



Western Balkans Environmental Program

Study Tour's Report

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Study tour Czech Republic

- Sites visited
 - Diamo, s.p. Straz pod Ralskem - former uranium leaching site



Located in North Bohemian plateau former low grade uranium ore leaching operation endanger half of the nation drinking water reserves.

Extensive operations for rehabilitation undertaken. Residues from leaching are pumped and treated in high-tech evaporation plant.

Study tour Czech Republic

- Sites visited
 - Palivovy kombinat Most – brown coal mining area



Huge brown coal basin with historically very active mining activities. Enormous quantities of earth surface disturbed in more than 100 years history. Extensive rehab operation undertaken with governmental funding. Even the old city Most was more or less ruined as a result of land sliding and surface subsidence.

Study tour Czech Republic

- Sites visited
 - Sokolovska uhelna, a.s. Sokol- brown coal mining area



One of the biggest country coal producing regions (10 M t brown coal/year), 620 MW power plants and extensive coal processing (gasification, briquettes, chemicals...)
Total area for reclamation 9.259,48 ha of what 33,22 % reclaimed, 27,8 under construction and 38,98 % to be reclaimed.

Study tour Czech Republic

- What we see/learn
 - Uranium leaching site
 - Extensive operation(large scale),
 - High-tech evaporation treatment process used,
 - High costs involved,
 - Good example of how state take care for old environmental burden liquidation!

Study tour Czech Republic

- What we see/learn
 - Most – brown coal site
 - Interesting relocation of cathedral (about 300 m of original location in one piece).
 - Rehabilitation in final phase, facilities for recreation and lakes under construction.
 - All works funded by government.



Study tour Czech Republic

- What we see/learn
 - Sokol – brown coal site
 - Excellent synchronization of rehabilitation activities,
 - Old area funded by government, new by the mining company,
 - Interesting ideas for after mining land usage (water recreation park, golf court, large water bodies).



Study tour Bulgaria

- Sites/meetings
 - Belata voda – sorption water treatment plant !
 - Medet Panajguriste – reclamation of former/active Cu mining site!
 - Ministry of Economy and Energy:
 - How old environmental burdens are liquidated?
 - Who funds those operations?
 - Law and regulation in mining and environment?

Study tour Bulgaria

- Sites visited
 - Belata voda



Former low grade uranium mine in Central Bulgaria where mine waters endanger Martisa one of the country biggest watercourse.

Small, simple, efficient and low costs treatment (sorption) plant was designed to treat up to 2000 m³ mine waters per 24 h.

Study tour Bulgaria

- Sites visited
 - Medet -Panajuriste



Biggest polymetallic formation in Balkan's (+ 20 mines in 40 x 40 km area). At former Medet Cu mine more than 200 M m³ rocks were excavated. Huge (>100 M m³ disposed at waste rocks dumps).

Reclamation under state funding started and in final phase. Two large Mines still active in the area funding their own reclamation activities!

Study tour Bulgaria

- Meeting at Ministry of Economy and Energy
 - Director of mines and concessions department with his staff.

Study tour - Bulgaria

- What we see/learn
 - Sorption plant Belata Voda
 - Very small and efficient treatment plant for 2000 m³ /day.
 - More than 99 % efficiency and meets all regulatory standards for effluent water.
 - In operation more than 9 year with minimal costs and only small maintenance works.
 - Never have larger breakdown.
 - Total costs 8000 Euros /month!
 - From sorption resin yellow cake is produced as potentially commercial product.



Study tour - Bulgaria

- What we see/learn
 - Medet former mine site
 - Extensive rehabilitation activities on waste rock dumps including
 - Reshaping and stabilization
 - Revegetation
 - Drainage waters collection channels under construction.
 - Treatment plan under construction.



Study tour - Bulgaria

- What we see/learn
 - Ministry is in charge for old mining liabilities.
 - Fund's 3 different state owned companies:
 - Elovica – Uranium sites rehabilitation
 - Eko Medet – Cu/Metal mine sites rehabilitation
 - Eco Atrcit - Coal mine sites rehabilitation
 - Total fund per year 1 M Euro's
 - Procedure for issuing concessions for waste rock dumps where sustainable waters treatment or leaching techniques could be applied without taxes and only with obligation to achieve effluent water specifications.

Thanks for your attention!!!