

PORTUGAL MINERAL RESOURCES

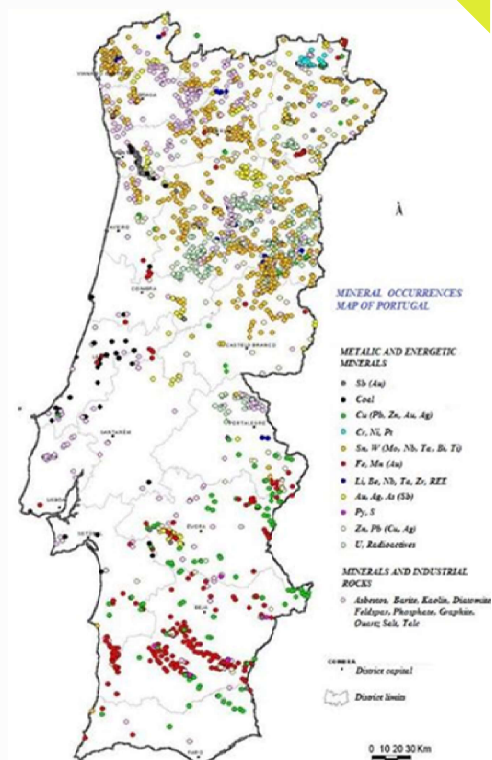
DGEG-General Directorate for Energy and Geology

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Joint Study Group's Seminar

Lisbon, 26/4/2023

Incentivizing Investment in Base Metal Mining



MINING IN PORTUGAL

History

Mining since Roman times (from I B.C. to IV A.C.)

Geology

Complex and diversified geology

High potential in:

- **base metals - copper, zinc, lead**
- **critical minerals - lithium and tungsten**

Framework

Stable, coherent, updated mining Law and regulations

DGEG: Portugal Mining Authority



Mining activity (2023)

115 operating mines

1 273 quarries

200 000 workers employed (4% of the employed pop.)

5 000 M€ Gross Value Added (2.3% Portuguese GDP)

Sustainable mining

National, regional and local decision makers

Stakeholders participation and communication

Transparency

Environmental assessment and monitoring

Royalties plan for the benefit of communities

Land use planning

DGEG participate actively in the land use plans
at national, regional and local level

Sectorial Management Mineral Resources Plan being prepared



IBERIAN PYRITE BELT

2 underground polymetallic mines:

- Neves Corvo mine
- Aljustrel mine

ZINC *

Production: 390 000ton/year

Value: 317 M€

Exports mainly to Norway,
Spain and Belgium

COPPER *

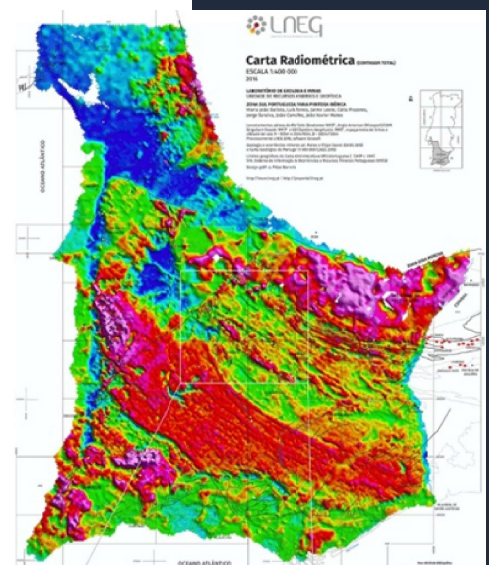
Production: 167 000 ton/year

Value: 280 M€

Exports mainly to Finland

*Concentrates

South of Portugal – World class Base Metals that hosts 2 giant ore deposits. Potential to new discoveries of hidden reserves – new investment in deep geophysics are very promising.



ZINC



Neves-Corvo

- Employs over 1.300 workers, plus a 1.200 working force over several external contractors
- Recent milestones – ZEP (Zinc Expansion Project):
 - expansion of all Zn production (mining entered 2nd Phase Lombador's orebody);
 - expansion of Zn ore processing plant;
 - expansion Cerro do Lobo's tailings dam;
 - SAG Mill – 1,1 million ton/y of ore processing capacity upgraded to 2,5 million ton/y;
- Existing Zn resources:
 - ~72 million ton of Zn ore, bringing ~5million ton metal Zn;
- Annual production:
 - ~ 200.000 ton of Zn ore concentrate @ 48% Zn (100.000 – 110.000 ton metal Zn)

ZINC



Aljustrel

- Employs over 700 workers, plus a 300 working force over several external contractors
- Recent milestones:
 - development to begin Estação's orebody mining;
 - expansion of Zn ore processing plant;
 - expansion of tailings dam capacity;
 - 19,6MVA photovoltaic plant under construction.
- Existing Zn resources:
 - ~35 million ton of Zn ore, bringing ~1,5million ton metal Zn;
- Annual production:
 - ~ 229.000 ton of Zn ore concentrate @ 47,5% Zn (~110.000 ton metal Zn)

Critical Raw Materials in PT

LITHIUM

- **Lithium is critical to the energy transition.**
- **2 mining projects waiting EIA decision:**
 - “MINA DO BARROSO” (Boticas) – Savannah Lithium, Lda.
 - “ROMANO” (Montalegre) – Lusorecursos Portugal Lithium, SA
- **1 mine going to start EIA:** “ARGEMELA” (Covilhã e Fundão) – Neomin, Lda,
- **6 potential exploration areas:** intention to launch exploration tenders in 2023

TUNGSTEN

- **Production:** 908 ton/year
- **Value:** 12 M€
- **Exports mainly to USA and Austria**

Panasqueira Mine
Beralt Tin & Wolfram Portugal S.A.”



COPPER

Recently included in the CRM list

Neves-Corvo

- Existing Cu resources:
 - ~80 million ton of Cu ore, bringing ~2 million ton metal Cu;
- Annual production:
- ~170.000 ton of Cu ore concentrate @ 23% Cu (33.000 - 38.000 metal Cu)

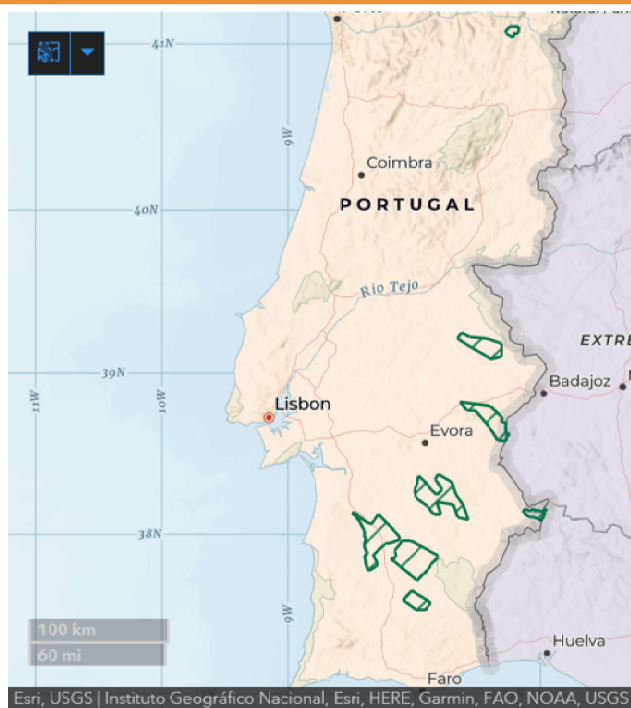


Aljustrel

- Existing Cu resources:
 - ~35 million ton of Cu ore, bringing ~413 thousand ton metal Cu;
- Annual production: currently focused on mining Zn orebodies



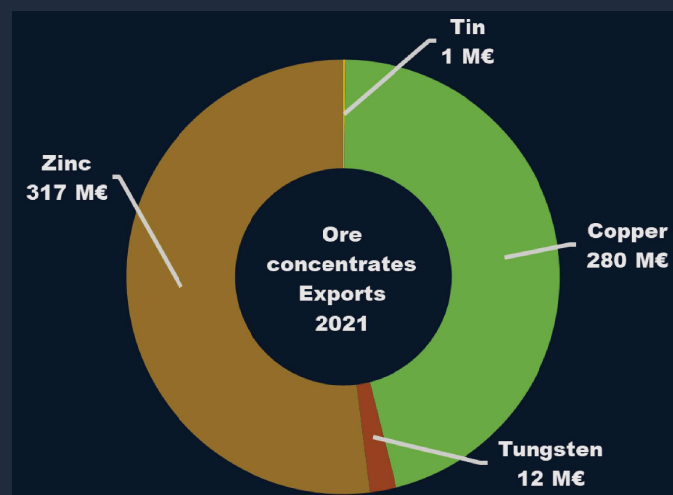
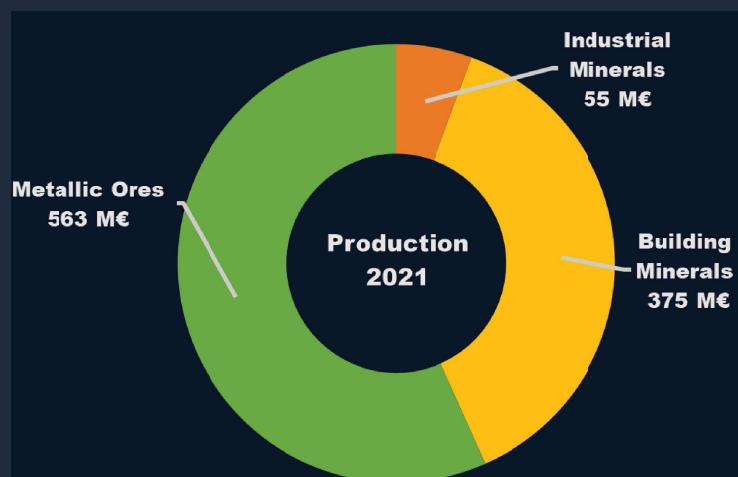
MINING EXPLORATION - METALS



MNPP00221	ASSUMAR	28/10/2021	Bloco Único	266,69 Km ²
MNPP00321	BORBA 2	28/10/2021	Bloco Único	328,52 Km ²
MNPP00121	CIRCO	28/10/2021	Bloco Único	254,52 Km ²
MNPP00820	ALBERNÔA	15/06/2020	Bloco Único	500,00 Km ²
MNPP00520	ALTO DE SANTO AMARO	15/06/2020	Bloco Único	43,19 Km ²
MNPP00420	BARRANCOS	15/06/2020	Bloco Único	73,20 Km ²
MNPP00120	ERMIDAS	15/06/2020	Bloco Único	499,68 Km ²
MNPP00320	GRUJO	15/06/2020	Bloco Único	16,00 Km ²
MNPP00220	PORTEL	15/06/2020	Bloco Único	491,34 Km ²
MNPP00319	VIMIOSO	08/10/2019	Bloco Único	27,50 Km ²
MNPP00119	VINHAIS	28/03/2019	Bloco Único	182,26 Km ²
MNPP00218	NEVES	28/06/2018	Bloco Único	140,59 Km ²

Currently
12 exploration permits seeking for metals
(source: www.dgeg.gov.pt)

STATISTICS MINERAL RESOURCES



European Critical Raw Materials Act

DGEG welcomes the initiative, in order to set a harmonised framework for addressing supply risks. Critical Raw Materials Act as an excellent and important step forward, as it makes it possible to streamline and overcome some of the existing obstacles in terms of legislation and others, safeguarding fundamental principles of access to mineral resources.

- Recognition of raw materials as indispensable for the energy and digital transition and for circularity with increased recycling along the value chain, faster and more expeditious permitting of Strategic Projects
- Copper and feldspar becomes listed as a new critical raw materials.
- PT is analyzing the CRM Act and its articulation with PT mining framework

PT MINING FRAMEWORK

- ✓ **Recently revised** in 2021 and 2022
- ✓ **Higher Transparency** along mining rights/permitting procedures.
- ✓ **Municipalities strengthened position** towards exploration and mining projects.
- ✓ **Corporate social responsibility of mining companies** is included. This is essential for creating trust and awareness with local communities.
- ✓ **Public participation** is improved. All stakeholders are invited to "have a say".

THANK YOU



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