

Kazakhstan remains calm

Kazakhstan is going from strength to strength, with a range of minerals on offer to miners

KAZAKHSTAN has a long tradition of mining and metals production based on its rich geology. The country is home to some of the world's largest resources of copper, zinc, iron ore, titanium, chrome, silver, uranium and gold.

Investors in Kazakhstan have the full spectrum of businesses through which to gain exposure to the country's mining industry, from multi-billion-dollar producers with a solid international presence, to small start-ups with nothing more than an exploration licence and a driven management team.

Kazakhstan, the biggest republic after Russia of former Soviet Union states, has made admirable progress in the short period of its economic transition. The dynamic growth of Kazakhstan's economy is dependent mostly on the well-developed mining and smelting sector. The country has become one of the world leaders in economic growth, with annual growth

rate of about 10% over the past five years (although growth rates dropped sharply by around 2% in 2007). This is mostly as a result of successful internal policies and favourable external factors such as high commodity prices. The government has forecast that gross domestic product growth will slow to 5% in 2008, influenced by the current financial crisis and a decline in commodity prices.

MAJOR DEVELOPMENTS IN 2008

London-based Orsu Metals Corp was formed in June 2008 through the acquisition of Lero Gold Corp by European Minerals Corp. Orsu has combined resources of 9Moz of gold and around 805,000t (1,774Mlb) of copper, of which 2.2Moz of gold and 254Mlb of copper is contained within reserves at the Varvarinskoye open-pit gold-copper mine in the Urals belt in northern Kazakhstan.

In March, Eurasian Natural Resources Corp plc (ENRC) won a tender to construct the China Gateway project to enable the shipment of more product into China. The project will involve building 300km of railway and a new transshipment facility in South-Eastern Kazakhstan. ENRC has the concession to build and operate both the

FAST FACTS: KAZAKHSTAN

Capital: Astana
Population: 15.2 million
GDP real growth rate 2007: 8.9%
Currency: Tenge (Te)
Main mining commodities: Lead, uranium, zinc

line and transshipment point for 28 years. The new railway will increase the amount of cargo carried between Kazakhstan and China by up to 30Mt/y. Construction will take about four years and the required investment is about US\$910 million. ENRC generates US\$3 billion in sales and contributes to 4% of Kazakhstan's GDP.

IRON ORE AND STEEL

Iron-ore reserves in Kazakhstan amount to some 17,000Mt and are concentrated in the northern part of the country. Until recently, iron-ore mining was possible without large investment in new deposits, improvements to infrastructure or construction of new mines. The main producer there is Sokolovsko-Sarbaykoe GPO (SSGPO, owned by ENRC).

Kazakhstan's total reserves of iron ore rank eighth worldwide and are estimated at 16,000Mt, totalling 8% of global reserves. Nearly 90% of reserves are concentrated in the Turgay oblast in the north. Kazakhstan ranks tenth worldwide by production levels of iron ore.



Left: Orsu Metals' Varvarinskoye open-pit gold-copper mine in northern Kazakhstan conducts 24-hour mining

PRODUCTION OF MINING INDUSTRY GOODS*

	2005	2006	2007	10 mntn 2008
Coal	86	96	98	91
Iron ore	19	22	24	19
Copper ore	34	34	31	28
Chrome ore	0.62	0.27	0.23	0.34
Manganese ore	2.2	2.5	2.5	2.2
Lead-zinc ore	5.8	4.6	3.9	4.1
Zinc-in-concentrate	0.36	0.4	0.39	0.32
Gold, unpurified (oz)	574,855	701,529	725,320	543,669
Aluminum ore	4.82	4.88	4.96	4.35
Gross production, US\$ bn	23	30	36	17

Mt unless indicated
 Source: Stat.kz



and confident

Kazakhstan contributed 4% to steel production in the Commonwealth of Independent States (CIS).

A 100%-owned company of ArcelorMittal (listed as Mittal Steel NV), Mittal Steel Temirtau is one of the largest single-site integrated steel plants in the world. Located on the banks of the Nura River, it covers about 5,000ha and has a steelmaking capacity of 5.5Mt/y. The company has one of the most modern steel plants in the world and excellent infrastructure facilities. It also has its own captive coal, iron ore and power. Coal reserves amount to 1,500Mt and iron-ore reserves exceed 1,700Mt. Mittal Steel Temirtau's integrated steel plant employs basic oxygen furnace technology, and exports about 96% of its output to some 65 countries.

"Kazakhstan is by far the best country of all of the former Soviet Union states to do mining business in. It's stable, reliable, clear and manageable"

—Sergey V Kurzin,
Orsu executive chairman

BAUXITE AND ALUMINA

ENRC-owned Aluminum of Kazakhstan, one of the world's ten largest alumina producers, controls the country's bauxite and alumina industry. Its operations incorporate the Pavlodar alumina refinery and the Torgai and Krasny-Oktyabr bauxite mines. It also controls the Keregetas limestone quarry and a heat and power plant. Aluminum of Kazakhstan does not process aluminium all the way to the final metallic stage; rather, it deals only with the raw material alumina.

ENRC is working on Phase 2 completion of its aluminium smelter, which will increase capacity to 250,000t/y by 2010, as well as the construction of a 150,000t anode production plant to reduce the costs of producing primary aluminium.

GOLD

Kazakhstan is one of the major mineral-producing republics in Central Asia with gold resources of about 58Moz, and proven reserves amount to about 25.7Moz, the third-largest in the CIS after Russia and Uzbekistan. According to the Kazakhstan State Reserve, the gold mining industry is made up primarily of small and medium-sized fields that are between 803,768oz and

3Moz, accounting for 70% of production.

There are 35 companies developing gold fields out of 100 registered companies, according to the Kazakhstan State Reserve. Among them, London-listed KazakhGold

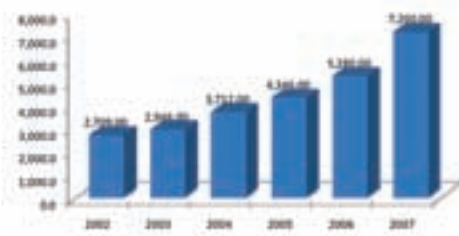
Group Ltd is the leading specialist gold miner, with gold reserves and resources of 59Moz*, which are estimated to be the largest in Kazakhstan and over 25% of the country's known gold reserves. KazakhGold produced 66,863oz in the first half of 2008, with an average gold price of US\$872/oz, on sales of 76,211oz. In February 2008, KazakhGold successfully placed 2.3 million new ordinary shares with institutional investors, in the form of global depository receipts, at a price of US\$23. The proceeds will be used to fund future acquisitions and for the group's ongoing capital expenditure requirements. KazakhGold plans to produce 1Moz of gold annually by 2011.

Orsu Metals' Varvarinskoye gold-copper mine commenced production of gold doré in December 2007 and copper-gold concentrate in March 2008. As of September 30, 2008, Varvarinskoye had produced a total of 27,231oz of gold and 2,531t of copper recovered to concentrate, with a total metal production revenue of approximately US\$38.6 million.

Since processing of Varvarinskoye ores commenced in December 2007, Varvarinskoye's production plant has seen significant increases in throughput. Operational capacity has now reached over 80% of design capacity. The company is implementing a plan to add a secondary low-cost screening and crushing plant at Varvarinskoye, which is expected to increase throughput in the leach circuit (up to 120% of design capacity) and flotation grinding circuits (up to 108% of design capacity).

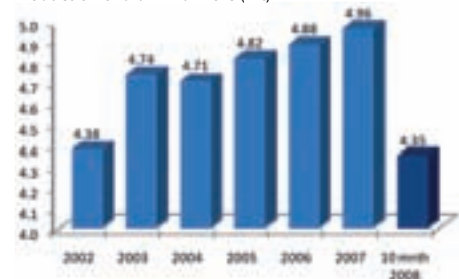
On the exploration front, Orsu has just signed a joint-venture agreement with Gold Fields Ltd for the exploration and development of the Talas group of exploration licences. The 371km² Talas mineral exploration area comprises four licences which include the

Production of uranium (t)



Source: Stat.kz

Production of aluminium ore (Mt)



Source: Stat.kz

Taldybulak-Talas licence. At a 0.30g/t gold cut-off, the indicated mineral resource at Taldybulak-Talas is 79Mt at 0.63g/t Au and 0.17% Cu, and the inferred mineral resources of 163Mt at 0.58g/t Au and 0.14% Cu, Orsu reported in April 2008.

Orsu executive chairman Sergey V Kurzin told *Mining Journal*: "I firmly believe that, at the moment, Kazakhstan is by far the best country of all of the former Soviet Union states to do mining business in. It's stable, reliable, clear and manageable. With a huge territory and abundant natural resources, Kazakhstan is a very rich country: oil and gas in the west and the mining of uranium, chrome, copper, gold, coal, lead and zinc in the central and eastern areas."

COPPER AND ZINC

Kazakhstan produced about 27Mt of copper between January and October 2008, and possesses copper reserves to last for 48 years at the current rate of production. Kazakhmys plc is the world's tenth-largest copper miner and copper cathode producer, and the biggest copper producer in Kazakhstan, with a 94% share of marketable production. The group also processes, refines and sells by-product zinc, gold and silver, and is the world's fourth-largest silver producer. During the first six months of 2008, revenues increased

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Main photo: Orsu Metals' Varvarinskoye mine has produced 27,230oz of gold since December 2007





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by 2% to US\$2.8 billion, as higher copper prices offset the lower level of sales volumes, caused by the severe weather in the March quarter. Kazakhmys completed the acquisition of the Ekibastuz coal-fired power plant and the Maikuben West coal mine, which are located in northeast Kazakhstan's Pavlodar Oblast, in May 2008. The company is in the process of expanding its capacity significantly by 2009.

The remainder of Kazakhstan's copper production is accounted for by Kazzinc, a metals producer specialising in zinc. In 2007, zinc-in-concentrate production reached 386,000t, and 324,800t in ten months 2008. Kazakhstan's zinc reserves are estimated at 35Mt, sufficient to last for 96 years at current rates of production. The main zinc producers are Kazzinc with output of 287,000t and Kazakhmys with output of 50,900t. Kazzinc produces more than 5Mt/y of ore and has a full production cycle for lead, zinc, gold, silver, sulphuric acid and rare metals. All the company's operations are in Kazakhstan, mainly in the east Kazakhstan region.

Orsu is in the process of developing the Karchiga volcanogenic massive sulphide deposit. In April 2008, Orsu reported a 0.50% copper cut-off; the indicated mineral resource is 4.75Mt at 2.46% Cu while the inferred mineral resources total 2.81Mt at 1.81% Cu.

A scoping study of the Karchiga massive sulphide copper project is due to be completed by mid-December 2008.

ENRC sells ferroalloys to steel manufacturers worldwide from units such as Zhairam (shown)

WORLD LEADER

Kazakhstan is a global leader in many commodities. In terms of world resources, it possesses more than:

- 2% of copper
- 7% of zinc
- 26% of chrome
- 15% of uranium

NICKEL

The Kimpersaiskoye nickel deposit in the Aktyubinsk region has been mined since the late 1940s. At present, oxidised ores from this deposit are used as flux additives at metallurgical plants in the southern Urals.

Oriel Resources plc, based in the UK and listed on the Alternative Investment Market and the Toronto Stock Exchange, is developing the Shevchenko nickel deposit in northern Kazakhstan, which it holds with a local partner, Muzbel. The deposit is said to contain 79Mt (dry) at 0.92% Ni according to the Soviet C1 and C2 categories. A definitive feasibility study is in progress. The Shevchenko nickel project accounts for about 75% of Oriel's £92 million (US\$136 million) market capitalisation.

Proven and probable reserves are now estimated at 104Mt, averaging 0.79% Ni. An open-pit operation is planned with a life of over 24 years.

MINING COUNTS

There are nearly 80 companies processing mineral resources in Kazakhstan, which accounted for 22.6% of industrial production – US\$17 billion – between January and October 2008.

ENRC A WORLD CLASS MINER CENTRED IN KAZAKHSTAN

Working from a strong regional presence in this dynamic country, ENRC has transformed itself into one of the largest and fastest growing natural resources groups in the world.

ENRC is now investing in innovative technologies and facilities, advancing industry in Kazakhstan and beyond. Last year we inaugurated the first state-of-the-art aluminium smelter in the CIS, in East Kazakhstan. This year, our Logistics division begins developing a railway which will increase cargo carried between Kazakhstan and China by up to 30 million tonnes a year.

Our growth is testament to the vitality of industry in Kazakhstan. We look forward to investing and sharing in Kazakh growth in the future.

ENRC is a leading diversified natural resources group performing integrated mining, processing, energy, logistics and marketing operations, with production assets principally located in the Republic of Kazakhstan. It is the world's largest producer of ferrochrome, based on chrome content, and one of the CIS region's largest producers of iron ore and alumina. The Group employs over 67,000 people, accounted for approximately 4% of Kazakhstan's GDP in 2007, and currently sells its products around the world, including in Russia, China, Japan, Western Europe and the United States.

For further information please see the Group's website, www.enrc.com

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URANIUM

According to the World Nuclear Association, Kazakhstan possesses 15% of the world's uranium resources, 60% of which are located in the south, in the Suzak district. The expanding mining sector is aiming for 15,000t/y of uranium production by 2010.

Kazakhstan possesses a major plant making nuclear fuel pellets and aims eventually to sell value-added fuel rather than just uranium.

Between 2001 and 2005, production of uranium rose from 2,000t/y to 4,357t/y and further mine development is under way. The International Atomic Energy Agency predicts that the world market could be in deficit by some 16,000t by 2015, meaning a growing demand for uranium. Kazakhstan mines about 3% of the world's uranium and national power company KazAtomProm has reported proven and probable reserves of 1.65Mt. Some 7,200t of uranium were produced in 2007. The government is committed to increasing uranium exports, notably to Russia, and is considering future options for nuclear power.

Uranium One Inc's assets in Kazakhstan consist of a 70% interest in the Betpak Dala LLP joint venture, in the Akdala uranium mine and the South Inkai uranium

project, and a 30% interest in the Kyzylkum LLP joint venture, the Kharasan uranium project.

OUTLOOK 2009

The outlook for global mining industry is challenging and key issues remain on the mining supply side. Low inventory levels, cyclical demand and growing demand for commodities from emerging economies have exerted pressure for price increases, and such pressure is likely to remain a factor in coming years.

With increasing demand from China and India as emerging markets, along with competition from other developed countries, Kazakhstan must take the opportunity to further develop its economy through exploration of its natural resources.

The supply of active reserves of lead and zinc will last no more than ten or 15 years, therefore

it is crucial to further increase exploration funding. A new tax code for mining companies has been prepared for introduction at the beginning of 2009, which the government says will "set out clear rules of the game for mineral developers and increase the intake of revenues from the mineral sector". The government is also considering the introduction of a nickel-cobalt region.

"Kazakhstan must take the opportunity to further develop its economy through exploration of its natural resources"

Report by Ansher Capital, which is the leading investment banking company in Central Asia. The company offers fully-fledged investment banking and advisory services to both international investors and the companies in Central Asia. Website: www.anshercapital.com

** based on former Soviet Union classification and audited by Wardell Armstrong International*



ENRC is the world's largest producer of ferrochrome on a chrome content basis. This is the Kazmarganets ferroalloy plant



Uranium One is proud to be a partner in the growth of the Republic of Kazakhstan's uranium mining industry.

The Republic of Kazakhstan is the second largest uranium resource jurisdiction in the world and is fast becoming a world leader in uranium production. **Uranium One** is pleased to be partnered with Kazatomprom in the development of the Republic's vast resources, through its joint venture interests in the Akdala, South Inkai and Kharasan in situ leach uranium deposits.

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