

## ROMANIA

*By a Special Contributor*

Romania covers an area of some 237,000 km<sup>2</sup> in southeastern Europe. Bulgaria lies to the south and Ukraine to the north, and there is a modest coastline on the Black Sea to the east. Hungary Serbia and Montenegro border the country to the west. Romania's central Transylvanian Basin is separated from the Plain of Moldova to the east by the Carpathian Mountains and from the Walachain Plain in the south by the Transylvanian Alps. Its natural resources include timber, arable land and hydropower, and mineral resources are chiefly coal, plus some iron ore and base and precious metals. There is also natural gas and limited resources of oil.

The country became a Communist republic following Soviet occupation in the aftermath of World War II, and from the mid-1960s until 1989, the country was ruled by the Communist dictator Nicolae Ceaucescu. It was not until 1996 that the Communists lost their dominance. Today, the country is governed by the minority Social Democratic Party. The head of state, President Ion Iliescu was elected by popular vote for a four-year term in November 2000, and the head of government, Adrian Nastase, a lawyer by training and former Foreign Minister, has been Prime Minister since December 2000. Mr Nastase has not shied away from efforts to revitalise the economy and make the country more competitive, even though higher prices, privatisations and accompanying job losses have led to union protests.

There was strong activity in construction and agriculture during 2001-02, and GDP grew by an estimated 4.5% last year in spite of a general slowdown in the global economy, with agriculture contributing 15%, industry 35% and services 50%. The growth in industrial production last year is estimated at 6%. Nevertheless, the economic progress has done little to alleviate widespread poverty, and as much as 44% of the country's 23 million are struggling close to the subsistence level. This year, the grain harvest is expected to be poor.

Noteworthy privatisation developments in the metals and minerals sector last year included the approval by Romania's antitrust authority of the sale to a US consortium for US\$37 million, of the state's 54.7% interest in the 175,000 t.y capacity Alro aluminium smelter at Slatina. The agreement was signed by Romania's privatisation agency and Marco International Inc., a US metals trader. Marco and the Romanian investment company, Conef SA, had begun purchasing minority shares in Alro two years ago and last February their combined stake had reached 42%. There are plans to expand smelter capacity and to construct a thermal power station at Slatina to make the operation self-sufficient in energy.

In July 2002, it was reported that Romania's asset-recovery agency would sell the 70% interest in the Phoenix copper smelter in Romania held by RBG Resources plc, in an attempt to offset debts owed by the operation. RBG,

which was being investigated by the UK's Serious Fraud Office, acquired its majority interest in Phoenix in 1998 for US\$37 million.

During the 1970s and 1980s, the emphasis for Romania's state-owned mining sector was on production, with little regard to costs and environmental good practices. However, in the post-Communist era there has been a major reduction in financial support for the industry and from a peak of 278 in 1989, it is estimated that the number of mining operations had reduced to 160 a decade later. For example, the volume of hard and soft coal produced is now running at about 32 Mt/y compared with 37 Mt five years ago, mine output of zinc has reduced by around 15% over the same period. The closure of uneconomic mines, including lignite, brown coal, copper, lead and zinc, constitutes an important element of the long-term reform programme for the mining sector being funded by the World Bank. A UK firm, Wardell Armstrong, is helping to oversee the radical restructuring of the sector and the closure programme, and is assisting the sector to address its environmental obligations.

Despite large-scale closures, mining continues to provide jobs for thousands of people and remains an important part of the Romanian economy. Most industrial operations rely on coal-fired power stations and fossil fuels provide 62% of electricity generation, the balance coming from hydro (28%) and nuclear power (10%). Romania's coal industry contributes about 30% of power generation. State-owned National Lignite Co. Oltenia and National Coal Co. Ploiesti produce lignite and brown coal, and CNH Petrosani is responsible for hard-coal production. Oltenia produced 27 Mt of brown coal and lignite, almost 80% coming from open-pit mines using bucket-wheel excavators. The underground mines employ modern longwall mining techniques. Ploesti produced about 2.3 Mt of lignite, all from open pits.

Hard-coal production is predominantly underground from mines based on deposits in the the Jiu Valley. Production amounts to about 2.8 Mt/y, mostly for power generation, and most of the 11 operating mines are in need of modernisation. An aspect of Wardell Armstrong's project is the development of a model Environmental Action Plan for CNH Petrosani's Lupeni mine in the Jiu Valley. It is hoped that the plan will serve as a model for environmental action throughout the industry.

Elsewhere in the country, the UK firm, in association with GeoConsult of Austria, is involved in assessing pollution risks in Romania's Tisza Basin region, as part of the country's commitment to the international treaty to protect the Danube Basin and reduce transboundary pollution incidents.

Potential hazards from tailings dams and waste dumps associated with mine workings are being analysed in preparation for a larger-scale World Bank-funded project. (This has been prompted by the international furore in 2000 when there were spillages into the Tisza headwaters from the Baia Mare gold tailings retreatment facility operated by Aurul SA, a joint venture between the state-owned mining company REMIN SA and Australian junior, Esmeralda Exploration.)

Most foreign investment interest in mineral exploration in Romania concerns precious metals, specifically gold, and the most prominent issue over the past year has been whether or not the Canadian company Gabriel Resources Ltd, should develop Romania's first large, modern gold mine at Rosia Montana. Such development in a pastoral area will necessitate the relocation of a local community and the project is having serious social and economic ramifications for the government. Rosia Montana is located in the Apuseni Mountains of western Romania and a scoping study envisages an open-pit mine treating 13 Mt/y of ore over 16 years that would yield a total of 10.4 Moz of gold and 52 Moz of silver for an initial capital cost of some US\$253 million.

Gabriel owns 80% of Rosia Montana Gold Corp. and state-owned mining company Minvest SA 19.3%. However, the valley of Rosia Montana is claimed to be one of the oldest settlements in Romania and a number of the subsistence farmers there do not wish to move. Gabriel is seeking to commence mine construction during the 2004 fourth quarter and thus far it has managed to secure only 30% of the residential properties that will need to be relocated. The Romanian Government has acknowledged that there will be far-reaching economic benefits in terms of attracting much-needed direct foreign investment and a revitalisation of the country's metal-mining industry but it is facing considerable pressure from environmental pressure groups and those in the community opposed to mining.

Meanwhile, Gabriel is continuing with its exploration drilling programme to expand the resource, and has also begun exploratory drilling at Bucium. The company has also appointed a new chairman and chief executive, Oyvind Hushovd, formerly president of Falconbridge.

Elsewhere, European Goldfields Ltd has continued to explore the Certej gold belt 45 km to the south of Rosia Montana and in a similar geological setting, through its 80%-owned subsidiary SC Deva Gold SA (in which Minvest holds 18.8%). Indicated resources are estimated to be at least 44 Mt averaging 1.9 g/t Au at the Certej deposit, and a number of other targets have been identified. Some 5 km to the west, Minvest is operating small-scale open-pit/underground operations for gold and copper at Bolcana. Mineralisation is hosted by Neogene andesites within a broad zone of argillic alteration. A major gold-copper porphyry system is believed to exist at depth.

In September 2002, it was announced that Argosy Minerals Inc. of Australia and Eurogold Ltd would combine their gold exploration interests in central and eastern Europe. In the Carpathians of northwest Romania, three exploration licences are held covering a 75 km<sup>2</sup> area where REMIN SA has carried out substantial exploration. Targets for drilling have been identified and a provisional agreement has been reached with Transgold SA (50%-owned by Eurogold) for future toll treatment of any future ore production in Romania. Transgold's plant was completed in 1999 at a cost of US\$28 million and has a milling capacity of 2.5 Mt/y.

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**Mineral Production (tonnes unless stated) <sup>1, 2</sup>**

	2000	2001	2002
<b>Metals</b>			
Alumina, calcined gross weight	416,587	319,403	350,164
Aluminium	181,343	182,513	187,355
Bismuth, mine output, Bi content <sup>e</sup>	40	40	40
Copper Mine output (Cu in conc.)	16,099	19,185	18,000
Refined Copper	19,303	22,522	13,453
Gold (kg) <sup>e</sup>	3,500	3,500	3,000
Iron ore	116,000	292,000	296,000
Pig Iron ('000 t)	3,066	3,243 <sup>r</sup>	3,976
Ferrosilicon	8,309	5,823	--
Ferromanganese	1,989	384	--
Ferrosilicomanganese	62,320	71,921	88,665
Silicon metal <sup>e</sup>	200	200	200
Steel, crude ('000 t)	4,672	4,936 <sup>r</sup>	5,491
Lead Mine output (Pb content of conc.)	18,750	19,676	19,000 <sup>e</sup>
Refined lead <sup>e</sup>	28,000	27,000	29,000
Manganese ore	24,000	70,000	60,000 <sup>e</sup>
Mn content	5,000	14,000	12,000
Silver mine output, Ag content	18	18 <sup>e</sup>	15 <sup>e</sup>
Zinc mine output (Zn content of conc.)	27,452	29,786	25,000
Refined metal	51,900	47,200	50,000
<b>Industrial Minerals</b>			
Barite processed	4,266	2,851 <sup>r</sup>	100
Cement hydraulic ('000 t)	6,058	5,668	5,680
Bentonite (marketable)	37,687	24,779 <sup>r</sup>	15,402
Kaolin (marketable)	18,942	21,867 <sup>r</sup>	22,514
Diatomite	8,890	9,743 <sup>r</sup>	20,128
Feldspar	37,157	43,037 <sup>r</sup>	50,864
Fluorspar <sup>e</sup>	15,000	15,000	15,000
Graphite	1,251	1,176	1,001
Gypsum	218,000	275,000 <sup>r</sup>	278,000
Lime	1,666	1,790 <sup>r</sup>	18,289
Talc	7,850	7,270 <sup>r</sup>	7,292
<b>Mineral Fuels</b>			
Coal			
Anthracite and bituminous ('000 t)	3,251	na	na
Lignite ('000 t)	25,752	32,457	30,189
Brown coal ('000 t)	291	324 <sup>r</sup>	244
Gas Natural (Mm <sup>3</sup> )	14,607	14,090	13,425
Crude oil ('000 t)	6,042	6,011 <sup>r</sup>	5,840

Source :USGS

<sup>e</sup>: estimated, <sup>r</sup>: revised, na not available, <sup>1</sup>: Includes data available through September 2003.<sup>2</sup>: In addition to the commodities listed, antimony, asbestos and a variety of crude construction materials are produced, and by produce of copper from 1988 on, output is not reported quantitatively and available information is inadequate.