



GSEU

GEOLOGICAL SERVICE | FOR EUROPE

GSEU WP2 TRAIN-THE-TRAINER COURSE

Module: Other national reporting systems to UNFC

Level 1

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Czech Geological Survey

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Resource classification and harmonization with UNFC in the Czech Republic



Content

- Legislative framework
- Brief description of the national classification/reporting system
- Mapping of Czech national system to UNFC





Legislative framework in Czechia

- Minerals are divided into **reserved minerals** that constitute **reserved deposits** and belong to the state, and **non-reserved minerals** that constitute **non-reserved deposits** as an integral part of the land.
- Historically, certain important deposits of non-reserved minerals are declared as reserved deposits.
- 1952-1991 Soviet based ABC₁C₂ system
- 1991 - new national system introduced by amendment of the Mining Act No. 44/1988 Coll. in later amendments



Czech national classification/reporting system

	RESERVES				PROGNOSTICATED RESOURCES	
	EXPLORED		PROSPECTED		P	Q
	Free	Restricted	Free	Restricted		
ECONOMIC						
POTENTIALLY ECONOMIC						



Geological reserves (All reserves in their original state, no losses and dilution considered)



Mineable reserves (Economic reserves less mining losses)

The system of 1991 is not compatible with the CRISCO principles:

- All resources except for prognosticated are called „Reserves“.
- Mineable reserves do not take into account dilution
- Potentially economic „reserves“ are included in total inventory



Legislative framework in Czechia

- National classification system is **obligatory** for all operators of reserved deposits and so is the **annual reporting** in this system.
- Czech Geological Survey (CGS) is established by the Ministry of Environment and provides certain services also to the Ministry of Industry and Trade.
- CGS manages a **database** of all Czech deposits on behalf of the Ministry of Environment and Ministry of Industry and Trade. All mining operators are required by law to submit annual reports on production and current reserves on their deposits to CGS. However, this information is considered confidential and can be published only as aggregated data or upon a written consent of the owner/operator.



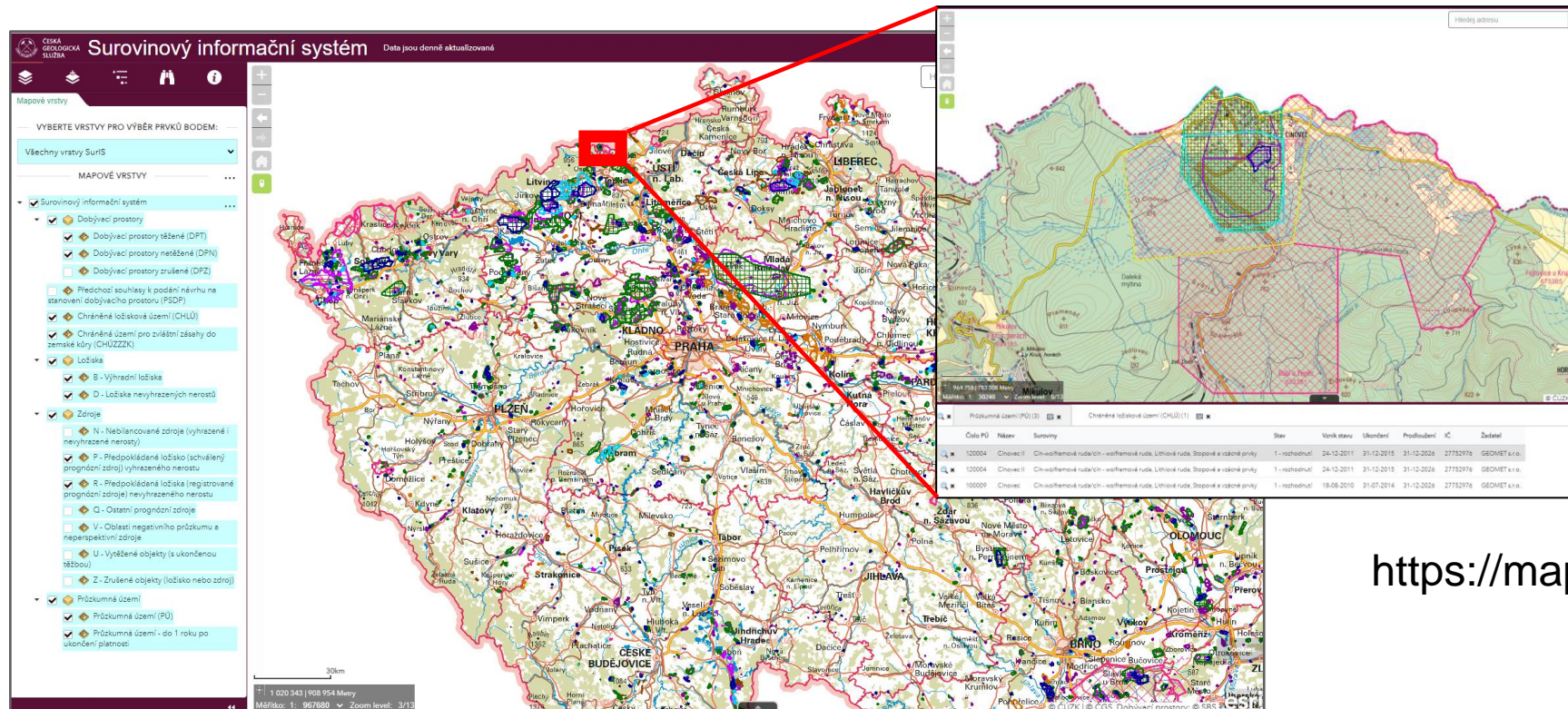
Legislative framework in Czechia

- The database further contains:
 - ✓ Technological quality, approval documents with reasoning, company reports – mostly at least temporarily confidential.
 - ✓ Geological setting, conflicts of interests, ownership history
- CGS also manages an archive of all reports on exploration results which can be also confidential for a certain period of time.
- Older research, exploration and technical reports are publicly available.



Raw Materials Information System - SurIS

SurIS contains data on all deposits (reserved, non-reserved, historic), protected deposit areas, exploration and mining licences and references to individual reports.



<https://mapy.geology.cz/suris/>



Czech national system and UNFC

- Mapping document for the Czech system to UNFC has been elaborated in 2023 for reserved minerals. Document was prepared by CGS and a group of exploration and mining company experts after having a training session by experts from GTK Finland.





Methodology of translation of the national system to UNFC

All national categories were plotted in a table with relevant reasoning:

Czech Mining Law Categories	UNFC Category	UNFC Sub-category	Reasoning
Approved Mineable Reserves <i>Approved Commissioning, Development and Mining Plan</i> <i>In operation</i>	111, 112	E1.1 F1.1 G1,2	Mineable Reserves at an operated deposit that has all necessary approvals for mining activities. Czech Mining Law definition of "Mineable Reserves" is approximate to CRIRSCO definition of "Reserves". In UNFC the CRIRSCO Reserves are E1F1G1,2.
Approved Mineable Reserves <i>Approved Commissioning, Development and Mining Plan</i> <i>In development</i>	111, 112	E1.1 F1.2 G1,2	Mineable Reserves at a deposit in commissioning/development that has all necessary approvals for mining activities. Czech Mining Law definition of "Mineable Reserves" is approximate to CRIRSCO definition of "Reserves". In UNFC the CRIRSCO Reserves are E1F1G1,2.
Approved Mineable Reserves <i>Approved Commissioning, Development and Mining Plan</i>	111, 112	E1.1 F1.3 G1,2	Mineable Reserves at a deposit that has all necessary approvals for mining activities which is active but currently not operated. Czech Mining Law definition of "Mineable Reserves" is approximate to CRIRSCO definition of "Reserves". In UNFC the CRIRSCO Reserves are
Mineable Reserves <i>Commissioning, Development and Mining Plan not approved</i> <i>Currently not operating</i>	221, 222	E2 F2.1 G1,2	Active projects that do not have approved Commissioning, Development and Mining Plan, but have already calculated "Mineable Reserves". E2: "Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future." F2.1: "Project activities are ongoing to justify development in the foreseeable future." G1 and G2 are acknowledged in the CRIRSCO template for Reserves and Measured and Indicated Resources.
Economic Explored Free Reserves <i>Established Mining Area</i>	221, 222	E2 F2.1 G1,2	Active projects that have Established Mining Area, but do not have approved Commissioning, Development and Mining Plan. E2: "Development and operation are expected to become environmentally-socially-economically viable in the foreseeable future." F2.1: "Project activities are ongoing to justify development in the foreseeable future." "Explored Reserves"



Methodology of translation of the national system to UNFC

All national categories were then plotted to a 2D UNFC E vs. F matrix with G defined in each cell:

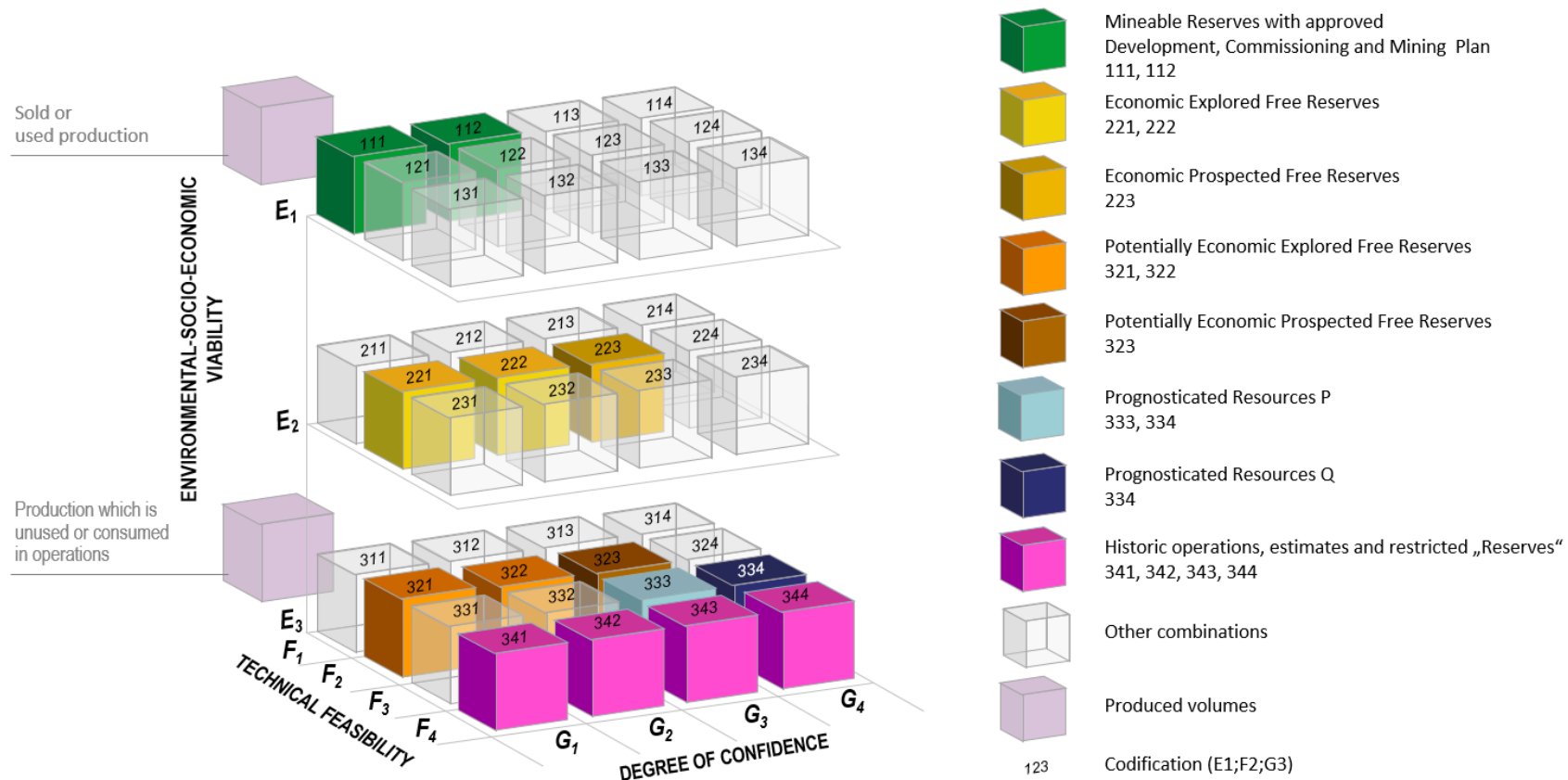
UNFC	F1.1	F1.2	F1.3	F2.1	F2.2	F2.3	F3.1	F3.2	F3.3
E1.1	"Approved Mineable Reserves" <i>Approved "POPD"</i> On Production G1,2	"Approved Mineable Reserves" <i>Approved "POPD"</i> Approved for Development G1,2	"Approved Mineable Reserves" <i>Approved "POPD", currently not operating</i> Justified for Operation G1,2						
E1.2									
E2				"Mineable Reserves" <i>"POPD" not approved</i> Development Pending G1,2					
				"Economic Free Reserves" <i>Established Mining Area</i> Development Pending					
				"Economic Explored Free Reserves" G(1,2)					
				"Economic Prospected Free Reserves" G3					
E3.1				Non-economic reserves in Economic Reserve blocks G1,2,3					
E3.2				"Economic Free Reserves" <i>Without Established Mining Area or Preliminary Approval to Establishing Mining Area</i> Development Unclassified	"Potentially Economic Free Reserves" <i>Established/Without Mining Area</i> Development Unclassified		"Prognosticated Resources P" <i>Subsurface exploration works</i> Prospective Projects	"Prognosticated Resources Q" <i>Detailed surface exploration</i> Prospective Projects	"Prognosticated Resources Q" <i>Regional exploration</i> Prospective Projects
				"Economic Explored Free Reserves"	"Potentially Economic Explored Free Reserves" G(1,2)				





Methodology of translation of the national system to UNFC

All national categories were then plotted to a 3D UNFC matrix:





Data relevant for UNFC categories and their availability/sources

The most important and basic information source on any exploration or mining project is the CGS database.

CGS Mineral Information System (SurlS) - public

- Mineral resource inventory contains list of data on all deposits (reserved, non-reserved, historic), protected deposit areas, exploration and mining licences and referencies to individual reports (recent are mostly confidential). <https://mapy.geology.cz/suris/>

CGS Mineral Information System (SurlS) - internal

- Information on resources and reserves, annual production, technological quality, approval documents with reasoning, company reports – mostly at least temporarily confidential.
- Geological setting, conflicts of interests, ownership history.



Data relevant for UNFC „E” category and their availability/sources

- Exploration permits, approved mining areas (rights), protected deposit areas (land planning): CGS Map portal - <https://mapy.geology.cz/suris/>
- EIA information: CENIA portal - https://portal.cenia.cz/eiasea/view/eia100_cr
- Land planning plans and decisions: <https://portal.uur.cz/nastroje-uzemniho-planovani-v-ceske-republice/upd-a-upp-kraju.asp>
- Information on the major distinguishing threshold between E1 and E2 – approval of Mining and Development Plan (POPD) is not publicly available.
- Data on project stage mostly in temporarily confidential reports (unless under CRIRSCO).



Data relevant for UNFC „F” category and their availability/sources

Recent technical reports, feasibility studies, resource calculation, projects and similar data for active projects are mostly not public data (unless the operator follows also CRIRSCO principals).

For older/non-active projects the data are publicly available in the CGS archive: CGS portal - <https://cgs.gov.cz/mapy-a-data/data>



Data relevant for UNFC „G” category and their availability/sources

Details on geological data for active projects are mostly not public data (unless the operator follows also CRIRSCO principals). For older/non-active projects the data are publicly available in the CGS archive:

CGS portal - <https://cgs.gov.cz/mapy-a-data/data>



Czech national system and UNFC

- Currently the Ministry of Environment opinion is, that any UNFC evaluation is a recalculation of resources/reserves. By law this can be done only within an exploration licence.
- Including historic estimates...
- Needs to be clarified



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Thank you for your attention



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