FUSION ENERGY:
The Gate to Competitiveness, Resiliance and Sustainabilty

COSYLAB

Advancing humanity.
Engineering remarkable.

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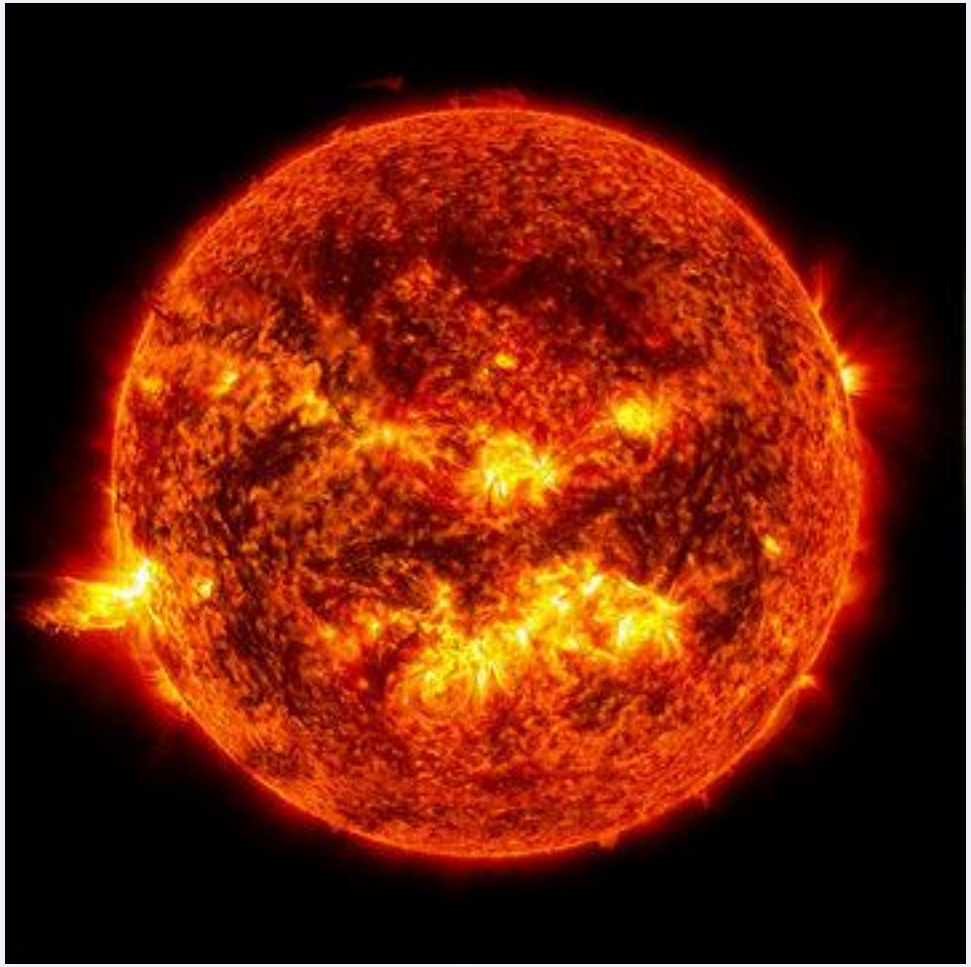
What is Fusion Energy (1/2)

- The same energy process that lights the sun, only in a controlled environment on earth



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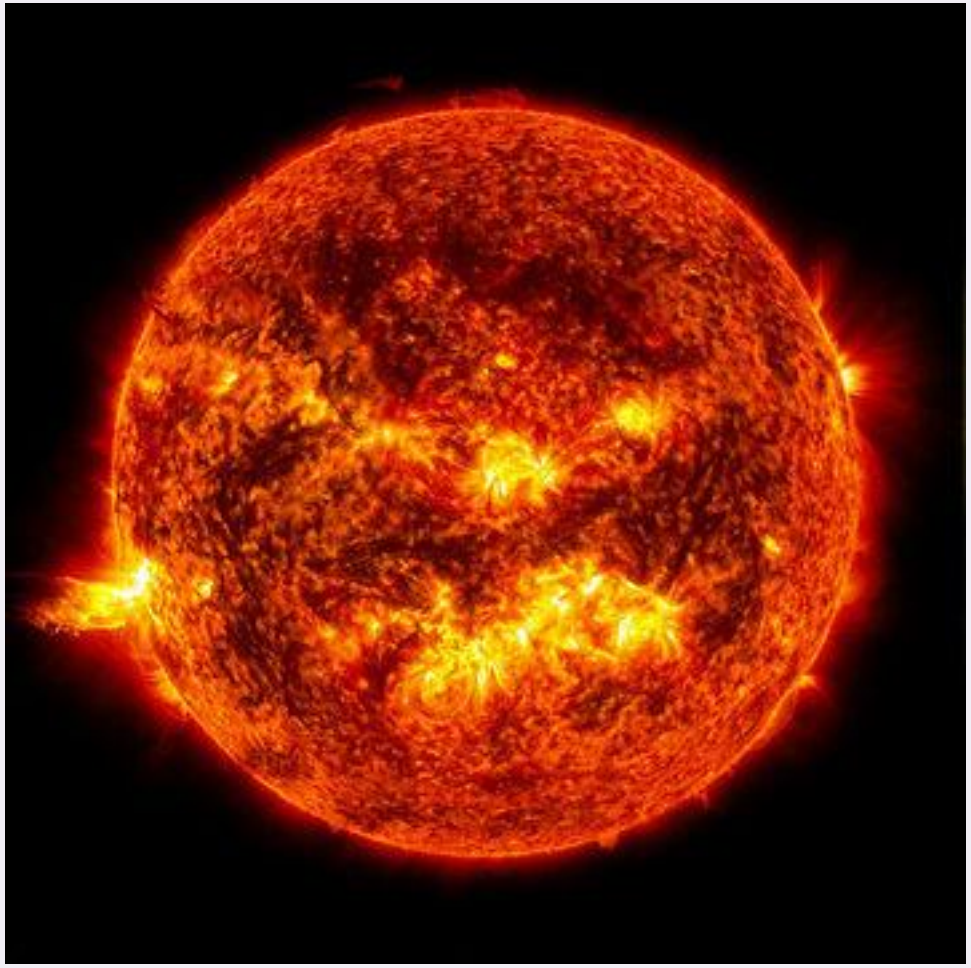

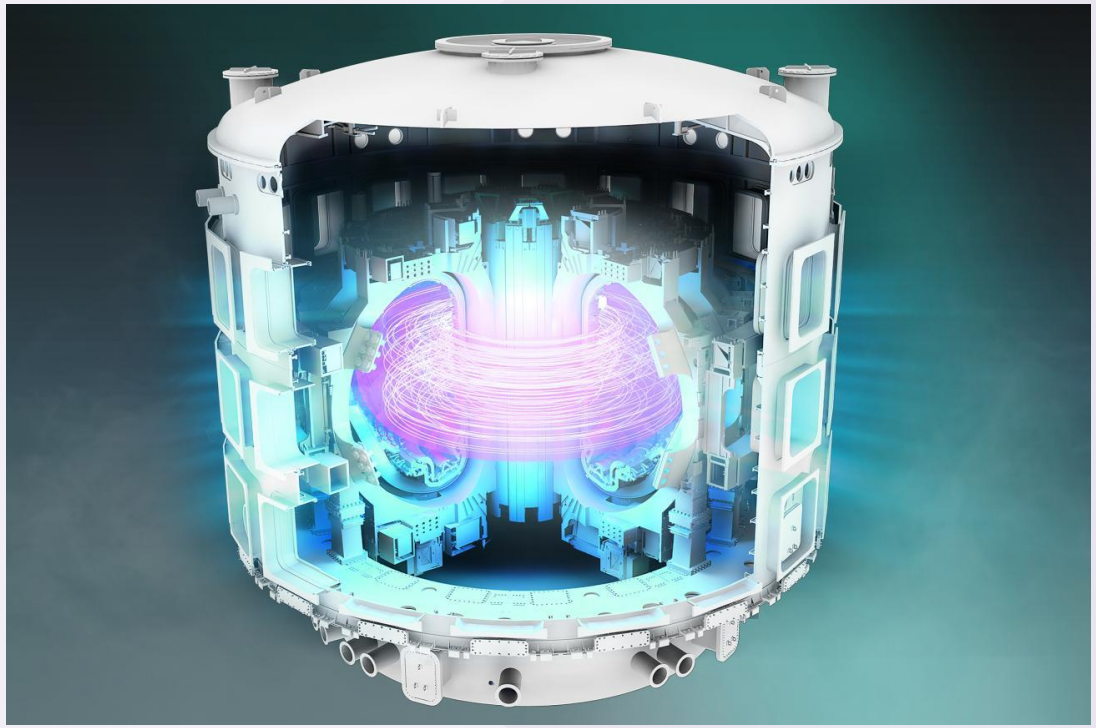

What is Fusion Energy (2/2)

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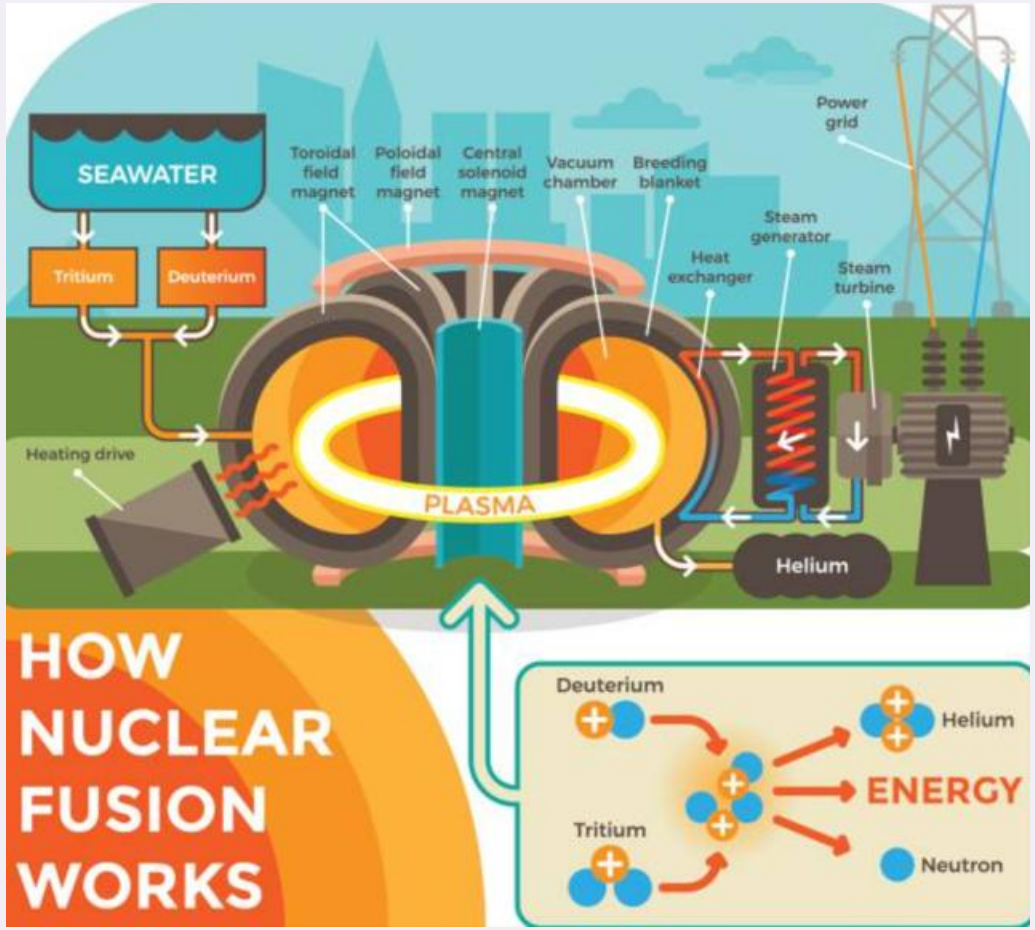

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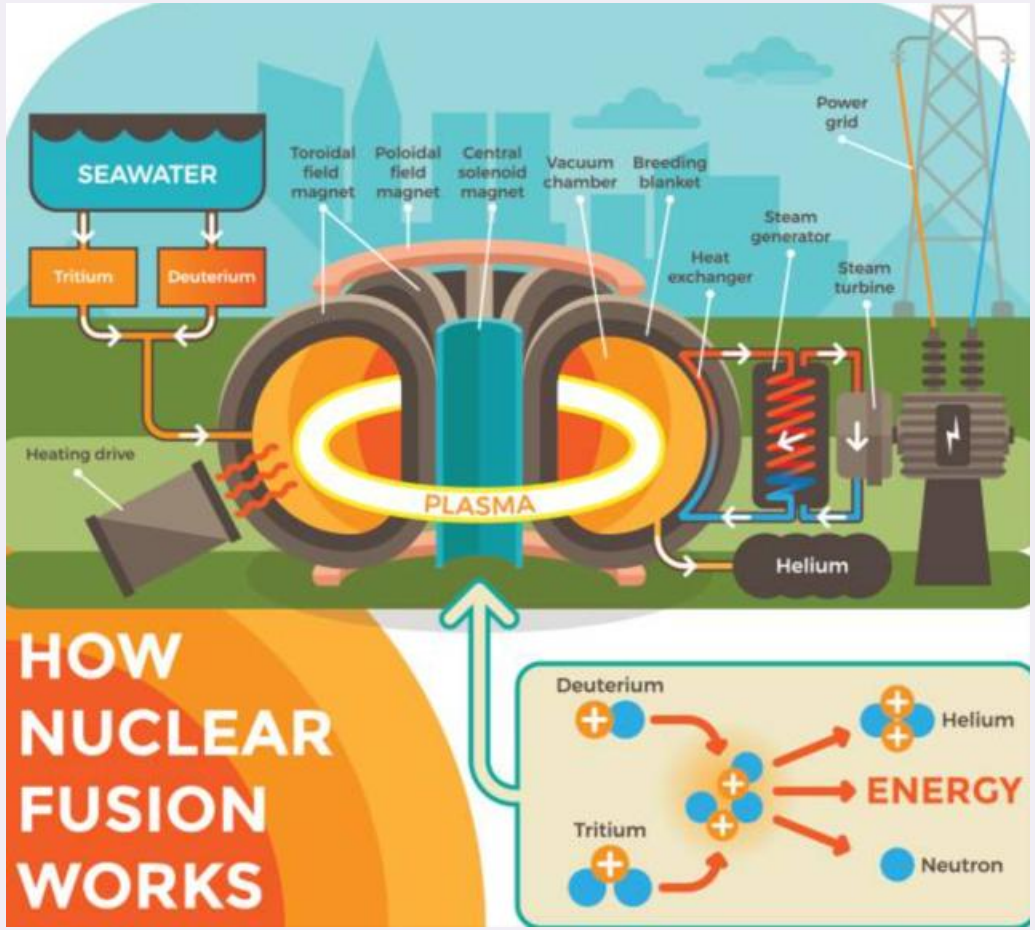

Benefits of Fusion Energy

- Practically unlimited source of energy, fuel is practically only seawater
  - Eliminates strategic dependencies
  - Solves challenge of decarbonisation, green transition and energy costs
  - covers all needs of AI and other energy-intensive industries
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- Safer than fission power plants
  - No long-term radioactive byproducts
  - Off is off – no danger of meltdown

Governments Have Long Invested in Fusion R&D

Major Fusion Projects in Japan

Japan utilizes a "multipath approach" to fusion, exploring different magnetic confinement designs simultaneously.

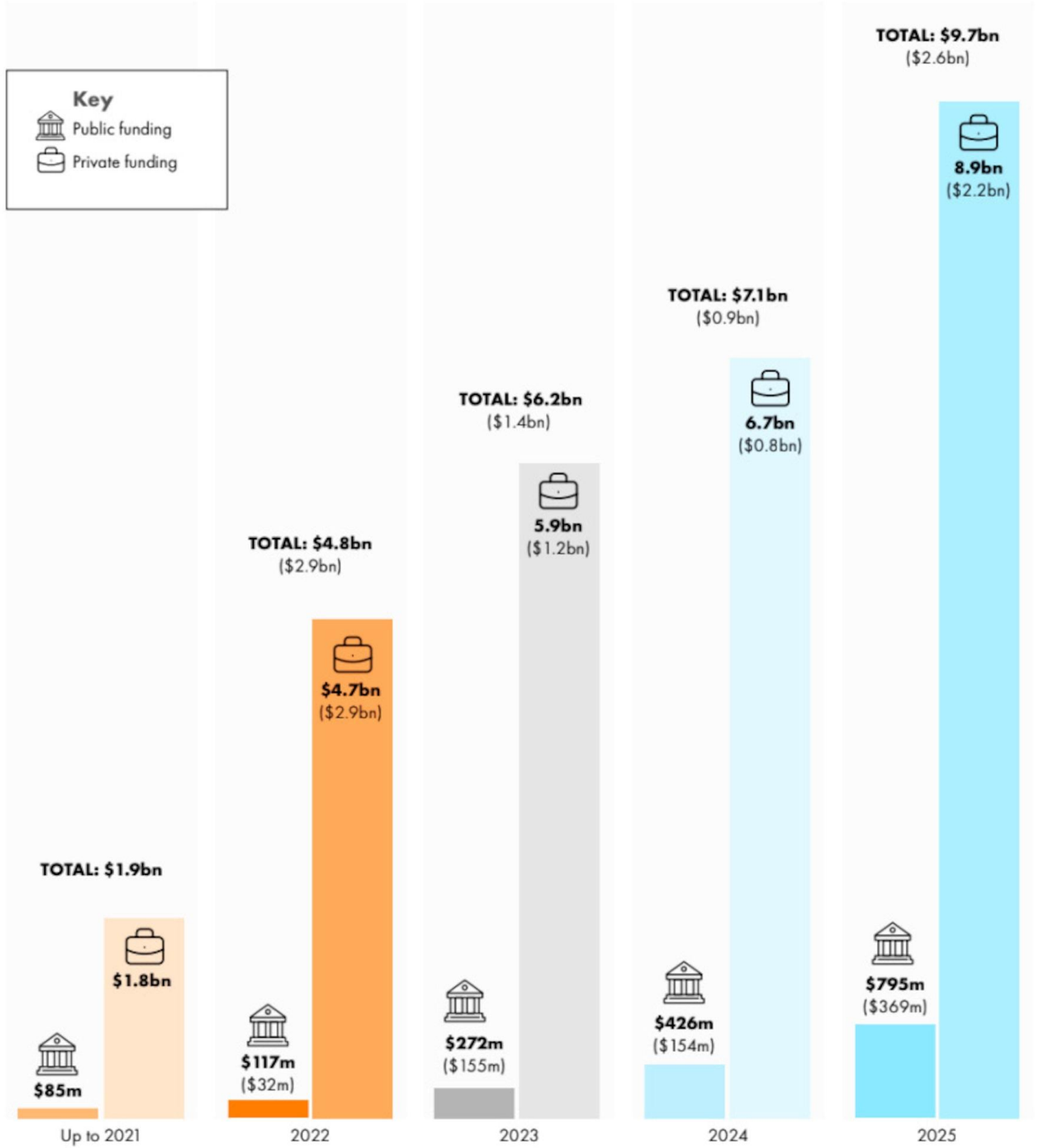
- **JT-60SA (Tokamak):** Located in Ibaraki Prefecture, this machine is the largest operating tokamak globally. It uses superconducting magnets to confine plasma heated to 200 million°C. It successfully sustained a plasma vortex for 100 seconds, breaking previous duration records.
- **Large Helical Device (LHD - Stellarator):** Operated by the National Institute for Fusion Science (NIFS), the LHD uses a stellarator design with massive twisted superconducting coils. It has successfully sustained plasma for over 54 minutes.
- **FAST Project:** A pioneering public-private collaboration aiming to demonstrate fusion-based power generation in the 2030s.

Major Fusion Projects in EU

The EU's fusion strategy involves massive international collaborations alongside specialized research laboratories across member states.

- **ITER:** Demonstrating technical feasibility and net energy gain (Q≥10).
- **JET**: Former flagship facility; set world records for fusion energy production.
- **Wendelstein 7-X:** Investigating alternative confinement methods to tokamaks for continuous operation.
- **ASDEX Upgrade:** Researching edge physics and confinement scenarios to support ITER operations.
- **WEST**: on 12 February 2025, it set a new record for duration at 22 minutes and 17 seconds, while operating at lower temperatures.

There Are More Than 50 Private Fusion Startups Worldwide



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Private Investments in Startups Vastly Exceed Public

- >10 Billion USD private money invested in first half of this decade
- 2.2 Billion USD only in 2025
- The highest funded is Commonwealth Fusion Systems (from Boston) with 3 Billion USD

China's Plan on Fusion Energy

China's 15th Five-Year Plan (2026-2030)

Strategic emerging industries 战略性新兴产业	Future industries 未来产业
• Next-generation IT • New energy • New materials • Intelligent connected new energy vehicles • Robotics • Biomedicine • High-end equipment • Aviation & space	• Quantum technology • Biomanufacturing • Hydrogen energy • Nuclear fusion • Brain-computer interfaces • Embodied AI • 6G communications • Low-altitude economy

From Joint Statement Following the EU-Japan Summit 2025*

IV. Climate Change, Biodiversity, Energy and Environment

c) Energy

[together, the EU and Japan]

- **recall their collaboration in fusion energy initiatives, such as the ITER project, the Broader Approach (BA) activities, and the IFMIF-DONES project.**

* https://ec.europa.eu/commission/presscorner/detail/en/statement_25_1890

Initiatives in Japan and the EU are Still Below USA And China

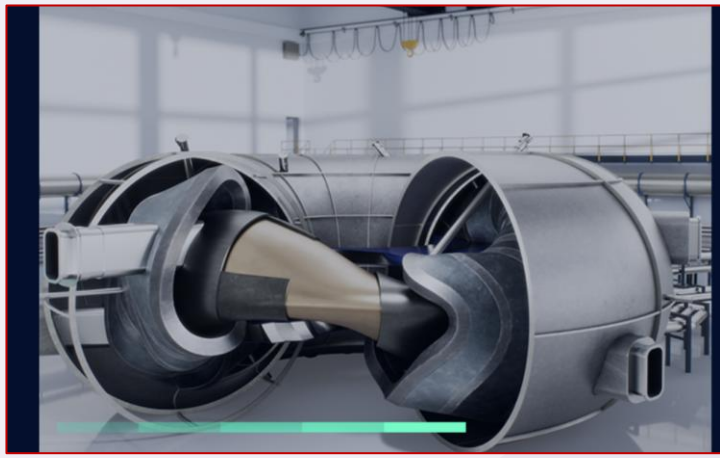
Nuclear Fusion Reactor Completion Targeted for 2038; Developer Aiming for 100,000-Kilowatt Generation

Post Share Post

Courtesy of the ITER Organization
A rendering of a nuclear fusion reactor

The Yomiuri Shimbun
7:00 JST, March 16, 2026

The National Institute for Quantum Science and Technology (QST) plans to start constructing a prototype reactor for fusion power generation in the late 2020s, with 2038 the target for completion, according to its design outline seen by The Yomiuri Shimbun.



Proxima Extends Series A to €200M Total Funding

PRESS RELEASE | Mar 19, 2026 | Brussels | 2 min read

EU to invest €330 million to accelerate fusion energy and support nuclear technologies and skills

ENERGY SCIENCE MILITARY HEALTH TRANSPORTATION SPACE

Japan's nuclear fusion firm begins construction of first demonstration device

It has ambitious plans to begin producing fusion energy in the next decade.

Energy | Mar 17, 2026 08:41 AM EST

Bundesministerium für Bildung und Forschung

Förderprogramm Fusion 2040

Forschung auf dem Weg zum Fusionskraftwerk

Recommendations

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- Derisk private investments through government (co-)financing mechanisms
- Provide reasonable regulatory framework (not as strict as for fission)
- Encourage/fund more startups, also in the supply chain
- Build on EU-Japan synergies for a robust supply chain, such as
  - Japan: Kyoto Fusioneering – fusion fuel cycle
  - EU: Cosylab – control system
  - and many others: Chubu electric power, ENI, Sumitomo, Air Liquide, Linde, Röchling, Trumpf, Fujikura, Kind, Simic, Schott, Thales, Furukawa Electric Group, SigmaPhi, Research Instruments, OCEM, Mitsui&Co, etc.

Questions?

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Thank you.