

Emerging Europe

As the eastern European countries of Bulgaria, Romania and Albania continue to grow out of the 2008 global recession, a modern mining sector is beginning to take shape in the region



Once a powerhouse of coal, gold and chromium production, these countries are once again placing themselves on the map of European minerals output.

Developments could be stalled, however, as the debt crisis in nearby Greece threatens to spill over into the region. Earlier this month the European Bank for Reconstruction and Development warned that the Greek crisis could push the region back into decline.

Most countries continue to face fiscal challenges, although countries with IMF programmes have generally managed to stay on track, the bank said in its July quarterly report.

Despite the challenges, the region is attracting foreign direct investment, and the potential of its underdeveloped mining sectors is proving particularly attractive.

Albania: Rising up

FAST FACTS

Capital:	Tirana
Population:	2.9 million
Currency:	leke
Government:	parliamentary democracy
GDP real growth rate:	3.5% (2010 est)

BY SOKOL MATI

THERE remains significant mineral potential in Albania, and the country's mining sector has been growing in recent years as a result of the combined effect of large investment in the sector, structural reforms to the country's mining industry and rising metal prices. As a result, mining contributed 7.7% to Albania's GDP last year.

The sector has historically been dominated by four minerals (chromium, copper, iron-nickel and coal) that accounted for more than 90% of mineral production, and since the industry's crash in the 1990s, production of these minerals has been steadily rising again.

Mined production has been increasing at a rate of roughly 10% year-on-year, although this year copper production is anticipated to triple following significant investment in the sector.

The sector is now characterised by the growing presence of junior mining companies, exploring, in particular, for copper and chromium.

MINING POLICY

Albania is a country rich in mineral resources and with a great deal of possibilities for both exploration and profitable exploitation.

During the past 50 years there has been a considerable growth in geological exploration and research. As the sector has become privatised, so the government has been working to improve the business climate.

Reforms undertaken by the government include registration of businesses through the establishment and operation of a National Registration Centre, the introduction of a National Licensing Centre and

reducing administrative barriers by improving the regulatory framework, as well as inspection reform, fiscal reforms and electronic government.

The mining industry is being given top priority for the country's economic development.

The mining policy is intended to:

- Create an investment environment in which appropriate international investors can start the production and bring the sector to its economic potential;
- Stimulate the transfer of technologies and knowledge;
- Promote and sustain the value added policy for the mining sector on treatment of minerals and increase the value of minerals, profit and employment in the country;
- Promote the development of modern infrastructure and generate valuable foreign exchange earnings;
- Make the mining sector a core industry able to stimulate sustainable economic development; and,
- Help creation of jobs, reduce poverty, and become a major contributor to the macro-economy, local-community development.

Albania's mining law was enacted in 1994 with the primary aim of attracting foreign investment to the country.

The law applies equally to both foreign and domestic investors and is administered by the Ministry of Economy, Trade and Energy.



The law grants up to 100% foreign ownership of mineral concessions, with a NSR royalty of 2% (although tax holidays may be negotiated for new mines) and some duty-free concession on imports of goods and equipment.

LATENT POTENTIAL

Mines have recently been developed for chromium in the northeast of the country (Tropoja Kukës massif), while exploration is also taking place for copper in the Mirdita- Puka area and for nickel in the Kukës area.

There is significant potential for the nickel industry, which has been under pressure in regional market owing to a lack of plant capacity in Albania (the country has a monopoly for nickel within the Balkan region).

The future direction of Albania's mining sector is being guided by the European Commission's strategy for minerals, mining and sustainability. However, the sector continues to face a number of challenges, which include price and trade fluctuations, but its development could be a significant economic boost for Albania.

The Balkans can supply more than 50% of Europe's production of bauxite and nickel, as well as more than 30% of its chromium and 20% of its copper, making the region a significant resource base for the European Union.

RECENT ACTIVITY

Albania has an active domestic exploration sector, particularly for chromium, but is also attracting investment from international junior mining companies exploring for copper, gold, chromium, nickel, iron-nickel and rare earth minerals.

Recent exploration activity has outlined resources that include a potential 2.7Mt of copper, 2Mt of chromium and 130Mt of iron-nickel.



Tirex Resources is exploring the Mirdita district

Tirex Resources Ltd announced earlier this year that it plans to begin near-term production at its Mirdita VMS project and has signed a memorandum of understanding with Ekin Maden Tic Ve San AS, Turkey's leading non-ferrous metals and minerals trading company.

Under the terms of the MOU, each company will hold a 50% stake in the operating company developing the project.

“The Balkans can supply more than 50% of Europe’s production of bauxite and nickel, as well as more than 30% of its chromium and 20% of its copper”

The property is believed to have historically produced in excess of 3Mt of copper.

Tirex also plans to continue with the first ever modern, large-scale exploration of the Mirdita district, targeting the discovery of major VMS deposits. The company's district-scale exploration programme is funded, in part, by the European Bank for Reconstruction and Development.

Volcanic Metals Corp is looking to develop the Gjegan copper project in northern Albania following its acquisition of the private Albania company Cougar Mining SH PK in 2008.

The company has been evaluating historical data

on the property released by the Albanian government, as well as conducting preliminary exploration work.

Empire Mining Corp meanwhile is working towards developing the Bulqiza chromite project in the Bulqiza Massif of northern Albania, a historical chromite mining district.

Over the past 50 years the region has produced in the order of 20Mt of high-grade chromite ore.

Empire has estimated a chromite content of between 33% and 48% Cr₂O₃ at the project and says it plans to convert the exploration licences to mining licences as soon as possible. The company says it will be more cost effective to develop adits along mineralisation than to carry out surface-based exploration drilling.

The company estimates costs for the next 12 months will be in the order of US\$2.9 million, but with the potential to defray costs from the sale of chromite production and by using contract miners.

Austrian company DCM DECOMetal GmbH has been operating in the Bulqiza Massif since 2007 producing 3,000t of ferrochrome per month. However, earlier this month 700 mine employees went on strike, forcing the company temporarily to suspend operations. The Austrian company has agreed to a 10% wage increase for employees if they return to work.

The operation is based on reserves of 400,000t, and has been mined at a rate of approximately 70,000t/y.

Golden Touch Resources Corp is developing three projects in Albania (targeting chrome, gold and platinum) with its primary focus being the Gjazuq gold project. The company acquired the properties through its purchase of Jab Resources Ltd in March this year.

Golden Touch is currently conducting drilling at the Gjazuq project and the Kukës chromite project with the



Tirex plans near-term production at its Mirdita project

aim of producing NI 43-101 compliant resource estimates.

Privately-owned Balkan Resources Inc was developing the Devolli nickel project as a joint venture with European Nickel plc, combining Balkan's Kokogllave and Zemblak licenses and European Nickel's Devolli licence.

However, in January, European Nickel said that Balkan had failed to raise the funds required to fulfil its joint-venture obligations (essentially to complete a pre-feasibility study), and the property is now wholly-owned by European Nickel.

The company says its preference will be to find a new joint-venture partner to develop the project and that it is in discussion with a number of interested parties. European Nickel proposes production from the project of 15,000-20,000t/y of contained nickel over a mine life of 15 to 20 years.

Professor Mati is director of the Industrial Mining Directorate at the Albanian Ministry of Economy, Trade and Energy

Bulgaria: Undergoing reform



FAST FACTS

Capital:	Sofia
Population:	7.6 million
Currency:	leva
Government:	parliamentary democracy
GDP growth rate:	0.2% (2010 est)

BY IVAN ANDREEV

BULGARIA'S GDP grew slightly in 2010. According to data compiled by the country's National Statistical Institute (NSI), GDP reached a nominal value of Lv70.43 billion (US\$47.7 billion) in 2010, an increase of just 0.2% on 2009.

The industrial sector represents 31.2% of the total value added to the economy, an increase of 0.5 percentage points from 2009, while the mining industry comprises 5% of the country's GDP.



The overall index of producer prices in industry (in both the domestic and the international market) showed a 12.1% annual increase in January 2011, with the largest increase being registered in metal prices.

In the domestic market, producer prices rose by 1.1% in January 2011, compared with January 2010. The extractive industry reported a 15% price increase, while NSI reported a 25% price growth in metallurgy.

Bulgaria's mining industry provides direct employment to approximately 30,000 people, as well as indirect employment opportunities for satellite industries to approximately 120,000 people. In 2010, the total output of extractive industries is estimated at



Lv3.3 billion, 11.5% more than 2009.

In 2010, Bulgaria's Economy Ministry collected Lv37.5 million in revenues from mining concession fees, according to the annual report of concession committees, as the total number of mining concession administered by the Ministry of Economy and Energy rose to 133 by the end of the year.

The figure is Lv5.6 million higher than the amount secured in 2009. More than Lv11 million of the proceeds were transferred to local municipalities.

Earlier this month, Moody's Investors Service upgraded Bulgaria's government debt ratings to Baa2 with a stable outlook from Baa3, as part of a long-

NEW MINING LAW

At the end of 2010 the National Assembly voted in significant changes to the law on mineral resources.

The new law, which constitutes a single authority for the management of mineral resources; has led to significant streamlining of the procedures for prospecting, exploration and control of mineral resource concessions.

In June 2010, the government also began the development of a national policy and strategy for mineral resources.

Further changes to the law are expected at the end of 2011, following the implementation of the national strategy, which is set to include improvements in the methodology for calculating concession fees; simplification of land expropriation procedures and elimination of illegal mining.

anticipated review. The credit agency said the improvement reflects the country's ongoing fiscal discipline and improving institutional strength.

Moody's said the upgrade was motivated by three factors: effective fiscal consolidation, strengthened institutional capacity and strong liquidity and capital buffers.

ENERGY STRATEGY

Bulgaria's energy production is dominated by lignite coal reserves, with around 90% of deposits displaying the right characteristics for open-pit mining. According to the BP Statistical Review of World Energy (2011), Bulgaria has coal reserves estimated at 2,360Mt.

The country produced 4.8Mt of coal in 2010, a 5.8% increase on 2009, according to BP, but it also consumed 6.6Mt (a 4.8% increase) the statistics show. Around 97% of Bulgaria's coal production is used for domestic power and heat production.

Electricity production in the country has been dominated by large thermal-power plants using coal (55% in 2009) since the closure of the Kozloduy nuclear power plant in 2007.

The main domestic resource is lignite coal from the Maritsa East coal basin.

State-owned Maritsa Iztok Mines operates three producing mines (Trojanovo 1, Trojanovo North and Trojanovo 3) in this East Maritsa basin, supplying coal to three domestic thermal power plants for electricity production and a factory for briquette production. In 2010, the firm produced 27Mt of lignite, and estimates that it has reserves for 50 years more of production.

In addition, Enemona JSC was last year permitted by



the Bulgarian cabinet to explore mineral resources in the Momin Brod area, where the Lom lignite deposit is located.

Uranium has also historically been mined in Bulgaria, and the country was an established uranium producer until around 1995. It is estimated that more than 70% of the country's known uranium deposits are suitable for mining.

In June last year the Ministry of Economy, Energy and Tourism announced Bulgaria's energy strategy to 2020, which is designed to align the country with Europe's wider 2020 energy and resources strategy.

As part of the strategy, the government aims to reduce greenhouse gas emissions as well as the reliance on gas and coal by increasing the use of nuclear and renewable energy sources to 16% of the total energy mix.

METALS AND MINERALS

Historical exploration has identified mineable resources of around 245 mineral deposits for a range of metal commodities including iron ore, chromite, tungsten, molybdenum, zinc, copper, gold, silver and uranium.

The total output of extracted metal ores for 2010 is estimated at Lv1.2 billion, including copper ores and concentrates, lead, zinc and tin ores and concentrates. The sector is also showing a small amount of growth, last year having employed around 6,250 people, an increase of 2% on the previous year.

Currently there are three companies that produce copper concentrate in Bulgaria. These are the local companies Assarel-Medet JSC and Elatsite Med AD (which operate open-pit mines in the country), while Canada-based Dundee Precious Metals Inc operates the

Chelopech underground mine.

Assarel-Medet is the largest copper producer in Bulgaria, providing over 50% of the national production of copper.

Earlier this year the first 130t of copper-cathode (with a purity level of 99.99%) was produced from the trial operation of the company's new solvent-extraction and electro-winning facility, which was officially opened at the end of May by the Bulgarian prime minister.

The plant has a production capacity of 1,500t/y of copper cathode and its construction also included the reconstruction and upgrade of the existing installation for microbiological-leaching. The upgrade has also served to improve the economics and environmental efficiency of the operation.

Elatsite Med is a private joint-stock company engaged in mining and processing of copper and gold-containing ores. The company's Elatsite mine is the largest open-pit mine in Bulgaria and is scheduled to continue operating until 2021.

Meanwhile, Dundee Precious Metals' Chelopech mine is one of the largest copper-gold deposits in Europe. It is located west of Chelopech village, on the southern slope of the Balkan Mountains in the Zlatitsa Valley.

Last year the mine produced 27.4Mlb of copper and 65,512oz of gold, although the company is currently partway through an expansion plan to increase mining capacity from 1Mt/y to 2Mt/y and output to 45.7Mlb/y of copper and 128,850oz/y of gold from 2012.

In June, Dundee's subsidiary Chelopech Mining EAD officially opened the upgraded and reconstructed process plant as part of the upgrade programme.

The total cost of the project is estimated at US\$150 million, with the company having spent around US\$95 million to date, including US\$23 million for the process plant upgrade and US\$11 million in the construction of paste-fill plant.

Earlier this year the company also completed a US\$14.5 million long-term loan agreement with Raiffeisenbank (Bulgaria) EAD to be used towards the expansion project.

The loan agreement with Raiffeisenbank concludes US\$81.25 million in long-term debt financing arrangements for the Chelopech expansion, which commenced with the US\$66.75 million financing with the European Bank for Reconstruction and Development and Unicredit Bulbank that was put in place in December 2010.

Ivan Andreev is executive director of the Bulgarian Chamber of Mining and Geology

Company profile

CARPATHIAN GOLD

Carpathian Gold Inc (TSX:CPN) is an exploration and development company whose primary business interest is developing near-term gold production on its 100%-owned Riachos dos Machados gold project in Brazil and focusing on activities surrounding permitting and construction, along with progressing its exploration and development plans, on its 100%-owned Rovina Valley Au-Cu project located in Romania.

The firm currently hosts NI 43-101 resources of 4.0Moz of gold in the measured and indicated categories and 4.5Moz of gold in the inferred category, as well as

759.1Mlb of copper in the measured and indicated category and 663.1Mlb of copper in the inferred category

The company recently announced an agreement with Barrick Gold Corp for a US\$20 million private placement. The proceeds from this transaction will be used towards expanding the current 2011 drill program at the Ciresata Au-Cu porphyry deposit by an additional 15,000m (from 35,000m to 50,000m), test surrounding targets, release an updated NI 43-101 resource estimate and the on-going pre-feasibility study.

Carpathian is spearheaded by a focused and experienced management and exploration team with years of various disciplines in the mining sector.



Romania: Awaiting a mining revival

FAST FACTS

Capital:	Bucharest
Population:	21.9 million
Currency:	lei
Government:	Republic
GDP real growth rate:	-1.3% (2010 est)



Top: Drilling at Carpathian's Rovina Valley project and below the Rosia Montana mine. Bottom left: Romania's new energy strategy is focused on its coal resources

IN THE years between the first and second world wars, Romania's economy flourished and the country managed to overcome the 1930s recession due to its wealth of mineral resources. Since then, however, the minerals sector has been in decline.

Prior to 1990, the communist regime had imposed an industrial policy focused exclusively on internal resources, leading to the creation of huge production capacities that were no longer related directly to internal demand.

However, decades of under investment has prevented Romania realising the full value of its mineral resources. These policies, and the dominance of state-ownership in the mining sector, continued in Romania until the end of the 1990s.

As a result, the recent global recession caught the Eastern European country at a time when the once-strong mining sector has reached a state of collapse.

STORY OF DECLINE

Romania's largest gold mine, Rosia Montana, was closed in 2006 as the aging technology meant the operation was no longer competitive.

The closure represented the culmination of decades of decline in Romania's mining sector. Prior to the 1990s, more than 350,000 people were directly employed by the mining sector (65,000 of these people working in non-energy mines). Today, total mine employment is closer to just 45,000.

Only 69 mining operations out of an original 600 were still functioning in 2008, after the government cut subsidies to the non-energy sector and closed many of the country's existing mines.

The governments restructuring of the mining sector continues, with the authorities recently concluding that

the country's large coal mining companies are still operating with losses. As a result a further 10,000 employees of state-owned mining companies could be about to lose their jobs.

In the end, completion of the restructuring process could cost Romania as much as €1 billion (US\$1.4 billion), funds that the government can only obtain by turning to the major international funders, with the disadvantage of increasing Romania's external debt.

However, the National Agency for Mineral Resources

"Decades of under investment has prevented Romania realising the full value of its mineral resources"



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(ANRM) estimates that Romania's resources could still provide over 20,000Mt of currently unexploited mineral resources. ANRM has identified 1,900 mineral deposits with mining potential.

In addition, Romania has notable coal reserves with the country's new energy strategy being focused on lignite (less intensive to mine) with the potential for 40 years of production at a rate of 30Mt/y.

The latest statistics from the BP statistical review of world energy indicate that Romania has proven reserves of 291Mt of coal, but produced just 5.8Mt in 2010, a decline of over 9% on the previous year.

Still, Romania is practically independent in terms of coal-based energy resources. Statistical reports published in July show that, even though the country depends on the import of oil and gas, half of its energy consumption is supplied from its own resources.

INVESTOR APPETITE FOR GOLD

Despite the recent decline, the country's resource sector is attracting investors.

At present these investors are only showing an interest in precious metals. Two companies have been granted mining permits: Gabriel Resources Ltd through its subsidiary Rosia Montana Gold Corp (RMGC), and European Goldfields Ltd through its subsidiary Deva Gold SA.

Gabriel Resources' Rosia Montana project is likely to be the first new gold mine to begin production in Romania.

The operation could produce an average 500,000oz/y over the life of the mine, and 626,000oz/y in the first five years once it becomes operational, but



developments have been slow since the original Environmental Impact Assessment was suspended in 2007.

The company has been working for more than a decade to develop the mine, which would create over 3,000 jobs locally, boosting the local economy and helping to lift the region out of very poor economic, social and environmental conditions.

The project is based on estimated resources of more than 10Moz of gold and 47Moz of silver and, at the proposed production rate, could reinstall Romania as Europe's largest gold producer.

This would boost the financial independency of the Romanian government, enabling it to at least complete its mining-sector modernisation programme.

Gabriel has already invested more than US\$450 million in the project but anticipates a further US\$1 billion will need to be spent before it is completed.

In September 2010, the Ministry of Environment restarted a technical analysis committee review of the project's environmental impact assessment, which had been suspended since 2007, and earlier this month Gabriel was granted an archaeological discharge certificate for the property.

Gabriel's chief executive Jonathan Henry says the certificate is a "significant step to receipt of other key permits and approvals".

European Goldfields is also progressing its Certej project having received a key permit in March 2010. In its March-quarter 2011 results the company said that local public consultation for the project has been completed following confirmation from the authorities that the environmental impact assessment for the project was acceptable.

The environmental authorities will now reconvene the technical analysis committee before issuing an environmental permit for the project.

Certej is anticipated to produce 155,000oz/y of gold and 816,000oz/y of silver and have a 16-year mine life.

Meanwhile, Carpathian Gold Inc has received an endorsement for its Rovina Valley gold project from Barrick Gold Corp, with Barrick recently agreeing to a C\$20 million private placement in Carpathian.

Carpathian says it will use the funds to expand the drilling programme at the Ciresata porphyry deposit as well as testing surrounding targets and other satellite deposits.

Carpathian says the project could support 200,000oz/y Au and 50Mlb/y Cu average production over a 19-year mine life.

The company is currently conducting drilling at the project with the aim of producing a new resource estimate for the entire project by the end of this year.

The resource estimate will be used in a pre-feasibility or feasibility study which Carpathian aims to have completed in the first half of 2012.

Romania still has a wealth of mineral resources to be exploited, owing to a lack of investment in the sector in the past as well as inefficiencies in historical mining practices.

New investment in the industry is beginning to uncover the country's potential, particularly for gold, for which it could become the European leader.

This article was prepared with contributions from George Vulcanescu, a freelance journalist in Romania

Carpathian Gold Inc. is an exploration and development company transitioning into a mid-tier gold producing company through the advancement of near-term production on its 100%-owned Riacho dos Machados gold project in Brazil while progressing the exploration and development plans on its 100% owned Rovina Valley Au-Cu project located in west-central Romania.

TSX: CPN

RVP Project in Romania

- \$20 Million strategic placement by Barrick Gold Corp.
- Avg. annual gold production projected at 200,000 oz Au & 50 MM lb Cu over 19 year mine life
- 35,000m-50,000m drill program underway for 2011



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"The Rosia Montana mine could reinstate Romania as Europe's largest gold producer"