

# A European perspective on Mine waste



Before it's yours, we mine it.  
euromining.org Sweden

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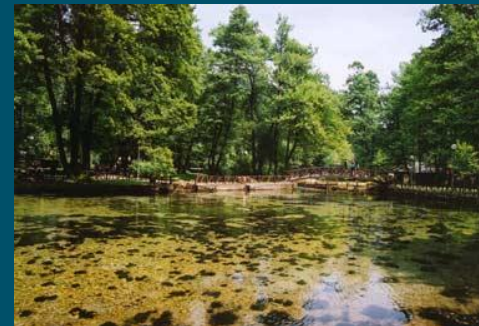


- ≡ 1. Introduction to Euromines
- ≡ 2. EU mining industry and the shift to carbon neutrality
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# 1. Euromines – who we are



- ≡ Recognized representative of the European mining industry;
- ≡ Service provider to its members with regard to EU policy;
- ≡ Network for cooperation and for the exchange of information throughout the sector within Europe;
- ≡ Link to contacts with the mining community throughout the world.



# 1. EM - Our Key Messages



## **RESOURCES**

We strongly believe that Europe has mineral resources.

## **DEMAND**

The demand for raw materials is continuously increasing.

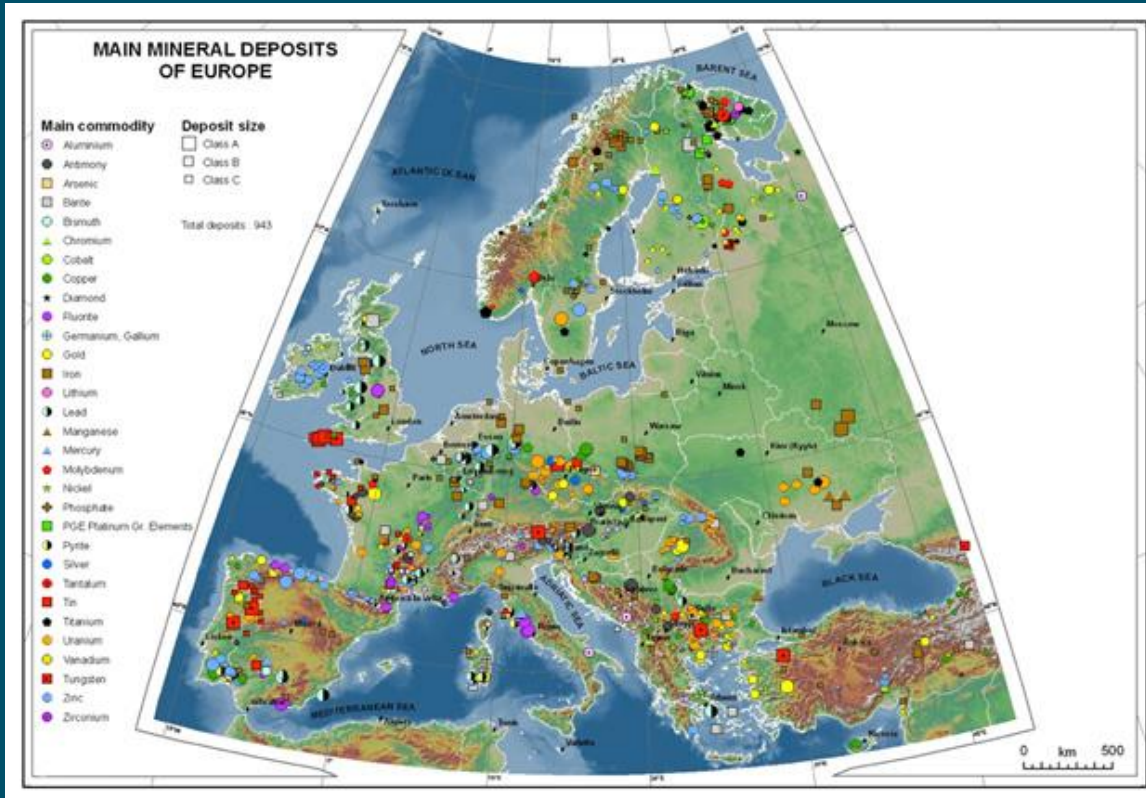
## **STANDARDS**

Providing an enabling environment which provides highest standards, excellence and leadership of the European mining industry.





# 2 EU mining



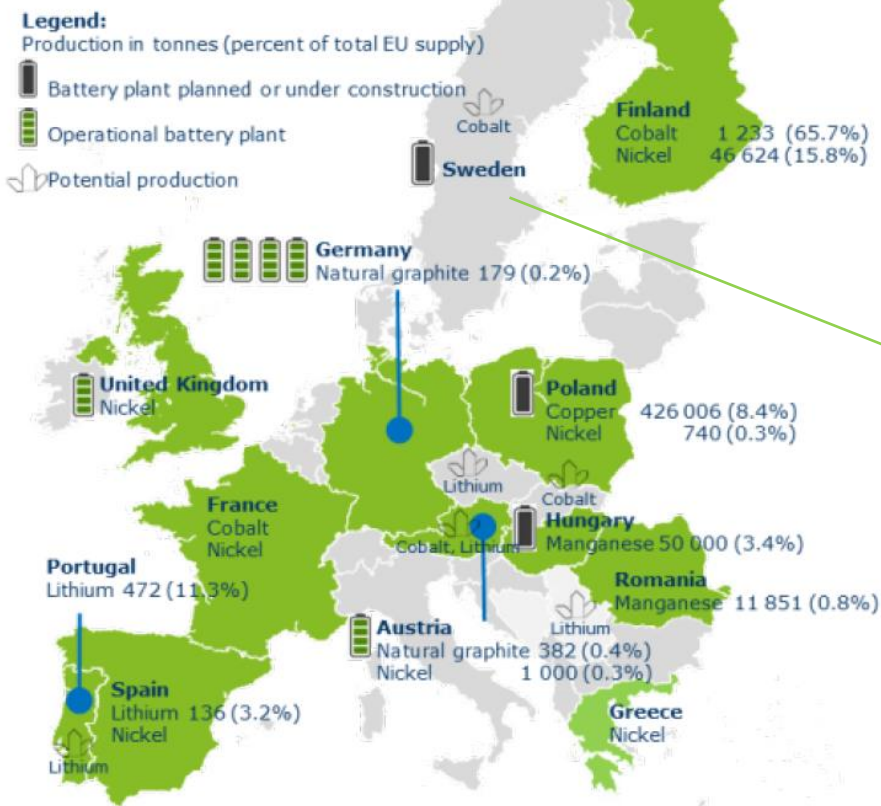
- ≡ EU hosts deposits for many metals
- ≡ EU provides about 40% of EU's metal ores & concentrates (Eurostat)
- ≡ Worldwide development of middle class population and urbanisation will drive demand for resources
- ≡ Circular economy is only possible once resources have been made available

## 2. EU mining - Transition to carbon neutrality



## 2. EU mining – New focus on batteries for carbon neutrality

Mine production and potential of battery raw materials, and battery plants in the EU11



Source: EU Criticality assessment 2017

- ≡ EU: Carbon neutral society needs batteries
  - = EU strategical sources of raw material: Li, Co, Ni, Cu, Mn
  - = Battery plants

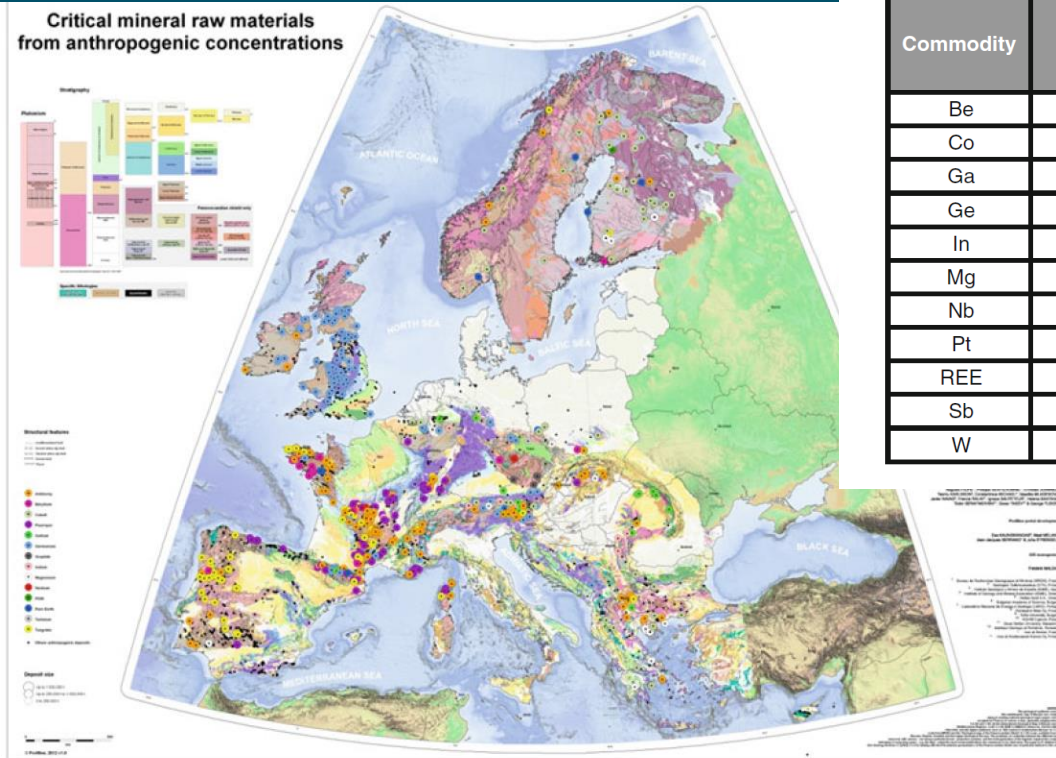
- ≡ Sweden: raw Materials Production Potential: Co, Cu, Li, Ni, Nat. graphite (Sweden's Mineral Strategy 2012/13), Zn

### 3. EU mine waste

≡ Waste deposits imply env./geotechn. challenges, but may also provide opportunities

**Table 2.4** Statistics on critical mineral raw materials from anthropogenic concentrations

Commodity	Total no. of sites	Number of sites with calculated potential	Σ potential (t)
Be	36	9	41
Co	131	62	39.656
Ga	59	28	8.82
Ge	157	18	408
In	36	7	4.273
Mg	42	27	17,147,091
Nb	18	8	379
Pt	5	1	0.6
REE	13	5	13.755
Sb	198	37	78.299
W	124	23	15.137



**Fig. 2.4** ProMine AC database: spatial distribution of anthropogenic sites with a special attention to sites containing critical mineral raw materials



### 3. EU mine waste - Extractive Waste Directive(2006/21/EC)

EWD 2006/21/EC

Protect  
Human  
Health

Protect Air,  
Water & Soil

Protect  
Fauna &  
Flora

Liability

## Extractive Waste Management Plan & Permit

Public Consultation

Data

Major Accident  
Prevention

Major Accident  
Response

Best Available  
Techniques

Data

Financial Assurance

Closure

## EWF Construction

Inspection

Reporting

Data

### 3. Mine waste - Implementation of Mine Waste Directive (2006/21/EC)



- ≡ In 2008 the Extractive Waste Directive was implemented
- ≡ Today, the EU has difficulty to evaluate implementation of EWD
- ≡ Reported data from MS seems inconsistent
- ≡ Need plausible information on amounts of generated mine waste and the corresponding waste management facilities.
- ≡ For instance in Sweden, according to COM:
  - = Coverage of Category A waste facilities by Seveso is unclear in Sweden
  - = External emergency plans for some EWFs apparently missing in Sweden
  - = Lack of timely reporting between agencies within Sweden, such that reports to the Commission were incomplete.

## 4. Selection of waste studies & guidelines currently under preparation in EU



- 1) Guidance document on best practices examples in the Extractive Waste Management Plans, finalised & published, part of Circ. Eco. Pack.
- 2) EU Inspection guidelines TSF, to be finished in Oct 19
- 3) Standard on Geotechnical Aspects of mine waste facilities, to be finalised Spring 2020
- 4) Study supporting the development of general guidance on the implementation of the EW Directive. Running, first results Spring 2020
- 5) Financial guarantees for mine closure, 2-year study that started End 2018
- 6) International independent standard – ICMM, Running, first results Spring 2020

# 5. Conclusions



- ≡ 1. The EU is leading the process towards a Circular carbon neutral Economy:
  - = EU's mining sector can play a significant role in generating and maintaining value from EU's resources. EU mining potential is not fully used.
  - = EU mining plays already an exemplary role for continuous progress towards a more sustainable European industry.
  - = EU mining has already been working according EU Extractive Waste Directive for >10 years.
  
- ≡ 2. Various EU (and global) initiatives take place on guidance and standards for waste reduction and failure prevention of waste storage → EM takes part in initiatives and preserves the overview for its members.





# Thank you!

- ≡ Sustainable mining conference, 6-8 Nov, Brno, Czech Republic <http://www.tezebni-unie.cz/en/conference>
- ≡ Visit [www.euromines.org](http://www.euromines.org) to download our brochures

