Overview of the mining activity in Castilla y León

Ramón Cabrera

• 5th Workshop and Peer Review
• Valladolid, Castilla y León (Spain), March 20th 2018
Overview of the mining activity in Castilla y León

OVERVIEW

• Big numbers: substances, exploitations, size
• Quarry products: building crisis
• Dimens. stones: building crisis, roofing slates
• Ind. minerals: magnesite, glauberite, K feldspar
• Metallics: tungsten, other metals
• Energetics: coal decline, hydrocarbons, uranium
• Other aspects: waters, mining heritage
Overview of the mining activity in Castilla y León

**BIG NUMBERS**

- Wide range of raw materials, related with varied geology
- Predominance of Quarry products (aggregates+building related industrial minerals): 73% of exploitations
- Predominance of micro: 85%

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>NUMBER OF EXPLOITATIONS</th>
<th>EMPLOY.</th>
<th>EMP/EXP</th>
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<tr>
<td>Clay</td>
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<td>Silica sand</td>
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<td>Sands &amp; Gravels</td>
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<tr>
<td>Hornfels</td>
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<tr>
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<td>5</td>
</tr>
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<td>Glauberite</td>
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<td>Tungsten</td>
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<td>TOTAL</td>
<td>397 59 12 468</td>
<td>3715</td>
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</tbody>
</table>
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QUARRY P. / DIMENSION. ST.

- Strong crisis related with building sector since 2008
- Loss of exploitations, production and jobs

**Quarry products**
- Aggregates + industrial minerals related with building sector
- 341 exploitations, 1452 employees, predominance of microcompanies: 91%
- Association: ANEFA (national), AFARCYL (regional)

**Dimensional Stones**
- 99 exploitations, 801 employees, predominance of micro (76%)
- 52 different varieties of commercial stones
- Association: PINACAL (regional level)
- Highlight: roofing slates

**Roofing Slates**
- Exploitations concentrated in León
- Great production: almost 33% of the national production
- Spain world leader
- Employment: 75% of Dim. Stones sector
- Importance of exports (>90%), endurance in times of crisis
- Specific associations: APICAL, APROPICALE
- Experience in research and innovation

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INDUSTRIAL MINERALS (1)

**General**
- 17 exploitations, 473 employees
- Larger size of companies, usually grouped in corporations
- Association: AINDEX (national level)
- Potential for exploration: talc, graphite, lithium, etc.
- Most outstanding: magnesite, glauberite, K feldspar

**Magnesite**
- Borobia mine – Magnesitas Sorianas
- Discovery: end of 90’s. Set up: 2015
- Main product: Magnesia (MgO), critical raw material
- Use as fertilizers, refractories, etc.
- 25% of national production in Soria province
INDUSTRIAL MINERALS (2)

**Glauberite**
- Or Glauber salt: Sodic-Calcic Sulphate
- Cerezo del Río Tirón (Burgos), huge deposit (biggest in Spain)
- 2 Spanish corporations operating: CRIMIDESA and SAMCA
- Main product: NaSO₄, used as excipient in detergents
- Biggest production in Spain (65% of national production)
- Production sold outside CYL

**K Feldspar**
- Segovia deposits, biggest in Spain
- 2 corporations operating: Saint Gobain and SAMCA
- Main product: K Feldspar, used in ceramic industry
- Secondary: quartz for the glass industry
- Biggest production in Spain
- K Feldspar production sold outside CYL (Mediterranean coast ceramic industry)
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**METALLICS**

**Tungsten**
- Critical raw material
- Los Santos W mine: in operation since 2008
- Barruecopardo W project: in op. in 2019
- Companies: ALMONTY and SALORO
- In both cases, the final product is a concentrate of CaWO4 (>65%)
- Exports to USA
- Important potential on the Iberian Massif District (western CYL provinces)
- ESMIMET: Interreg project focused on exploration guides and the set up of a network of research and innovation
- Some other projects try to improve W recovery (pilot plants)

**Other metals**
- Advanced projects of tin-tungsten, iron and lead-zinc. Potential for Au, Cu, Co, Ni, etc.
ENERGETICS (1)

Coal

- First mines in last decades of 19th century
- Important production of hard coal and anthracite in the 20th century (León and Palencia provinces)
- Strong economic dependence on the mining activity
- 4 thermal power stations

- Production in decline since 90’s
- Nowadays only a few mines in operation, small production
- Deep crisis, high unemployment
- Regional Administration has specific plan: Plan for the Economic Dynamization of the CYL Mining Municipalities
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ENERGETICS (2)

Hydrocarbons

• Ayoluengo: onshore oilfield in operation 1967-2017
• Fuel for industrial use
• Mining potential for shale gas, according Spanish Geological Survey (IGME)
• Several companies tried to explore this potential
• Strong social opposition, many municipalities against fracking
• Companies withdrawing from CYL are giving up projects

Uranium

• Uranium mine in operation 1974-2000
• Exploration works led to define 3 deposits
• Berkeley Minera España S.L. in process of obtaining permits to enter in operation
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OTHER RELATED ASPECTS

**Waters**
- Spring waters (with public utility declaration) and thermal waters, mineral resources according to the Spanish Law of Mines
- 18 bottling plants, 100 M€/year
- 12 thermal baths, 20 M€/year

**Heritage**
- 16 mining sites have been turned into touristic places
- Mining museums, guided visits in old quarries and underground mines
- Mines of gold, coal, iron, manganese, copper, tungsten, salt, dimensional stones
- 92,000 visitors in 2017
- Educational and touristic approach
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THANKS FOR YOUR ATTENTION !!

Ramón Cabrera  rcabrera@siemcalsa.com
SIEMCALSA  siemcalsa@siemcalsa.com