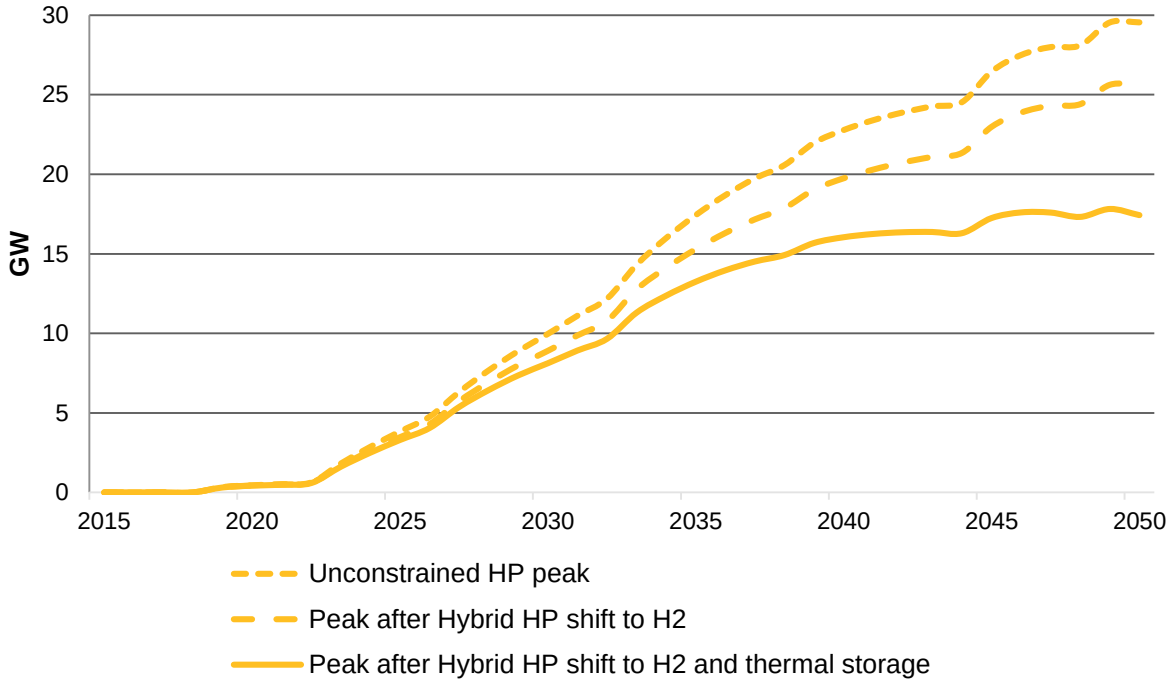
Question 2

What will be the most important factors for limiting how high peak electricity demand will get in extreme winters?

Will it be:

- Homes better insulated?
- Heat pumps delivering heat more continuously throughout the day ?
- Smart demand control responding to market signals?
- Thermal storage demand shifting?
- Hydrogen boilers or hybrids dominate?
- Something else?

Impact of hybrid heat pumps and thermal storage on electricity peak demand in Consumer Transformation (FES SV.41)



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Question 3

In 2050, what percentage of electrically heated homes will use thermal storage to help them time-shift their space heating demand?

This one is a poll, please answer on sli.do

- 0-10%
- 10-30%
- 30-50%
- >50%

Q&A

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Thank You

Please fill in our feedback survey here – open until 15/12/20.

Find our thought piece here.

Contact: FES@nationalgrideso.com for any further questions/queries