

Caversham Heights Society 7<sup>th</sup> November 2018

“Fusion - a clean future?”

Chris Warwick from the Culham Atomic Research laboratories talked about the attempts at Culham to fuse hydrogen atoms together in order to generate energy that could then be used in the National Grid. This has been the “Holy Grail” since the 1950s but still has a long way to go.

There is a sense of urgency to find a means of producing cheaper energy as soon as possible because it is estimated that the amount of energy needed will double by 2050. Currently the USA uses twice the amount of energy than any other country. Both Professors Stephen Hawking and Brian Cox have advocated the development of nuclear power as the future way to go and the Russians began with their Tokamak reactor and the Joint European Torus (JET), funded by the EU, is what is being used at Culham.

Although hydrogen particles have been joined together the difficulties are in getting them to stick together for sufficient lengths of time to be able to generate electricity. The hope is that JET scientists will be able to do this by 2050, though the old-fashioned power stations would need to be adapted for any benefits to be felt. If such developments can be achieved the benefits would be clean energy; the need to burn fossil fuels would be eliminated; the timescale could be long lasting. If JET could be replicated on a smaller scale the UK could become the leading country in this sphere.