



STEP **Spherical Tokamak for Energy Production, Nottinghamshire**

CASE STUDY

The potential of fusion energy to provide a virtually limitless source of low-carbon energy has been of growing interest for policymakers. The Midlands looks set to play a leading part in the work to open up a path to commercial viability, as the location for UK Industrial Fusion Solutions' Spherical Tokamak for Energy Production (STEP) programme prototype fusion power plant which will be built at the former coal-fired power station site at West Burton in North Nottinghamshire.

The prototype will be more compact than other fusion energy machines, which could lower costs and will potentially reduce the plant's physical footprint. It will be spherical in shape, which enhances the efficiency of the magnetic field that is used in the tokamak, where the hot plasma of fusion fuels will be confined and controlled.

Not only will this pave the way to the commercial viability of fusion, but the prototype plant also promises enormous opportunities for new business investment, supply chain opportunities and regeneration in the region.

There are expected to be a significant number of jobs created during the construction phase, followed by a pipeline of highly skilled long-term roles once operations begin – currently targeted for the early 2040s. STEP's legacy will be the development of a world-leading fusion industry with a local fusion workstream.

A programme of outreach activities is already underway, including visits to local science festivals, schools, careers fairs and community events to engage surrounding communities with the project and forthcoming job opportunities.

In the long-term, as STEP continues to develop, there is an ambition to position the Midlands as a global hub for a wide variety of technological and scientific expertise, building on the region's already strong reputation in more established energy technologies.

This is one example of how frontier clean energy technologies are being developed in the Midlands, with innovation in this space being key to ensure energy security and enable the energy transition.