

Fusion energy at COP26: Gamechanger for our global energy future

Fusion energy promises a step change in the way the world's future energy demands are met in a low-carbon, safe and sustainable way.

This will be the message from scientists and engineers from the fusion energy community to world leaders on the final day of the COP26 conference in Glasgow.

Fusion – the process that powers the sun and stars – promises a near-limitless low carbon energy source for the long term. It has the capability of meeting the global surge in electricity demand expected in the coming decades.

Professor Ian Chapman, UK Atomic Energy Authority CEO, said: “Fusion energy is low carbon, safe, efficient, and the fuels exist in abundance. It's a gamechanger for our global energy future. I'm in no doubt that fusion will be a complementary part of the energy mix for generations to come. It's one of the biggest scientific and engineering quests in history, up there with the Apollo programme, and the rewards for success will be huge for our planet.”

Fusion energy has been one of science and engineering's biggest challenges yet. Teams of scientists and engineers around the world are working intensely on research and development breakthroughs in fusion, and these endeavours are continuing to gain momentum. The Joint European Torus (JET) is at the forefront of this research – as is the ITER project, a collaboration of 35 nations in the south of France.

The ITER members, including the USA, China, India, Japan, Korea and Russia, along with the European Union, are constructing one of the world's largest international science and engineering collaborations in history. ITER is now in full assembly phase, and soon to be completed.

Dr Bernard Bigot, Director General of ITER and chair of the panel at COP26, said: “Fusion scientists and engineers are closer than ever to getting this revolutionary clean, sustainable energy switched on. Here in Glasgow, we are inviting leaders to look towards a future in which fusion is a key part of the worldwide zero carbon energy mix.”

Alongside international collaborations, more than US\$2 billion of private investment has been pumped into a rapidly expanding number of innovative fusion companies.

This surge has led to fusion being classed as a critical piece of the future global energy puzzle, and complementary to other sustainable energy efforts.

The COP26 panel session is hosted by UKAEA and will stream live on the UK Government's YouTube channel at <https://www.youtube.com/watch?app=desktop&v=v2WdlxZqLYM&feature=youtu.be>.

Representatives from UKAEA, University of Manchester, Max Planck Institute and Energy for the Common Good will also contribute.

UKAEA is a world leader in the drive to commercial fusion power, with plans well advanced for a prototype fusion power plant (STEP, the Spherical Tokamak for Energy Production), set to be operational in the early 2040s.

For media enquiries, further information and interview requests at COP26, please contact UKAEA Media Manager stuart.white@ukaea.uk.