Lithium Unveiled: Market Trends and Serbia's Mining Situation and Potential



Petar Mitić

Isidora Beraha

Institute of Economic Sciences, Belgrade, Serbia



Early Exploration of Lithium in Serbia

- **Mid-1990s:** Faculty of Mining and Geology team analyzes areas in former Yugoslavia for borate and lithium deposits.
- **1997:** Research gains attention from Rio Tinto, leading to initial contact.
- **Exploration Tour:** Rio Tinto geologists tour potential sites in western Serbia, identified by the faculty.
- Market Opening (2001): Rio Tinto establishes a Serbian subsidiary.
- **2004:** Discovery of significant lithium deposits ("white gold") in western Serbia.

Discovery of Jadarite in Serbia

- **In 2004** Rio Tinto identifies **Jadarite**, a mineral rich in lithium and boron.
- The Jadar deposit is near the Jadar River, close to Loznica in Western Serbia.
- Unique Composition: Contains two primary minerals – jadarite (LiNaSiB3O7(OH)) and searlesite (Na(H2BSi2O7)).
- High Silicon Dioxide Content Higher than other boron minerals.
- Unique mineralization, not found in other known deposits.

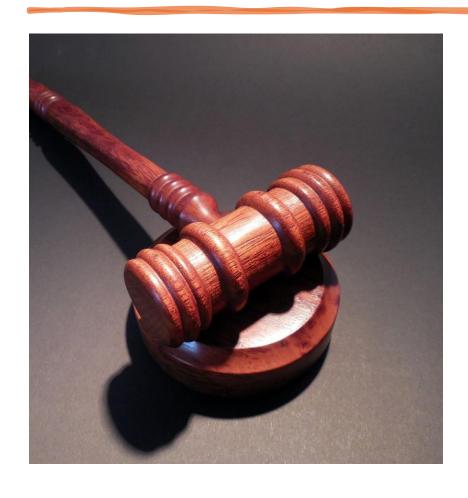


Lithium Reserves and Jadar Project Potential

- Serbia ranks **12th globally** with 1.14% of lithium reserves, totaling 1.2 million tons.
- Significant reserves within Europe, adding to its strategic importance.
- Jadar mine could be operational by 2028.
- Production Goals: Aims to produce borates, lithium carbonate, and sodium sulfate.
- Economic Impact:
 - Budget: USD 2.55 billion allocated.
 - Employment: 1,300 skilled jobs, with 90% of workforce expected to be Serbian.

COUNTRY	% OF LITHIUM RESERVES	LITHIUM RESERVES TOTAL 2023 (MILLION TONS)	LITHIUM RESERVES TOTAL 2022 (MILLION TONS)	LITHIUM RESERVES TOTAL 2021	LITHIUM RESERVES TOTAL 2020 (MILLION TONS)
Bolivia	21.89%	23	21	21	21
Argentina	20.94%	22	20	19	19.3
United States	13.32%	14	12	9.1	7.9
Chile	10.47%	11	11	9.8	9.6
Australia	8.28%	8.7	7.9	7.3	6.4
China	6.47%	6.8	6.8	5.1	5.1

Community Impact and Legal Developments



- Donations were made to local communities, hospitals, schools, and cultural centers
- Land Acquisition Over 40% of the 250-acre site purchased by Rio Tinto.

Spatial Plan Adjustments:

- Reclassification of agricultural to construction land.
- Adjustments to railway lines and gas pipeline plans.

• Project Components:

• Includes underground mine, processing plant, and industrial waste landfill.

Legal Developments:

- 2022: Project licenses revoked.
- 2024: Serbian Constitutional Court overturns previous halt, allowing project to proceed.

Environmental Commitment and Challenges of the Jadar Project

Environmental Focus Areas:

- Water contamination
- Air pollution
- Waste management

Planned Environmental Impact Assessments (EIAs):

- Underground mine
- Ore processing plant
- Industrial waste landfill
- Community Engagement with regards to efforts aimed at balancing economic growth with environmental preservation.
- **Current Status:** Pending completion of EIAs, essential for approvals on biodiversity, water resources, and land use.



Public Opposition to the Jadar Mine Project

- Public opposition has been significant, with largescale protests against the Jadar mine project.
- Recent protests organized outside the Constitutional Court opposing Rio Tinto's plans.
- Political Criticism Serbian MP criticizes government for prioritizing foreign interests over Serbia's natural resources.



Environmental Concerns and Impacts

Exploratory Drilling Impacts:

- Contaminated water with high boron levels damaging local crops.
- Rivers downstream show increased boron, arsenic, and lithium concentrations.
- Soil samples exceed safe remediation levels.

Potential Future Risks:

 Risks from tailings ponds, wastewater, and pollution (noise, air, and light) if the mine proceeds.



Economic Benefits of the Jadar Project

Investment Impact:

- USD 2.55 billion investment (approx. 4% of Serbia's GDP).
- Projected annual GDP contribution: 695 million (about 1% of total GDP).

Economic Contributions:

- Significant tax revenue generation.
- Job creation for skilled workers.
- Promotion of a local supply chain, benefiting domestic companies.







Thank you for your attention!

petar.mitic@ien.bg.ac.rs

