

# ARMENIA

*By Interfax-CNA*

**A**rmenia enjoyed strong growth last year; GDP grew by 9.6% and industrial production (not including indirect taxes) rose by 3.8%. Foreign trade turnover edged up 1.9% to US\$1.21 billion in 2001, as exports rose 12.7% to US\$338 million while imports fell 1.8% to US\$867 million. Polished diamonds and jewellery made up 36.3% of Armenia's exports, nonprecious metals and their products accounted for 12.9%, mineral products for 11.8% and foodstuffs for 13.65%.

Production grew by 2.8% in the extractive industries: output was down 70.3% for rolled aluminium, but output doubled in the pharmaceuticals industry, jumped 9.3-fold for aluminium foil and 38.6% for copper in concentrate.

Armenia produces copper, molybdenum and its alloys, zinc, lead, gold, silver and non-metallic raw materials. There are also a few diamond-cutting plants in the country. Armenia does not extract natural gas or oil (and mines coal in only very small quantities), importing gas and petroleum products from other CIS countries. Historically, the Armenian minerals industry has been represented mainly by mining and milling capacities, with ore concentrates being the end product; production of finished metal products has been poorly developed.

There are 20 mineral deposits in Armenia listed by the government. They include three copper, six copper-molybdenum, five 'complex' metal operations, four gold and two iron deposits. Six mineral deposits are currently being worked. These are: Kadzharan (copper-molybdenum), Agarak (copper-molybdenum), Kapan (copper), Shaumyan (polymetallic-gold), Zod (gold) and Meghradzor (gold).

In February 2002, a tender commission set up by the Armenian Industry and Trade Ministry

approved bids from all six companies that participated in an open tender for the sale of concentrate from the Zangezur and Agarak copper and molybdenum combines (ZMMK and AMMK) to be produced in 2002. The tender, announced in November 2001, was for 13,000 t of copper in concentrate (26%-28% Cu), 9,000 t from ZMMK and 4,000 t from AMMK; 5,400 t of molybdenum concentrate (48%-53% Mo), 4,800 t from ZMMK and 600 t from AMMK; and 1,500 t of molybdenum trioxide (57% Mo), produced at ZMMK. The tender was open to Armenian and foreign companies and the conditions contained price parameters tied to quotes on the London Metal Exchange.

In January 2002 the Armenian State Repository placed new prices on nonferrous, precious and rare metals produced in the republic, on which the tax on the exploitation of natural resources is based. The price for gold was lowered from US\$9.05 to US\$8.87/g, with silver up from US\$0.139 to US\$0.140/g. Platinum stays at US\$14.68/g. The new price for copper is US\$1,471/t (down from US\$1,426/t on October 1), US\$5,198/t (US\$5,325/t) for molybdenum oxide, US\$483/t (US\$465/t) for lead, US\$755/t (US\$799/t) for zinc and US\$1,345/t (US\$1,345/t) for aluminium. The repository left the price for precious stones unchanged. In particular, one kilogram of agate amounted to US\$8.81, turquoise US\$66.08/kg, obsidian US\$13.22/kg and jasper US\$6.61/kg.

## Gold

Armenia's gold resource potential is considerable: overall reserves are now estimated at around 200 t and the Zod and Meghradzor gold lodes are the largest gold deposits in the country. The Ararat Gold Recovery Co. (AGRC) joint venture, formed by Armenia and Canada's First Dynasty Mines (FDM), has the right to mine the deposits.

According to the Australian consultancy Snowden, Meghradzor has 838,000 t of ore averaging 9.6 g/t Au. (Proven reserves, confirmed in Soviet times, totalled 1.45 Mt of ore at 16 g/t.)

FDM will invest about US\$12 million in AGRC by 2007, with most of the money to be spent on geological exploration, and rehabilitating existing equipment and buying new equipment for the mill and the mine at the Sot (Zod) gold lode. The Sot lode should yield about 8 t of gold from 2.1 Mt of newly-mined ore over the next seven years. In all, AGRC plans to process about 7.4 Mt of ore and recover 14 t of gold in that time. It will continue to recover gold from tailings at the Ararat recovery plant and also intends to mine about 500,000 t of ore at the Meghradzor gold deposit.

A government resolution passed in January 2002 entitled FDM to acquire the 50% stake in AGRC that Armzoloto Mining Co. currently owns for US\$2.25 million. This would make the Canadian company the sole owner of AGRC, and enable it to run the complex more effectively and raise new loans. The Armenian Government plans to grant AGRC a number of concessions, among them, a 30%-40% reduction on rail-freight tariffs for ore from the mines to the recovery plant in Ararat. The company will pay US\$4.12/t not including VAT. It expects to ship about 500,000 t/y of ore from Meghradzor and Vardenis (where Sot is located). The agreement, yet to be signed, grants AGRC the right to conduct geological work within a radius of 20 km of the Sot and Meghradzor sites.

### **Nonferrous Metals**

Armenia produced 16,800 t of copper concentrate in 2001, 20% more than the 14,000 t it produced in 2000. Production of molybdenum concentrate grew by 8.6%, from 6,900 t to 7,500 t. Sales of concentrates came to US\$8.5 million. Nearly all of the concentrates were exported. All mines increased production and the biggest producer, Zangezur Copper and Molybdenum Combine (ZCMC), raised output 12% year-on-year by value.

ZCMC operates an open pit in the Kadzharan field, Kapansky GOK operates underground mines in the Kapan copper field and the Shaumian gold-polymetals field, and Agarak Copper-Molybdenum Combine mines the eponymous copper-molybdenum deposit. Annual capacity at the Zangezur and Agarak plants is respectively 8.9 Mt and 3.2 Mt of ore.

In mid-2001, Manes & Vallex, a joint venture between Swiss and Liechtenstein interest operating in Alaverdi, and Canada's Ambro Construction Inc. signed a memorandum of intent to deliver the Armenian Copper Programme. This is aimed at rehabilitating and developing the mining and metals industry in northern Armenia. The Alaverdi plant will be modernised at a cost of US\$70 million to produce 30,000-40,000 t/y of copper. The programme also calls for the development of the Tekhut copper-molybdenum and Alaverdi copper deposits in the Luri district.

Tekhut, which can be mined by open pit, contains 460 Mt of ore averaging 0.35% Cu and 0.22% Mo. It should yield 6 Mt/y of ore per year yielding 70,000 t/y of concentrate (28%-29% Cu). Armenia's government intends to raise about US\$90 million for this project.

The Manes-Vallex smelter was established in 1997 by Manes of Alaverdi and Vallex F.M. Establishment, registered in Liechtenstein. Previously smelting operations were undertaken by the Alaverdi Mining and Metals Combine, which went into liquidation in 1989. Manes & Vallex is producing about 15,000 t/y of blister copper and sells nearly all of it to the Norddeutsche refinery in Germany.

In July 2001, Akhtala GOK restarted ore production at the Shamlug copper deposit in northern Armenia (200 km north of Yerevan) after a 12-year break. At the start of 2001, reserves amounted to 15.5 Mt of ore, with a further 1.3 Mt of high-grade gold and silver ore at the Akhtala deposit. Akhtala GOK was set up in 1992 and based at the Akhtala copper mill, which was in turn part of Alaverdi Mining

and Metallurgy Combine. The initial programme for the revival of Akhtala was implemented using funds provided by Metal Prince (a company registered in the island of Nevis in the Caribbean). This company provided over US\$1 million under a co-operation agreement signed in March 2000.

The first stage of the agreement lasts for three years and involves 100,000 t/y of ore being produced at Shamlug and 80,000-100,000 t/y of ore at the Akhtala barite-copper-polymetal deposit. The ore will be processed to yield 1,200 t/mth of copper concentrate. Metal Prince plans to invest US\$10 million on reviving the second stage of the Akhtala combine to double concentrate capacity. The combine also plans to produce lead and zinc concentrates. The partners in the co-operation agreement are considering the possibility of implementing a third stage of the project costing US\$100 million which would involve the construction of a metallurgy plant based at Akhtala. Metal Prince is holding talks on possible participation by the International Finance Corp., ING Barings and other organisations that have preliminarily agreed to provide funds.

In December 2001, shareholders of the Armenian-Russian foil plant Armenal, in Yerevan, approved the transfer of 30% of the equity to Russian Aluminium (RusAl). This increased RusAl's stake in the joint venture from 44% to 74%. RusAl had already paid US\$1.7 million to meet debt obligations of the AO Kanaker aluminium plant (Yerevan) and received in exchange 30% of Armenal, the Armenian-Russian foil plant. The debt was owed to the state, commercial banks, and other creditors.

Armenal produced 2,804 t of product in 2001, up 120% from 1,268 t in 2000. By value, output reached US\$6.4 million, compared with

around US\$1.8 million in 2000. Armenal plans by the end of this year to raise production of aluminium foil to 1,000 t/mth. The mill is currently producing 300-350 t/mth. Armenal is starting to produce foil 9 microns thick, and VAI of the UK is modernising the foil mills. In the past, Armenal has only been able to produce foil 11-12 microns thick. Once all of the mills have been upgraded, in April, Armenal will be capable of producing foil 5.85 microns thick.

In 2001, Meidus Trading Co. of the US bought a division of the Armavirsteklo works in Armenia for US\$46,000 in order to set up production of ferromolybdenum briquettes. The US company pledged to invest US\$300,000 by 2003 in annual tranches of US\$50,000, US\$100,000 and US\$150,000. The division already has a furnace that will be converted to turn the ferro-molybdenum into briquettes. The concentrate will come from the Zangezur copper-molybdenum plant and the finished products will be supplied to the US.

### **Diamonds**

Polished diamond output was valued at about US\$97 million in 2001, up from US\$92 million in 2000. Armenian diamond cutters rely heavily on diamond imports. Last year, they purchased 230,000 ct of diamonds from the Russian diamond monopoly, Alrosa, equivalent to 76.7% of the annual quota of 300,000 ct. According to Industry and Trade Ministry specialists, Armenia's diamond cutters currently process 20,000 - 25,000 ct/mth, about one-third of their capacity.

Armenia hopes to buy 2.05 Mct of rough diamonds from Russia in the 2002-2007 period. The draft government-to-government agreement for 2002-2007 states that Alrosa will supply Armenia with 400,000 ct/y until 2006 and 450,000 ct in 2007.