



# Delivering for a **net zero** world

Annual report and accounts 2021



# Markets overview

Urenco offers quality, flexibility and reliability in the delivery of our enrichment services and fuel cycle products. Our global reach and diverse offering from our enrichment facilities in four countries mean we are well placed to meet the needs of our customers around the world.

## SWU price

Following the Fukushima Daiichi nuclear disaster in March 2011, when the enrichment spot price peaked at US\$155/SWU, the price fell continuously to US\$34/SWU in August 2018, with no increase registered at any time during this period. However, since then, the spot enrichment price, as reported by both Tradetech and UxC, has crept upwards, reaching US\$56.00/SWU by the end of December 2021.

## USA

The US has made positive steps this year in securing support for the continued operations of its existing fleet. Earlier in the year, the New Jersey Board of Public Utilities extended to 2025 the state's zero emission certificate subsidies for PSEG's Hope Creek and Salem plants. Meanwhile, the US Nuclear Regulatory Commission (NRC) approved second extensions for Dominion's Surry-1 and -2 units, meaning that six units in the US have now obtained permission to operate for 80 years. More recently, the Illinois Senate approved a clean energy bill that includes economic subsidies for three Exelon Generation nuclear power plants in the state, which would keep them running for another five years. Finally, President Joe Biden signed into law the bipartisan Infrastructure Investment and Jobs Act, which included funding for \$6 billion in subsidies for nuclear power plants. A separate proposed \$15 billion tax credit programme for existing nuclear plants, which was included in the Build Back Better Act that the US House of Representatives passed in November, has stalled in the US Senate and will not be passed in its current form. In terms of new build projects, Vogtle-3 & -4 continue to present challenges. Georgia Power now expects unit-3 to be in service in the third quarter of 2022 and unit-4 to be in service in the second quarter of 2023, a three month revision for both units.

TerraPower, a start-up co-founded by Bill Gates, has selected Kemmerer, in Wyoming, as its preferred site for the Natrium nuclear power plant demonstration project. The plant features a 345 MWe sodium-cooled fast reactor with a molten salt-based energy storage system and the aim is to make it operational by 2028.

## UK

2021 has seen the UK government make significant moves towards recommitting to nuclear energy. It published its Net Zero Strategy, setting out how the country will deliver on its commitment to reach net zero carbon emissions by 2050. New nuclear plays a significant role in this strategy, which includes investment of £120 million towards the development of nuclear projects through the Future Nuclear Enabling Fund. The government then introduced legislation in Parliament to establish a framework for the regulated asset base (RAB) funding model that could underpin the construction of several large nuclear plants.

Separately, the Government allocated up to £1.7 billion over the next three years for construction of the proposed Sizewell C nuclear power plant. The UK will also build a high-temperature gas reactor (HTGR) as the centrepiece of its Advanced Modular Reactor Research, Development & Demonstration Programme. The programme counts on £170 million of government funding from a £385 million package intended to accelerate the development of highly flexible nuclear technologies. Finally, the Government made an investment of up to £210 million in Rolls-Royce's small modular nuclear reactor (SMR), with the remainder of the funding being provided by Rolls-Royce, BNF Resources UK, Exelon Generation and the Qatari sovereign wealth fund.

## France

In France, President Emmanuel Macron has recently announced that the country will start building new nuclear reactors after a decades-long pause, citing both energy security needs and the promise to reach carbon emission neutrality by mid-century. Following the announcement, EDF reported that it was ready to build six new nuclear reactors.

Separately, France's 2030 plan for reindustrialisation also includes a programme to demonstrate small reactor technology and mass production of hydrogen using nuclear electricity in this decade.

## Ukraine

Ukraine and the US have agreed to "deepen and intensify" their strategic cooperation in energy, with nuclear power leading a suite of agreements that include a project to complete Khmelnytsky-4, followed with four new AP1000 units at a total value of US\$30 billion. This was prior to recent geopolitical issues, which Urenco is monitoring.

## The Netherlands

The Netherlands' new coalition government has earmarked some €500 million to support new nuclear build plans, encompassing two units, in the period to 2025 and has also agreed to a lifespan extension for the Borssele reactor, currently the only unit operating in the country.

## Poland

Poland has selected the villages of Lubiatowo and Kopalino in the Pomorskie province in northern Poland as the preferred sites for building the first nuclear power plant in the country. The Polish nuclear energy programme foresees the construction of up to 9 GW of nuclear in Poland, with the first reactor expected to be operational in 2033.



## UAE

The Emirates Nuclear Energy Corporation (ENEC) has announced that construction of the third unit at the UAE's Barakah nuclear power plant has been completed, and the unit is on track to start up in 2023. This follows ENEC's August announcement that Barakah-2 had been started up with preparations continuing towards grid connection and the start of commercial operations. Previously, unit-1 entered commercial operation in April 2021.

## Japan

Japan has adopted a new energy policy that promotes nuclear and renewables as sources of clean energy to achieve the country's pledge of reaching carbon neutrality in 2050. The plan keeps the target for nuclear power unchanged at 20-22%.

## China

China's 14th five-year plan (2021-2025) aims to add about 20 GWe of nuclear power by 2025, taking installed capacity to 70 GWe. This will set China on the path to becoming the fastest growing market in the nuclear sector. Its ambition to invest in its nuclear fleet will see it expand to become the largest nuclear generator before the end of this decade. China has brought seven new reactors online commercially since 2019 and is currently constructing a further 18 units. With around 150 new reactors in the next 15 years, more than the rest of the world has built in the past 35 years, China aims to have 200 GWe of nuclear generating capacity in place by 2035.

## Other geographies

As a reminder of the continued challenges facing the nuclear industry, Germany permanently closed three of its final six operating nuclear power plants as it continued on the path to phase out nuclear power by the end of 2022.

The Belgian government reaffirmed its decision to close its nuclear power plants by 2025, but left open the possibility of extending the life of two reactors if it could not otherwise ensure energy supply. It will also continue to invest in nuclear technology research, including SMRs.

In Taiwan, a referendum seeking to restart work on the country's mothballed fourth nuclear power plant was defeated and the nation also continues on its path to a phase out of nuclear power by 2025. Finally, reinforcing the current administration's anti-nuclear stance, South Korea released guidelines on its K-taxonomy, a tool that will define environmentally sustainable industries and economic activities, which excluded nuclear energy.