

Learning Outcomes

The course will develop this understanding by developing the candidate's knowledge of the specific challenge around decarbonising heat.

Theme 1

introduction to the challenge - Through the introduction the candidates will be made aware of the UK's reliance on the gas network and its future role for delivering energy. Some knowledge of low carbon technologies is expected but candidates will also be introduced to more detail about the technology options utilising hydrogen with a focus on heat generation.

Theme 2

Hydrogen properties - Comparisons with natural gas is the most effective way to develop understanding. Prior knowledge of hydrogen may be misunderstood so the content will deliver common misconceptions. This theme will allow candidates to understand the differences between natural gas and hydrogen and how this may impact the gas network. Particular gas properties which will be addressed are:

Limits of combustion

- Relative density of hydrogen
- Calorific value
- Hydrogen flame speeds
- Radiant heat output

Theme 3

Hydrogen and the gas network - An overview of the high pressure network, hydrogen production and storage will allow candidates to understand how the whole system operates. This will build on the

candidate's knowledge of the low pressure tiers and develop their understanding of the network as a whole. Candidates will be able to detail how a hydrogen rollout will be undertaken and technologies used for hydrogen production.

Theme 4

Hydrogen in the home – An overview of appliance changes, safety implications and leak rates will be provided to candidates which will allow them to understand how hydrogen will impact their job. This section is likely to be of most professional interest so questions will be encouraged here to ensure candidates get the understanding they want.