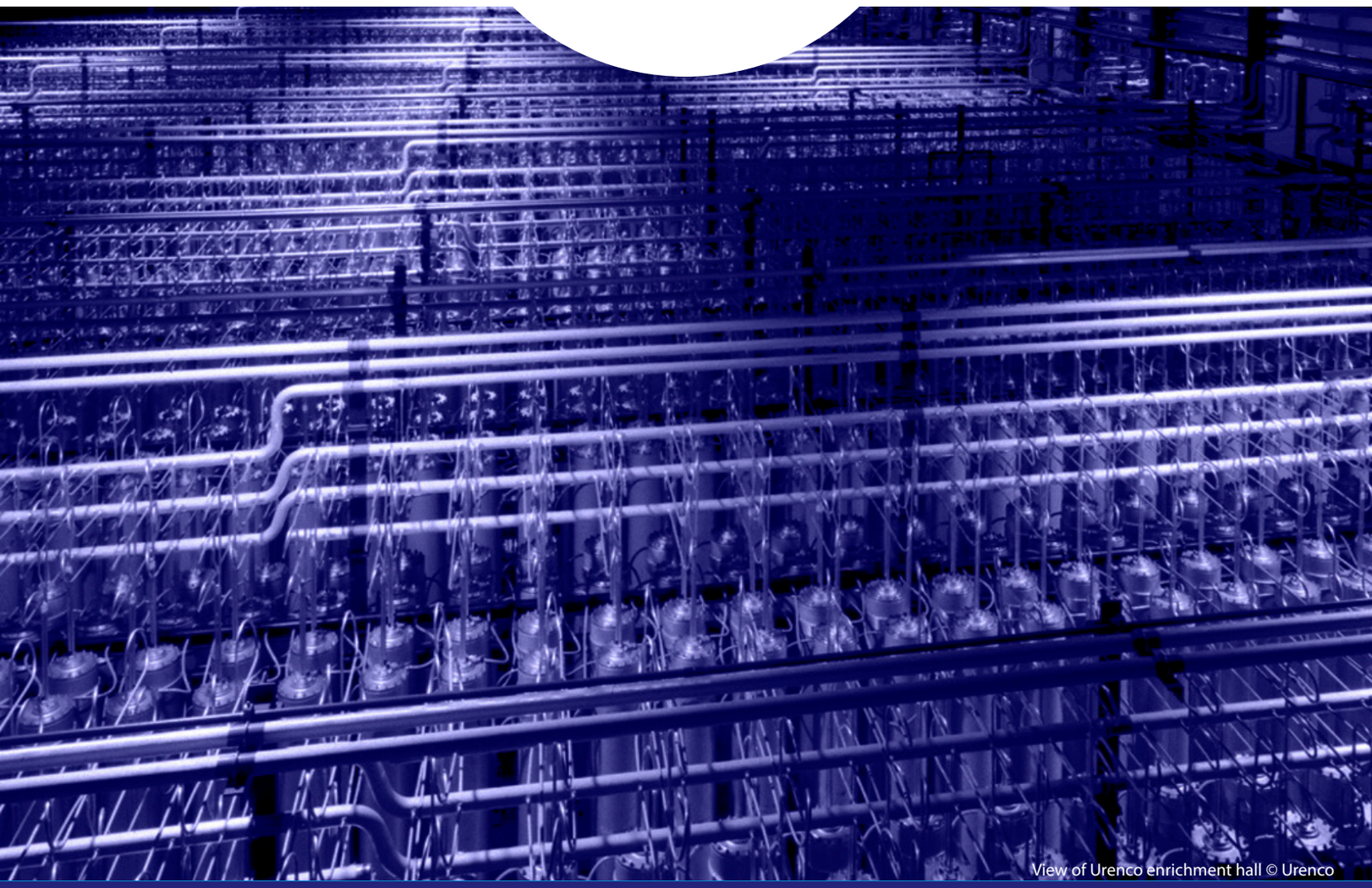

View of Urenco enrichment hall © Urenco

Quarterly Uranium Market Report

1st Quarter 2022

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Uranium Prices Analysis

During the first quarter of 2022, ESA processed 68 transactions, including contracts, amendments and notifications on the front-end activities. Between January and March, European utilities concluded no new spot natural uranium supply contract (including purchases, sales, exchanges and loans) and no new long term contracts.

Table 1. ESA Quarterly Spot prices

Quarter	ESA Spot* EUR/kgU	ESA Spot USD/lb U_3O_8	ESA Spot All Users** EUR/kgU	ESA All Users USD/lb U_3O_8
2021 Q1	-	-	-	-
2021 Q2	-	-	-	-
2021 Q3	-	-	-	-
2021 Q4	-	-	86,07	37,95
2022 Q1	-	-	-	-

Table 2. Number of contracts processed by ESA

Quarter	Number of spot natural uranium contracts concluded by EU utilities[1)]	Number of spot natural uranium contracts concluded by all parties[1)]	Total number of contracts processed by ESA[2)]
2021 Q1	1	6	63
2021 Q2	4	9	65
2021 Q3	3	5	79
2021 Q4	4	7	69
2022 Q1	0	3	68

[1)] including purchases, sales, exchanges and loans

[2)] including contracts, amendments and notifications on the front-end activities

*ESA Quarterly Spot Uranium Price is a simple average of natural uranium prices. It accounts for one transaction only or multiple transactions executed during the quarter and one of the parties is EU utility. It is calculated, only if, at least three transactions with reported prices were executed.

**ESA All Users Quarterly Spot Uranium Price is a simple average of natural uranium prices. It accounts for one transaction only or multiple transactions executed during the quarter and one of the parties is EU utility or other user (intermediary, producer)

Security of supply of nuclear fuel in the EU

Security of supply of fuel must be ensured at all the front-end stages of the fuel cycle i.e. mining, conversion, enrichment and fabrication.

In terms of dependence on Russia, the short and mid-term risk exists in fuel fabrication for one market segment – VVER reactors, concentrated in a single region. Nuclear power plants (see table below) fully dependent on supply of Russian fuel are located in Hungary, Slovakia, Bulgaria, Czechia and Finland and amount to about 11% of EU gross nuclear electricity capacity.

Table 3. Share of energy produced by Russian design reactors in the EU[1]

Country	NPP	Nuclear energy consumption 2019 (Mtoe)	Share of nuclear	
			in gross inland energy consumption	in national electricity generation
Bulgaria	Kozloduy	4.3	22.8%	37.41%
Czechia	Dukovany	7.55	17.6%	34.81%
	Temelín			
Hungary	Paks	4.11	15.4%	47.86%
Slovakia	Bohunice	4.05	23.8%	53.80%
	Mochovce			
Finland*	Loviisa	2.08	10.8%	12.77%

** extrapolated figures*

Such nuclear power plants can operate for a minimum of 1 year using the fresh fuel they have already in stock. Further deliveries are scheduled. The short-term objective is to ensure sufficient nuclear fuel to bridge until the fuel from alternative sources is available (i.e. licensed, contracted and produced).

Aside production of alternative fuel, the challenge is ensuring swift licensing of any new fuels, as this process can typically take several years depending on national regulator. For the VVER 1000 reactors (Bulgaria and the Czech Republic) this process is already on track and it is set to start for the new VVER 440 fuel.

Planned deliveries of Russian nuclear material and fuel may be hindered by logistical problems due to sanctions and carriers' refusal to transport/harbour. Fuels have been recently transferred mostly via air (exception from the sanctions). However, a March decision by the European Union Aviation Security Agency suspended the license of several Russian air carriers, among others of the traditional air carriers.

1 European Commission, Directorate-General for Energy, EU energy in figures: statistical pocketbook 2021, Publications Office, 2021, https://data.europa.eu/doi/10.2833/511498