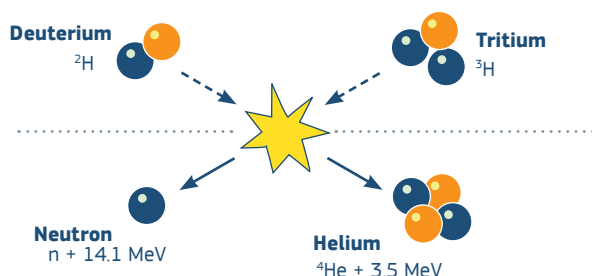


The ITER project

ITER is a unique project to build the biggest fusion device in history, with the goal of demonstrating the scientific and technological feasibility of fusion as a potential energy source for the future.

Fusion power

Fusion is the process that powers the sun and other stars. When light hydrogen atoms are heated at extremely high temperature they merge together, releasing energy. The most promising type of fusion for energy production is deuterium-tritium (D-T) fusion. Deuterium and tritium are types of hydrogen that will be the fuel for the reaction inside ITER.



EU at the forefront

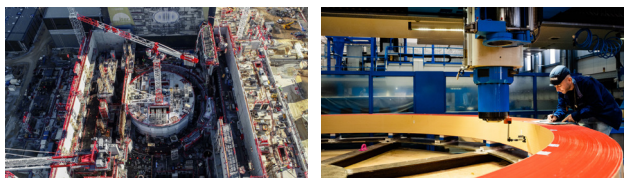
Formed in 2006, the ITER project has strengthened EU leadership in fusion research while also creating new skills, jobs and business opportunities for small and established companies in Europe. Participating in ITER also represents an investment in a disruptive technology that could form an integral part of the European energy mix in the second half of the century. As a low-carbon, climate-friendly solution, fusion could work in tandem with renewable energy sources to create a balanced and sustainable mix.

To further support fusion innovation and development, the European Union allocated €5.6 billion to the project in the EU budget for 2021-2027.



A unique infrastructure

On earth, fusion can be reproduced in devices called “tokamaks”. There are several tokamaks currently operating or under construction all over the world, including the Joint European Torus (JET) in the United Kingdom, and the JT-60SA tokamak located in Japan.



ITER will be the largest tokamak in the world; approximately 30 meters high and 30 meters wide, weighing 23,000 tonnes. As an experimental device, it is not designed to produce electricity. It will, however, pave the way towards a demonstration fusion power plant in the second half of this century, which will produce electricity and serve as a precursor to commercial fusion power production.

An international collaboration

Seven international partners are collaborating to construct and operate ITER:

- the People’s Republic of China
- Euratom (represented by the European Commission)
- the Republic of India
- Japan
- the Republic of Korea
- the Russian Federation
- the United States of America

This ambitious project is currently under construction in Cadarache, France. The date that it begins operations, called “First Plasma”, is expected to be at the end of 2025.

