



• Slovak Republic •

URANIUM EXPLORATION AND RESOURCES

Historical review

Uranium exploration began in the Slovak Republic in 1947. This work led to the identification of six areas of uranium mineralisation, but it was concluded at that time that the Slovak Republic had only small uranium resources of limited economic interest. Exploration in the eastern part of the Ore Mountains between 1985 and 1990 also led to the development of resource estimates for Kosice I (Jahodna – Kurishkova). No further uranium exploration took place until 2005.

Recent and ongoing uranium exploration and mine development activities

In 2005, the private Canadian company Tournigan Energy Ltd. acquired an exploration license covering 32 km² around the uranium mineralisation discovered near Kosice I (Jahodna – Kuriskova) in Eastern Slovakia. In March 2006, an independent NI 43-101 technical report (April 2009) was issued that contained a mineral resource estimate of 12 500 tU, grading at 0.25% U (cut-off 0.05%U). Ludovika Energy Ltd. (Tournigan's wholly owned Slovakian subsidiary) is continuing exploration at this and other less advanced properties (Novoveska Huta and Spisska Teplica) in Eastern Slovakia.

At present there are 14 active exploration licenses in the Republic of Slovakia. In addition to activities described above, Beckov Minerals (a subsidiary of Ultra Uranium Corp.) is exploring two areas of western Slovakia and Crown Energy Ltd. (a wholly owned subsidiary of GB Energy Ltd.) is engaged in exploration of three areas in eastern Slovakia.

URANIUM PRODUCTION

Historical review

Between 1954 and 1957 a small amount of uranium (1.4 tU) was mined in the Novoveska Huta – Hnilcik region. Mining activities between 1961 and 1990 produced 210 tU from eight localities, with the majority of the production coming from the Novoveska Huta, Muran, Kravany, Svabovce and Vikartovce deposits. Production was stopped due to poor economics.

Status of production capability

The Slovak Republic currently has no uranium mining industry or production capability.

Secondary sources of uranium

The Slovak Republic does not produce or use mixed-oxide fuels, re-enriched tails and reprocessed uranium.

ENVIRONMENTAL ACTIVITIES AND SOCIO-CULTURAL ISSUES

None reported.

URANIUM REQUIREMENTS

The Slovak Republic has two nuclear power stations located at Bohunice and Mochovce. The NPP Bohunice had four units of the VVER-440 type in operation, with installed capacity of 2 x 406 MWe net and 2 x 407 MWe net. Following the Slovak Government's commitments to joining the European Union, the oldest of these reactors (Unit 1) at Bohunice was shutdown on 31 December 2006, followed by the shutdown of a second old Bohunice reactor (Unit 2) on

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31 December 2008. The two upgraded VVER-440 type reactors at Mochovce (Units 1 and 2) remain in operation, as do two VVER reactors at Bohunice, more recent designs than those shut down (Bohunice V2, Units 3 and 4).

All four of the reactors that remain in operation are undergoing a programme of power up rating from 2008 through 2010.

In 1986, construction of Mochovce units 3 and 4 was started in 1986, but halted in 1992. In early 2009, Slovenské elektrárne signed contracts with six main suppliers for the completion of these two units to existing best practice design standards. Construction commenced in late 2009.

NATIONAL POLICIES RELATING TO URANIUM

Resolution No. 29/2006 of the Government of the Slovak Republic includes a priority to utilise domestic primary energy sources for electricity and heat production in an economically effective fashion.

Resolution No. 732/2008 of the Government of the Slovak Republic on energy security has the objective of developing a competitive energy sector that would safeguard secure, reliable and efficient supplies of all forms of energy at reasonable prices, at the same time respecting consumers, the environment, safety of supplies and technical safety, while promoting sustainable development.

Given the high share of nuclear power in the energy mix of the Slovak Republic, this resolution must necessarily deal with the availability of fuel element supplies, which are offered in Europe only by the Russian Federation and France. In the future, producers of these fuel elements are expected to require from customers a counter-value in the form of uranium as a specific form of payment.

Legislative and economic support for the efficient and rational use of domestic uranium resources is considered a viable means of reducing energy supply dependence, especially given sharply rising prices over the past years in the world market. Rising prices of uranium and thus nuclear fuel can be of benefit to states able to supply their own uranium and require only its processing into nuclear fuel.

At present, the Slovak Republic utility purchases complete fuel assemblies for all operating units from Russian manufacturers. Therefore, there are no special contracts for uranium, conversion and enrichment services.

URANIUM STOCKS AND PRICES

The Slovak Republic does not maintain an inventory of uranium. The Slovak government keeps small stock of enriched uranium in form of complete fuel assemblies. Based on above-mentioned information, the Slovak Republic utility does not hold any special uranium contracts; therefore it cannot publish prices for uranium.

Reasonably Assured Conventional Resources by production method*
(tonnes U)

Production method	<USD 40/kgU	<USD 80/kgU	<USD 130/kgU	<USD 260/kgU	Recovery factor (%)
Underground mining	0	0	0	5 636	90
Open-pit mining	0	0	0	0	
<i>In situ</i> leaching	0	0	0	0	
Co-product and by-product	0	0	0	0	
Unspecified	0	0	0	0	
Total	0	0	0	5 636	

* *In situ* resources (based on N/43-101 report of Tournigan Energy Ltd. (April 2009).

Reasonably Assured Conventional Resources by processing method
(tonnes U)

Processing method	<USD 40/kgU	<USD 80/kgU	<USD 130/kgU	<USD 260/kgU	Recovery factor (%)
Conventional	0	0	0	5 636	90
In-place leaching*	0	0	0	0	
Heap leaching**	0	0	0	0	
Total	0	0	0	5 636	0

* Also known as stope leaching or block leaching.

** A subset of open-pit and underground mining, since it is used in conjunction with them.

Reasonably Assured Conventional Resources by deposit type
(tonnes U)

Deposit type	<USD 40/kgU	<USD 80/kgU	<USD 130/kgU	<USD 260/kgU
Unconformity-related	0	0	0	0
Sandstone	0	0	0	0
Hematite breccia complex	0	0	0	0
Quartz-pebble conglomerate	0	0	0	0
Vein	0	0	0	0
Intrusive	0	0	0	0
Volcanic and caldera-related	0	0	0	5 636
Metasomatite	0	0	0	0
Other*	0	0	0	0
Total	0	0	0	5 636

* Includes surficial, collapse breccia pipe, phosphorite and other types of deposits, as well as rocks with elevated uranium content. Pegmatite, granites and black shale are not included.

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Inferred Conventional Resources by production method*
(tonnes U)

Production method	<USD 40/kgU	<USD 80/kgU	<USD 130/kgU	<USD 260/kgU	Recovery factor (%)
Underground mining	0	0	0	6 885	
Open-pit mining	0	0	0	0	
<i>In situ</i> leaching	0	0	0	0	
Co-product and by-product	0	0	0	0	
Unspecified	0	0	0	0	
Total	0	0	0	6 885	

* *In situ* resources (based on NI43-101 report of Tournigan Energy Ltd. (April 2009).

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* Includes surficial, collapse breccia pipe, phosphorite and other types of deposits, as well as rocks with elevated uranium content. Pegmatite, granites and black shale are not included.

Net nuclear electricity generation

	2007	2008
Nuclear electricity generated (TWh net)	14.1	15.4

Installed nuclear generating capacity to 2035*
(MWe net)

2008	2009	2010		2015	
		<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
2 100	1 710	1 640	1 780	2 460	2 740

2020		2025		2030		2035	
<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
2 460	3 850	2 480	4 060	3 400	4 060	3 400	4 060

* From *Nuclear Energy Data 2009*, OECD, Paris, 2009.

Annual reactor-related uranium requirements to 2035 (excluding MOX)*
(tonnes U)

2008	2009	2010		2015	
		<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
380	380	380	380	375	580

2020		2025		2030		2035	
<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
376	563	375	563	188	375	188	375

* From *Nuclear Energy Data 2009*, OECD, Paris, 2009.

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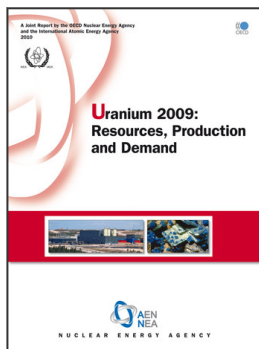
URANIUM EXPLORATION

Historical review

See the 2007 edition of the Red Book for a brief historical review of exploration and production.

Recent and ongoing uranium exploration and mine development activities

None reported.



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