Green Hydrogen

Hydrogen is a potential renewable energy solution for both building heating and as a fuel for electric vehicles as when it burns, it oxidises to H20 (water).

- A trial has already successfully taken place at Keele University which replaced 15% of natural gas with hydrogen
- A further trial is due to take place in Northern England in 2021 in a small area to test the use of Hydrogen in real world conditions using equipment that has been decommissioned.
- Adding 15% H2 to natural gas supply will be a short term measure which requires no changes to current natural gas boilers. Ultimately, gas boilers will need to be swapped for 100% hydrogen boilers at some point, but this can be done on a specific area with incentives for householders to make the move.

Hydrogen is primarily produced today from the byproduct of producing natural gas for domestic supply. However, another way of creating Hydrogen is to split water by electrolysis. This process isn't currently used due to the costs of electrolysis outweighing the energy supplied. However, one of the issues of solar is that during the middle of the day, it produces more energy than the national grid can accommodate. This excess energy could be used to produced Hydrogen rather than being wasted. This process can be considered as another example of energy storage. Hydrogen can be used not only to heat houses but also to power ships and planes Other issues to overcome with 100% green hydrogen, however, include risk of explosion and the effect on metal pipework making it brittle. There will be a need to find a stabiliser that overcomes these problems.