Resource development needs a sustained burst of foreign investment, but so far there have been few takers

Although central Europe may not be the first region that springs to mind when it comes to mining and mining investment, a combination of geopolitical and economic factors have had a profound impact on the industry in the region in recent years.

As the worst of the Eurozone crisis began to rear its ugly head in 2009 and bailouts and austerity measures were implemented left, right and centre, the malaise took its toll on the economies of Austria, the Czech Republic, Slovakia and Hungary, which all rely heavily on exports to other European countries.

Although these four countries continue to struggle financially, as the Ukraine crisis continues to deepen, the debate about energy dependency in the region, which has traditionally been reliant on energy imports, is once again to the fore.

Austria’s economy grew by just 0.4% last year as the worldwide economy continued to stagnate – still better than the EU average of around 0% and the Eurozone average of -0.4% decline. Development continued at a low level in the country’s mining industry in 2013. Lower demand from certain industries, such as the steel industry and the downstream industries, had a further dampening effect.

The desired economic upturn did not arrive in Austria last year, at least not noticeably, and there was only a slight relaxation in the second half of the year. Price increases on the world markets also had a discernible impact, not least because of the increasing demand for raw materials, particularly from developing and emerging markets. As with 2012, rising energy costs continued to affect the economy.

Once again, research and development had an important role to play across the industry, with particular emphasis on the exploration of new reserves as well as on the adaptation of existing ones, and the development of new products according to market demand.

Austria is home to the Styrian Erzberg iron-ore mine, which is the largest open-pit mine in central Europe. In line with growing demand in the country’s steel industry, production at the mine continued at a low level in the country’s mining industry in 2013. Lower demand from certain industries, such as the steel industry and the downstream industries, had a further dampening effect.

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As a result, the number of employees at the mine was increased to 188, not counting contract workers and apprentices. A hydroelectric power station is now in operation at the site and provides about one-third of the mine’s electricity. Projects aimed at optimising and assessing new extraction technologies and evaluating the reserve potential of alternative mining methods are also underway.

Austria is the world’s seventh-largest tungsten producer and hosts Europe’s largest scheelite (tungsten ore) mine, which is owned by Wolfram Bergbau und Hütten AG, a subsidiary of Sweden’s Sandvik AB.

In sharp contrast to 2012, when the mine reduced its extraction of scheelite by around 11% to 376,000t due to falling demand, the mine extracted 488,000t of scheelite in 2013. The 3,514t of scheelite concentrate produced was used at Wolfram’s conversion plant in St Martin, Styria. Total ore production is expected to reach about 500,000t in 2014.

**Economic growth**

There are two main companies that extract magnesite in Austria: RHI AG and Styromag Steirische Magnesit Industrie GmbH. RHI, a world market leader in refractory products, operates five plants and three magnesite mines, two of which are underground and one an open-pit mine. Styromag Steirische Magnesit Industrie runs four magnesite mines in Austria, two of which are underground and two are open-pit mines.

Moreover, in the June quarter of last year, Styromag opened a new open-pit mine in Hohentauern. Magnesite had previously been mined in the area, but the mine was closed down in the early 1990s.

Overall, 680,000t of raw magnesite was extracted from mines in the country in 2013, a 7% decrease compared with 2012. Although demand remained stable at a national level, due to decreasing demand internationally, particularly within Europe, sales volumes had to be adapted accordingly.

RHI has made mainly environmental investments in its Austrian plants of late, such as introducing thermal afterburning and in filters for shaft furnaces and tunnel kilns. The company also acquired 69.6% of the share capital of India-based Orient Refractories Ltd to strengthen its position in the Indian and wider Asian markets. This added to investments made in 2012, which the company
Focus: Central Europe

used to install a second rotary kiln in its Turkish plant and a fourth tunnel kiln at its Chinese site.

RHI is also understood to be looking into other opportunities in India and other emerging markets, such as Turkey.

The Austrian Institute of Economic Research expects the country’s economy to grow by 1.7% in 2014 and 2015. These slight improvements in the economy are expected to stimulate a rise in mining activity and a slight recovery in demand from the downstream industries.

Replacing Rožná

The global financial crisis had a profound effect on the Czech Republic, prompting the collapse of the country’s government in 2009. Although there have been marked declines in production in recent years, there is still plenty of mining activity going on in the country.

As far as critical EU minerals are concerned, prospecting and exploration for tungsten, lithium, rubidium, caesium and scandium ores continues apace in the area surrounding the Krušné Hory mountains. Prospecting for graphite is also taking place in the country’s South Bohemian region.

The Rožná vein-type uranium deposit, owned by state-owned enterprise DIAMO, is gradually approaching depletion, with recoverable reserves expected to last for only a further three or four years of production. DIAMO is now considering other potential operations that could replace the supply from Rožná, including the nearby small-vein-type deposit Brzkov-Věžnice. Part of the deposit was mined during a trial extraction in 1984-1990, producing a total of 55t of uranium over that period. The mine has since been sealed off and flooded. However, following a recent government resolution DIAMO is preparing a feasibility study for the mine, which should be completed by mid-2014.

The entire deposit is estimated to contain 2,000-3,000t of recoverable reserves. As with the Rožná deposit, the extracted ore is due to be processed into yellowcake (ammonium diuranate) at the Dolní Rozínka plant. However, questions remain about the economic viability of developing the deposit given the relatively low price of uranium.

Coal is the Czech Republic’s most significant indigenous energy resource and the country is estimated to host some 2,400Mt of resources. Bituminous coal production, which is concentrated in the Czech part of the Upper Silesian Basin, recorded its steepest drop in modern Czech history in 2013, declining to 8.6Mt. This was primarily due to a long-term decline in the prices of bituminous steam and coking coal on the world markets.

Moreover, recoverable reserves of bituminous coal were re-evaluated and decreased by nearly 59%. Thus, the general life expectancy of reserves declined from 15 to roughly 8 years.

OKD, a wholly owned subsidiary of New World Resources plc, has plans in place to close its unprofitable Paskov mine. The Czech government has approved state aid for phasing out the mine, which will cease all operations by the end of 2017, although OKD may continue to operate Paskov after this period if it chooses to do so. As part of the agreement the government has said it will pay US$30 million towards social and remediation programmes for the mine’s employees.

There is a high likelihood that other unprofitable mines in the country may be closed as well in the near future if the market price of bituminous coal and coking coal does not rise significantly.

Mine production of brown coal, which accounts for about 60% of domestic electric energy and heat production, has declined by 10%. While mine production from the ČEZ Group and Sokolovská Uhelná AS was unchanged, output from Vrsanská Uhelná AS and Litvinovská Uhelná AS, which are both owned by the Czech Coal Group, fell by 27% and 22%, respectively.

After its annual general meeting on July 31, 2013, the Litvinovská Uhelná company opted to separate from Czech Coal, and rebranded itself as Severní energetická. At the beginning of September, the company bought shares in the Chvaletice power plant from power utility ČEZ to become the plant’s sole owner.

Due to increasing exports, the production of a number of crucial industrial minerals such as kaolin,
Clays, bentonite, feldspars and silica sand has remained relatively high and stable. Czech kaolin is one of the country’s most important exported industrial minerals and has been exported to more than 40 countries.

Germany is the primary importer, followed by Belgium, Italy, Slovakia, France, Poland and the Netherlands. Germany is also an important importer of clays and bentonite. Poland is a major importer of Czech feldspar, while the majority of silica sand exports go to Austria. By contrast, the majority of limestone output is consumed domestically, mainly by the energy industry for desulphurisation and in construction.

In 2013 the overall production of construction minerals hit an all-time low. The decline was most obvious in the case of sand and gravel production, which amounted to just 16Mt last year. Furthermore, its share in the production of construction minerals is constantly declining.

Mine production of crushed stone stayed roughly the same, totalling around 33Mt last year. The production of other, less significant construction minerals, such as brick minerals and dimension stone, are also at historical lows. Demand remains low primarily because of stagnation in the country’s construction industry and it is not expected to recover until mid-2014.

Much uncharted ground in Slovakia

Mining and quarrying of minerals contributed €330.3 million (US$456.74 million), or 0.46%, to Slovakia’s GDP at factor costs in 2012. Large import volumes of mineral fuels (crude oil, natural gas, hard coal) and metals (iron ore, zinc, materials for aluminium, iron and ferroalloys metallurgy) have resulted in a permanently negative mineral foreign-trade balance.

Employment in the mining industry was 6,264 in 2012, a 1.3% decrease compared with 2011. The highest employment rate is in the energy sector (primarily coal mining), construction materials (crushed stone) and industrial minerals (magnesite).

In Slovakia in 2013, the total geological reserves from 629 registered mineral deposits reached 16,461Mt, which comprised 1,151Mt of mineral fuels, 325Mt of metals, 12,390Mt of industrial minerals and 2,594Mt of construction materials. Total exploitation reached 24.9Mt in 2012. There are also 466 non-reserved mineral deposits, which produced 8.6Mt in 2012. Mineral fuels’ share of total mine production rose to 9%, or 2.2Mt, in 2012. The country’s economic reserves of energy minerals are limited to brown coal, lignite and uranium. Crude oil and natural gas are only of marginal importance.

Hornonitrianske bane Prievdza As, with an annual extraction volume of about 1.9Mt, is the largest producer of brown coal in the country and supplies coal for the Elektrárne Nováky power plant.

Domestic brown coal and lignite production was 2.1Mt in 2012, supplying 77% of the country’s overall demand. The remainder was imported, mainly from the Czech Republic. Hard-coal consumption has been wholly supplied by imports, reaching 3.9Mt, in 2012. This mainly came from the Czech Republic and Russia.

While Slovakia has proven reserves of uranium, both exploration and potential extraction are complicated by environmental and land access issues. The Kosice deposit contains an estimated 19,452t U, but exploitation is seen as problematic due to these issues.

Almost all commodities for metal production—iron, aluminium, ferroalloys, copper, and so on—are imported. The only exploited metal deposit is the Banská Hô Krakov deposit. Production in 2012 reached 17,554oz of gold in concentrate and the majority of this is exported to Belgium.

Industrial minerals’ share of total mining production increased to 10.4Mt in 2012. Limestones, dolomites, magnesites, bentonites, zeolites and barites...
are the most important industrial minerals that are extracted and exported from the country.

In 2012 the value of exported limestone commodities, such as cement, lime and limestone, decreased to €115 million (US$176.8 million). Exported cement alone totalled €119 million (US$154.7 million).

Construction materials’ share of total mining production in Slovakia decreased to 49%, or 12.2Mt, in 2012. Building stone, gravel sands and brick clays are extracted predominantly to cover domestic needs in particular regions and production naturally fluctuates according to demand in the building industry sector.

Exploration drive
There are 134 valid exploration licences in Slovakia, although 55 of these are issued for geothermal waters. Metal exploration licences (35 areas) include precious metal, base metal, nickel, cobalt, tungsten and molybdenum and rare-earth elements (40 areas). Exploration claims for energy minerals are represented by hydrocarbons (six areas) and uranium ores (10 areas).

European Uranium Resources Ltd is exploring for uranium in Slovakia and has entered into a binding heads of agreement for the sale of its Kuriskova and Novoveska Huta uranium projects to Forte Energy NL. The two projects face strong opposition from a number of environmental non-governmental organisations and activists.

This transaction represents the sale of the company’s only remaining mineral projects. The company intends to use the money gained from the sale to look into mineral projects to option or acquire across Europe.

Forte is an ASX- and AIM-listed emerging international exploration and development company with a portfolio of uranium assets in Mauritania and Guinea, West Africa.

EMED Mining Public Ltd, which previously focused its activities in central Europe on exploring for gold deposits in Slovakia, has suspended its permitting process and reduced its activities in the country to a basic administrative level. Although the company ran a successful exploration programme in the country that led to the discovery of the Biely Vrch porphyry gold deposit, located within the Detva licence in late 2006, in 2010 the Ministry of Economy officially recognised the national significance of this discovery by declaring it a protected deposit area.

In early 2011, EMED submitted an application for the designation of a mining lease area for the deposit. This was approved in 2012, but the company has since been requested to submit further documentation, including a full environmental impact assessment, and has suspended operations while it reviews its options.

Global Minerals Ltd announced an update at its Roznava-Strieborná silver-copper-antimony deposit in eastern Slovakia in March 2014. The company is progressing underground development to open up areas of the mineralisation for further metallurgical testing and to support process design and maintenance of the current infrastructure and water treatment system. It expects the results from this development to be incorporated into a Preliminary Economic Assessment (PEA).

Ortac Resources Ltd completed an updated mineral resource estimate for its Šturec gold deposit in May 2012, which provided a total JORC-compliant mineral resource of 1.36Moz of gold equivalent. In April 2013 Ortac announced the results of its prefeasibility study, revealing that the deposit

Fast facts: Slovakia

- Capital: Bratislava
- Population: 5.4 million
- Real GDP growth: 0.8% (2013 est.)
- Currency: euro

High-purity Vajarska limestone deposit in western Slovakia

Photo: P Balaz

Continues on page 22
holds maiden ore reserves of 13.97Mt at 1.90g/t gold equivalent, containing 873,000oz of gold equivalent.

In October 2013, Ortac announced it had submitted a preliminary environmental report to the regional environmental office in support of its proposed application for underground mining at the Šturec deposit, near Kremnica.

This application is in addition to an existing surface-mining application currently pending approval. If approved, the mining and processing activities would enable the company to satisfy its obligations under the terms of the mining licence area.

On April 2014 the company announced that permits had arrived for an underground trial mining operation for the Šturec project. The trial will target high-grade zones within the deposit that channel samples indicated grade up to 78.5g/t gold.

Ortac’s chief executive Vassilios Carellas told Mining Journal last month that even if trial mining progressed over the summer the company “wouldn’t waste its time” submitting the EIA for its envisaged 71,500oz/y gold equivalent open-pit operation this year.

The junior’s reluctance is symptomatic of the overriding politics in Kremnica, where the mayor has had a closed-door policy to development at Šturec since Ortac arrived.

“We need a local authority that is at least open to discussion,” Carellas told Mining Journal in April.

 Hungry for infrastructure

The global financial crisis hit the construction industry in Hungary hard and halted investment in new highways. However, a recent development has seen the previous intensive highway construction replaced by a widespread improvement programme to 500km of existing road networks. A modernisation programme for the country’s railway tracks was also begun last year.

As a result of these and other developments, the exploitation of raw materials for the construction industry has started once again. Stone mining increased by 8.9% and aggregates mining increased by 23.8% in 2013. Although a marked improvement, these are still at much lower levels than before the crisis. While the real-estate market remains at a standstill, the government has been carrying out intensive construction of stadia.

More worrying still, metal-ore production in the country continued to fall in 2013, plummeting a further 59.2% from the previous year. This was primarily as a result of the closure of the Halimba bauxite mine, which caused the country’s worst-ever chemical accident in 2010 when toxic red sludge spilled from the site into the neighbouring river after a tailings dam burst in the village of Kolontár. The decision was taken to close the mine in early 2013 and around 200 employees were dismissed.

There are high hopes, however, that the Recsk copper mine, which is estimated to hold reserves of 770Mt of copper ore, may be reopened in the near future. State-owned miner Mecsek-ÖKO Zrt put the mine up for sale in 2008 but it is still waiting for a potential investor.

Coal debate

After several years of declining production at the Márkushegy mine, the country’s last remaining underground coal mine, in January 2013 Hungary obtained a €140 million grant from the European Union to close down the unprofitable facility. Although some other smaller coal mines have come on stream in the Borsod region over the past year, the closure of Márkushegy had a dramatic

“When you’re continually getting the door slammed in your face there is just no point.”

Fast facts: Hungary

- Capital: Budapest
- Population: 9.9 million
- Real GDP growth: 0.2% (2013 est.)
- Currency: Hungarian forint

Next issue’s feature

What role will private capital play as China increases investment in the mining sector?
impact on brown-coal production in the country last year, which dropped by a further 35.4%.

The Vértes power plant, which is located at the mine site, is also earmarked for closure in 2015.

Despite these setbacks, coal continues to be one of Hungary’s most important sources of energy. The lignite-fired Mátra power plant was able to keep both production and usage stable during the worst of the economic crisis and went one better in 2013 by increasing production by 7.6%.

The greatest change came in December 2013 when the government announced it was planning to restart the country’s beleaguered coal mining industry and boost coal production in the country.

Zsuzsa Németh, the minister of national development, said in a statement that the government had signed an agreement with the Borsod-Abaúj-Zemplén county authority to set up a coal mining cluster in Borsod.

The move is in line with the government’s overall national energy strategy, which aims to ensure the long-term sustainability, security and economic competitiveness of the country’s energy supply.

The strategy has largely been focused on opening or re-opening smaller mines in poorer regions of the country, where the winter heating season causes huge problems for local populations.

Environmental considerations are high on the agenda though, and pure-coal technology has been slated for use in the bigger mines that are being re-opened.

Preparations have begun for using underground coal gasification technology in mines in the Mecsek mountain range.

Significantly, plans are already underway to develop Bükkábrány lignite mining at the Mátra power plant, as well as the construction of a new, modern power station. The Farkaslyuk mine, located in the remote northeastern corner of the country, has also been re-opened.

Asides from coal mining, the government’s other important goal has been to restart uranium mining in the Mecsek mountain range. In line with the planned expansion of MVM Ltd’s Paks nuclear power plant, preparations are being made to re-open the underground uranium mining close to Pécs.

Concession clarity

Hungary has been converted into a ‘closed area’ as regards the exploitation of coal, oil, natural gas, geothermal energy and ores. The call for concession tenders has been dragging on since October 2010, effectively imposing a three-year machinery-and-equipment-downtime period.

The upshot was that over this period, mining, including research, could only happen once a concession had been granted.

However, the minister of national development has now signed the concession tenders and a recently published new ministerial decree on the mining concession tender process also gives the strongest indication yet that certain adjustments may be made to make the process more clear-cut.