

## Focus: Portugal

# Strong prospects

Resource-rich and looking to the future

Ricardo da Mota Veiga  
Somincor

Portugal is a resource-rich country with large deposits of metallic and non-metallic minerals such as copper, zinc, uranium, iron ore, tungsten, tin, antimony, indium, niobium, tantalum, beryllium, germanium, marble, limestone, kaolin, quartz and feldspar. The Iberian Pyrite Belt, which geologically belongs to the South Portuguese Zone, is one of the most important volcanic massive-sulphide districts in the world.

With mining activity since Phoenician times, this sector has boomed lately, mostly in relation to exploration. The number of exploration permits has more than quadrupled from 31 in 2004-2006 to 146 in 2010-2012. A large portion of the existing mining contracts have been signed over the last few years.

There are a further 55 exploration contracts being negotiated with the national authority, 20 of which are for metal ores and 35 for non-metallic minerals.

This positive development is due, among other things, to the government's moves to encourage mining activity as a means of reviving the economy and boosting employment. This support has resulted in the approval of a National Strategy for Geological Resources – Mineral Resources, a review of the country's mining legislation that is already underway and the launch of a Portuguese Partnership for Mineral Resources.

Portugal now also has the Guide of the Portuguese Geological and Mines Sites and modern museums to draw attention to the country's mining legacy, such as the Lousal Ciência Viva Centre.

Following the recent release of both a book and a film on biodiversity in the mining area of Alentejo, it is clear that mining activities are not only compatible with the environment, but also that the industry can help to foster knowledge of biodiversity.

### Production

While no new mines containing metal ores have been opened recently – although some kaolin and feldspar mines have been opened – metal-mining production levels continue to be high in Portugal,



Ornamental stone mine in Portugal

particularly from the Panasqueira and the Neves-Corvo mines. The two mines are the largest in Portugal and two of the largest of their kind in Europe. The Panasqueira deposit has an average production of 1,300t/y of tungsten trioxide concentrate (WO<sub>3</sub>).

Meanwhile, Neves-Corvo produces an average of 300,000t/y of copper concentrate and 100,000t of zinc concentrate. With the discovery of ore bodies in the Neves-Corvo area and of the Semblana deposit under the Castro Verde exploration permit, it is expected that this mine may continue this level of activity for a number of years.

As a result, the country's volume of industrial minerals exports in 2012 almost matched the volume of industrial minerals imports, thus improving the Portuguese trade balance.

Due to investment in internationalising the Portuguese stone brand, innovation, research and development and qualification, Portugal has become the second-largest exporting country per capita for ornamental stones in the world – Italy is the largest exporter per capita. Production levels and export volumes of ornamental stones have been steadily growing (see graphs on page 24).

Waste management and recovery levels continue to be one of the main issues facing Portuguese mining companies. Investments in these areas have led to innovative solutions, such as the paste deposition project at the Neves-Corvo mine or processing of marble and limestone quarries' dumps to produce marmorite and lime, which can then be exported.

**“Colt Resources is exploring the Boa Fé gold project in the Alentejo region and the Tabuaço tungsten project in the northeast of the country”**



**Fast facts: Portugal**



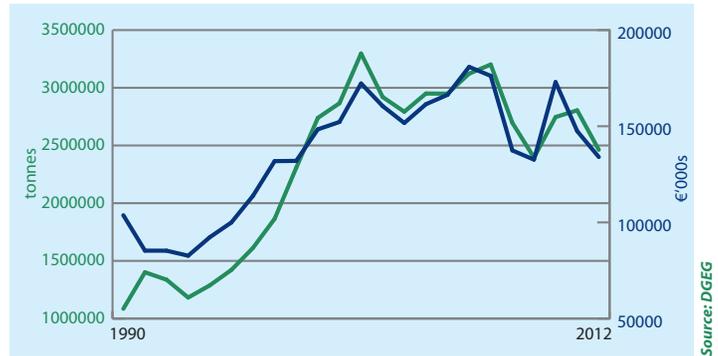
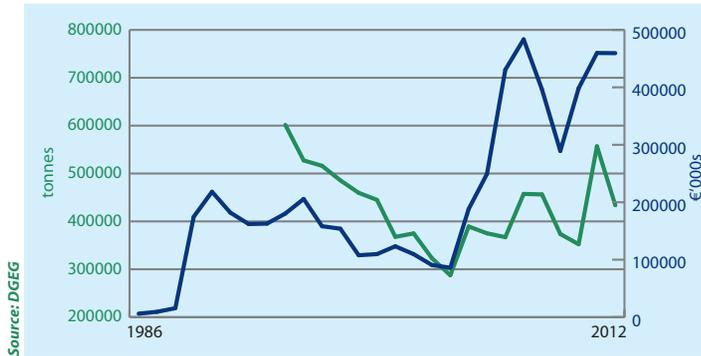
- ▼ **Capital:** Lisbon
- ▼ **Population:** 10.53 million
- ▼ **Real GDP growth:** -3.2% (2012 est)
- ▼ **Currency:** euro

### Exploration

There is a large number of national and foreign companies investing in exploration in Portugal. These include Empresa de Desenvolvimento Mineiro SA (EDM), EPOS-Empresa Portuguesa de Obras Subterráneas, Lusorecursos, PANNN – Consultores de Geociências Lda, Companhia Portuguesa do Ferro, Almada Mining SA, Lundin Mining Corp, Sojitz Beralt Tin & Wolfram SA, Portex Minerals Inc, Avrupa Minerals Ltd, Antofagasta plc, Blackheath Resources Inc, W Resources plc, Contécnica Consultoria Técnica Ltda, Klondike Gold Corp, MTI – Ferro de Moncorvo SA and Colt Resources Inc.

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Colt Resources is exploring the Boa Fé gold project with interests in Montemor in the Alentejo region and the Tabuaço tungsten project in the northeast of the country. The company has conducted preliminary economic assessments (PEA) for both projects. The Tabuaço PEA estimates that capital investment of US\$86.8 million would be necessary to develop and recover 1.24mtu of WO<sub>3</sub>.

There are also a number of other new projects being carried out in areas that were previously mined. Almada Mining, the Portuguese subsidiary of Petaquilla Minerals Ltd, signed a three-year contract in 2012 to explore gold and silver in the municipalities of Maia and Paredes. The project may involve more than €5 million (US\$6.8 million) in investment, but the financing is still under discussion.

In 2013, the Penedono consortium, which comprises Colt Resources and Contécnica Consultoria Técnica Ltda, signed an agreement to explore for gold, silver, copper, zinc, lead, antimony, tungsten, molybdenum, tantalum, niobium and tin in the municipalities of Penedono, Sernancelhe, Tabuaço, São João da Pesqueira and the district of Viseu.

In 2012, a consortium consisting of Almada Mining and EDM signed a three-year contract to explore gold, silver, copper, lead and zinc at the Jales-Gralheira property located in the municipality of Sabrosa.

### Future prospects

It remains to be seen whether the ongoing exploration projects in Portugal will result in the opening of more mines. The viability of new mining opera-

**Above, left to right: Exports of metallic minerals (value €); ornamental rock production in Portugal**

**“Deep seafloor mineral resources will also be a challenge for Portugal’s mining industry”**

tions will hinge on commodity prices, the availability of financing and the willingness of the government to maintain its current level of support for the mining industry.

The measures envisaged in the national strategic plan involve redefining the role of the government and its input in the mining sector, the creation of a dedicated body to act as a one-stop-shop for investors within the country’s mining authority, and communication initiatives to promote Portugal’s mining potential. All this should influence the country’s ability to attract and hold onto investors.

With a long tradition in the industry, Portugal’s local communities are generally aware of the potential benefits presented by mining activities. Notwithstanding this, each company must make an effort to involve the local population and explain the positive and perhaps less positive effects of its project.

Deep seafloor mineral resources remains a challenge for Portugal’s mining industry. With nearly 4Mkm<sup>2</sup> of largely unexplored seafloor and massive seafloor and sub-seafloor sulphide deposits, the country has a huge potential that can and should be explored.

In a Europe that is striving for a sustainable supply of raw materials, Portugal is an important player with a dynamic mining sector that promotes the growth of the national economy and regional development.

Portugal is relevant to Europe not only in terms of production volume, but also when it comes to technical know-how and expertise in areas such as mine recovery. ▼

*Ricardo da Mota Veiga is a representative of Portugal’s National Association of Extractive Industry and Manufacturing (ANIET) and is in-house counsel at Somincor, a subsidiary of Lundin Mining Corp. The Portuguese Directorate General for Energy and Geology (DGEG) and the University of Aveiro contributed to this article*

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