

**Notes from 3 April Hy4Heat WP2 (hydrogen quality standards)
Q&A and discussion**

STANDARDS

- 1. There are a number of standards, but many are not related to hydrogen gas... are you excluding some standards from this work package scope (for eg those relating to meters)?**
 - WP2 is focusing on safe use of hydrogen for use for heat in buildings and standards that apply to that use
 - But, of course, commercial buildings often have lots of pipework within them leading up to meters and ECVs (emergency control valves) - however the Hy4Heat programme is focused on 'downstream of the meter'

- 2. There are some British standards that IGEM doesn't get involved in?**
 - Today's discussion regarding WP2 (hydrogen gas standards) is concerned with IGEM standards
 - Other technical issues relevant to other standards (for eg BSI, etc) may well be addressed under future work packages (eg WP3 and WP7)

- 3. Some IGEM standards may require research to be updated – is this included in Work Package 2?**
 - Research will be required (outside of Lot 2: purity, colourant, odorant) but this is not included in WP2
 - We would expect that committee feedback would help define what research is needed

- 4. Are the occupational standards part of this work package?**
 - They are not part of WP2
 - However occupational standards will need to be developed for WP9 (preparation for a community trial) to be delivered

- 5. Is it correct that you're looking to replace GSMR?**
 - Hydrogen falls outside GSMR – as GSMR only pertains to gas more than 50% methane
 - However, in practice, compliance with the ethos of the 1996 Regulations is useful

PURITY

- 6. Natural gas specification is variable so why does hydrogen need to be around 99% purity? As no heating application requires that (although of course fuel cells do)**
 - The Hy4Heat programme is focused on 'full' hydrogen (not blended)
 - We need a cost benefit analysis of purity that may be relevant across a range of applications

7. Is the best bid going to be the one with the highest purity?

- The purpose of the work is to define what the appropriate purity level should be

COLOURANT

8. What about appliance standards and performance regarding colourant?

- This is not for the scope of WP2, but will be addressed in WP3, WP4, WP7.

9. The colourant options are mostly metals - do we need a safety case for particles?

- This is to be determined as part of Lot 2 and will depend whether the addition of colourant is at the appliance or the GDNO level?

10. Could hydrocarbons be added as a way of enabling flame detection?

- For the Hy4Heat programme – no. Hy4Heat is tasked to consider ‘full’ hydrogen

ODORANT

11. The existing odorant isn’t compatible with fuel cells

- With regard to odorant there’s a requirement to retain the same smell. So for a potential community trial in the early 2020s ideally the current odorant can be used. If it doesn’t work – there will need to be an alternative
- There may well be a future, wider, debates around issues such as fuel cell compatibility, and what’s envisaged for 2050

12. In projects such as H100, there is work underway on odorant already: testing the effects at the boiler, olfactory tests, etc. What do you expect the Hy4Heat project to add? Is there an overlap?

- The Hy4Heat programme is focused on ‘downstream of the meter’. The programme does not look to duplicate work, but there may be areas where it needs to ‘plug the gaps’
- The HSE has made it clear that for Work Package 9 (community trial preparation) retaining the existing odorant is preferred – if it’s possible to do so

BIDDING / SCOPE

13. If an organisation has a close relationship with IGEM or other programmes – is it restricted from bidding for WP2 lots?

- No – it will not be excluded from bidding
- The Hy4Heat programme management contractors (Arup+), are excluded from bidding for further Hy4Heat work packages

14. Is the production of hydrogen something for the cost / benefits analysis?

- Yes. WP2 is looking for an indicative cost benefit analysis – using secondary literature sources
- For example there are a number of American studies that look at SMR (steam methane resources), electrolysis, etc, and WP2 is looking for an analysis using the published literature and passing comment

15. Do you have to bid for all of lot 2? Or can you bid for elements of it?

- Lot 2 of WP2 needs to be bid for in its entirety.
- WP2 has been divided into:
 - Lot 1 – IGEN technical standards update and delivery coordination
 - Lot 2 – R&D

Just a reminder that organisations have until mid-April to make any comments on the BEIS terms and conditions