Advanced Fuels

urenco
The Energy to Succeed

Taking advanced fuels forward

Powering the next generation

At Urenco, we are committed to pioneering the future of nuclear energy with our advanced fuels, including HALEU (high-assay low enriched uranium) and LEU+ (low enriched uranium plus).

Our promise to you is simple: to deliver innovative, efficient, and sustainable nuclear solutions that meet the evolving needs of the global energy market.

The development of advanced fuels is crucial for the next generation of nuclear reactors, and we are proud to be at the forefront of this transformation. By investing in our facilities, we have taken a significant step forward, ensuring that we are ready to meet the demands of a growing market. We are engineering with scalability in mind, allowing us to quickly ramp up production as the market expands, ensuring a reliable supply.

We understand the importance of serving our customers globally, particularly in key markets such as North America and Europe. Our strategic initiatives are focused on providing you with the highest quality services, supporting your operations with enhanced safety and efficiency.

At Urenco we are not just thinking about today; we are planning for tomorrow. Our advanced fuels enrichment services are a testament to our commitment to providing a diverse, reliable supply and supporting a clean energy future. We are excited to partner with you on this journey and please, do not hesitate to contact us with any questions you have.

Warm regards,

Dr. Magnus Mori
Head of Advanced Fuels

Urenco is driven by our purpose of enriching the future with carbon free electricity, our vision to help achieve a sustainable, net zero world, and our mission to deliver trusted and innovative nuclear solutions.

With over 50 years of experience, Urenco has been a pioneer in uranium enrichment, playing a crucial role in advancing nuclear energy solutions.

The Growing Momentum for Innovative New Nuclear

As the global demand for clean energy intensifies, the need for innovative nuclear solutions has never been more critical. Countries around the world are recognising the potential of smaller, smarter reactors, such as Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs), to meet this demand. These reactors will be pivotal in decarbonising our economies like in heavy industry and data centres, supporting the grid, and potentially generating hydrogen. They offer lower construction risks and shorter construction times, making them a key part of the future of nuclear energy. The momentum behind new nuclear is growing globally. In the U.S., flagship advanced reactor designs have been supported for development and deployment under a Department of Energy (DOE) programme, while further support has gone into the provision of HALEU; in Canada, Ontario Power Generation (OPG) is helping lead the charge with its SMR initiatives which include Urenco's involvement on the enrichment side; whilst in the UK and EU, support programmes will help accelerate the development and deployment of SMRs.

Current and Projected Market

The commercial HALEU market that currently exists is reliant on a single supplier, but this is set to change. The U.S. DOE projects a demand of about 50 metric tons of HALEU by 2035, with further upside in subsequent years. Urenco is uniquely positioned to help meet this demand, leveraging our extensive experience and advanced capabilities to deliver the fuels needed.

Types of advanced nuclear fuels

HALEU

Enriched between
10 & 20%

Applications for the next generation of nuclear power plants as well as for medical isotopes facilities, research and test reactors.

On track to make customer deliveries in the
early 2030s

LEU+

Enrichment between
5 & 10%

LEU+ applications can enable longer fuel cycles for commercial light water reactors, reducing operations and maintenance costs.

Commercial production of LEU+ will be ready in advance of the first shipments required in
2026/2027

Benefits

Enhanced safety
Advanced fuels can withstand higher temperatures, enhancing safety. This increased resilience helps prevent incidents and reduces the risk of core damage.

Higher burnup and efficiency
Advanced fuels offer significant benefits, allowing current nuclear reactors to operate for longer cycles, generating efficiencies requiring fewer outages than with the current fuel types. This enhanced efficiency improves output and reduces waste, thereby decreasing the need for mining more natural uranium and lessening the overall environmental impact.

Reduced waste
The use of HALEU in fuel assemblies and reactors supports the creation of smaller, more efficient plants, with the potential for significantly reduced fuel waste in certain advanced designs. This not only offers significant waste management and safety benefits but also contributes to non-proliferation efforts.

Improved economics
The increased efficiency and reduced refueling needs can lead to lower operational costs. Additionally, the potential for longer fuel cycles can reduce downtime and increase the overall economic viability of SMRs and AMRs.

Sustainability and energy security
Urenco's Advanced Fuels will play a crucial role in enhancing energy security and decarbonisation by diversifying the nuclear fuel supply chain and reducing reliance on single sources. This will enable more options for customers and help facilitate the broader energy transition.

Progress made

Our Capenhurst facility in the UK is the foundation of our advanced fuels effort, marking a significant advancement in HALEU production.

Looking ahead, Urenco will continue to monitor the market demand for a second HALEU production facility in the U.S.

Additionally, we have made substantial progress in LEU+ production, with commercial readiness in advance of the first shipments required in 2026/2027.

Urenco Advanced Fuels Facility at Capenhurst

We're advancing nuclear energy innovation through the development of our Urenco Advanced Fuels Facility at our Capenhurst site – a crucial development for nuclear fuel projects requiring the production of HALEU. Thanks to a co-investment of £196m from the UK Government, Urenco can better support the development of SMRs and AMRs.

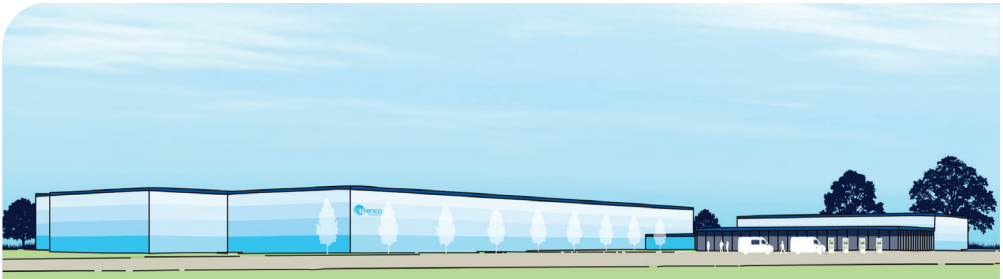
With a planned output of up to 27 tonnes of HALEU fuel per year and the potential to double this, the first plant module output will be enough to supply energy to the equivalent of more than nine million homes. We are committed to delivering the new facility by the early 2030s.

Its development will not only support the deployment of the next generation of nuclear reactors, it will also deliver social and economic impact to the North West of England and beyond, supporting 17 companies in the supply chain.

Enough to power up to **30** advanced reactors or **9,000,000** households

74 people employed on HALEU

45 HALEU apprenticeships underway



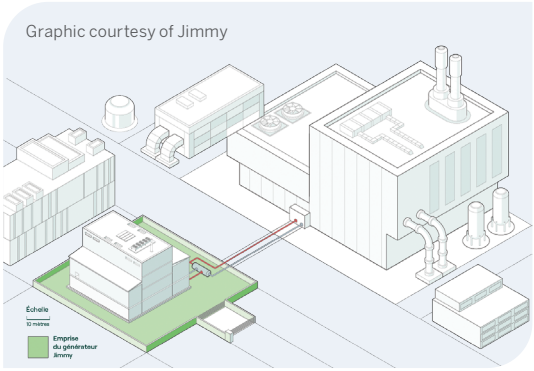
Graphic visualisation of the Advanced Fuels Facility at Urenco's Capenhurst site

Case Studies

Urenco USA approved for LEU+

In September 2025, our U.S. site received authorisation from the Nuclear Regulatory Commission to begin the production of LEU+. This enabled Urenco to become the first commercial enricher in the world to make the product.

The first deliveries to a fuel fabricator are planned for 2026.



Jimmy Energy contract

Urenco will supply LEU+ to French nuclear tech company, Jimmy Energy, which designs and operates thermal generators powered by high-temperature gas cooled reactors. Its designs provide industrial clients with an alternative to fossil fuels to decarbonise their heat applications. Jimmy will initially receive deliveries of LEU+, with a view to transitioning to HALEU once it becomes commercially available.

More reactor developers signed

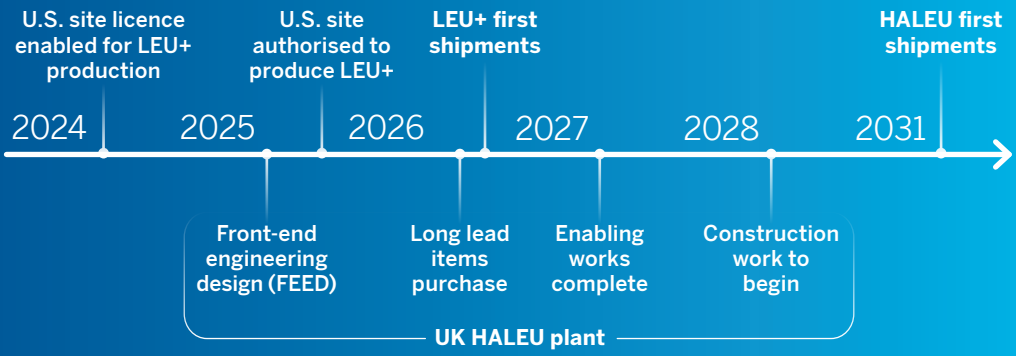
Urenco and U.S. reactor developer Radiant have agreed a commercial contract for HALEU enrichment services. Under this, we will support Radiant to deploy its Kaleidos 1MW model microreactor. A signing event took place during the 2025 U.S. presidential visit.

We also signed LEU/LEU+ contracts with three other American advanced reactor designers.

Potential markets

Argentina
Canada
Czech Republic
Denmark
Estonia
France
India
Indonesia
Japan
Poland
Romania
South Africa
South Korea
Sweden
United Kingdom
United States

Our roadmap to production



Key partners

Jimmy

RADIANT

Department for Energy Security & Net Zero

The Advanced Fuels, Commercial Team

Dr. Magnus Mori
Head of Advanced Fuels

Alison Poortman
VP, Advanced Fuels, Commercial,
(North America)

Rachel Johnson
VP, Advanced Fuels, Commercial,
(Europe, Middle East, Africa and Asia)

Arjan Bos
Senior Advisor,
Advanced Fuels, Commercial

Contact **advanced.fuels@urenco.com**

urenco
The Energy to Succeed

For more information,
please visit **Urenco.com**