



Finansira  
Evropska unija

# EU4Energy

PODRŠKA EVROPSKE UNIJE  
ENERGETSKOM SEKTORU U BiH



Bosna i Hercegovina

## Report on Critical Raw Materials

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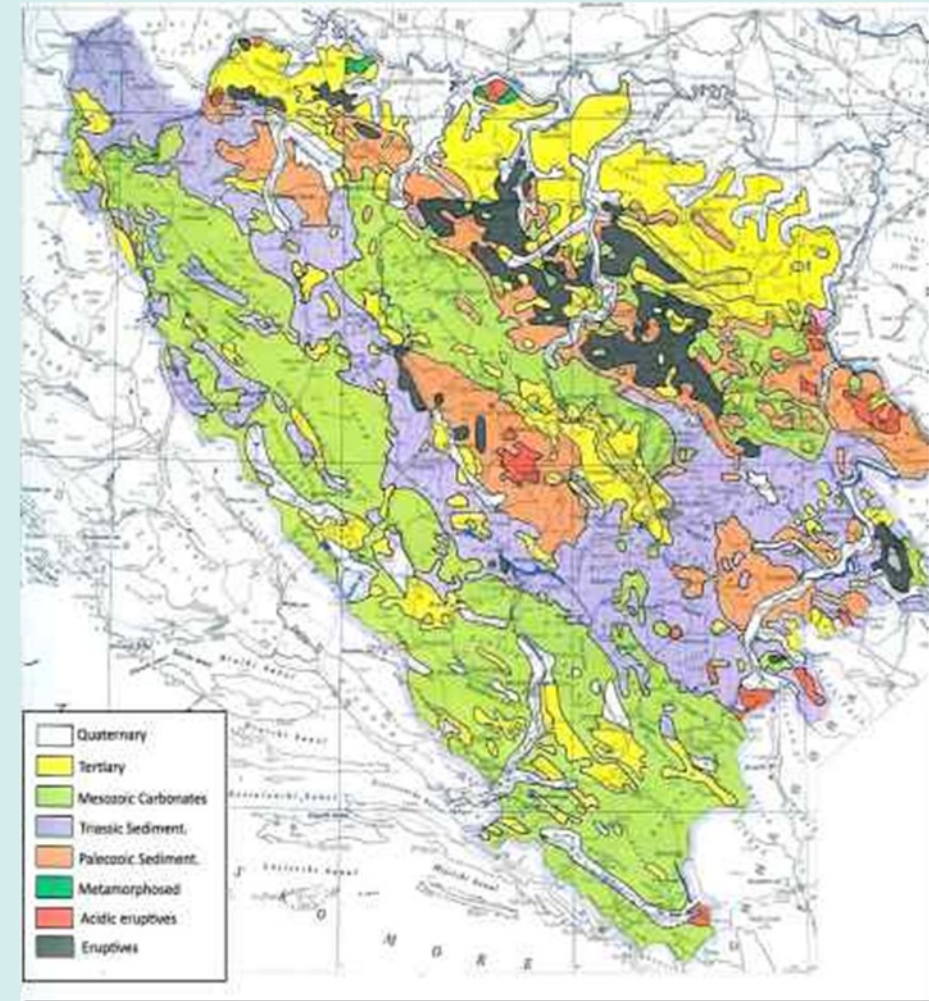
Tuzla, 18-04-2024

Implementira konzorcij predvođen DAI



# Natural resource in Bosnia and Herzegovina

- coal, iron ore, bauxite, copper, lead, zinc, chromite, cobalt, manganese, nickel, lithium;
- clay, gypsum, salt, sand;
- forests, hydropower;



# Energy production BIH and polution curently

## Energy mix

Electricity generation mix, Bosnia and Herzegovina, 2021

Total energy supply

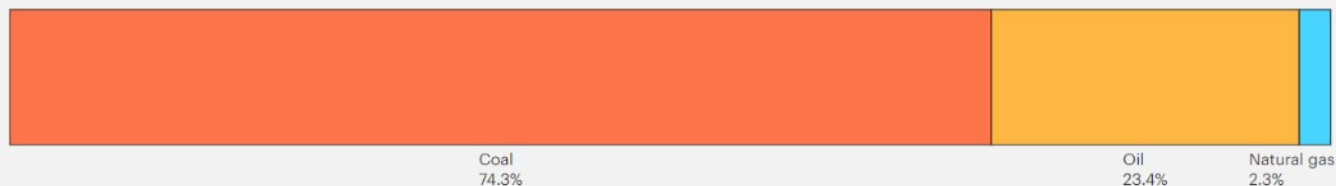
Production

Electricity

Consumption



## CO2 emissions by fuel, Bosnia and Herzegovina, 2022



SVG PNG CSV

## Emissions

Energy-related CO2 emissions, Bosnia and Herzegovina, 2021

21 Mt CO2

0.06%

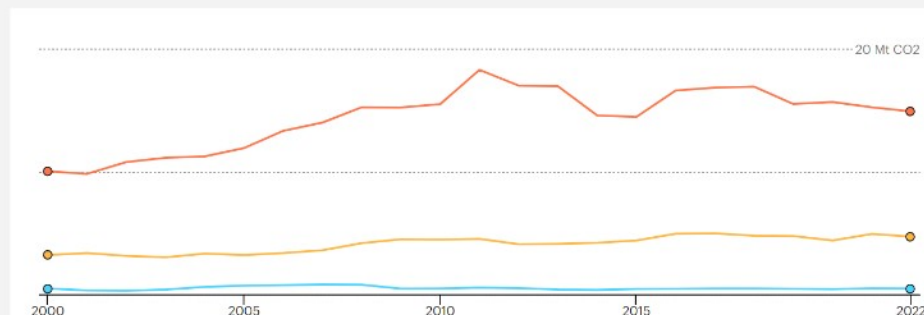
of global emissions

↑51%

change since 2000

## Evolution of CO2 emissions by fuel in Bosnia and Herzegovina since 2000

Coal Oil Natural gas



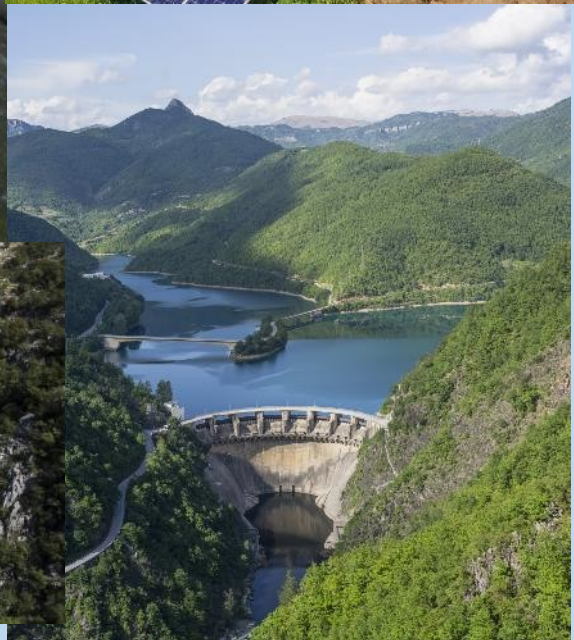
SVG PNG CSV

Source: [IEA Data Services](#)

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# Energy production BIH in future?





# EU Critical Raw Materials (CRM list 2023)

The following 34 raw materials are proposed for the CRM list 2023:

2023 Critical Raw Materials ( <i>new CRMs in italics</i> )			
aluminium/bauxite	coking coal	lithium	phosphorus
antimony	<i>feldspar</i>	LREE	scandium
<i>arsenic</i>	fluorspar	magnesium	silicon metal
baryte	gallium	<i>manganese</i>	strontium
beryllium	germanium	natural graphite	tantalum
bismuth	hafnium	niobium	titanium metal
boron/borate	<i>helium</i>	PGM	tungsten
cobalt	HREE	phosphate rock	vanadium
		<i>copper*</i>	<i>nickel*</i>

2023 Critical Raw Materials ( <i>Strategic Raw Materials in italics</i> )			
aluminium/bauxite	coking coal	<i>lithium</i>	phosphorus
antimony	feldspar	<i>LREE</i>	scandium
arsenic	fluorspar	<i>magnesium</i>	<i>silicon metal</i>
baryte	<i>gallium</i>	<i>manganese</i>	strontium
beryllium	<i>germanium</i>	<i>natural graphite</i>	tantalum
<i>bismuth</i>	hafnium	niobium	<i>titanium metal</i>
<i>boron/borate</i>	helium	<i>PGM</i>	<i>tungsten</i>
<i>cobalt</i>	<i>HREE</i>	phosphate rock	vanadium
		<i>copper*</i>	<i>nickel*</i>

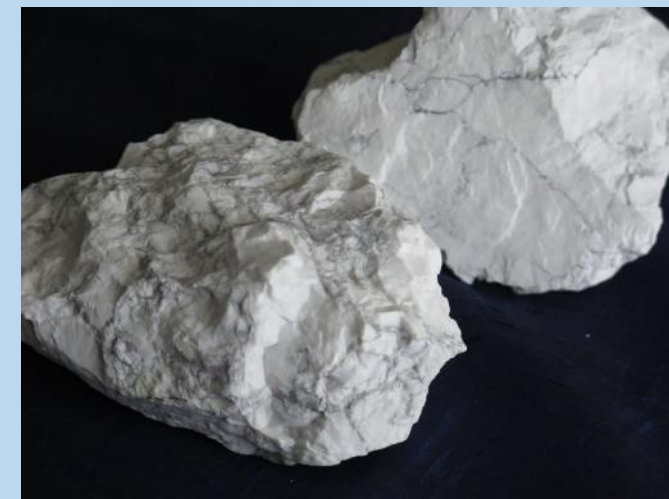
\* Copper and nickel do not meet the CRM thresholds, but are included as Strategic Raw Materials.

# Detail list of minerals of interest (CRM list 2023)

Screened raw materials in 2023 assessment (new materials in blue)	
Industrial and construction minerals	aggregates, baryte, bentonite, borates, diatomite, feldspar, fluorspar, gypsum, kaolin clay, limestone, magnesite, natural graphite, perlite, phosphate rock, phosphorus, potash, silica sand, sulphur, talc
Iron and ferro-alloy metals	chromium, cobalt, manganese, molybdenum, nickel, niobium, tantalum, titanium, <a href="#">titanium metal</a> , tungsten, vanadium
Precious metals	gold, silver, and Platinum Group Metals (iridium, palladium, platinum, rhodium, ruthenium)
Rare earths	heavy rare earths - HREE (dysprosium, erbium, europium, gadolinium, holmium, lutetium, terbium, thulium, ytterbium, yttrium); light rare earths - LREE (cerium, lanthanum, neodymium, praseodymium and samarium); and scandium
Other non-ferrous metals	aluminium/bauxite, antimony, arsenic, beryllium, bismuth, cadmium, copper, gallium, germanium, gold, hafnium, indium, lead, lithium, magnesium, rhenium, selenium, silicon metal, silver, strontium, tellurium, tin, zinc, zirconium
Bio and other materials	natural cork, natural rubber, natural teak wood, sapele wood, coking coal, hydrogen, helium, <a href="#">roundwood</a> , <a href="#">neon</a> , <a href="#">krypton</a> , <a href="#">xenon</a>

# Production minerals in Bosnia and Herzegovina (rank in the World)

	Unit	2017	2018	2019	2020	2021	% share in global production in 2021	Rank 2020	Rank 2021
Iron	t	827 170	704 050	739 600	727 980	792 500	0.04	28	31
Aluminium	t	125 536	131 508	67 690	X	90 037	0.13	xx	31
Bauxite ore	t	740 384	760 244	1 043 343	619 748	675 269	0.17	19	18
Lead	t	6 740	7 070	7 470	6 110	6 310	0.13	36	37
Zinc	t	9 180	9 350	9 160	6 610	7 310	0.05	46	43
Gypsum	t	99 001	122 421	130 778	140 994	297 225	0.17	53	41
Magnesite	t	8 500	5 950	1 400	652	196	0.0006	23	22
Bentonite	t	92 344	87 358	94 601	69 183	75 761	0.4	24	22
Kaolin	t	252 958	303 626	118 005	108 184	62 599	0.14	27	32
Lignite	t	14 033 504	14 378 767	13 376 548	13 365 730	12 802 517	1.86	14	14





# Some important mineral exploit company in BIH

- Elektroprivreda BIH (Breza, Kakanj, Kreka,...) – coal
- Elektroprivreda Republike Srpske (Gacko, Ugljevik,...) – coal
- Rudnik soli dd Tuzla – salt
- AD Boksit, Milici – bauxite
- Rudnici Boksita, Jajce - bauxite





# Some foreign company which invest in mine in BIH

## Adriatic Metals Plc. (UK)

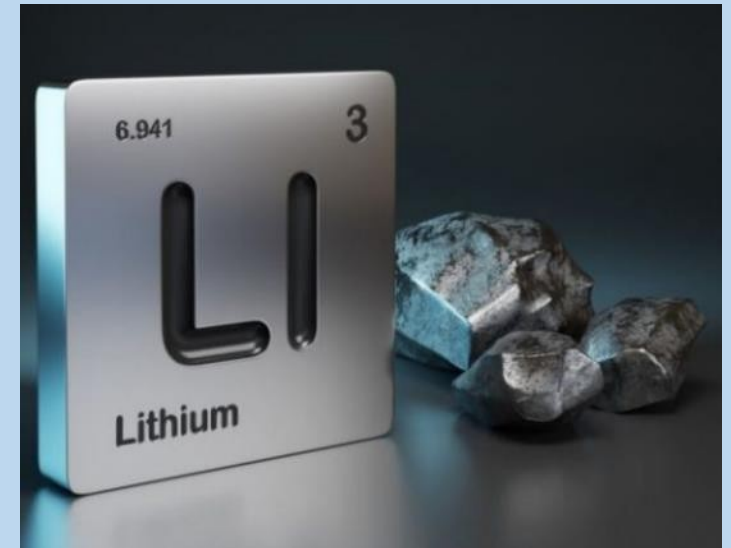
- ❑ Vares, Rupice mine with beneficiation of ore factory in Tisovice,
- ❑ Zinc, Lead, Gold, Copper...
- ❑ Direct employed 270 person, indirect 600 more
- ❑ Positive influence on city Vares, support local communities,
- ❑ Investment more than 450 milion/KM
- ❑ Open primary school of miners
- ❑ Prepare for students visit and practice
- ❑ Ecological respect for reach nature in Vares...



# Some foreign company which invest in mine in BIH

## ARCORE AG, Swiss Junior Mining Company

- Lithium / Boron mining & production project in Bosnia-Herzegovina (Lopare City),
- The preliminary resource estimate is approximately 2,4 mt Lithium Carbonate and approximately 33,1 mt Boric Acid,
- It is just made first research which prove economic for continue process for permits and mining!





# Some foreign company which invest in mine in BIH

Company "BH Magnezij & Minerali" / MFE (Magnesium for Europe) GMBH (GER)

- The deposit in Kupres is one of the highest quality Dolomite deposits currently known in Europe,
  - PCC (Precipitated Calcium Carbonate,  $\text{CaCO}_3$ ), Al-Mg-Spinel ( $\text{MgAl}_2\text{O}_4$ ), and Aluminium-Oxide, Dry Ice and liquid  $\text{CO}_2$ ,
  - Magnesium production for >75 years,
  - Factory is in phase building and full production is planed to start from 2026. year,
  - Develop local community and industry production in BIH.
- Already invest more than 10 mil./KM



# Investment in mine production and rule should be respect?



**United Nations Resource  
Management System (UNRMS)**



**UNFC for Resources**



# CONCLUSION

- BIH is very rich with different kind of minerals;
- BIH have historical mining experience which help BIH to develop in past, that can be too in future;
- Many geological resource is still unexplored and undefined, it should be researched and presented for possible investors;
- Increase mining, don't mean decrease nature conditions! Law and country rule for exploit and produce minerals should be respected and strongly controlled. With remediation space like was before exploit;
- Develop mining can bring new velocity, more jobs and make better space for living in side of country;
- Mining should be friendly with ecological system and give the best to make impact as less it possible!



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## Thank you

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EU support eco-friendly mining 😊

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