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The Mineral Industries of Europe and Central Eurasia

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The area of Europe and Central Eurasia treated in this volume encompasses territory that extends from the Atlantic coast of Europe to the Pacific coast of the Russian Federation and includes the British Isles and Iceland. Greenland, which is located in the northwestern Atlantic Ocean, and the Sakhalin and the Kurile Islands, which are located off the Sea of Japan in the Pacific Ocean and which are political extensions of Denmark and the Russian Federation, respectively, are also treated in this volume.

Economic integration in Western Europe evolved into the formation of the European Union (EU), which is a supranational entity that at yearend 2005 comprised Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. [A very much diminished European Free Trade Area (EFTA), which comprised Iceland, Norway, and Switzerland, was the only non-EU entity in Western Europe.] The admission of new member countries has been one of the significant political programs of the EU. To gain membership, applying countries must fulfill political and economic requirements, such as achieve stability of the institutions that guarantee to uphold democracy, the rule of law, human rights, and respect for and protection of minorities; have a functioning market economy and the capacity to cope with competitive pressure and market forces within the EU; and be able to take on the obligations of EU membership, including adherence to the aims of political, economic, and monetary union.

In 2005, in the former centrally planned economy areas—that is, the countries of Central Europe (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Macedonia, Poland, Serbia and Montenegro, Slovakia, and Slovenia) and the Baltic countries (Estonia, Latvia, and Lithuania)—had completed the transition from authoritarian Governments with central economic planning to open political systems with market-based economies. The transition among the countries of the Commonwealth of Independent States (CIS) (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan) was less complete; some of these countries had taken significant steps towards the establishment of open political systems and market-based economies, but others had made little progress.

The CIS was founded in 1991 by several Republics of the former Soviet Union (FSU) and later was extended to include all the former Soviet Republics except the Baltic states of Estonia, Latvia, and Lithuania. The CIS was established to provide a common economic space for the countries in the region. The CIS does not have supranational powers and all member countries have equal standing under international law. Although the member countries are pledged to economic integration, few actual measures have been taken to make the CIS a functioning integrated economic bloc similar to the EU and, in 2005, stresses had emerged within the CIS that were undermining its stated purpose. Turkmenistan discontinued permanent membership as of August 26, 2005, and became an associate member.

The European Commission (EC) continued negotiations in 2005 with Bulgaria and Romania (accession to the EU expected in 2007), with Croatia and Turkey (no date given for expected accession), and with other countries in the Balkans (in the preliminary stages of negotiation). The EU also promoted more democratic stability and economic development in such CIS countries as Ukraine through its European Neighborhood Policy (ENP) (Commission of the European Communities, 2006b, p. 2-5; 2006c).

The EU was enlarged by 10 new members (EU10) in 2004, which increased its population by more than 74 million to about 460 million (Poland alone accounted for more than 38 million more people). The population of the EU exceeded that of the United States by about 55% in 2005, and its total gross domestic product (GDP) based on purchasing power parity approximately equaled that of the United States (tables 1, 2).

A major function of the EU has been to remove barriers to trade in an attempt to create a single market and to develop a common set of economic policies. New and prospective EU members must adhere to the EU's environmental and commercial standards. No common policy was in place regarding the mineral extractive industries; however, the mineral industries of the EU10 countries plus Bulgaria and Romania (in 2007) were expected to increase both the employment and the production of the mineral industry of the EU. Mine production of metals was expected to attain the largest increase compared with EU levels of production in 2004; the production of industrial minerals and mineral fuels was also expected to play a greater role in the expanding EU economy.

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General Economic Conditions

Because of the very different paths of development taken by the countries of Western Europe (now the EU and the EFTA) compared with that of the countries of Central Eurasia (now the CIS) and other centrally planned economy countries of the region after World War II, an economic asymmetry between the two areas emerged that was particularly apparent in the mineral sector. This asymmetry framed the initial commercial relationship in the minerals sphere between the two areas following the dissolution of the Soviet Union, and it still persisted, though to a lesser degree, in 2005. The EU continued to import raw materials from, toll-smelt raw materials in, sell equipment and technology to, and invest in mineral development projects in the as yet unaffiliated countries of the Balkans and the CIS; these commercial activities, however, mostly were not reciprocated by many of the formerly centrally planned economy countries. In Russia, however, mineral enterprises were attempting to internationalize their holdings and some of Russia's leading companies, including ALROSA Company Limited, MMC Noril'sk Nickel, and RUSAL, were buying major foreign assets.

The countries of the EU and the CIS are substantial participants in the world mineral economy and occupy important roles as suppliers and consumers of all major mineral commodities. In 2005, the EU continued to be a major world processing and consuming region and its role in the world mineral industry continued to be one of processing and consuming rather than mining. Central Eurasia remained a major world supplier of mined and processed minerals, but its consumption of these commodities remained at a low level. The unaffiliated countries of the Balkans played a much lesser role in both the supply and the consumption of most mineral commodities.

As a major world mineral processing and consuming area, the EU remained a determinant of world demand for nearly all mineral commodities. With the near exhaustion of much of its mineral reserves and the decline in its role as a world mine producer of minerals, the EU continued to produce metals, which included aluminum, copper, lead, steel, and zinc, using largely imported raw materials and secondary materials; its mineral processing and manufacturing industries accounted for a significant share of the world production of semimanufactured and fabricated ferrous and nonferrous metals. Germany remained the EU's dominant smelter and refiner of most metals.

In 2005, the mineral industries in Western Europe were either maintaining a stable level of output or reducing it. A decrease in output in many mining and processing sectors was expected in the next decade as reserves are depleted and processing facilities and plants age and are neither renovated nor replaced. Despite the diminution of Western Europe's importance as a mining region, Western Europe is an important world financial center and the headquarters of such major global mining and mineral processing companies as Anglo American S.A., Rio Tinto plc, and BHP Billiton plc. Also, Western Europe plays a significant global role in the extraction and processing of certain industrial minerals and mineral fuels. Significant petroleum and natural gas resources have been developed in the North Sea, and the EU also has significant coal reserves. Germany remained an important mine producer of a number of industrial minerals and coal.

Some metals were mined in the EU (mainly iron ore and copper), but mine production of metals was not globally significant. The key issue with the mineral industry for EU countries was the need to secure supplies of metallic mineral raw materials (such as concentrates, ores, and scrap) for their metal refining and processing industries. The accession of Poland, in particular, increased the EU's capacity to mine coal and copper, lead-zinc ore, salt, and sulfur, and to produce steel; the metal processing sectors of the mineral industries of the EU, however, remained heavily dependent upon imports of mineral materials. The EU still mined and quarried such industrial minerals as feldspar, kaolin, marble, potash, salt, and sand, and remained among the world's leading producers of feldspar, kaolin, and natural stone. In 2005, the EU continued extensive exploration for metal deposits in Ireland and Scandinavia and on the Iberian Peninsula (Commission of the European Communities, 2006a, p. 14, 21-22, 52, 60, 76, 84, 88, 120; European Evaluation Consortium, 2006, p. 18, 47-48, 50-54, 59).

In 2005, major mineral producing countries in Central Eurasia, Africa, Asia, and Latin America remained major mineral supply sources for the EU. Natural gas and petroleum imports from Russia were particularly important. To this end, a common economic space with Russia was deemed to be very important, and a roadmap to achieve such a level of cooperation was agreed to in May 2005 at an EU-Russia summit in St. Petersburg. EU-Russia tariffs were already considered to be low, but differences in Russia's regulatory framework

(industrial policy and regulations on industrial products) from that of the EU was viewed as a significant source of nontariff barriers to freer trade in industrial products, including minerals. In attempting to create a more common economic space for industry, Russian authorities appeared interested in focusing on certain industrial sectors that included metals and some mineral-based chemicals. The EU interest in cooperation on enterprise and industrial policy issues in Russia was to align environmental, technical, and other regulations; manage the impact of restructuring industry to be more market based; help establish a better institutional environment for competitive business activity and investment; and possibly extend to Russia the EU support network for the EU's small- and medium-sized enterprises, which accounted for the vast majority of EU mining companies. Satisfaction of most of these objectives was expected to enable Russia to become a member of the World Trade Organization (WTO) (Carvalho, 2005; European Commission, undated, p. 3-6, 11, 15, 17, 20, 35-36).

In 2005, the EU established trade agreements with Kazahkstan and Ukraine (via European Neighborhood) to make freer trade in steel products possible. Although negotiations with Russia for a similar agreement continued during the year, import restrictions (quotas) remained in place for Russian steel products through the end of 2005 (Carvalho, 2005; Commission of the European Communities, 2006c; European Commission, undated, p. 7-8, 10, 21-22).

In the CIS, Kazakhstan, Russia, and Ukraine were the main mineral producing countries. Russia, which occupied about 75% of the territory of the CIS, was by far the largest country in the CIS in terms of both population and territory and had the leading mineral producing sector. Azerbaijan, Kyrgyzstan, Uzbekistan, and several other CIS countries also were important producers and processors of minerals. In 2005, Russia ranked among the leading world producers or was a large producer of such mineral commodities as aluminum, asbestos, arsenic, bauxite, boron, cadmium, cement, coal, cobalt, copper, diamond, fluorspar, gold, iron ore, lime, lithium, magnesium compounds and metals, mica (scrap sheet and flake), natural gas, nickel, nitrogen, oil shale, palladium, peat, petroleum, phosphate, pig iron, potash, rhenium, silicon, sulfur, steel, tin, titanium sponge, tungsten, and vanadium.

Kazakhstan was a significant producer of such mineral products as arsenic, barite, beryllium metal, bismuth, cadmium, chromite, copper, ferroalloys, lead, titanium sponge, uranium, and zinc. Ukraine was a significant producer of such mineral products as ferroalloys, iron ore, manganese ore, pig iron, steel, and titanium raw materials. Other CIS countries were significant world producers of one or more mineral commodities, including Armenia (molybdenum), Azerbaijan (oil), Belarus (potash), Kyrgyzstan (antimony metal, gold, mercury ore and metal), Tajikistan (aluminum), Turkmenistan (natural gas), and Uzbekistan (gold, uranium), and all the CIS countries produced a range of other mineral commodities.

The three main mineral producing countries in the CIS (Kazakhstan, Russia, and Ukraine) experienced varying rates of economic growth in 2005. Aggregate growth in Russia was still strong in 2005 as growth received a boost from increases in oil and gas prices. In 2005, the current account surplus exceeded $84 billion, with exports heavily dominated by fuels and raw materials (World Bank, The, 2006b§[1]) In 2005, the minerals sector accounted for more than 70% of the value of Russia's exports and this percentage was continuing to increase. Mineral fuels were by far the leading category of exports in terms of value.

In 2005, growth slowed in the extractive and manufacturing sectors of Russia especially in the metallurgy and metal product sector. This downward trend appeared to reflect uncertainty about the business and regulatory environment—particularly for oil—and the significant increases in production costs owing to the real appreciation of the ruble and high factor prices. The slowdown heightened concerns within Russia about the appropriate policy measures needed to address resource dependency and promote more diversified growth (World Bank, The, 2006b§).

A number of economic studies have suggested that resource abundance is not necessarily an advantage in economic development. In recent years, economic development has taken place in a number of resource-poor countries, which include those of East Asia, while many relatively resource-rich countries in Latin America have performed less impressively. Besides being vulnerable to declines in commodity prices, the onset of the so-called "Dutch disease" is a potential disadvantage of resource abundance. Dutch disease could happen if large foreign inflows from resource exports exert upward pressure on the real exchange and undercut the international competitiveness in some areas of the manufacturing sector and possibly discourage risk-taking in the manufacturing sector. Attempts to improve the performance of the Russian economy were focusing increased attention on these potential problems. With the sharp rise in commodity prices, the ruble continued to appreciate in real terms, thereby increasing competitive pressures on the manufacturing and other tradable goods sectors of the economy (World Bank, The, 2005a§).

Nevertheless, a consensus does not exist among economists that resource abundance is a major liability for the diversified economic development of such a large country as Russia, particularly if the country maintains an appropriate economic policy and realizes key reforms. Resource abundance could be an advantage for some areas of manufacturing in Russia. Russia's advantages in natural gas production and distribution and its ample gas reserves could help manufacturing firms obtain cheaper gas and cheaper thermal electric power generation than they could obtain elsewhere because the domestic rate for Russian gas is less than one-half of current market prices in Europe or Asia and is significantly lower than in other CIS countries. Access to cheaper gas could offer Russian manufacturing firms a potentially strong comparative advantage in the medium and longer term (World Bank, The, 2005a§).

Russia appeared to have no clear strategy in place for developing its mineral resources. Rather, the country was extracting its fuel and nonfuel mineral reserves at a high rate,

[1]References that include a section mark (§) are found in the Internet References Cited section.

which was expected to lead to the depletion of the majority of these reserves before the year 2020, if not much sooner.

With the goal of developing a resource development strategy, the Russian Government was in the process of developing a list of areas of the economy that would be closed to foreign-dominated ownership; this list included the development of large mineral deposits. A new subsoil law remained under discussion in 2005. The law currently in place did not impose any special restrictions on companies with foreign participation, with the exception of those dealing in diamond or radioactive materials, but this policy appeared likely to change to the disadvantage of foreign companies, especially those interested in investing in such large or strategic deposits as the Sukhoi Log gold deposits or the Udokan copper deposit.

The proposed new mining law under discussion would limit foreign participation to 49% for some commodities. This restriction would apply to deposits with reserves of more than 150 million metric tons (Mt) of oil, 75 billion cubic meters of gas, 10 Mt of copper, or 700 metric tons (t) of gold; to strategic raw materials, which include uranium, diamond, nickel, rare earths and high-purity quartz; and to mineral deposits located near defense or military facilities and frontier areas. Discussions were underway to lower the quantity of reserves even further from the above-specified quantities for restricted deposits.

Since 2000, Ukraine's economic growth had averaged almost 9% per year, reaching 9.4% in 2003 and 12.5% in 2004. In 2005, however, the gross domestic product (GDP) growth decelerated to 2.2% from January through November 2005 from 12.1% (the highest in Europe) for the same period in 2004. This slowdown was larger than would be expected from a cyclical downturn and revealed the need for Ukraine to diversify and modernize its economy to maintain growth rates. Ukraine's dramatic growth since 2000 had been fueled in part by improved terms of trade created by rising metal prices. In 2005, prices for metals exported by Ukraine were declining and prices for mineral imports, such as oil, were increasing (World Bank, The, 2005b§).

In 1992, Ukraine became a member of the International Monetary Fund and The World Bank. It is a member of the European Bank for Reconstruction and Development (EBRD) but not a member of the WTO. Ukraine applied for membership in the WTO in 1995 but by the end of 2005, accession to the WTO still had not been achieved.

Kazakhstan is the largest country, in area, in Central Asia and one of the most sparsely populated in the world. The country has considerable mineral resources and vast areas of arable land. Education is close to universal. The country has made significant progress in transforming its economy since the breakup of the Soviet Union. Following the 1998 regional financial crisis, the country's economic performance has significantly improved. Economic recovery and growth, which started in 2000 and continued through 2005, was led mainly by the oil sector. The real GDP grew by 9.6% in 2004 and by 9.4% in 2005 (World Bank, The, 2006a§).

The country's economy, which was heavily dependent on a few commodities, faces the challenge of diversification. Oil extraction and oil-related construction, transportation, and processing accounted for 16.6% of the GDP in 2005, and fuel and oil products made up 69% of the country's exports. Ferrous and nonferrous metals and grains were the only other significant exports. Exports of mineral commodities increased considerably in 2005, but the share of manufacturing in total exports declined in 2005 (World Bank, The, 2006a§).

Kazakhstan was able to manage the early phase of its oil windfall by saving part of the revenues in the National Fund of the Republic of Kazakhstan, which was established in 2000 to manage oil revenues. The Government has since focused on the optimal size of the National Fund. The Fund's balance was more than $5 billion, which contributed to macroeconomic stability. Kazakhstan was trying to improve its legal and regulatory frameworks and standards in an effort to join the WTO (World Bank, The, 2006a§).

Oil production was expected to continue to be the major activity driving the economy of Kazakhstan. Oil production was expected to double by 2010. Future economic prospects would depend on the Government continuing to manage increasingly large oil revenues so as to avoid excessive volatility in key macroparameters and avert the onset of Dutch disease. The Government appeared to understand the risks of heavy dependence on oil and was developing ways to achieve greater competitiveness and diversification of the economy with emphasis on basic infrastructure, competition, human capital, institutions, and the investment climate (World Bank, The, 2006a§).

In addition, Kazakhstan faced a number of environmental problems that were the result of past agricultural, industrial, military, and mining practices; the problems included industrial pollution, land degradation and desertification, and the challenge of dealing with the heritage of nuclear testing in the Semipalatinsk area. The World Bank was supporting the implementation of four ecological projects that had been created to address the management of drylands, the preservation of the northern part of the Aral Sea, the cleaning up of the pollution of riverine and underground water, and the environmental rehabilitation of an oilfield (World Bank, The, 2006b§). Significant improvements had been made to the environmental situation in the Northern Aral Sea area, in part through the construction of the Northern Aral Sea dam and the establishment of regulations regarding the use of the Syrdarya River (World Bank, The, 2006a§).

Exploration

Based on data provided by Metals Economics Group (MEG), exploration budgets for Europe and Central Eurasia increased in 2005 to about $528 million from the 2004 estimate of about $340 million (Cox and Goulden, 2005§; Metals Economics Group, 2005§). This increase resulted from a significant increase in reported exploration activity in Russia, as well as continued exploration interest in the Carpathian Arc (including Eastern Europe and Western Turkey), Central Eurasia, and Scandinavia (particularly Finland and Sweden).

European mineral exploration focused on gold (67%), base metals (25%), and diamond (5%). Because of high metal prices, many former mining areas of Europe are being reevaluated with newer geophysical methods; areas rich in base-metal sulfides were being reevaluated for platinum-group metal (PGM) potential.

Based on data collected for this summary, exploration activity in the CIS focused on gold (62%), copper (11%), and PGM (11%) and was greatest in Russia and Kazakhstan. Russian gold deposits typically possess larger amounts of metal than the world average but generally have lower grades and require special processing because of a greater frequency of hard refractory ore (Leskov, 2004). Detailed historical data on many sites collected under the Russian system are often available, but differences in resource nomenclature can make assessment by foreign companies difficult. In addition, accessibility and climate conditions can pose risk to deposit development.

Government Policies and Legislation

Recent legislation in Kazakhstan affecting mineral exploration included the State Priority Act, which was passed in December 2004 and gives the Government priority rights to buy any natural resource asset. This law also allows for requisition and nationalization, provided adequate compensation is paid (O'Connell, 2005§). The Russian President signed a decree in March declassifying information on reserves and production of PGM and diamond (Skillings Mining Review, 2005). This decree enacts changes to a law approved in 2003 and was expected to make it easier for foreign exploration companies to evaluate Russian PGM and diamond deposits for possible investment.

The first meeting of the European Network of Mining Regions took place in January 2005. The initiative seeks to strengthen the mining sector in Europe and raise public awareness of the importance of metal mining (Mining Journal, 2005).

Commodity Overview

This report includes commodity outlook tables. Estimates for production of major mineral commodities for 2007 and beyond have been based upon such factors as announced plans for increased production and new capacity construction and bankable feasibility studies. The outlook tables in this summary chapter show historic and projected production trends; therefore, no indication is made about whether the data are estimated or reported and revisions are not identified. Data on individual mineral commodities in tables in the individual country chapters are labeled to indicate estimates and revisions. The outlook segments of the mineral commodity tables are based on projected trends that could affect current producing facilities and on planned new facilities that operating companies, consortia, or Governments have projected to come online within indicated timeframes. Forward-looking information, which includes estimates of future exploration, mine development and production, cost of capital projects, and timing of the start of operations, are subject to a variety of risks and uncertainties that could cause actual events or results to differ significantly from expected outcomes. Projects listed in the following section are presented as an indication of industry plans and are not a U.S. Geological Survey (USGS) prediction of what will occur.

Metals

Bauxite and Alumina and Aluminum.—Western Europe was the main primary aluminum-producing region in Europe and Central Eurasia, and its output accounted for about 14% of the world's primary aluminum output. Western Europe also was the world's leading producer of secondary aluminum (about 54% of total world output). Central Eurasia's production of primary aluminum, which was close to that of Western Europe's in 2005, was projected to overtake production in Western Europe by 2007. Central Eurasia, however, was far behind that of Western Europe in the production of secondary aluminum. Central Eurasia was by far the area's leading producer of bauxite, although not on a scale of the world's leading producers.

Russia was the world's second ranked producer of aluminum after China. Russia's substantial aluminum smelting capacity was projected to increase steadily, thereby contributing to Central Eurasia's positive outlook for aluminum production. Russia also was planning to attain secondary aluminum production in a range of between 250,000 and 300,000 t/yr, although no specific date was given for achieving this goal.

In 2005, RUSAL was Russia's leading domestic aluminum producing company and, along with SUAL, which was the second ranked domestic aluminum producer and leading domestic bauxite producer, controlled all Russian aluminum, alumina, and bauxite production. Plans for RUSAL called for merging its resources with that of SUAL and with Swiss-based Glencore International AG to become United Company RUSAL. The planned merger could make the company the global leader in aluminum production.

RUSAL was investing to expand and modernize its production facilities. It was engaged in commissioning the Khakas Aluminum Smelter with a capacity of 300,000 t/yr. Plans for RUSAL also called for modernizing the Sayanogorsk aluminum smelter in 2006 to increase output of aluminum and alloys and to modernize the Nikolayev Alumina refinery in Ukraine to increase output to 1.6 million metric tons per year (Mt/yr) of alumina. RUSAL also planned to continue to expand production capacity at the Achinsk alumina refinery, increasing its output to 1.1 Mt/yr of alumina. The company's investment project portfolio included the Komi Aluminum project, which was initiated by SUAL. The project would include the development, construction, and operation of a bauxite-alumina complex in the Komi Republic based on the Middle Timan bauxite deposit. The design capacity of the complex was 6 Mt/yr of bauxite and 1.4 Mt/yr of alumina. The completion of this project would considerably reduce the Russian aluminum industry's dependency on foreign countries for raw material supplies.

Copper.—In 2005, Central Europe (mainly Poland) and Central Eurasia (Kazakhstan and Russia) were the chief areas of mine production. Although Western Europe was only a minor mine producer of copper, it produced a significant share of total world output of primary and secondary refined copper. Germany was the leading producer of refined copper in Western Europe and second in the region following Russia. Spain, and Sweden, in that order, followed Belgium as Western Europe's next top ranked refined copper producers in 2005.

Central Eurasia followed Western Europe as a producer of refined copper, and Central Europe produced less than one-half the amount of refined copper as Central Eurasia. Russia remained the major producer of refined copper in Central Eurasia. Kazakhstan was also a major producer but had less than one-half the production of Russia. In Central Europe, Poland remained the main producer of refined copper, with output about 34% above that of Kazakhstan, but significantly below that of Russia.

Development and expansion of mine production of copper in Europe and Central Eurasia, in conjunction with reported ongoing and planned mine closures, could result in a net increase of copper mine production in the region of about 400,000 t by 2011. Kazakhstan, Russia, and Serbia appeared to be the countries where most significant production growth was likely to take place in both mine output and refined copper production.

All copper ore in Poland was mined by Kombinat Gorniczo Hutniczy Miedzi (KGHM) Polska Miedz S.A. (KGHM S.A.), which was a major world copper mining, beneficiation, smelting, and refining complex in the Lubin area. KGHM S.A. accounted for about 3.5% of world mine copper production in 2005. The Rudna Mine was the leading copper ore producer with a mining capacity of about 11 Mt/yr. Poland's copper reserves were projected to be depleted by 2040 (Ney and Smakowski, 2004). Poland's future mine output of copper may depend not only on the country being able to access new and environmentally tenable domestic copper deposits but also on the country's ability to assure future supplies of copper ore and concentrate from additional investments in the Democratic Republic of the Congo [Congo (Kinshasa)], Peru (Rio Blanco copper project), and the Philippines.

In 2005, Poland and Russia ranked among the top 10 copper ore producing countries in the world (Edelstein, 2007). Russia's leading copper producing enterprise, MMC Noril'sk Nickel, produced almost 60% of Russia's copper in ore output. The remaining copper in ore came from ore mined in the Ural Mountains. Almost 30% of Russia's copper metal production was from secondary material. As nickel-rich ores at Noril'sk become depleted, Noril'sk planned to switch to mining larger quantities of ores, which would be primarily copper rich ores that have a higher copper content relative to their nickel content than the nickel rich ores but are lower in metal content for both metals. This change would increase copper output as Noril'sk tries to maintain its level of nickel production. However, Noril'sk's strategy up to 2010 appeared to be to maintain its production of nickel rich ores, which would delay any significant increase in copper production.

The leading copper producer in the Ural Mountains, the Ural Mining and Metallurgical Company (UMMC), was planning to develop its raw material base and increase its output of copper in concentrate from 72,000 t in 2003 to 105,000 t in 2010. Mine output in the Urals would also expand as mine development takes place at the Russian Copper Company Limited, which was the country's third ranked copper producer. Development of the large Udokan deposit in Chita oblast was still on hold.

Kazakhmys, which was the firm that controlled almost all copper mining and metal production in Kazakhstan, was engaged in a number of projects to ensure growth in the short term and to provide for production replacement in the longer term. The majority of these projects was expected to begin production in the near or medium term and would include both new mine development and expansion of development at existing mines. The new mines included the Artemovskoye, which was recently completed ahead of schedule with a capacity to produce 28,000 t/yr of copper and 98,000 t/yr of zinc; the Zhaman-Aybat, which was under construction and has reserves of 75.3 Mt of ore containing 1.069 Mt of copper; and the Aktogay, which was being evaluated for development of an open pit to produce a total 1.614 billion metric tons (Gt) of ore at an average grade of 0.36% copper, for a total of 5.810 Mt of copper. Expansion of existing mines was planned for the East Saryoba underground mine and the Akbasau, the Kosmurun, and the Taksura open pits.

Gold.—Central Eurasia remained the dominant gold producing area within Europe and Central Eurasia, and accounted for more than 90% of the region's total output of gold. Central Eurasia's output was projected to increase through 2011.

Russia, Uzbekistan, Kazakhstan, and Kyrgyzstan, in that order, were the leading gold producers in Central Eurasia. Russia was expected to continue to be the region's main gold producing area through 2011. Russia has large quantities of undeveloped reserves with which it could increase output.

In 2005, the Russian gold mining sector experienced a continuation of key trends that had been affecting the sector for the past 5 years. Mine production remained at about the same level as that of the past 4 years, the share of gold from lode deposits was increasing, the number of small gold mining companies was being reduced, major companies were playing an even larger role in gold output, and foreign gold companies were continuing to intensify their investment activities.

Russia was having a difficult time expanding gold production as reserves at existing enterprises were being depleted and gold mining companies were finding it difficult to obtain licenses to mine new deposits. Formerly, local Government entities could issue such licenses, but in 2005, the licenses could be obtained only through the Russian Ministry of Natural Resources in Moscow. Placers contained about 18% of reserves but they were being significantly depleted, and most existing placer mining operations were unlikely to survive beyond 2011. However, placers still contributed almost 50% of annual production. In 2005, no new gold deposits were put into production. Two gold operations (one in production and one in development) by Bema Gold Corp. underwent extensive drilling in 2005.

More than one-half of Russia's hard rock gold resources occur in the Maiskoye, the Natalkinskoe, the Nezhdaninskoe, the Olimpiada, and the Sukhoi Log deposits in the Russian Far East and Siberia. More than 66% of Russian gold production came from six eastern regions (Amur, Irkutsk, Khabarovsk, Krasnoyarsk, Magadan, and Sakha-Yakutia). During the past 4 years, foreign companies have controlled 15% to 18% of gold production, which is the largest share held for any commodity in the Russian mining industry. These foreign-held enterprises produced a total of 30 to 36 metric tons per year (t/yr) of gold. Projects being developed by these foreign firms could contribute significantly to the growth in Russian gold production in the

next 5 years and could increase Russia's gold output to about 250 t/yr if the projects are all successfully developed. Significant byproduct gold production resulted from mining operations by the UMMC in the Ural Mountains and Noril'sk's operations in East Siberia on the Taimyr Peninsula.

Iron and Steel.—The level of steel production in the region was not expected to change appreciably through 2011. Anticipated growth in steel production in Central Eurasia was expected to offset production declines in Western Europe.

With respect to the steel industry in 2005, the EU was primarily concerned about the competitiveness and level of privatization of crude steel production capacities in the new member countries, as well as those in prospective member countries. In 2004 (the latest year for which data were available), the degree of privatization in the production of crude steel in Bulgaria, the Czech Republic, Hungary, Latvia, Romania, and the Slovak Republic was estimated by the EU to be 100%; Poland, 95%; and Turkey, 80%; in Croatia, this sector was estimated still to be 100% state-owned. Also, the EU set a productivity goal of 550 t/yr of crude steel per employee, which was the average productivity of the EU15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom), as a target to be attained by new and prospective members (Commission of the European Communities, 2006a, p. 6, 24-28; European Commission, undated§).

To approximate the EU's average level of productivity, closure goals for yearend 2006 were recommended for inefficient steelmaking capacities in Poland and the Czech Republic, which totaled 1.4 Mt/yr and 590,000 t/yr, respectively. However, by March 2006, Poland had shut down only 90,000 t/yr of capacity, and the Czech Republic apparently still had not shut down any crude steel production capacity. These and other new EU member countries were able to defend maintaining high levels of crude steel production capacity because of increased demand and greatly improved steel market conditions for steel producers (relative to when the closures had been recommended by the EU). The EU15 maintained that that productivity issues would provide sufficient grounds for requiring closure of less-efficient capacity if steel prices were to decline even slightly. In 2004 (the latest year for which data were available), the average crude steel productivity level in Turkey was estimated by the EU to be about 435 t/yr per employee; in the Czech Republic and Hungary, 400 t/yr; in Poland, 280 t/yr; in Latvia, 250 t/yr; in Bulgaria and the Slovak Republic, 235 t/yr; in Romania, 115 t/yr, and in Croatia, 100 t/yr (Commission of the European Communities, 2006a, p. 6-7, 9, 14, 24-28, 37; European Commission, undated§).

In 2005 in Western Europe, steel production totaled more than 166 Mt. Germany continued to be the leading producer of crude steel, producing more than 44 Mt, followed by Italy, France, Spain, the United Kingdom, and Belgium. In Central Europe, each steel producing country had an annual output of about 8 Mt or less. Poland was the leading steel producer followed by the Czech Republic, Romania, and Slovakia. Steel production in Central Eurasia totaled 114 Mt. Russia and Ukraine together accounted for more than 90% of Central Eurasia's steel output; Russia's output of almost 66 Mt was considerably larger than Ukraine's output of almost 39 Mt

In 2005, Russia was the world's fourth ranked steel producer after China, Japan, and the United States. From 1998 to 2005, Russian steel production increased by more than 50%. Between 1998 and 2005, investment in the steel sector greatly increased, which improved economic indicators for steel enterprises and enabled them to improve product quality. Nevertheless, the Russian steel sector was still in need of investment to improve its ability to compete and to expand production capacity. The process of investing in the modernization and expansion of Russian steelmaking capacity was continuing at steelmaking enterprises, which included Chelyabinsk, Kuznetsk, Magnitogorsk, Nizhniy Tagil, Novolipetsk, Oskol, Uralsk, Zapadno-Sibirskiy, and a number of other steel mills.

The trend in the Russian steel industry as in other mineral industries was to consolidate enterprises under the ownership of a few major firms. The country's leading steel holding company was Evraz Group S.A. (a Luxembourg registered steel company), which had holdings that included three of the leading steel mills in Russia: Nizhniy Tagil in the Urals region and Kuznetskiy and Zapadno-Sibirskiy in Siberia. Russia's third ranked steel producer, Severstal, was discussing a merger with Arcelor S.A. of Luxembourg, in part to thwart a takeover bid for Arcelor by Mittal Steel of India, which was the world's leading steel company and which was consolidating steel mills worldwide. Russian steelmakers saw the need to create a company of sufficient size and pricing power to compete with the Mittal steel conglomerate and large enough to expand beyond Russia.

Ukraine was Central Eurasia's second ranked steel producing country and was among the top 10 steel-producing countries in the world in 2005. Ukraine's metallurgical industry worked at a high rate of capacity utilization—pig iron production capacity was being utilized at 86.5% and steelmaking capacity, at 94.3%, which did not leave extensive room for growth unless new capacity is added.

Ukraine's steel industry, which experienced continuous growth from 1999 to 2004, had a decrease in production in 2005 owing to unfavorable market conditions referred to as the "China factor." Before 2005, high demand from China had been stimulating growth in Ukraine's steel industry. In 2005, however, China switched from being a net importer to a net exporter of steel, which not only closed the China market to Ukraine but also curtailed Ukraine's exports to other countries of Southeast Asia. To remain competitive on the world steel market, Ukraine would need to invest in state-of-the-art equipment to produce steel of the same quality and at the same cost as other leading world steel-producing countries.

In October, in the country's largest privatization deal, the Government of Ukraine sold 93% of the Krivoyrozh steel mill (the country's leading steel mill) to Mittal Steel for $4.8 billion. Mittal Steel had submitted the winning privatization bid for the steel mill.

Mittal Steel's chief executive officer for the Krivoyrozh mill stated that plans called for investing about $1.2 billion during the next 4 years to modernize the plant. He said that a goal was

to increase steel output to 7.9 Mt in 2006 from 6.953 Mt in 2005 and to 10 Mt by 2010. The company planned to modernize three blast furnaces, construct a new converter shop to replace the Soviet-era open hearth technology, and increase the supply of ore by sharply increasing output from mines in the Krivoy Rog region that the company had acquired as part of the Krivoyrozh mill purchase.

Iron Ore.—Russia and Ukraine were the major iron ore producers in the region. As of January 1, 2002 (the latest year for which data were available), according to official Russian reserve calculations, Russia had 172 iron ore deposits with a reserve base that totaled 56.6 Gt with an average iron content of 35.87% and reserves that totaled about 25 Gt. Open pit production accounted for more than 90% of ore production. Despite recent increases in iron ore production, Russia will likely find it increasingly difficult to sustain such increases without significant investment because mining conditions for iron ore were becoming more difficult owing to the increasing depths of the open pits. Expansion of iron ore mining was planned in the Kursk Magnetic Anomaly (KMA); the expansion was expected to require large investment, however, because the ore lies under a thick layer of sedimentary rock that is saturated with water. Efforts were also underway to develop technology to mine deeper lying high-grade ore deposits in the KMA.

Ukraine has about 30 Gt of iron ore reserves. Two-thirds of the iron ore reserves are located in the Krivoy Rog basin, where practically all iron ore mining takes place. A large increase in production would require significant investment to develop underground mines to access additional reserves and to process large accumulations of iron-rich tailings. Nevertheless, Ukraine's reserve base was considered adequate to sustain production for another 50 to 80 years and was expected to play a key role in the development of Ukraine's ferrous metals sector.

Foreign investment in Ukraine's iron ore mining sector would result in increasing the country's iron ore output. Following the purchase of the Krivoyrozh steel mill in October, Mittal Steel planned to invest $243 million to increase iron ore output at mines it purchased along with the plant. Plans called for Mittal Steel to increase iron ore output at these mines from about 8 Mt of concentrate in 2005 to 13 Mt in 2009 and eventually to 16 Mt/yr.

In the Northern and the Southern Balkans, iron ore output continued on a small scale as producers developed more electric-arc-furnace steel production and replaced domestic iron ore production with imports from the CIS. Sweden remained the only significant source of iron ore in Western Europe.

Central Eurasia was expected to continue to be the region's main producer of iron ore through 2011, with a modest increase in production projected for this area owing mainly to expansion of mine output in Ukraine. In Central Europe, an increase in production was projected in Bosnia and Herzegovina. A slight increase in iron ore production was projected for Western Europe by 2011. Overall, about a 12% increase in iron ore output was projected for the entire region by 2011.

Lead and Zinc.—Western Europe, Central Europe, and Central Eurasia were relatively minor mine producers of lead. Europe and Central Eurasia continued to be an important producing region for primary and secondary refined lead. Although Western Europe was a significant producing region for primary refined lead, it produced an even larger share of the world's reported output of secondary refined lead. Data on recovery and use of secondary lead in Central Eurasia has remained incomplete, which makes it difficult to compare production levels for this commodity. In Central Eurasia, only Kazakhstan was a major producer of primary refined lead. Central Europe produced a small share of the world's output of primary and secondary lead.

Poland remained the leading mine producer of lead ore in the entire region followed by Ireland. In Western Europe, after Ireland, Sweden was the next ranking lead mining country, and in Central Eurasia, Kazakhstan followed by Russia were the significant mining countries for lead.

An overall 8% increase in mine production of lead appeared to be set for this region through 2011, with the largest increases in mine output projected for Greece, Kazakhstan, and Romania. The low quality of lead-zinc ores in Russia in terms of metal content in comparison with other parts of the world was expected to inhibit investment in the development of Russian lead-zinc mines. Reported plans for Europe and Central Eurasia until 2011 indicate an increase in the production of primary refined lead, with output buoyed by anticipated production increases in the Central Eurasian and Central European areas, especially in Kazakhstan and Russia.

Kazakhstan was the major lead and zinc producing country in the CIS and was also the leading producer of these metals in the Soviet era. The industry was controlled by the company Kazzinc JSC, which controlled most lead and zinc production except for lead output at the Yuzhpolimetal JSC firm and zinc output associated primarily with copper, which was controlled by Kazakhmys Plc. In Kazakhstan, the Yuzhpolimetal firm was completing construction of a new 15,000-t/yr lead refinery on the base of the old Shimkent lead plant.

Europe and Central Eurasia's mine output of zinc accounted for about 15% of world production but about 30% of the world's output of zinc metal. Western Europe was the region's leading producer of primary zinc metal followed by Central Eurasia and Central Europe. Practically all reported data on secondary zinc production came from Western Europe.

The outlook for the region's mine output of zinc appeared set to show some increase. In Russia, development of the Tarnerskoye copper-zinc deposit in the Ural Mountains was proceeding, with the project scheduled to reach full capacity to mine 800,000 t/yr of copper-zinc ore by 2005.

Kazzinc's development strategy called for it to enter into the ranks of the world's leading producers of lead and zinc. Almost all Kazakhstan's lead and zinc production was exported, which placed Kazakhstan among the world's leading lead and zinc exporting countries. Kazakhstan's lead and zinc producing enterprises were currently (2005) operating below capacity. The Shimkent lead plant, which was part of Yuzhpolimetal, was working far below capacity owing to a lack of raw material.

Kazzinc's plans called for the company to begin mining at the Shaymreden deposit in Kustanay oblast in 2006, which would enable Kazzinc to produce an additional 60,000 t/yr of zinc. In the fourth quarter of 2004, Kazzinc began production at the new Shubinskoye mining subsidiary, which would operate the Shubinskoye underground mine in the vicinity of Ridder.

Reserves at the Shubinskoye deposit were estimated to be 1.5 Mt of lead-zinc and copper ores.

In 2004, Kazzinc was awarded the tender for exploration and development of the Dolinnoe and the Obruchevskoe deposits near the town of Ridder in eastern Kazakhstan with mining expected to start in 2011. Plans called for mining 600,000 t/yr of ore from both deposits, which would yield a projected 25,600 t/yr of zinc and 51,000 troy ounces per year (about 1.6 t/yr) of gold.

Zinc metal production in Central Eurasia was projected to increase mainly in Kazakhstan and Russia. Kazakhmys, which controlled all Kazakhstan's copper production, commissioned the 100,000-t/yr Balkhash zinc smelter in 2003. The new smelter was scheduled to produce 70,000 t of refined zinc in 2004 and 90,000 t in 2005.

Nickel.—Russia was the world's leading producer of nickel. The majority of Russia's output was obtained from mixed sulfide ores at Noril'sk's operations in East Siberia and, to a lesser degree, from its operations on the Kola Peninsula. Output also came from other producers of laterite ores in the Ural Mountains, and a significant but smaller quantity of mined nickel came from Kazakhstan from an extension of the Ural Mountains laterite deposits. In Western Europe, relatively small quantities of nickel were mined in Finland and Greece from laterite deposits. Russia and countries of Western Europe were major world producers of refined nickel.

Noril'sk's investment in its nickel operations in the period up to 2010 apparently would result in only modest increases in production but could avert a significant reduction in production that might otherwise take place because of decreasing ore grades. This assessment of only a modest production increase followed a series of earlier plans put forth by Noril'sk. In 2003, Noril'sk issued a development plan to 2015 that called for Noril'sk to maintain the total amount of ore mined on the Taymyr Peninsula close to the current level of 14 Mt/yr. In 2005, a newer plan called for Noril'sk to raise output on the Taymyr Peninsula from the current level of 14 Mt/yr to 18 Mt by 2009; a newer long-term projection also issued in 2005 raised planned output to 22 Mt/yr. With metal prices and demand at very high levels, the new higher projections were in accord with Noril'sk's marketing strategy. A number of obstacles have hindered Noril'sk from realizing these development plans and have resulted in an assessment that nickel production would not significantly increase through 2010.

Noril'sk's mixed sulfide ores comprise disseminated and nondisseminated varieties. The higher grades are found in the nondisseminated ores, which differentiate into nickel-rich and copper-rich ores. Owing to the depletion of nickel-rich ores at existing workings, Noril'sk was planning to switch to mining a greater proportion of copper-rich and disseminated ores rather than nickel-rich ores to maintain and increase mine output levels. Noril'sk also was developing new mines to replace depleted reserves of nickel-rich ore. The company's copper-rich ore reserves, which are abundant, have a much lower nickel content and somewhat lower copper content than the nickel-rich ores, and the disseminated ores are lower in all base metals content than the nondisseminated ores. The nondisseminated and disseminated ores, however, are not that dissimilar with respect to their PGM content.

Development projects to mine nickel-rich ore reserves were underway. The Skalisty Mine, which is located on the Taymyr Peninsula, was under development and was expected to achieve its design capacity of 1.2 Mt/yr of nickel-rich ore in 6 to 7 years. Skalisty was scheduled to produce 310,000 t of ore in 2004. The Gluboky Mine, which is also located on the Taymyr Peninsula, was scheduled to come onstream by 2013-14. The Gluboky and the Skalisty Mines were expected to produce a combined 2 Mt/yr of nickel-rich ore.

Bateman Metals, Mintek, and Oriel Resources plc were involved in creating a demonstration-scale project for smelting nickel laterite ores from the Shevchenko deposit in the Zhetigara region of Kustanai oblast in northern Kazakhstan. The deposit contained a resource of 46 Mt of ore at an average grade of 1.01% nickel. This project was part of an ongoing definitive feasibility study that was scheduled to be completed in the third quarter of 2005. A prefeasibility study was based on the project producing 140,000 t/yr of ferronickel at a grade of more than 22% nickel within 5 years of startup. Startup could be as soon as 2007.

Platinum-Group Metals.—Russia accounted for almost all mine output of PGMs in Europe and Central Eurasia. Small amounts of platinum and palladium also were mined by Finland, Norway, Poland, and Serbia and Montenegro. Russia and South Africa were the only two major producers of PGM in the world. Russia was the world's second ranked producer of PGM after South Africa in 2005. Russia's PGM output (in contrast to that of South Africa) was predominately palladium owing to a higher ratio of palladium to platinum in Russian ores than in South African ores.

Both metals have major applications in the industrial sector. Palladium and platinum and, to a lesser extent, rhodium are critical components of catalytic converters, which control automobile emissions, and platinum is the critical catalytic element in the Proton Exchange Membrane (PEM) fuel cell under development to power automobiles. PGM were expected to be in much greater demand as the world's automobile fleet increases and is equipped with catalytic converters. As legislation calling for stricter automobile emissions controls is enacted, greater loadings of PGM in catalytic converters will be required. Also, the need for sources of energy other than oil could result in the development of a hydrogen-based economy powered by fuel cells that use platinum as a catalyst.

Noril'sk mined more than 90% of Russia's PGM output from mixed sulfide ores at its deposits at its Polar Division in East Siberia. An estimated 7 t/yr of PGM (mostly platinum) was mined from placer deposits in the Russian Far East, Siberia, and the Ural Mountains. Noril'sk's long-term development strategy appeared oriented towards maximizing PGM production rather than nickel production as nickel-rich ores become depleted. Noril'sk's remaining resources were richer in PGM relative to nickel and copper than were the ores currently being mined, although these ores were lower in their absolute PGM content. Along with developing new ore sources, Noril'sk planned to continue to develop the capability to recover PGM from abundant pyrrhotite tailings that had accumulated from many years of mining. Russian production was expected to continue to account for almost all the region's output of PGM, and

production increases would depend to a large extent on the prices of the metals hosted in the mixed sulfide ores of the Noril'sk complex.

Despite Noril'sk's development plan to significantly increase ore extraction first of nickel-rich ores and then of copper-rich ores, Noril'sk was proceeding more slowly than its stated plans would indicate and it appears that through 2010, Noril'sk will try to keep PGM output levels at about the 2005 level.

Industrial Minerals

Diamond.—Russia was the region's only diamond producer. In accordance with Russia's participation in the Kimberley Process, Russia has been releasing its diamond production and trade figures, which for decades in both the Soviet Union and Russia had been held as a state secret. The Kimberley Process is a joint government, international diamond industry, and civil society initiative to stem the flow of conflict diamond, which is rough diamond that is used to fund rebel movements and terrorist activity.

In 2005, ALROSA Company Limited accounted for 97% of Russian diamond production and about 25% of world rough gem diamond production. Its major mining operations were in the Sakha Yakutia Republic, but in 2005, it commenced production at the Lomonosov diamond deposit in the northern European part of the country in Arkhangelsk oblast.

On June 28, 2005, full-scale mining was initiated at the Lomonosov deposit with the commissioning of ore treatment plant No. 1. The plant was designed with the capacity to process about 1 Mt/yr of ore. Diamond from the deposit was gem quality, which accounted for the high appraisal value of the reserves at $12 billion. The diamond deposit's effective life was estimated to be about 50 years from the time the plant was put into operation.

ALROSA also planned to expand its underground mining and exploration operations in Sakha-Yakutia. According to the company's president, the 2005 program, which was based upon ALROSA's 10-year development guidelines, calls for the expansion of underground mine production as its first priority. In 2005, ALROSA was able to maintain its level of mine output through its program of gradually switching to underground mining to extract low-grade diamond ore reserves. To maintain stable operations, ALROSA must increase ore reserves by carrying out intensive prospecting for new diamond deposits. The company planned to significantly increase investment in exploration. A new Mirny Exploration Expedition was established to concentrate on exploration.

Mineral Fuels and Related Materials

Most of the countries in Western and Central Europe were net importers of energy. With the exception of North Sea hydrocarbon production, Western Europe's sources of energy were expected to continue to be based on imports from the Middle East and the CIS. Major increases in energy consumption in the near term were not anticipated.

In Central Europe, domestic production of brown coal and lignite for electric power generation would likely be maintained to reduce the need for imported natural gas and petroleum, which had been largely supplied by the CIS. Poland's hard coal industry was expected to continue to modernize and to play an important regional role in the energy sector. Lignite, which was the fuel mainly used to power thermal electric power stations, continued to be an important source of energy in Central Europe and the Balkans. In Central Eurasia, Russia and other CIS oil and gas producers were expected to continue to be among the major providers of hydrocarbons to the world market. The rate of increases of future deliveries of these commodities to the world market, along with the successful exploration and development of new deposits, in part would depend on the resolution of pipeline and transport issues for their delivery.

Coal.—The CIS was the major coal producing region in Europe and Central Eurasia. Coal was produced in a large number of CIS countries with, in order of production, Russia, Kazakhstan, and Ukraine as the major coal producers. In 2005, Poland remained Central Europe's leading producer of anthracite, bituminous coal, and lignite. Poland's hard coal industry was expected to continue to modernize and to continue to play an important regional role in the energy sector.

Russia's coal production in the past several years has been increasing as the Russian economy has been growing and domestic demand for coal increasing. The Energy Strategy for Russia for the Period up to 2020 foresees the need for coal production to increase to between 310 and 330 Mt by 2010 and to between 375 and 430 Mt by 2020 to meet expected domestic demand. As foreseen in the country's energy strategy program, coal production must increase by 10 to 15 Mt/yr between 2005 and 2010 and by a total of 105 Mt by the year 2020.

Although the creation of additional coal production capacity through upgrading and expansion of existing mines and development of new mines is possible based on reserves, doing so would require a level of investment in the coal sector, including investment in new technology, far in excess of the historic level of investment in the past 5 years and casts doubt on the feasibility of such expansion. At current rates of investment, coal production capacity by the year 2020 would be in the neighborhood of 375 Mt. The optimistic growth scenario depends to a large extent on an increase in foreign investment, particularly from Chinese, Japanese, and South Korean companies.

Ukraine has 34.1 Gt in proven coal reserves, which accounts for more than 60% of the FSU's total coal reserves. The decrease in coal extraction following the dissolution of the Soviet Union began to reverse in 1997 and, since then, coal production has increased. Goals were set to stabilize coal extraction at between 85 Mt/yr and 90 Mt/yr. Most of Ukraine's coal is extracted from deep underground mines in the Donets Basin (Donbas) in the eastern region of the country.

According to Kazakhstan's classification system for mineral reserves, total geologic coal resources were assessed to be between 150 Gt and 160 Gt, of which 62% is brown coal and the remainder, bituminous coal. Kazakhstan had plans to increase production of coal, of which almost all is subbituminous.

Natural Gas.—Central Eurasia (mainly Russia) produced a substantial share of the world's production of natural gas, which in 2005 amounted to 27% of the world total. Western Europe accounted for 11% of world output, and Central Europe,

less than 1%. Russia remained the world's leading natural gas producer and exporter. In 2005, natural gas production in Russia amounted to 635.964 billion cubic meters, which was only a 0.3% increase compared with that of 2004.

Russia has the world's largest natural gas reserves, with 1,680 trillion cubic feet (about 48 trillion cubic meters), which is nearly twice the amount of reserves in the next ranked country, Iran. To maintain output, Russia would have to develop new fields. Most of these fields are located in remote regions that lack infrastructure and would require a high level of investment. Unlike the case with oil, proven gas reserves were adequate to provide for projected production in East Siberia.

Russia's energy strategy predicts natural gas production to range between 635 to 665 billion cubic meters in 2010 and between 680 and 730 billion cubic meters in 2020. Growth in Russia's natural gas sector has been slowed primarily by aging fields, state regulation, OAO Gazprom's monopolistic control over the industry, and insufficient export pipelines. Three major fields in Western Siberia—Medvezh'ye, Urengoy, and Yamburg—account for more than 70% of Gazprom's total natural gas production, but these fields are in decline. Although Gazprom projects increases in its natural gas output between 2008 and 2030, most of Russia's natural gas production growth is expected to come from independent gas companies, such as Itera, Northgaz, and Novatek.

Russia has been reassessing its energy strategy since the strategy was issued in 2003. A Gazprom subsidiary issued a report recommending a change of export strategy for the Russian gas industry. It determined that Russia should decrease exports of natural gas to European markets and concentrate instead on developing new gasfields to keep up with domestic demand, which was rising faster than was envisioned in the 2003 report and could necessitate the development of new gasfields on the Yamal Peninsula and other places.

If Gazprom were to fulfill its long-term goal of increasing its European sales, it would have to boost its production and secure more reliable export routes to the region. Several proposed new export pipelines would serve European markets. Pipeline routes under consideration also would deliver gas to Asian markets.

Kazakhstan and Turkmenistan, which are large regional producers of natural gas, could be major factors in the region's expected rise in output. Kazakhstan's proven natural gas reserves were reportedly 65 trillion to 70 trillion cubic feet (about 1.8 trillion to 2 trillion cubic meters), which was comparable to Canada and Kuwait and ranked it among the leading 20 countries in the world.

According to the 15-year strategy of the Kazakhstan Ministry for Energy and Mineral Resources, the country plans to increase its natural gas production to 1.66 trillion cubic feet (about 47 billion cubic meters) by 2010, and to 1.84 trillion cubic feet (about 52 billion cubic meters) by 2015. About 25% of proven reserves are located in the Karachaganak oil and gas condensate field, which has proven natural gas reserves of between 16 trillion and 20 trillion cubic feet (between 371 and 566 billion cubic meters). A consortium that was developing Karachaganak expected peak production by 2010 to be about 1 trillion cubic feet (about 28 billion cubic meters). Another important natural gas field, Amangeldy, is situated in the south of the country near Zhambul. Exploratory drilling in 2001 indicated reserves of up to 1.8 trillion cubic feet (about 51 billion cubic meters). The field was being developed primarily by Kazmunaigas, and the company expected initial production of roughly 35 billion cubic feet per year (about 991 million cubic meters per year) after initial development.

Turkmenistan was one of the leading countries in the world in the quantity of its natural gas reserves. All gas pipelines that connect Turkmenistan to world markets had been owned by the Russian company Gazprom and routed through Russia. In the 1990s, Turkmenistan was denied access through this pipeline network to world markets; as a result, the country's incentive to produce natural gas was greatly reduced. In 2005, Turkmenistan was negotiating gas supply agreements with Russia and Ukraine, which would increase Turkmenistan's gas exports to these countries. Turkmenistan would not supply Ukraine directly; rather, it would supply the company RosUkrEnergo, which, in a deal reached with Russia in January 2006, would act as an intermediary in providing gas to Ukraine.

An agreement signed with Russia in September 2006 indicated that Turkmenistan would increase exports of natural gas from about 6 billion cubic meters in 2005 to about 50 billion cubic meters in 2007 and then to about 80 billion cubic meters in 2009, where it would remain until 2028. A portion of this gas sent to Russia would go to Ukraine.

The limited capacity of the existing natural gas pipelines and lack of alternative natural gas export routes has constrained Turkmenistan's natural gas export potential and made exports vulnerable to disruptions. A Trans-Afghan pipeline (TAP) was under consideration to export Central Asian natural gas via Afghanistan to Pakistan. The majority of this gas would come from Turkmenistan's Dauletabad field, which, according to authorities in Turkmenistan, holds more than 60 trillion cubic feet (almost 1.7 trillion cubic meters) of reserves. If verified, these reserves would make this field the fourth largest in the world. The TAP proposal was on hold, but then in 2005, with prospects for a more stable situation in Afghanistan, the idea for the TAP was revived.

In the spring of 2006, Turkmenistan's President signed an agreement with China to build an export pipeline to the east to export Turkmenistan's gas. According to the agreement, in the first phase of the project, which would start in 2008, Turkmenistan would deliver about 30 billion cubic meters per year of gas via Uzbekistan and Kazakhstan to Urumci in western China and beyond to Shanghai, and then would increase these volumes to up to 50 billion cubic meters per year by 2010. Experts have cast doubt on the project's feasibility for a number of reasons including a lack of details about the financing and construction. Turkmenistan's various export commitments appeared to far exceed its current (2005) production, and it is not clear that additional production could be commissioned in time to meet these commitments.

Although in 2005 Azerbaijan was a net natural gas importer, the country was expected to become a significant gas exporter with the development of the Shah Deniz natural gas field, which is considered to be one of the world's largest natural gas field discoveries in the past 20 years. According to BP p.l.c., the project operator, Shah Deniz has potential recoverable

reserves of about 15 trillion cubic feet (almost 425 billion cubic meters) of natural gas and 600 million barrels (almost 82 Mt) of condensate. Using different and varying criteria for defining reserves, other industry and trade sources have estimated the field's size to be as high as 35 trillion cubic feet (about 990 billion cubic meters). The field is being developed by the Shah Deniz consortium, whose members include BP, Statoil ASA of Norway, State Oil Co. of Azerbaijan (SOCAR), the Egyptian-Russian joint venture (JV) LukAgip, NICO International of Dubai, the Belgium-French firm Total S.A., and Türkiye Petrolleri A.O. of Turkey (TPAO). The first phase of the Shah Deniz field's development was expected to begin producing natural gas for export during late 2006. According to BP, the second phase of the Shah Deniz project would produce an additional 1 trillion cubic feet per year (almost 30 billion cubic meters per year) of natural gas by as early as 2015. Production of natural gas from Shah Deniz, as well as associated gas from Azeri Chirag Gunashli (AGC) and the Bakhar-2 project, was expected to make Azerbaijan self-sufficient in natural gas and to result in significant export revenues.

Although Azerbaijan lacks any infrastructure for the export of natural gas, efforts were underway to secure export routes and customers for gas deliveries beginning in 2006. The main conduit for Azerbaijan's natural gas exports would be the "South Caucasus Pipeline," also known as "Baku-T'bilisi-Erzurum," which would run parallel to the Baku-T'bilisi-Ceyhan oil pipeline for most of its route before connecting to the Turkish gas pipeline network near the town of Horasan in Turkey. Pipeline construction began in late 2004 and was scheduled for completion during the first quarter of 2007. The pipeline was expected to carry 233 billion cubic feet (almost 7 billion cubic meters) per year initially; this amount could be increased later to up to 700 billion cubic feet (almost 20 billion cubic meters) per year with the future addition of compressor stations. Although most of the natural gas would be exported to Turkey, some of the natural gas would be sent to Europe via a transit pipeline through Greece.

Petroleum.—Europe and Central Eurasia's oil production was centered mainly in Russia in West Siberia. Development of major new petroleum resources, however, was taking place offshore in the Caspian Sea by the littoral states in conjunction with major Western firms.

The countries of the Caspian Sea region were of great importance to world energy markets because of the large oil and gas reserves in this region that were being developed. Proven oil reserves for the entire Caspian Sea region (estimated to be between 18 billion and 35 billion barrels (or between about 2.5 Gt and 4.8 Gt) were comparable to those of the United States (22 billion barrels, or about 3 Gt) and greater than those in the North Sea (17 billion barrels, or 2.3 Gt); estimated undiscovered oil resources could provide another 235 billion barrels (about 32 Gt) of oil.

For the past decade, Azerbaijan's offshore oil deposits in the Caspian Sea have been a major focus for global oil development. Since 1997, increases in the country's oil production have been produced mainly by an international consortium known as the Azerbaijan International Operating Company (AIOC), which accounts for more than 70% of Azerbaijan's total oil exports. AIOC, whose partners were BP; Devon Energy Corp., Exxon Mobil Corp. (ExxonMobil), and Unocal Corp. of the United States; Inpex Corp. and Itochu Corp, of Japan; SOCAR; Statoil ASA; TPAO; and a joint venture of Amerada Hess Corp. of the United States and Delta Oil Com. Ltd. of Saudi Arabia, operated the offshore Azeri, Chirag, and deepwater Gunashli (ACG) megastructure.

In the next decade, the main production development in Azerbaijan was expected to come from the three-phase development of the ACG megastructure. Total oil production from ACG was projected to reach approximately 500,000 barrels per day (bbl/d) by 2007 with the full implementation of Phase 1. If AIOC's Phase 2 plans are achieved, production from the East Azeri and West Azeri fields could add more than 800,000 bbl/d. Production was expected to peak at about 1 million barrels per day (Mbbl/d) by 2009 following the completion of Phase 3 (the final phase) and would include production from the deepwater Gunashli field.

Kazakhstan recently completed a new assessment of its oil reserves that put estimated proven and probable oil reserves at approximately 29 billion barrels compared with its earlier assessment in the 1990s of approximately 16 billion barrels. The country was poised to become an even more significant supplier to world oil markets in the next decade. Kazakhstan produced approximately 1.29 Mbbl/d of oil in 2005 and consumed 222,000 bbl/d, resulting in net exports of more than 1 Mbbl/d. Kazakhstan's Government planned to increase production levels to more than 3.5 Mbbl/d by 2015, mainly by producing about 1 Mbbl/d from the yet-to-be-developed offshore Kashagan field, 700,000 bbl/d from the onshore Tengiz field, 600,000 bbl/d from the yet-to-be-developed onshore Kurmangazy field, and 500,000 bbl/d from the onshore Karachaganak field. The remainder would come from the development of smaller fields.

Russia was the world's second ranked oil producer and oil exporting country after Saudi Arabia. The country's Energy Strategy of Russia for the Period up to 2020 that was issued in May 2003 revised oil production projections upwards and gas production projections downwards. The Energy Strategy for Russia for the Period up to 2020 includes several scenarios that predict a range for Russian oil output of between 445 Mt/yr and 490 Mt/yr by 2010 and between 450 Mt/yr and 520 Mt/yr by 2020.

Oil production and growth was to be centered in such traditional oil producing regions as West Siberia, the North Caucasus, and the Volga region and in new oil and gas provinces in the European North (Timan-Pechora region), in eastern Siberia and the Russian Far East, and in the south in the North Caspian region. Although the base of the country's oil production for this period of time will remain the West Siberian oil and gas province, priority areas for new development were to be in the eastern and southern regions of the country. New field developments would account for almost all Russia's annual oil growth in the next 5 years and would likely produce more than one-half of the country's oil in 2020. In the next 5 years, new field developments at the Middle Caspian project at Kurmangazy (Lukoil); the Komsomolskoye and the Vankorskoye projects (Rosneft); the Prirazlomnoye project (Rosneft and Gazprom); the Sakhalin Island projects;

the West Salymskoye project (Shell Joint Venture); and the Timan Pechora project (Lukoil and ConocoPhillips) would help compensate for production decreases at older fields.

Uranium.—Europe and Central Eurasia were the major regional sources of mined uranium. Uranium mining took place mainly in the Central Asian countries.

Kazakhstan was the third ranked country in the world in the volume of uranium production. The company Kazatomprom (the state-owned company that controls the country's uranium industry) was the fourth ranked uranium producer in the world. Approximately one-fifth of the world's uranium reserves are located in Kazakhstan. Resources of uranium totaled more than 1.5 Mt, and more than 1.1 Mt could be mined by the in situ leaching (ISL) method. The head of Kazatomprom said the company aims to become the world's leading uranium producer by 2010; projections made by Kazatomprom call for uranium (U_3O_8) production in Kazakhstan to increase to 15,000 t/yr by 2010.

If these plans are realized, Kazatomprom could overtake Canada's Cameco Corp., which is the current (2005) world leader. Kazatomprom planned to invest $600 million in construction of new mines and development of existing ones to become the global leader. It intended to increase production by increasing output at existing mining operations and by developing new mining operations. Plans called for the development of mines at the Central Moinkum, the Eastern Mynkuduk, the Inkai, and the Kharasan deposits and joint venture development of the Irkol, the Moinkum, the Tortkuduk, the Zarechnoye, and the Zhalpak deposits, as well as construction of enrichment plants at the Shestoye, the Stepnoye, and the Tsentralnoye Mines. Plans also called for construction of a conversion plant to produce 3,000 t/yr of uranium hexafluoride for sale on the world market, and for the processing of uranium scrap into uranium dioxide and fuel pellets.

Uranium mining in Russia was conducted entirely by the corporation JSC TVEL's ore mining enterprises, and in particular by open pit mining at its subsidiary JSC Priargunsky Industrial Mining & Chemical Union and also by in situ underground leaching at its subsidiaries CJSC Dalur in the Kurgan region and JSC Khiagda in Buryatia. Annual uranium output was about 3,400 t (U content), and more than 90% of this amount was produced by Priargunsky. Uranium-bearing ores and solutions were processed to generate uranium concentrates, which were shipped for further reprocessing at the JSC Chepetsky Mechanical Plant.

Russia did not produce enough uranium to meet its consumption requirements and had to consume stockpiled material. The county was planning to make up for shortfalls by participating in uranium development projects at home and abroad. Russia planned to increase the capacity of its nuclear reactors by 50% by 2010 and by more than 450% by 2050. Russia's Ministry of Natural Resources drafted a program, Uranium of Russia, to explore for new uranium deposits to help meet Russia's expected uranium requirements of 17,000 t/yr in the next decade.

According to TVEL, Russia must more than double annual uranium production by 2020 to 7,500 t of uranium (U) from a current level of 3,400 t to meet growing demand and would have to increase uranium production to 12,000 t/yr by 2050. TVEL estimated that, given Russia's plans to expand nuclear power and export nuclear fuel, Russia's demand for uranium could more than triple from the current level of 9,000 t/yr to 29,000 t/yr by 2050. TVEL stated that mining could meet 52% of Russia's total demand for uranium; the use of secondary sources could supply 31% of demand; and imports, 17%. TVEL said that its estimates were based on the overall extent of reserves at known uranium fields. Russia could face a serious shortage of uranium after 2035. Putting new fields onstream could offset this expected shortage, but exploration would have to be stepped up in the mid-term for this to happen.

Ukraine was planning to raise its uranium extraction volumes to a level that would allow it to use its own nuclear fuel at all power stations by 2015. This plan is part of a draft strategy for developing Ukraine's fuel and energy complex until 2030. The investment necessary for such an increase in uranium extraction for the 2005-30 period was estimated to be $4.5 billion. Ukraine would need to attract private investment to develop the uranium industry.

Total uranium reserves in Uzbekistan reportedly are about 185,000 t, of which approximately 114,000 t could be developed by the ISL method. The country's uranium production had fallen by almost one-half since the Soviet period and the country was instituting a program to increase uranium output in the near future by investing in modernizing the Navoi mining and metallurgical complex, which was the country's main uranium producer. An upgrade of its facilities would enable Navoi to increase uranium output by 33%. Since 1992, all Uzbekistan's uranium production has been exported mainly to the United States through the U.S.-based intermediary Nukem, Inc.

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TABLE 1
EUROPE AND CENTRAL EURASIA: AREA AND POPULATION (2005)[1]

Region and country	Area (square kilometers)	Population (thousands)
Western Europe:		
Austria	83,870	8,193
Belgium	30,528	10,379
Denmark	43,094	5,451
Finland	338,145	5,231
France	547,030	60,876
Germany	357,021	84,422
Greece	131,940	10,688
Iceland	103,000	299
Ireland	70,280	4,062
Italy	301,230	58,134
Luxembourg	2,586	474
Malta	316	400
Netherlands	41,526	16,491
Norway	323,802	4,611
Portugal	92,391	10,606
Spain	504,782	40,398
Sweden	449,964	9,017
Switzerland	41,290	7,524
United Kingdom	244,820	60,609
Total	3,707,615	397,865
Central Europe:		
Albania	28,748	3,582
Bosnia and Herzegovina	51,129	4,499
Bulgaria	110,910	7,385
Croatia	56,542	4,495
Czech Republic	78,866	10,235
Estonia	45,226	1,324
Hungary	93,030	9,982
Latvia	64,589	2,275
Lithuania	65,200	3,586
Macedonia	25,333	2,051
Poland	312,685	38,537
Romania	237,500	22,304
Serbia and Montenegro	102,387	10,829
Slovakia	48,845	5,439
Slovenia	20,273	2,010
Total	1,341,263	128,533
Central Eurasia:		
Armenia	29,800	2,976
Azerbaijan	86,600	7,962
Belarus	207,600	10,293
Georgia	69,700	4,661
Kazakhstan	2,717,300	15,233
Kyrgyzstan	198,500	5,214
Moldova	33,843	4,467
Russia	17,075,200	142,894
Tajikistan	143,100	7,321
Turkmenistan	488,100	5,043
Ukraine	603,700	46,711
Uzbekistan	447,400	27,307
Total	22,100,843	280,082
Regional total	27,149,721	806,480

[1]Source: Central Intelligence Agency, The World Factbook 2005

TABLE 2
EUROPE AND CENTRAL EURASIA: GROSS DOMESTIC PRODUCT[1]

Region and country	Purchasing power parity		Annual percentage change (constant prices)
	Gross value (million dollars)	Per capita (dollars)	
Western Europe:			
Austria	262,295	32,059	2.4
Belgium	308,447	30,007	2.3
Denmark	179,797	33,252	2.5
Finland	152,097	29,095	2.6
France	1,745,946	28,145	2.3
Germany	2,408,867	29,204	1.8
Greece	225,077	20,387	3.0
Iceland	9,708	32,843	5.3
Ireland	154,050	37,894	5.0
Italy	1,653,289	28,670	1.9
Luxembourg	29,952	65,120	3.4
Malta	8,378	21,203	1.7
Netherlands	487,211	29,663	1.8
Norway	188,322	40,784	2.7
Portugal	197,713	19,340	2.2
Spain	989,427	23,911	2.9
Sweden	267,494	29,544	2.5
Switzerland	226,290	30,366	2.2
United Kingdom	1,739,572	28,877	2.5
Total	11,233,932	XX	XX
Central Europe:			
Albania	16,297	4,582	6.0
Bosnia and Herzegovina	27,572	7,035	4.0
Bulgaria	69,087	8,909	5.2
Croatia	53,064	11,792	4.1
Czech Republic	175,202	17,148	3.4
Estonia	19,603	14,284	5.4
Hungary	159,466	16,338	3.7
Latvia	26,266	11,197	6.0
Lithuania	44,400	12,837	7.0
Macedonia	15,353	7,438	4.5
Poland	473,813	12,452	5.1
Romania	176,502	7,957	5.0
Serbia and Montenegro	43,065	5,156	4.5
Slovakia	80,461	14,877	4.3
Slovenia	43,045	21,587	4.1
Total	1,423,196	XX	XX
Central Eurasia:			
Armenia	11,718	3,075	6.0
Azerbaijan	36,331	4,321	11.4
Belarus	62,040	7,202	5.5
Georgia	13,809	2,702	6.0
Kazakhstan	116,918	7,859	8.5
Kyrgyzstan	9,885	1,905	4.9
Moldova	7,860	2,163	4.0
Russia	1,456,964	10,301	6.6
Tajikistan	7,339	1,068	8.0
Turkmenistan	31,101	6,190	7.0
Ukraine	285,938	6,045	6.0
Uzbekistan	45,489	1,734	2.5
Total	2,085,392	XX	XX
Regional total	14,742,520	XX	XX

XX Not applicable.
[1]Source: International Monetary Fund, World Economic Outlook Database 2005.

TABLE 3
SELECTED EXPLORATION ACTIVITY IN EUROPE AND CENTRAL EURASIA IN 2005

Country	Site	Commodity[1]	Company	Phase[2]	Type[3]
Armenia	Lichkvaz	Au, Ag, Cu	Iberian Resources Ltd.	Feasibility	Extension.
Do.	Zod	Au, Ag, Cu	Sterlite Gold Ltd.	Producer	Extension.
Bulgaria	Ada Tepe	Au, Ag	Dundee Precious Metals Corp.	Feasibility	Extension.
Do.	Krumovgrad	Au, Ag	do.	Feasibility	Extension.
Do.	Polski Gradets	Au	Cambridge Mineral Resources plc.	Exploration	New.
Do.	Rakitovo	Au, Ag	Euromax Resources Ltd.	Exploration	Continuing.
Do.	Tashlaka	Au	Cambridge Mineral Resources plc.	Exploration	New.
Finland	Arctic/Suhanko	PGM, Au	Gold Fields Ltd.	Feasibility	Extension.
Do.	Haarakumpu	Au, Cu	Belvedere Resources Ltd.	Exploration	New.
Do.	Hannukainen	Au, Cu	Northland Resources Inc.	Exploration	Continuing.
Do.	Haveri	Au	Northern Lion Gold Corp.	Exploration	Continuing.
Do.	Kaaresselka	Au	Tertiary Minerals plc.	Exploration	Continuing.
Do.	Kalkinnen	Cu, PGM, Au	do.	Exploration	New.
Do.	Keivitsa	Ni, Cu, PGM	Scandinavian Gold Ltd.	Exploration	Continuing.
Do.	Kuhmo	Ni, Cu	Vulcan Resources Ltd.	Exploration	New.
Do.	Kuusamo/Iso Rehvi	Au, Cu, Co	Belvedere Resources Ltd.	Exploration	Continuing.
Do.	Kylylahti	Cu, Co, Ni, Au	Vulcan Resources Ltd.	Exploration	Continuing.
Do.	Lahtojoki	Diamond	European Diamonds plc.	Exploration	Continuing.
Do.	Norra Barsele	Au	North American Gold Inc.	Exploration	New.
Do.	Peura-oho/Hietaharju	Ni	Vulcan Resources Ltd.	Exploration	New.
Do.	Rantasalmi/Osikonmäki	Au	Belvedere Resources Ltd.	Exploration	New.
Do.	Suurikuusikko	Au	Riddarhyttan Resources AB	Feasibility	Extension.
Do.	Unnamed	Au, Cu	Belvedere Resources Ltd.	Exploration	New.
Greece	Unnamed	Au, Cu	European Goldfields Ltd.	Exploration	New.
Greenland	Ammassalik	Ni, Cu, PGM, Au	Diamond Fields International Ltd.	Exploration	Continuing.
Do.	Black Angel	Zn, Pb, Ag	Black Angel Mining Ltd.	Exploration	New.
Do.	Garnet Lake	Diamond	New Millennium Resources Ltd.	Exploration	New.
Do.	Garnet Lake (Sarfartoq)	Diamond	Hudson Resources Inc.	Exploration	Continuing.
Do.	Malmbjerg	Mo	Galahad Gold plc.	Exploration	Continuing.
Do.	Nalunaq	Au	Crew Gold Corp.	Producer	Extension.
Do.	Skaergaard	Au, PGM	Galahad Gold plc.	Exploration	Continuing.
Do.	Spider Lake	Diamond	Hudson Resources Inc.	Exploration	New.
Do.	Storø	Au	Nuna Minerals A/S	Exploration	Continuing.
Do.	West Greenland	Diamond	Metalux Ventures Corp.	Exploration	Continuing.
Ireland	Curraghinalt	Au	Tournigan Gold Corp.	Exploration	Continuing.
Do.	Longford-Down	Au	Conroy Diamonds and Gold plc.	Exploration	Continuing.
Do.	North Limerick	Au	Alba Mineral Resources plc.	Exploration	Continuing.
Do.	Omagh	Au	Galantas Gold Corp.	Developing	Extension.
Do.	Pallas Green	Zn, Pb	Minco plc.	Exploration	Continuing.
Do.	Tivnacree	Au	Conroy Diamonds and Gold plc.	Exploration	New.
Do.	Tullybuck-Lisglassan	Au	do.	Exploration	Continuing.
Italy	Furtei	Au	Sargold Resources Corp.	Producer	Extension.
Kazakhstan	Baltemir	Au	Frontier Mining Ltd.	Exploration	New.
Do.	Beschoku	Cu	do.	Exploration	New.
Do.	Dostyk	Cu, Au	Eureka Mining plc.	Exploration	Continuing.
Do.	Koskuduk	Au	Frontier Mining Ltd.	Exploration	New.
Do.	Naimanjal	Au, Ag	do.	Developing	Extension.
Do.	Sekisovskoye/Tserkovka	Au, Ag	Hambledon Mining plc.	Feasibility	Extension.
Do.	Shevchenko	Ni	Oriel Resources plc.	Feasibility	Extension.
Do.	Shorskoye	Mo, Cu	Eureka Mining plc.	Producer	Extension.
Do.	Uzboy	Au	Alhambra Resources Ltd.	Feasibility	Extension.
Do.	Voskhod	Cr	Oriel Resources plc.	Feasibility	Extension.
Do.	Yubileiny	Cu	Frontier Mining Ltd.	Exploration	New.
Kyrgyzstan	Akbel-Cholotor	Au	Kentor Gold Ltd.	Exploration	New.
Do.	Aksur	Au	Palladex plc.	Exploration	Continuing.
Do.	Andash	Au, Cu	Aurum Mining plc.	Exploration	New.
Do.	Kumtor	Au	Centerra Gold Inc.	Producer	Extension.

See footnotes at end of table.

TABLE 3--Continued
SELECTED EXPLORATION ACTIVITY IN EUROPE AND CENTRAL EURASIA IN 2005

Country	Site	Commodity[1]	Company	Phase[2]	Type[3]
Kyrgyzstan--Continued	Kuru Tegerek	Au, Cu	Eurasian Minerals Inc.	Exploration	Continuing.
Do.	Taldy Bulak	Au	Central Asia Gold Ltd.	Feasibility	Extension.
Do.	Tolubay	Au	Perseus Mining Ltd.	Exploration	Continuing.
Do.	Uzunbulak	Au	Kentor Gold Ltd.	Exploration	New.
Norway	Espedalen	Ni, Cu, Co	Blackstone Ventures Inc.	Exploration	Continuing.
Do.	Espedalen/Stormyra	Ni, Cu, Co	Noranda Inc.	Exploration	Continuing.
Do.	Falconbridge Joint Venture	Ni, Cu, Co	Blackstone Ventures Inc.	Exploration	New.
Do.	Gjedde Lake/Kobbfors	Au, Zn	Kenor ASA	Exploration	Continuing.
Do.	South Norway	Ni, Cu, Co	Blackstone Ventures Inc.	Exploration	New.
Do.	Vakkerlien	Ni, Cu, Co	do.	Exploration	Continuing.
Portugal	Jales/Gralheira	Au	St. Elias Mines Ltd.	Exploration	Continuing.
Do.	Lagoa Salgada	Cu, Pb, Zn, Ag, Au	Redcorp Ventures Ltd.	Exploration	New.
Do.	Montemor	Au	Iberian Resources Inc.	Exploration	Continuing.
Do.	Neves-Corvo/Zambujal	Cu, Pb, Zn, Ag, Au	EuroZinc Mining Corp.	Producer	Extension.
Romania	Bucium/Frasin/Rodu	Au, Ag	Gabriel Resources Inc.	Exploration	Continuing.
Do.	Cainel	Au, Ag	European Goldfields Ltd.	Exploration	New.
Do.	Carbunari-Stinapari	Au	Carpathian Gold Inc.	Exploration	New.
Do.	Certej	Au, Ag	European Goldfields Ltd.	Exploration	Continuing.
Do.	Hondol Carol	Au, Ag	do.	Exploration	New.
Do.	Magura Tebii	Au	do.	Exploration	New.
Do.	Oravita	Cu, Au	Carpathian Gold Inc.	Exploration	Continuing.
Do.	Pitigus	Au	European Goldfields Ltd.	Exploration	New.
Do.	Sacu	Cu	International Goldfields Ltd.	Exploration	New.
Russia	Chelyabinsk	Cu, Au, Mo	Eureka Mining plc.	Feasibility	Extension.
Do.	East Pansky	Pt, Pd	Bema Gold Corp.	Exploration	Continuing.
Do.	Haldelskaja	Au	Cigma Metals Corp.	Exploration	New.
Do.	Julietta	Au, Ag	Bema Gold Corp.	Producer	Extension.
Do.	Kolmozero-Voronya	Au, Ag	Ovoca Resources plc.	Exploration	Continuing.
Do.	Kupol	Au	Bema Gold Corp.	Developing	Extension.
Do.	Kytlim	Pt, Pd	Eurasia Mining plc.	Exploration	Continuing.
Do.	Mayskoye	Au	Highland Gold Mining Ltd.	Feasibility	Extension.
Do.	Monchetundra	Pt, Pd	Eurasia Mining plc.	Exploration	New.
Do.	Pioneer	Au	Peter Hambro Mining plc.	Feasibility	Extension.
Do.	Shevchenko	Ni	Oriel Resources plc.	Feasibility	Extension.
Do.	Svetloye	Au	Fortress Minerals Corp.	Exploration	New.
Do.	Taseevskoye	Au, Ag	Highland Gold Mining Ltd.	Exploration	New.
Do.	Tugojakovsk	Au	Cigma Metals Corp.	Exploration	New.
Do.	Veduga	Au	Peter Hambro Mining plc.	Feasibility	Extension.
Do.	Volchetundra	Pt, Pd	Eurasia Mining plc.	Exploration	New.
Do.	West Imandra	Pt, Pd	do.	Exploration	New.
Slovakia	Stiavnica-Hodrusa	Au	Eastern Mediterranean Resources plc.	Exploration	New.
Do.	Sturec	Au	Tournigan Gold Corp.	Exploration	Continuing.
Do.	Zlatniky	Au	Eastern Mediterranean Resources plc.	Exploration	New.
Spain	Aguablanca	Ni, Cu, PGM	Rio Narcea Gold Mines Ltd.	Producer	Extension.
Do.	Aguas Tenidas	Cu, Zn, Pb, Ag, Au	PGM Ventures Corp.	Feasibility	Extension.
Do.	Corcoesto	Au	Kinbauri Gold Corp.	Exploration	New.
Do.	Doade-Presqueira	Au	Solid Resources Ltd.	Exploration	New.
Do.	Golpejas	Rare earths	do.	Exploration	New.
Do.	La Zarza	Au, Cu	Ormonde Mining plc.	Exploration	Continuing.
Do.	Lomero-Poyatos	Au, Ag, Cu, Pb, Zn	Cambridge Mineral Resources plc.	Exploration	Continuing.
Do.	Navelgas	Au	Ventura Gold Corp.	Exploration	New.
Do.	Salamon	Au	Ormonde Mining plc.	Exploration	New.
Do.	Salave	Au	Rio Narcea Gold Mines Ltd.	Exploration	Continuing.

See footnotes at end of table.

TABLE 3--Continued
SELECTED EXPLORATION ACTIVITY IN EUROPE AND CENTRAL EURASIA IN 2005

Country	Site	Commodity[1]	Company	Phase[2]	Type[3]
Sweden	Barsele	Au	Minmet plc.	Exploration	Continuing.
Do.	Cabra 1, 2	Ni, Cu, PGM	Lapp Plats plc.	Exploration	New.
Do.	Ersmarksberget	Au	Mawson Resources Ltd.	Feasibility	Extension.
Do.	Faboliden	Au	Lappland Goldminers AB	Feasibility	Extension.
Do.	Knaften	Au	do.	Exploration	New.
Do.	Kvarnberget	Zn, Ag, Pb	Boliden AB	Exploration	New.
Do.	Middagsberget	Au	Mawson Resources Ltd.	Exploration	New.
Do.	Nottrask	Ni, Cu	Tertiary Minerals plc.	Exploration	Continuing.
Do.	Oran	Au	Lappland Goldminers AB	Exploration	New.
Do.	Ormberget	Au	Mawson Resources Ltd.	Exploration	New.
Do.	Prantijarvi	Ni, Cu, PGM	Lapp Plats plc.	Exploration	New.
Do.	Sandvikstrask	Au	Lappland Goldminers AB	Exploration	New.
Do.	Stora Sahavaara	Fe	North American Gold Inc.	Exploration	New.
Do.	Stortjarnhobben	Au	Lappland Goldminers AB	Exploration	New.
Do.	Svartliden	Au	Mawson Resources Ltd.	Producer	Extension.
Do.	Tjaimtrask	Au	Lappland Goldminers AB	Exploration	New.
Do.	Vargbacken	Au	Mawson Resources Ltd.	Exploration	New.
Do.	Zinkgruvan	Zn, Pb, Ag	Lundin Mining Corp.	Producer	Extension.
Tajikistan	Pakrut	Au	Kryso Resources plc.	Exploration	Continuing.
Ukraine	Saulyak	Au	Eurogold Ltd.	Exploration	Continuing.
United Kingdom	Falkland Islands	Au	Falkland Gold and Minerals Ltd.	Exploration	New.
Do.	Arthrath, Scotland	Ni, Cu, PGM	Alba Mineral Resources plc.	Exploration	New.
Do.	Parys Mountain, Wales	Cu, Pb, Zn, Ag, Au	Angesey Mining plc.	Exploration	Continuing.
Uzbekistan	Amantaytau	Au	Oxus Gold plc.	Producer	Extension.
Do.	Khandiza	Ag	Marakand Minerals Ltd.	Feasibility	Extension.
Do.	Vysokovoltnoye	Ag, Au	Oxus Gold plc.	Producer	Extension.

[1]Abbreviations used for commodities in this table include the following: Ag, silver; Au, gold; Co, cobalt; Cr, chromium; Cu, copper; Fe, iron; Mo, molybdenum; Ni, nickel; Pb, lead; Pd, palladium; PGM, platinum-group metals; and Pt, platinum; Zn, zinc.

[2]Phase of exploration activity has been separated into the following stages: Developing, includes construction and permitting; Exploration, exploration prior to full feasibility study; Feasibility, feasibility study ongoing or completed; Producer, exploration at producing site.

[3]Type reflects relative timeframe of exploration activity, as follows: Continuing, exploration continued from previous year; Extension, extension of resource delineation; New, initial exploration by this company.

TABLE 4

EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals													
	Aluminum								Antimony, mine output, metal content					
					Metal									
	Alumina		Bauxite		Primary[3]		Secondary		Quantity		Chromite		Copper, mine	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	(metric tons)	Percent change[4]	Gross weight	Percent change[4]	Metal content	Percent change[4]
Central Eurasia:														
Armenia	--	--	--	--	--	--	--	--	--	--	--	--	16	-8%
Azerbaijan	315	36%	--	--	32	8%	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	--	--	--	--	--	--	--	--	12	--
Kazakhstan	1,505	3%	4,800	2%	--	--	--	--	--	--	3,579	9%	402	-13%
Kyrgyzstan	--	--	--	--	--	--	--	--	10	-50%	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	3,259	(5)	6,600	10%	3,647	2%	--	--	3,000	--	772	141%	700	4%
Tajikistan	--	--	--	--	380	6%	--	--	2,000	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	1,632	4%	--	--	114	1%	130	--	--	--	--	--	--	--
Uzbekistan	--	--	--	--	--	--	3	--	--	--	--	--	100	5%
Total	6,710	3%	11,400	6%	4,170	2%	133	--	5,010	(5)	4,350	21%	1,230	-2%
Share of world total	11%	-2%	7%	-7%	13%	-4%	3%	-3%	4%	1%	23%	13%	8%	-4%
Central Europe:														
Albania	--	--	--	--	--	--	--	--	--	--	170	6%	2	164%
Bosnia and Herzegovina	350	-2%	900	-2%	131	8%	--	--	--	--	--	--	--	--
Bulgaria	--	--	--	--	--	--	2	--	--	--	--	--	80	--
Croatia	--	--	--	--	4	-20%	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	15	--	--	--	--	--	--	--
Hungary	270	-10%	535	-17%	31	-10%	50	--	--	--	--	--	--	--
Macedonia	--	--	--	--	--	--	4	--	--	--	--	--	22	100%
Poland	--	--	--	--	43	-7%	12	--	--	--	--	--	526	--
Romania	689	23%	--	--	244	10%	7	9%	--	--	--	--	15	-27%
Serbia and Montenegro	250	2%	600	-2%	117	9%	--	--	--	--	--	--	26	9%
Slovakia	162	4%	--	--	158	-9%	--	--	--	--	--	--	(6)	--
Slovenia	--	--	--	--	139	15%	--	--	--	--	--	--	--	--
Total	1,720	6%	2,040	-6%	867	4%	90	1%	--	--	170	6%	670	3%
Share of world total	3%	1%	1%	-19%	3%	-1%	2%	-3%	--	--	1%	-1%	4%	1%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals													
	Aluminum								Antimony, mine output, metal content					
					Metal									
	Alumina		Bauxite		Primary[3]		Secondary		Quantity		Chromite		Copper, mine	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	(metric tons)	Percent change[4]	Gross weight	Percent change[4]	Metal content	Percent change[4]
Western Europe:														
European Free Trade Association:														
Iceland	--	--	--	--	273	-4%	--	--	--	--	--	--	--	--
Norway	--	--	--	--	1,377	4%	362	4%	--	--	--	--	--	--
Switzerland	--	--	--	--	45	1%	--	--	--	--	--	--	--	--
Total	--	--	--	--	1,700	3%	362	4%	--	--	--	--	--	--
European Union (EU):														
Austria	--	--	--	--	--	--	151	-6%	--	--	--	--	--	--
Belgium	--	--	--	--	--	--	(6)	--	--	--	--	--	--	--
Denmark-Greenland	--	--	--	--	--	--	20	--	--	--	--	--	--	--
Finland	--	--	--	--	--	--	42	7%	--	--	571	-2%	16	1%
France	500	--	168	5%	442	-2%	222	-6%	500	--	--	--	--	--
Germany	1	-1%	--	--	648	-3%	704	--	--	--	--	--	--	--
Greece	782	-1%	2,441	2%	163	-2%	3	--	--	--	--	--	--	--
Ireland	1,500	7%	--	--	--	--	--	--	--	--	--	--	--	--
Italy	950	-3%	300	--	193	-1%	654	6%	--	--	--	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	330	1%	50	--	--	--	--	--	--	--
Portugal	--	--	--	--	--	--	18	13%	--	--	--	--	89	-7%
Spain	1,000	--	--	--	422	6%	293	20%	--	--	--	--	5	238%
Sweden	--	--	--	--	103	1%	30	3%	--	--	--	--	98	8%
United Kingdom	--	--	--	--	368	2%	205	--	--	--	--	--	--	--
Total	4,730	2%	2,910	2%	2,670	(5)	2,390	3%	500	--	571	-2%	208	2%
Total Western Europe	4,730	2%	2,910	2%	4,360	1%	2,760	3%	500	--	571	-2%	208	2%
Share of world total	7%	-3%	2%	-11%	14%	-4%	54%	(5)	(5)	1%	3%	-8%	1%	(5)
Total Europe and Central Eurasia	13,200	3%	16,300	4%	9,400	2%	2,980	3%	5,510	(5)	5,090	17%	2,110	(5)
Share of world total	21%	-2%	10%	-10%	29%	-4%	59%	-1%	4%	1%	27%	10%	14%	-2%
United States[7]	5,220	-3%	NA	NA	2,480	-1%	--	--	--	--	--	--	1,140	-2%
Share of world total	8%	-7%	NA	NA	8%	-7%	--	--	--	--	--	--	8%	-4%
World total[7]	63,400	5%	172,000	15%	31,900	6%	5,060	3%	139,000	-1%	18,800	7%	15,000	2%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued													
							Iron and steel							
	Copper--Refined				Gold,		Iron ore,		Pig iron and				Lead, mine	
	Primary[3]		Secondary		mine output		mine output		direct-reduced iron		Steel, crude			
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity (kilograms)	Percent change[4]	Metal content	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Metal content	Percent change[4]
Central Eurasia:														
Armenia	--	--	--	--	1,400	-33%	--	--	--	--	--	--	--	--
Azerbaijan	--	--	--	--	--	--	4	-67%	--	--	59	173%	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	2,076	8%	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	2,000	--	--	--	--	--	--	--	(6)	--
Kazakhstan	419	-6%	--	--	18,062	-40%	9,300	-19%	3,581	-17%	4,452	-17%	44	33%
Kyrgyzstan	--	--	--	--	16,700	-24%	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	550	-1%	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	1,000	-1%	--	--
Russia	664	(5)	269	5%	169,297	4%	56,100	(5)	51,759	-3%	66,186	1%	36	57%
Tajikistan	--	--	--	--	3,000	--	--	--	--	--	--	--	1	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	--	--	--	--	37,700	5%	30,747	-1%	38,636	(5)	--	--
Uzbekistan	115	10%	--	--	90,000	-3%	--	--	--	--	607	--	--	--
Total	1,200	-1%	269	5%	300,000	-5%	103,000	-1%	86,100	-3%	114,000	(5)	81	42%
Share of world total	8%	-4%	14%	-3%	12%	-7%	12%	-11%	10%	-46%	10%	-6%	2%	34%
Central Europe:														
Albania	--	--	--	--	--	--	--	--	--	--	140	43%	--	--
Bosnia and Herzegovina	--	--	--	--	--	--	150	7%	60	--	283	142%	--	--
Bulgaria	61	15%	--	--	3,868	59%	--	-100%	1,400	--	2,400	--	32	28%
Croatia	--	--	--	--	--	--	--	--	--	--	69	-14%	--	--
Czech Republic	--	--	14	-7%	--	--	--	--	4,600	-15%	6,200	-12%	--	--
Hungary	10	--	--	--	--	--	--	--	1,329	-2%	1,962	(5)	--	--
Macedonia	--	--	--	--	750	100%	6	--	--	--	350	11%	--	--
Poland	560	2%	--	--	530	1%	--	--	4,677	-27%	8,336	-21%	116	33%
Romania	21	-15%	2	--	400	--	69	-7%	4,098	-3%	5,632	-7%	12	-37%
Serbia and Montenegro	23	94%	6	-14%	400	--	--	--	1,000	1%	1,286	10%	2	--
Slovakia	--	--	--	--	--	--	500	--	3,681	-3%	4,242	-7%	--	--
Slovenia	--	--	--	--	--	--	--	--	--	--	585	7%	--	--
Total	675	4%	22	-8%	5,950	56%	725	-3%	20,800	-12%	31,500	-10%	161	23%
Share of world total	5%	1%	1%	-15%	(5)	53%	(5)	-14%	2%	-25%	3%	-15%	5%	16%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued													
							Iron and steel							
	Copper--Refined				Gold,		Iron ore,		Pig iron and				Lead, mine	
	Primary[3]		Secondary		mine output		mine output		direct-reduced iron		Steel, crude			
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity (kilograms)	Percent change[4]	Metal content	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Metal content	Percent change[4]
Western Europe:														
European Free Trade Association:														
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	39	8%	--	--	--	--	420	3%	90	--	690	-1%	--	--
Switzerland	--	--	--	--	--	--	--	--	100	--	1,200	--	--	--
Total	39	8%	--	--	--	--	420	3%	190	--	1,890	(5)	--	--
European Union (EU):														
Austria	--	--	72	-3%	--	--	655	9%	5,444	12%	7,031	8%	--	--
Belgium	400	4%	--	--	--	--	--	--	8,000	--	10,422	-11%	--	--
Denmark-Greenland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Finland	91	-31%	--	--	3,747	-40%	--	--	3,522	238%	4,738	-2%	--	--
France	--	--	--	--	100	-92%	--	--	12,700	-4%	19,500	-6%	--	--
Germany	240	-15%	399	8%	--	--	38	-34%	28,854	-4%	44,524	-4%	--	--
Greece	--	--	--	--	--	--	575	--	--	--	2,266	15%	--	--
Ireland	--	--	--	--	--	--	--	--	--	--	--	--	64	-3%
Italy	32	-4%	--	--	100	--	--	--	10,000	-6%	28,913	2%	1	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	2,194	-18%	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	--	--	5,000	--	6,919	1%	--	--
Portugal	--	--	--	--	--	--	10	--	100	--	725	1%	--	--
Spain	267	28%	35	--	5,500	5%	--	--	4,200	4%	17,800	1%	--	--
Sweden	200	-5%	22	-12%	4,400	-15%	15,300	4%	3,500	-3%	6,000	1%	59	8%
United Kingdom	--	--	--	--	--	--	(6)	--	10,500	--	13,210	-4%	1	--
Total	1,230	-2%	528	5%	13,800	-23%	16,600	4%	91,800	1%	164,000	-2%	124	2%
Total Western Europe	1,270	-1%	528	5%	13,800	-23%	17,000	4%	92,000	1%	166,000	-2%	124	2%
Share of world total	9%	-5%	28%	-3%	1%	-25%	2%	-7%	12%	-9%	15%	-8%	4%	-4%
Total Europe and Central Eurasia	31,400	(5)	819	4%	320,000	-5%	121,000	(5)	199,000	-2%	311,000	-2%	366	18%
Share of world total	21%	-3%	44%	-3%	13%	-7%	14%	-11%	32%	-9%	28%	-8%	11%	11%
United States[7]	12,100	-4%	47	-7%	261,000	1%	34,200	-1%	37,400	-12%	93,300	-6%	426	-1%
Share of world total	8%	-7%	3%	-14%	11%	-1%	4%	-12%	5%	-18%	8%	-12%	13%	-7%
World total[7]	14,700	3%	1,860	8%	2,470,000	2%	842,000	12%	840	11%	1,130,000	6%	3,360	6%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued													
	Lead--Refined				Manganese ore, mine output		Mercury, mine output, metal content		Nickel				Platinum-group metals, refined, primary and secondary	
	Primary[3]		Secondary						Mine		Refinery products		Palladium	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Metal content	Percent change[4]	Quantity (metric tons)	Percent change[4]	Metal content	Percent change[4]	Metal content	Percent change[4]	Quantity (kilograms)	Percent change[4]
Central Eurasia:														
Armenia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Azerbaijan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	73	15%	--	--	--	--	--	--	--	--
Kazakhstan	131	-16%	--	--	540	-5%	--	--	--	--	--	--	--	--
Kyrgyzstan	--	--	--	--	--	--	200	-59%	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	66	-6%	--	--	23	--	50	--	320	2%	287	1%	97,400	(5)
Tajikistan	--	--	--	--	--	--	30	--	--	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	6	-14%	770	-5%	--	--	2	--	14	17%	--	--
Uzbekistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	197	-13%	6	-14%	1,410	-4%	280	-51%	322	2%	301	2%	97,400	(5)
Share of world total	5%	-19%	(5)	-17%	14%	-9%	20%	-28%	22%	-4%	22%	(5)	45%	-4%
Central Europe:														
Albania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	(6)	(5)	--	--	1	--	--	--	--	--	--	--	--	--
Bulgaria	81	29%	--	--	11	43%	--	--	--	--	--	--	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	25	--	--	--	--	--	--	--	--	--	--	--
Hungary	--	--	--	--	5	--	--	--	--	--	--	--	--	--
Macedonia	--	--	--	--	--	--	--	--	--	--	8	53%	--	--
Poland	52	-7%	--	--	--	--	--	--	--	--	--	--	10	--
Romania	33	1%	5	--	14	-13%	--	--	--	--	--	--	--	--
Serbia and Montenegro	--	-100%	--	--	--	--	--	--	--	--	--	--	8	--
Slovakia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Slovenia	--	--	15	-4%	--	--	--	--	--	--	--	--	--	--
Total	166	9%	45	-1%	30	4%	--	--	--	--	8	53%	18	--
Share of world total	4%	2%	1%	-4%	(5)	(5)	--	--	--	--	1%	49%	(5)	--

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued													
	Lead--Refined				Manganese ore, mine output		Mercury, mine output, metal content		Nickel				Platinum-group metals, refined, primary and secondary	
	Primary[3]		Secondary				Quantity		Mine		Refinery products		Palladium	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Metal content	Percent change[4]	(metric tons)	Percent change[4]	Metal content	Percent change[4]	Metal content	Percent change[4]	Quantity (kilograms)	Percent change[4]
Western Europe:														
European Free Trade Association:														
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	--	--	--	--	--	--	85	19%	--	--
Switzerland	--	--	9	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	9	--	--	--	--	--	--	--	85	19%	--	--
European Union (EU):														
Austria	--	--	22	-8%	--	--	--	--	--	--	--	--	--	--
Belgium	--	--	60	-3%	--	--	--	--	--	--	--	--	--	--
Denmark-Greenland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Finland	--	--	--	--	--	--	15	-38%	3	--	35	-13%	--	--
France	--	--	106	(5)	--	--	--	--	--	--	11	-12%	--	--
Germany	119	3%	223	-8%	--	--	--	--	--	--	--	--	--	--
Greece	--	--	4	--	(6)	--	--	--	23	7%	17	-4%	--	--
Ireland	--	--	20	2%	--	--	--	--	--	--	--	--	--	--
Italy	50	24%	162	(5)	1	--	--	--	--	--	--	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	22	--	--	--	--	--	--	--	--	--	--	--
Portugal	--	--	4	--	--	--	--	--	--	--	--	--	--	--
Spain	--	--	110	4%	--	--	--	-100%	5	-279%	--	--	--	--
Sweden	30	-1%	50	-4%	--	--	--	--	--	--	--	--	--	--
United Kingdom	126	-44%	120	140%	--	--	--	--	--	--	38	-2%	--	--
Total	324	-21%	902	6%	1	--	15	-95%	31	28%	101	-8%	--	--
Total Western Europe	324	-21%	911	6%	1	--	15	-95%	31	28%	186	3%	--	--
Share of world total	9%	-26%	26%	2%	(5)	--	1%	-92%	2%	21%	14%	1%	--	--
Total Europe and Central Eurasia	688	-13%	962	5%	1,440	-4%	295	-65%	353	3%	495	3%	97,400	(5)
Share of world total	18%	-19%	28%	2%	14%	-8%	21%	-49%	24%	-3%	36%	1%	45%	-4%
United States[7]	143	-4%	1,140	3%	--	--	NA	NA	--	--	--	--	133,000	-3%
Share of world total	4%	-10%	33%	-1%	--	--	NA	NA	--	--	--	--	6%	-6%
World total[7]	3,740	7%	3,500	3%	10,400	5%	1,420	-32%	1,500	6%	1,370	2%	217,000	4%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued													
	Platinum-group metals, refined, primary and secondary		Silver, mine output, metal content		Tin				Titanium, metric tons				Tungsten, mine output, metal content	
					Mine output, metal content		Metal, primary[3]		Ilmenite		Metal, sponge			
	Platinum		Quantity		Quantity		Quantity						Quantity	
Region and/or country	Quantity (kilograms)	Percent change[4]	(metric tons)	Percent change[4]	(metric tons)	Percent change[4]	(metric tons)	Percent change[4]	TiO_2 content	Percent change[4]	Metal content	Percent change[4]	(metric tons)	Percent change[4]
Central Eurasia:														
Armenia	--	--	4	--	--	--	--	--	--	--	--	--	--	--
Azerbaijan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	33	--	--	--	--	--	--	--	--	--	--	--
Kazakhstan	--	--	832	18%	--	--	--	--	--	--	19,000	15%	--	--
Kyrgyzstan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	30,000	7%	1,350	6%	2,700	8%	4,700	3%	--	--	25,000	9%	5,300	-4%
Tajikistan	--	--	5	--	--	--	--	--	--	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	--	--	--	--	--	--	226,000	--	8,397	12%	--	--
Uzbekistan	--	--	83	4%	--	--	--	--	--	--	--	--	--	--
Total	30,000	7%	2,310	10%	2,700	8%	4,700	3%	226,000	--	52,400	11%	5,300	-4%
Share of world total	9%	-1%	11%	5%	1%	7%	1%	-7%	5%	-2%	85%	-6%	7%	-5%
Central Europe:														
Albania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bulgaria	--	--	60	--	--	--	10	--	--	--	--	--	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	25	--	--	--	--	--	--	--	--	--	--	--
Hungary	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Macedonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Poland	20	--	1,344	--	--	--	--	--	--	--	--	--	--	--
Romania	--	--	15	-17%	--	--	--	--	--	--	--	--	--	--
Serbia and Montenegro	1	--	2	--	--	--	--	--	--	--	--	--	--	--
Slovakia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Slovenia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	21	--	1,450	(5)	--	--	10	--	--	--	--	--	--	--
Share of world total	(5)	--	7%	-4%	--	--	(5)	--	--	--	--	--	--	--

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued													
	Platinum-group metals, refined, primary and secondary		Silver, mine output, metal content		Tin				Titanium, metric tons				Tungsten, mine output, metal content	
					Mine output, metal content		Metal, primary[3]		Ilmenite		Metal, sponge			
	Platinum													
Region and/or country	Quantity (kilograms)	Percent change[4]	Quantity (metric tons)	Percent change[4]	Quantity (metric tons)	Percent change[4]	Quantity (metric tons)	Percent change[4]	TiO_2 content	Percent change[4]	Metal content	Percent change[4]	Quantity (metric tons)	Percent change[4]
Western Europe:														
European Free Trade Association:														
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	--	--	--	--	388,000	(5)	--	--	--	--
Switzerland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	388,000	(5)	--	--	--	--
European Union (EU):														
Austria	--	--	--	--	--	--	--	--	--	--	--	--	1,350	-4%
Belgium	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Denmark-Greenland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Finland	678	-4%	25	-34%	--	--	--	--	--	--	--	--	--	--
France	--	--	1	--	--	--	--	--	--	--	--	--	500	--
Germany	104,725	10%	--	--	--	--	4,912	-10%	--	--	--	--	--	--
Greece	--	--	78	--	--	--	--	--	--	--	--	--	--	--
Ireland	--	--	6	-5%	--	--	--	--	--	--	--	--	--	--
Italy	--	--	3	--	--	--	--	--	--	--	--	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Portugal	--	--	24	-4%	228	14%	--	--	--	--	--	--	816	9%
Spain	--	--	2	-36%	--	-100%	--	--	--	--	--	--	--	--
Sweden	--	--	267	-9%	--	--	--	--	--	--	--	--	--	--
United Kingdom	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	105,000	10%	406	-9%	228	14%	49,100	-10%	--	--	--	--	2,670	1%
Total Western Europe	105,000	10%	406	-9%	228	14%	49,100	-10%	388,000	(5)	--	--	2,670	1%
Share of world total	33%	2%	2%	-13%	(5)	13%	1%	2118%	8%	-2%	--	--	4%	-1%
Total Europe and Central Eurasia	135,000	40%	4,160	4%	2,930	8%	9,620	256%	614,000	(5)	52,400	11%	7,970	-2%
Share of world total	42%	1%	20%	-1%	1%	8%	3%	-13%	13%	-2%	85%	-6%	11%	-4%
United States[7]	3,920	-3%	1,230	-2%	--	--	--	--	273,000	--	--	--	--	--
Share of world total	1%	-10%	6%	-6%	--	--	--	--	6%	-2%	--	--	--	--
World total[7]	319,000	8%	20,800	4%	303,179	1%	333,000	11%	4,590,000	2%	61,700	19%	71,300	2%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued				Industrial minerals							
	Zinc, metric tons											
	Mine, metal content		Metal, primary and secondary		Ammonia, N content		Cement, hydraulic		Diamond, natural, gemstones and industrial		Phosphate rock, P_2O_5 content	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]
Central Eurasia:												
Armenia	3,196	66%	--	--	--	--	605	21%	--	--	--	--
Azerbaijan	--	--	--	--	--	--	1,538	8%	--	--	--	--
Belarus	--	--	--	--	780	1%	3,131	15%	--	--	--	--
Estonia	--	--	--	--	170	2%	650	6%	--	--	--	--
Georgia	400	--	--	--	130	21%	450	6%	--	--	--	--
Kazakhstan	400,000	11%	356,907	13%	--	--	3,975	9%	--	--	52	-22%
Kyrgyzstan	--	--	--	--	--	--	975	22%	--	--	--	--
Latvia	--	--	--	--	--	--	280	-1%	--	--	--	--
Lithuania	--	--	--	--	432	2%	832	10%	--	--	--	--
Moldova	--	--	--	--	--	--	500	14%	--	--	--	--
Russia	200,000	12%	210,000	-13%	10,200	4%	48,700	7%	38,000	7%	4,500	2%
Tajikistan	--	--	--	--	9	-85%	253	31%	--	--	--	--
Turkmenistan	--	--	--	--	85	--	450	--	--	--	--	--
Ukraine	--	--	--	--	4,300	10%	12,183	15%	--	--	--	--
Uzbekistan	--	--	30,000	--	850	-3%	5,068	--	--	--	102	--
Total	604,000	11%	597,000	2%	17,000	5%	79,600	8%	38,000	7%	4,650	1%
Share of world total	6%	10%	6%	3%	14%	(5)	3%	1%	38%	-2%	10%	-4%
Central Europe:												
Albania	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	1	--	1,000	-4%	--	--	--	--
Bulgaria	17,500	13%	95,100	-6%	320	--	2,100	--	--	--	--	--
Croatia	--	--	--	--	400	-1%	3,800	(5)	--	--	--	--
Czech Republic	--	--	250	--	250	--	3,978	7%	--	--	--	--
Hungary	--	--	--	--	275	(5)	3,349	-6%	--	--	--	--
Macedonia	--	--	--	--	--	--	800	-2%	--	--	--	--
Poland	117,200	-16%	155,000	18%	1,985	--	12,646	-1%	--	--	--	--
Romania	13,784	-42%	49,447	-6%	2,107	78%	7,032	13%	--	--	--	--
Serbia and Montenegro	3,000	50%	20,000	400%	60	--	2,200	-2%	--	--	--	--
Slovakia	--	--	--	--	295	7%	3,499	11%	--	--	--	--
Slovenia	--	--	--	--	--	--	1,300	--	--	--	--	--
Total	151,000	-16%	320,000	10%	5,690	20%	42,300	2%	--	--	--	--
Share of world total	2%	-17%	3%	12%	5%	14%	2%	-4%	--	--	--	--

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Metals--Continued				Industrial minerals							
	Zinc, metric tons											
	Mine, metal content		Metal, primary and secondary		Ammonia, N content		Cement, hydraulic		Diamond, natural, gemstones and industrial		Phosphate rock, P_2O_5 content	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]
Western Europe:												
European Free Trade Association:												
Iceland	--	--	--	--	--	--	132	32%	--	--	--	--
Norway	--	--	133,300	-5%	450	7%	1,900	2%	--	--	--	--
Switzerland	--	--	--	--	30	-6%	3,900	3%	--	--	--	--
Total	--	--	133,000	-5%	480	6%	5,930	3%	--	--	--	--
European Union (EU):												
Austria	--	--	--	--	(6)	(5)	4,736	19%	--	--	--	--
Belgium	--	--	300,000	-3%	860	(5)	8,000	--	--	--	--	--
Denmark-Greenland	--	--	--	--	2	--	2,070	1%	--	--	(6)	--
Finland	72,474	5%	281,905	-1%	59	-2%	1,321	-22%	--	--	--	--
France	--	--	210,000	-22%	1,200	7%	21,000	(5)	--	--	--	--
Germany	--	--	334,891	-12%	2,289	-16%	30,629	-4%	--	--	--	--
Greece	--	--	--	--	130	-1%	15,000	--	--	--	--	--
Ireland	428,596	-3%	--	--	300	--	2,500	--	--	--	--	--
Italy	--	--	121,000	3%	525	-1%	38,000	-5%	--	--	--	--
Luxembourg	--	--	--	--	--	--	700	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	230,000	1%	2,000	2%	3,400	--	--	--	--	--
Portugal	--	--	3,000	--	244	--	10,000	--	--	--	--	--
Spain	--	--	501,400	-6%	400	-1%	50,347	10%	--	--	--	--
Sweden	214,600	9%	--	--	--	--	2,800	4%	--	--	--	--
United Kingdom	--	--	--	--	1,080	1%	11,500	2%	--	--	--	--
Total	716,000	1%	1,980,000	-7%	9,100	-4%	202,000	1%	--	--	(6)	--
Total Western Europe	716,000	1%	2,120,000	-7%	9,570	-3%	208,000	1%	--	--	(6)	--
Share of world total	7%	(5)	21%	-6%	8%	-8%	9%	-5%	--	--	(5)	--
Total Europe and Central Eurasia	1,470,000	3%	3,030,000	-3%	32,200	5%	330,000	3%	38,000	7%	4,650	1%
Share of world total	15%	1%	29%	-2%	26%	(5)	14%	-3%	38%	-2%	10%	-4%
United States[7]	748,000	1%	309,000	1%	8,040	-11%	101,000	2%	--	--	10,400	--
Share of world total	8%	(5)	3%	2%	7%	-15%	4%	-4%	--	--	22%	-5%
World total[7]	9,560,000	1%	10,300,000	-1%	123,000	5%	2,310,000	7%	196,000	9%	46,900	6%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Industrial minerals--Continued				Mineral fuels					
	Potash, K_2O equivalent		Salt		Coal					
					Anthracite		Bituminous		Lignite	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]
Central Eurasia:										
Armenia	--	--	35	10%	--	--	--	--	--	--
Azerbaijan	--	--	10	12%	--	--	--	--	--	--
Belarus	4,844	5%	1,839	-2%	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	--	--	8	--	--	--
Kazakhstan	--	--	--	--	--	--	83,480	-1%	2,905	-1%
Kyrgyzstan	--	--	1	--	--	--	809	631%	2,509	629%
Latvia	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--
Russia	7,129	11%	2,734	-2%	8,000	3%	215,000	6%	75,000	7%
Tajikistan	--	--	--	--	--	--	95	7%	--	--
Turkmenistan	--	--	215	--	--	--	--	--	--	--
Ukraine	65	30%	3,400	2%	17,000	-7%	58,000	-7%	3,000	--
Uzbekistan	--	--	--	--	--	--	71	--	2,629	--
Total	12,000	9%	8,230	-1%	25,000	-4%	357,000	2%	86,000	9%
Share of world total	36%	5%	3%	-7%	8%	-13%	8%	-2%	10%	6%
Central Europe and Balkans:										
Albania	--	--	25	1%	--	--	--	--	12	-5%
Bosnia and Herzegovina	--	--	250	-4%	--	--	--	--	9,000	1%
Bulgaria	--	--	1,900	--	--	--	96	-44%	24,813	-6%
Croatia	--	--	25	9%	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	12,728	-13%	49,125	2%
Hungary	--	--	--	--	--	--	--	-100%	9,580	-13%
Macedonia	--	--	--	--	--	--	--	--	8,200	-4%
Poland	--	--	4,885	-5%	--	--	97,903	-3%	61,136	(5)
Romania	--	--	2,420	1%	--	--	--	-100%	31,122	-1%
Serbia and Montenegro	--	--	75	--	--	--	50	--	35,350	-1%
Slovakia	--	--	120	-1%	--	--	--	--	2,511	-15%
Slovenia	--	--	125	--	--	--	--	--	4,539	-6%
Total	--	--	9,830	-2%	--	--	111,000	-5%	235,000	-2%
Share of world total	--	--	4%	-8%	--	--	2%	-9%	26%	-4%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Industrial minerals--Continued				Mineral fuels					
	Potash, K_2O equivalent		Salt		Coal					
					Anthracite		Bituminous		Lignite	
Region and/or country	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]	Quantity	Percent change[4]
Western Europe:										
European Free Trade Association:										
Iceland	--	--	5	--	--	--	--	--	--	--
Norway	--	--	--	--	--	--	300	--	--	--
Switzerland	--	--	560	-2%	--	--	--	--	--	--
Total	--	--	565	-2%	--	--	300	--	--	--
European Union (EU):										
Austria	--	--	1,024	-1%	--	--	--	--	6	-97%
Belgium	--	--	--	--	--	--	--	--	--	--
Denmark-Greenland	--	--	610	--	--	--	--	--	--	--
Finland	--	--	--	--	--	--	--	--	--	--
France	--	--	6,730	-3%	8	-38%	92	-37%	--	--
Germany	3,664	1%	19,177	3%	2,416	-3%	23,282	-3%	177,907	-2%
Greece	--	--	198	6%	--	--	--	--	68,000	--
Ireland	--	--	--	--	--	--	--	--	--	--
Italy	--	--	3,600	--	--	--	--	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--
Malta	--	--	13	--	--	--	--	--	--	--
Netherlands	--	--	5,000	--	--	--	--	--	--	--
Portugal	--	--	598	-10%	--	--	--	--	--	--
Spain	575	-3%	3,950	-1%	3,889	5%	4,666	-11%	7,587	-7%
Sweden	--	--	--	--	--	--	--	--	--	--
United Kingdom	600	--	5,700	--	1,000	-17%	22,000	-6%	--	--
Total	4,840	(5)	46,600	(5)	7,310	-1%	50,000	-5%	254,000	-2%
Total Western Europe	4,840	(5)	47,200	(5)	7,310	-1%	50,300	-5%	254,000	-2%
Share of world total	15%	-3%	19%	-6%	2%	-10%	1%	-9%	28%	-4%
Total Europe and Central Eurasia	16,900	6%	65,200	(5)	32,300	-4%	519,000	(5)	575,000	(5)
Share of world total	51%	3%	26%	-6%	10%	-12%	11%	-5%	64%	-2%
United States[7]	1,300	--	46,500	--	1,550	(5)	949,000	2%	76,200	(5)
Share of world total	4%	-3%	19%	-6%	(5)	-9%	21%	-3%	9%	-2%
World total[7]	33,300	3%	249,000	6%	333,000	10%	4,510,000	5%	895,000	2%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Minerals fuels--Continued									
	Natural gas				Petroleum					
	Dry		Plant liquids		Crude		Refinery products		Uranium, U_3O_8 content	
Region and/or country	Quantity (million cubic meters)	Percent change[4]	Quantity (thousand 42-gallon barrels)	Percent change[4]	Quantity (thousand 42-gallon barrels)	Percent change[4]	Quantity (thousand 42-gallon barrels)	Percent change[4]	Quantity (metric tons)	Percent change[4]
Central Eurasia:										
Armenia	--	--	--	--	--	--	--	--	--	--
Azerbaijan	5,732	15%	--	--	161,433	43%	56,194	16%	--	--
Belarus	228	-7%	--	--	13,102	-1%	145,347	7%	--	--
Estonia	--	--	--	--	--	--	--	--	--	--
Georgia	15	143%	--	--	490	-32%	294	7%	--	--
Kazakhstan	14,494	1%	--	--	406,500	9%	81,988	19%	5,138	17%
Kyrgyzstan	25	-14%	--	--	546	1%	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	1,590	-28%	62,526	11%	--	--
Moldova	--	--	--	--	--	--	--	--	--	--
Russia	635,964	(5)	166,805	(5)	3,500,000	6%	1,519,380	6%	4,045	7%
Tajikistan	29	-18%	--	--	159	14%	--	--	--	--
Turkmenistan	55,800	-5%	--	--	71,198	-3%	--	--	--	--
Ukraine	19	2%	--	--	31,400	2%	NA	NA	943	--
Uzbekistan	59,686	0%	--	--	399,957	728%	NA	NA	2,712	14%
Total	771,993	(5)	166,805	(5)	4,586,374	16%	1,865,728	7%	12,838	12%
Share of world total	27%	-1%	8%	(5)	17%	12%	7%	9%	25%	6%
Central Europe and Balkans:										
Albania	11	-5%	--	--	2,989	12%	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	--	--	807	--	--	--
Bulgaria	537	61%	--	--	197	-10%	25,000	--	708	--
Croatia	2	-1%	--	--	8,400	-2%	33,030	--	--	--
Czech Republic	356	103%	--	--	1,920	2%	35,000	--	513	--
Hungary	3	-1%	--	--	7,200	-14%	40,000	--	--	--
Macedonia	--	--	--	--	--	--	7,000	13%	--	--
Poland	5,742	2%	--	--	6,299	-4%	117,440	-6%	--	--
Romania	12,472	-6%	--	--	40,000	-2%	70,000	-7%	--	--
Serbia and Montenegro	320	1%	--	--	4,815	(5)	16,882	--	--	--
Slovakia	-- [8]	--	--	--	350	--	44,500	--	--	--
Slovenia	4	-14%	--	--	2,207	-13%	--	--	--	--
Total	19,448	-2%	--	--	74,377	-3%	389,659	-3%	1,035	--
Share of world total	1%	-3%	--	--	(5)	-6%	1%	-1%	2%	-20%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

(Thousand metric tons unless otherwise specified)

	Minerals fuels--Continued									
	Natural gas				Petroleum					
	Dry		Plant liquids		Crude		Refinery products		Uranium, U_3O_8 content	
Region and/or country	Quantity (million cubic meters)	Percent change[4]	Quantity (thousand 42-gallon barrels)	Percent change[4]	Quantity (thousand 42-gallon barrels)	Percent change[4]	Quantity (thousand 42-gallon barrels)	Percent change[4]	Quantity (metric tons)	Percent change[4]
Western Europe:										
European Free Trade Association:										
Iceland	--	--	--	--	--	--	--	--	--	--
Norway	84,964	8%	60,879	16%	964,290	-6%	112,964	10%	--	--
Switzerland	--	--	--	--	--	--	35,100	--	--	--
Total	84,964	8%	60,879	16%	964,290	-6%	148,000	7%	--	--
European Union (EU):										
Austria	1,200	--	--	--	6,413	-5%	90,542	-1%	--	--
Belgium	--	--	--	--	--	--	262,000	--	--	--
Denmark-Greenland	9,200	12%	48,000	2%	131,000	-3%	61,000	2%	--	--
Finland	--	--	--	--	--	--	78,796	29%	--	--
France	1,400	5%	--	--	8,550	--	701,000	(5)	--	--
Germany	18,900	-2%	--	--	26,200	2%	960,000	2%	94	4%
Greece	16	-30%	140	--	756	-24%	179,000	2%	--	--
Ireland	2,500	--	--	--	--	--	21,000	--	--	--
Italy	13,000	3%	350	--	30,000	--	691,000	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--
Netherlands	74,000	--	160,000	--	17,000	--	608,000	--	--	--
Portugal	--	--	--	--	--	--	98,500	--	--	--
Spain	174	-53%	--	--	1,261	-34%	459,000	--	--	-100%
Sweden	--	--	--	--	--	--	161,000	1%	--	--
United Kingdom	100,000	--	60,000	--	735,000	--	660,000	--	--	--
Total	220,390	(5)	268,490	(5)	956,180	-1%	5,030,838	1%	94	-68%
Total Western Europe	305,354	2%	329,369	3%	1,920,470	-3%	5,178,902	1%	94	-68%
Share of world total	11%	1%	15%	2%	7%	-6%	19%	3%	(5)	-69%
Total Europe and Central Eurasia	1,096,795	1%	496,174	2%	6,581,220	9%	7,434,290	2%	14,153	9%
Share of world total	39%	-1%	22%	2%	24%	6%	28%	4%	28%	3%
United States[7]	536,625	-3%	626,703	-5%	1,890,106	-5%	5,686,470	-13%	1,220	18%
Share of world total	19%	-4%	28%	-6%	7%	-8%	21%	-11%	2%	11%
World total[7]	2,820,478	1%	2,206,285	(5)	27,313,501	3%	26,565,501	-2%	50,929	6%

NA Not available. W Withheld to avoid disclosing proprietary data; not included in region and world totals. -- Zero or zero percent.

[1]Table includes data available as of March 31, 2006. Data may differ from that shown in individual country production tables elsewhere in this volume owing to the inclusion in this table of data received at a later date.

[2]Totals may not add due to independent rounding. Percentages are calculated on unrounded data.

TABLE 4--Continued

EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2005[1, 2]

[3]Primary production also includes undifferentiated (primary and secondary) production for some countries listed.

[4]Percent change is calculated for each region and/or country by taking 100 times the difference of the current year's data over last year's data minus 100.

[5]Less than 0.1 percent.

[6]Less than 1/2 unit.

[7]U.S. data and world totals are rounded to no more than three significant digits.

[8]Reported as manufactured coke oven gas.

TABLE 5
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF BAUXITE[1]

(Thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
France	490	75	185	168	--	--	--
Greece	2,490	2,200	1,970	2,441	2,400	2,200	2,200
Italy	(2)	11	300	300	100	--	--
Total	2,980	2,290	2,460	2,910	2,500	2,200	2,200
Central Europe:							
Albania	26	--	5	--	5	5	5
Bosnia and Herzegovina	1,700	75	255	900	950	950	1,000
Croatia	309	2	--	--	--	--	--
Hungary	2,560	1,020	1,050	535	600	600	600
Romania	243	175	--	--	--	--	--
Serbia and Montenegro	940	60	630	600	700	700	800
Total	5,780	1,330	1,940	2,040	2,300	2,300	2,400
Central Eurasia:							
Kazakhstan	3,100	3,071	3,730	4,800	5,000	5,200	5,500
Russia	4,000	4,000	5,270	6,600	7,000	7,500	8,000
Total	7,100	7,070	9,000	11,400	12,000	13,000	14,000
Regional total	15,900	10,700	13,400	16,400	17,000	18,000	19,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Less than 1/2 unit.

TABLE 6
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ALUMINUM (PRIMARY)[1]

(Thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
France	325	366	441	442	400	400	400
Germany	720	575	644	648	530	530	530
Greece	149	144	168	163	150	150	150
Iceland	87	100	224	273	350	500	600
Italy	232	178	190	193	200	190	190
Netherlands	269	216	302	330	330	330	330
Norway	894	903	1,030	1,377	1,100	900	800
Spain	353	362	366	394	420	420	400
Sweden	126	118	101	103	100	110	110
Switzerland	72	21	36	45	--	--	--
United Kingdom	294	238	305	368	360	350	300
Total	3,520	3,220	3,810	4,340	3,900	3,900	3,800
Central Europe:							
Bosnia and Herzegovina	89	15	90	131	130	130	130
Croatia	74	31	15	4	--	--	--
Hungary	105	29	34	31	35	35	35
Poland	46	56	47	43	53	53	53
Romania	178	144	179	244	220	220	220
Serbia and Montenegro	81	17	88	117	120	120	120
Slovakia	30	38	137	158	170	170	170
Slovenia	100	58	84	139	120	120	120
Total	703	388	674	867	850	850	850
Central Eurasia:							
Azerbaijan	50	27	--	32	40	60	110
Kazakhstan	--	--	--	0	20	120	200
Russia	2,700	2,720	3,250	3,647	4,100	4,300	4,500
Tajikistan	450	230	269	380	440	500	600
Ukraine	100	98	104	114	120	120	120
Total	3,300	3,080	3,620	4,170	4,700	5,100	5,500
Regional total	7,520	6,690	8,100	9,380	9,500	9,900	10,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 7
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ALUMINUM (SECONDARY)[1]

(Thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Austria	36	94	158	151	150	150	100
Belgium	7	4	1	[(2)]	1	--	--
Denmark-Greenland	11	35	16	50	20	22	22
Finland	24	35	45	33	37	37	35
France	208	231	260	222	225	225	200
Germany	590	531	572	704	710	720	730
Greece	3	3	3	3	3	2	2
Italy	350	412	658	654	600	500	500
Netherlands	134	192	119	50	50	50	50
Norway	49	56	255	362	350	350	350
Portugal	NA	NA	18	18	16	15	15
Spain	63	107	241	293	250	250	200
Sweden	30	23	26	30	30	32	32
Switzerland	34	28	189	193	45	40	40
United Kingdom	121	282	285	205	200	200	150
Total	1,660	2,030	2,850	2,970	2,700	2,600	2,400
Central Europe:							
Bosnia and Herzegovina	10	10	5	5	5	5	5
Bulgaria	5	5	8	2	2	2	2
Czech Republic	--	48	40	15	50	50	50
Hungary	30	4	55	50	70	70	70
Macedonia	5	4	5	3	5	10	10
Poland	--	5	5	7	5	5	5
Romania	10	3	2	5	5	5	5
Total	60	79	120	87	140	150	150
Central Eurasia:[3]							
Ukraine	NA	98	129	140	130	130	140
Uzbekistan	NA	3	2	3	3	3	3
Total	NA	101	131	143	130	130	140
Regional total	1,720	2,210	3,100	3,200	3,000	2,900	2,700

[e]Estimated. NA Not available. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Less than 1/2 unit.

[3]Information about the amount of secondary aluminum collected and processed in the other member countries of the Commonwealth of Independent States is unavailable.

TABLE 8

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF COPPER (MINE OUTPUT)[1]

(Cu content in thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Finland	13	10	14	15	16	16	16
France	(2)	(2)	(2)	--	--	--	--
Norway	20	7	--	--	--	--	--
Portugal	160	130	76	90	90	90	90
Spain	13	25	23	5	1	1	--
Sweden	74	84	78	98	70	70	90
United Kingdom	1	--	--	--	--	--	--
Total	281	255	192	208	180	180	200
Central Europe:							
Albania	12	4	--	--	--	--	--
Bulgaria	26	76	92	80	90	90	90
Macedonia	7	6	6	22	15	15	20
Poland	329	384	509	526	550	550	550
Romania	32	25	16	15	20	25	25
Serbia and Montenegro	110	75	56	26	40	50	75
Slovakia	3	--	(2)	2	--	--	--
Total	519	569	679	669	720	730	760
Central Eurasia:							
Armenia	15	8	12	16	25	30	40
Georgia	10	5	8	12	15	20	30
Kazakhstan	400	200	430	402	500	520	600
Russia	650	525	570	700	750	800	900
Uzbekistan	70	40	70	100	110	120	130
Total	1,150	778	1,090	1,230	1,400	1,500	1,700
Regional total	1,950	1,600	1,960	2,110	2,300	2,400	2,700

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Less than 1/2 unit.

TABLE 9
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTIOIN OF REFINED COPPER
(PRIMARY AND SECONDARY)[1]

(Thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Austria	36	54	79	72	70	50	50
Belgium	332	376	423	400	390	400	400
Finland	65	74	114	136	130	140	140
France	44	43	2	--	--	--	--
Germany	476	616	710	639	640	640	640
Italy	83	98	73	32	30	30	25
Norway	37	34	27	39	36	38	38
Spain	171	164	316	302	270	320	320
Sweden	97	105	130	222	250	260	270
United Kingdom	122	55	3	--	--	--	--
Total	1,460	1,620	1,880	1,840	1,800	1,900	1,900
Central Europe:							
Albania	11	3	--	--	--	--	--
Bulgaria	24	29	32	61	50	50	50
Czech Republic	21	20	20	14	15	20	20
Hungary	13	11	12	10	5	5	5
Poland	346	407	486	560	550	550	550
Romania	44	27	19	23	30	30	30
Serbia and Montenegro	151	79	46	29	50	50	60
Slovakia	25	29	--	--	--	--	--
Total	635	604	615	697	700	710	720
Central Eurasia:							
Kazakhstan	365	256	395	419	500	550	600
Russia	700	560	840	933	1,000	1,100	1,200
Uzbekistan	110	95	85	115	120	130	140
Total	1,180	911	1,320	1,470	1,600	1,800	1,900
Regional total	3,280	3,140	3,820	4,010	4,100	4,400	4,500

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 10

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF GOLD (MINE OUTPUT)[1]

(Kilograms)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Finland	2,810	2,060	4,950	5,600	5,200	5,300	5,300
France	4,240	4,620	2,630	--	--	--	--
Italy	--	--	791	100	100	100	100
Portugal	276	--	--	--	--	--	--
Spain	6,810	4,130	4,310	5,500	6,000	6,000	5,000
Sweden	6,330	6,530	3,570	4,400	5,600	5,800	6,000
Total	20,500	17,300	16,300	15,600	17,000	17,000	16,000
Central Europe:							
Bulgaria	2,400	3,100	2,350	3,868	2,500	3,000	3,500
Macedonia	--	760	750	750	500	500	700
Poland	300	510	367	530	450	450	450
Romania	3,000	4,000	500	400	600	600	600
Serbia and Montenegro	8,170	3,040	1,120	400	3,000	3,000	3,000
Slovakia	500	518	306	--	100	100	100
Total	14,400	11,900	5,390	5,950	7,200	7,700	8,400
Central Eurasia:							
Armenia	1,000	514	600	1,400	3,000	3,500	4,000
Georgia	2,000	500	2,920	2,000	3,000	3,500	4,000
Kazakhstan	30,000	18,200	28,200	18,062	25,000	30,000	35,000
Kyrgyzstan	2,000	1,500	22,000	16,700	19,000	22,000	25,000
Russia	183,000	132,000	143,000	169,297	165,000	170,000	190,000
Tajikistan	2,500	500	2,700	3,000	5,000	6,000	8,000
Uzbekistan	65,000	65,000	85,000	90,000	100,000	110,000	120,000
Total	286,000	218,000	284,000	300,000	320,000	350,000	390,000
Regional total	321,000	247,000	306,000	322,000	340,000	370,000	410,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 11

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF IRON ORE (MINE OUTPUT)[1]

(Fe content in thousand metric tons)

Region and country	Average iron content	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:								
Western Europe:								
Austria	58%	653	709	586	655	600	500	500
France	28%	2,790	432	--	--	--	--	--
Germany[2]	14%	12	10	65	38	50	50	50
Greece	38%	861	800	575	575	580	580	500
Norway	62%	1,350	1,350	369	690	360	340	320
Portugal	36%	5	5	12	10	8	8	6
Spain	38%	1,440	960	--	--	--	--	--
Sweden	65%	12,900	13,900	13,600	15,300	16,000	17,000	17,000
United Kingdom	54%	12	1	1	(3)	(3)	(3)	(3)
Total	XX	20,000	18,200	15,200	17,300	18,000	18,000	18,000
Central Europe:								
Albania	45%	410	--	--	--	--	--	--
Bosnia and Herzegovina	53%	1,580	52	182	150	500	550	550
Bulgaria	50%	270	265	178	--	20	20	20
Czech Republic	29%	60	10	6	--	--	--	--
Macedonia	40%	3	1	9	1	1	1	1
Poland	50%	(3)	--	--	--	--	--	--
Romania	52%	275	147	55	69	75	75	75
Serbia and Montenegro	45%	650	61	1	--	--	--	--
Slovakia	34%	480	225	255	180	200	200	200
Total	XX	3,730	761	686	400	800	850	850
Central Eurasia:								
Azerbaijan	57%	275	1	--	4	15	20	25
Kazakhstan	57%	13,000	8,000	9,200	9,300	13,000	14,000	15,000
Russia	58%	60,000	46,000	50,000	56,100	62,000	64,000	66,000
Ukraine	55%	50,000	29,000	30,600	37,700	41,000	45,000	47,000
Total	XX	123,000	83,000	89,800	103,000	116,000	123,000	128,000
Regional total	XX	147,000	102,000	106,000	121,000	135,000	142,000	147,000

[e]Estimated. XX Not applicable. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Iron ore is used domestically as an additive in cement and other construction materials but is of too low a grade to use in the steel industry.

[3]Less than 1/2 unit.

TABLE 12
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF CRUDE STEEL[1]

(Thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Austria	4,240	4,540	5,730	7,031	7,000	6,000	5,000
Belgium	11,400	11,600	11,600	10,422	11,000	11,000	10,000
Denmark-Greenland	610	654	803	--	--	--	--
Finland	2,860	3,180	4,100	4,738	5,000	5,000	5,000
France	19,000	18,100	21,000	19,500	20,000	20,000	20,000
Germany	44,000	42,100	46,400	44,524	47,000	47,000	47,000
Greece	999	939	1,090	2,266	2,200	2,200	2,000
Ireland	326	309	342	--	--	--	--
Italy	25,400	27,800	26,500	28,913	28,000	26,000	26,000
Luxembourg	3,560	2,610	2,570	2,194	2,700	2,600	2,600
Netherlands	5,410	6,410	5,670	6,919	6,500	6,500	6,500
Norway	376	503	620	690	710	700	700
Portugal	744	829	1,100	725	800	800	800
Spain	12,700	14,000	15,800	17,800	17,000	17,000	17,000
Sweden	4,450	4,950	5,230	6,000	6,000	6,000	6,000
Switzerland	970	1,000	1,020	1,200	1,200	1,000	1,000
United Kingdom	17,900	17,600	15,300	13,200	14,000	14,000	13,000
Total	155,000	157,000	165,000	166,000	170,000	170,000	160,000
Central Europe:							
Albania	65	22	65	140	100	100	100
Bosnia and Herzegovina	1,650	--	134	283	250	500	600
Bulgaria	2,190	2,720	2,020	2,400	2,500	2,500	2,500
Croatia	424	45	71	69	45	45	45
Czech Republic	10,000	7,190	6,220	6,200	7,000	7,000	7,000
Hungary	2,960	1,870	1,970	1,962	2,000	2,000	2,000
Macedonia	247	33	161	350	300	300	300
Poland	13,600	11,900	10,500	8,336	10,000	9,000	9,000
Romania	9,760	6,560	4,670	5,632	5,500	5,500	5,500
Serbia and Montenegro	1,010	180	682	1,286	750	750	750
Slovakia	4,780	3,960	3,730	4,242	4,500	4,500	4,500
Slovenia	504	407	519	585	500	500	500
Total	47,200	34,900	30,700	31,500	33,000	33,000	33,000
Central Eurasia:							
Azerbaijan	NA	12	--	59	100	150	200
Belarus	NA	744	1,620	2,076	2,400	2,500	2,500
Georgia	1,200	84	(2)	--	--	--	200
Kazakhstan	6,750	3,030	4,770	4,452	5,500	5,700	5,800
Latvia	500	279	500	550	550	550	550
Moldova	NA	663	909	1,000	800	1,100	1,200
Russia	89,600	51,600	59,100	66,186	72,000	74,000	76,000
Ukraine	55,000	23,300	31,800	38,636	40,000	41,000	42,000
Uzbekistan	NA	352	420	607	650	700	700
Total	153,000	80,100	99,100	114,000	120,000	130,000	130,000
Regional total	355,000	272,000	295,000	312,000	320,000	330,000	320,000

[e]Estimated. NA Not available. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Less than 1/2 unit.

TABLE 13
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF LEAD (MINE OUTPUT)[1]

(Pb content in metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
France	1,140	--	--	--	--	--	--
Germany	8,600	--	--	--	--	--	--
Greece	26,200	14,300	18,200	3,000	16,000	16,000	18,000
Ireland	35,300	46,100	57,800	63,810	66,000	66,000	60,000
Italy	15,600	15,400	2,000	1,000	100	--	--
Spain	61,500	30,300	40,300	--	--	--	--
Sweden	98,300	137,000	107,000	58,700	50,000	40,000	30,000
United Kingdom	1,380	1,600	1,000	1,000	500	500	300
Total	248,000	245,000	226,000	128,000	130,000	120,000	110,000
Central Europe:							
Bosnia and Herzegovina	7,500	150	200	850	--	--	--
Bulgaria	57,000	33,000	10,500	22,000	25,000	25,000	25,000
Macedonia	15,000	17,000	24,000	--	15,000	15,000	15,000
Poland	90,300	99,400	114,000	60,000	70,000	60,000	60,000
Romania	25,100	23,200	18,800	11,610	20,000	20,000	20,000
Serbia and Montenegro	15,200	3,300	10,500	1,800	1,500	1,500	2,000
Total	210,000	176,000	178,000	96,300	130,000	120,000	120,000
Central Eurasia:							
Georgia	NA	NA	200	400	400	450	500
Kazakhstan	200,000	70,000	40,000	44,000	46,000	49,000	55,000
Russia	30,000	23,000	13,300	36,000	38,000	40,000	44,000
Tajikistan	2,000	500	800	800	1,000	1,000	1,000
Total	232,000	93,500	54,300	81,200	85,000	90,000	100,000
Regional total	690,000	515,000	458,000	306,000	350,000	330,000	330,000

[e]Estimated. NA Not available. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 14

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED LEAD[1]

(Metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Belgium	69,800	95,300	12,000	--	--	--	--
France	162,000	129,000	110,000	--	--	--	--
Germany	208,000	147,000	170,000	118,778	110,000	100,000	90,000
Italy	64,600	84,900	75,000	49,500	35,000	30,000	25,000
Sweden	47,500	39,700	30,600	30,000	25,000	22,000	20,000
United Kingdom	156,000	150,000	166,000	125,900	150,000	150,000	150,000
Total	708,000	646,000	564,000	324,000	320,000	300,000	290,000
Central Europe:							
Bosnia and Herzegovina	250	100	100	50	--	--	--
Bulgaria	66,600	71,200	84,100	81,000	75,000	75,000	75,000
Macedonia	22,000	22,500	22,900	--	5,000	15,000	15,000
Poland[2]	64,800	66,400	55,900	18,000	25,000	25,000	20,000
Romania	15,700	22,000	25,000	32,903	35,000	35,000	35,000
Serbia and Montenegro	48,000	23,600	1,240	--	1,000	1,000	1,000
Total	217,000	206,000	189,000	132,000	140,000	150,000	150,000
Central Eurasia:							
Kazakhstan	290,000	88,500	186,000	131,316	140,000	145,000	150,000
Russia[2]	35,000	23,000	59,000	66,000	70,000	75,000	80,000
Total	325,000	112,000	245,000	197,000	210,000	220,000	230,000
Regional total	1,250,000	964,000	998,000	653,000	670,000	670,000	670,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes some secondary refined lead.

TABLE 15

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED LEAD (SECONDARY)[1]

(Metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Austria	15,100	21,900	24,000	22,000	20,000	15,000	15,000
Belgium	21,200	30,000	98,000	60,000	60,000	50,000	50,000
France	108,000	168,000	158,000	105,500	100,000	75,000	50,000
Germany	187,000	164,000	204,000	222,932	240,000	250,000	250,000
Greece	5,000	5,000	5,000	4,000	4,000	4,000	3,000
Ireland	15,000	11,000	9,000	19,992	6,000	5,000	5,000
Italy	102,000	95,500	160,000	161,500	160,000	150,000	100,000
Netherlands	44,000	20,000	22,200	17,000	15,000	15,000	10,000
Portugal	6,000	7,700	5,000	3,000	3,000	3,000	2,000
Spain	50,000	80,000	120,000	110,000	100,000	75,000	50,000
Sweden	22,100	51,500	47,300	50,000	48,000	46,000	45,000
Switzerland	6,000	6,000	10,100	8,000	7,000	6,000	5,000
United Kingdom	174,000	171,000	171,000	120,000	50,000	30,000	25,000
Total	755,000	832,000	1,030,000	904,000	810,000	720,000	610,000
Central Europe:							
Czech Republic	NA	20,000	25,000	25,000	35,000	35,000	35,000
Poland[2]	NA	--	--	36,000	45,000	45,000	45,000
Romania	5,000	4,000	3,000	5,000	5,000	5,000	5,000
Slovenia	12,200	7,240	15,300	15,400	15,000	15,000	15,000
Total	17,200	31,200	43,300	81,400	100,000	100,000	100,000
Central Eurasia, Ukraine	10,000	10,000	15,000	6,000	8,000	9,000	10,000
Regional total	782,000	873,000	1,090,000	991,000	920,000	830,000	720,000

[e]Estimated. NA Not available. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Through 2004, data concerning secondary refined production was either not available or only included as part of primary refined production.

TABLE 16

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF NICKEL (MINE OUTPUT)[1]

(Ni content in metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Finland	11,500	3,440	10,700	40,897	46,000	47,000	48,000
Greece	18,500	19,900	19,500	23,210	22,000	22,000	22,000
Norway	3,100	3,390	2,540	150	--	--	--
Spain	--	--	--	5,380	8,000	10,000	10,000
Total	33,100	26,700	32,700	69,600	76,000	79,000	80,000
Central Europe:							
Albania	8,800	--	--	--	--	--	--
Macedonia	--	3,500	--	--	--	--	--
Total	8,800	3,500	--	--	--	--	--
Central Eurasia:							
Russia	380,000	250,000	315,000	320,000	320,000	325,000	330,000
Ukraine	6,000	1,400	--	2,000	2,000	2,000	2,000
Total	386,000	251,000	315,000	322,000	320,000	330,000	330,000
Regional total	428,000	281,000	348,000	392,000	400,000	410,000	410,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 17
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF PLATINUM (MINE OUTPUT)

(Kilograms)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Finland	60	37	441	678	730	780	800
Norway	1,500	1,500	1,000	--	--	--	--
Total	1,560	1,540	1,440	678	730	780	800
Central Europe:							
Poland	--	21	21	20	20	20	20
Serbia and Montenegro	21	6	3	1	1	1	1
Total	21	27	24	21	21	21	21
Central Eurasia, Russia[1]	44,000	31,000	27,000	30,000	29,000	30,000	31,000
Regional total	45,600	32,600	28,500	30,700	30,000	31,000	32,000

[e]Estimated. -- Zero.
[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 18
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF PALLADIUM (MINE OUTPUT)[1]

(Kilograms)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Central Europe:							
Poland	--	12	12	10	10	10	10
Serbia and Montenegro	130	46	21	8	8	8	8
Total	130	58	33	18	18	18	18
Central Eurasia, Russia	91,000	65,000	95,000	97,400	95,000	97,000	100,000
Regional total	91,100	65,100	95,000	97,400	95,000	97,000	100,000

[e]Estimated. -- Zero.
[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 19
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ZINC (MINE OUTPUT)[1]

(Zn content in metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Finland	51,700	16,400	30,500	72,474	73,000	73,000	74,000
France	23,900	--	--	--	--	--	--
Germany	58,100	--	--	--	--	--	--
Greece	26,700	15,100	20,300	--	16,000	16,000	16,000
Ireland	166,000	184,000	263,000	428,596	440,000	460,000	480,000
Italy	42,400	23,100	--	--	--	--	--
Norway	17,500	9,880	--	--	--	--	--
Portugal	--	--	--	--	130,000	135,000	135,000
Spain	258,000	172,000	200,000	--	--	--	--
Sweden	164,000	167,000	177,000	214,600	220,000	220,000	200,000
United Kingdom	6,670	--	--	--	--	--	--
Total	815,000	587,000	691,000	716,000	880,000	900,000	910,000
Central Europe:							
Bosnia and Herzegovina	15,200	300	300	900	--	--	--
Bulgaria	35,000	26,000	9,400	22,000	20,000	20,000	20,000
Macedonia	32,000	8,300	25,000	--	10,000	10,000	10,000
Poland	153,000	155,000	156,900	117,200	150,000	150,000	130,000
Romania	36,000	34,700	27,500	13,784	25,000	30,000	30,000
Serbia and Montenegro	9,500	3,200	21,000	3,000	6,000	8,000	8,000
Total	281,000	228,000	240,000	157,000	210,000	220,000	200,000
Central Eurasia:							
Armenia	--	700	528	3,186	800	800	1,000
Georgia	--	--	200	400	400	400	400
Kazakhstan	315,000	225,000	325,000	400,000	420,000	440,000	470,000
Russia	170,000	131,000	136,000	200,000	210,000	220,000	250,000
Total	485,000	357,000	462,000	604,000	630,000	660,000	720,000
Regional total	1,580,000	1,170,000	1,390,000	1,480,000	1,700,000	1,800,000	1,800,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 20
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED ZINC
(PRIMARY AND SECONDARY)[1]

(Metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Austria	26,900	--	--	--	--	--	--
Belgium	357,000	211,000	252,000	300,000	300,000	250,000	250,000
Finland	175,000	177,000	223,000	281,905	290,000	290,000	290,000
France	264,000	314,000	348,000	210,000	150,000	150,000	150,000
Germany	338,000	322,000	357,000	334,891	330,000	310,000	320,000
Italy	248,000	260,000	170,000	121,000	100,000	100,000	100,000
Netherlands	209,000	208,000	217,000	213,800	230,000	230,000	200,000
Norway	125,000	122,000	126,000	133,300	135,000	140,000	140,000
Portugal	5,500	4,000	3,600	3,000	3,000	3,000	3,000
Spain	253,000	358,000	387,000	501,400	530,000	530,000	500,000
United Kingdom	93,300	106,000	99,600	--	--	--	--
Total	2,090,000	2,080,000	2,180,000	2,100,000	2,100,000	2,000,000	2,000,000
Central Europe:							
Bosnia and Herzegovina	15,000	300	--	--	--	--	--
Bulgaria	75,500	79,700	84,200	95,100	100,000	100,000	100,000
Czech Republic	NA	1,000	150	250	250	250	250
Macedonia	34,100	21,300	62,800	--	10,000	10,000	10,000
Poland	132,000	166,000	173,000	155,000	160,000	160,000	160,000
Romania	11,500	28,300	51,900	49,447	50,000	50,000	50,000
Serbia and Montenegro	61,300	6,000	8,290	20,000	100	150	150
Total	329,000	303,000	380,000	320,000	320,000	320,000	320,000
Central Eurasia:							
Kazakhstan	315,000	239,000	262,000	356,907	370,000	380,000	420,000
Russia	250,000	166,000	230,000	210,000	230,000	240,000	250,000
Uzbekistan	70,000	70,000	18,000	30,000	50,000	60,000	70,000
Total	635,000	475,000	510,000	597,000	650,000	680,000	740,000
Regional total	3,050,000	2,860,000	3,070,000	3,020,000	3,100,000	3,000,000	3,100,000

[e]Estimated. NA Not available. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 21
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF NATURAL DIAMOND[1, 2]

(Thousand carats)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Central Eurasia, Russia:							
Gem grade	18,000	17,000	17,500	23,000	24,000	25,000	26,000
Industrial grade	12,000	11,000	11,700	15,000	15,000	16,000	17,000
Regional total	30,000	28,000	29,200	38,000	39,000	41,000	43,000

[e]Estimated.
[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.
[2]The large increase in Russian diamond production reflects mainly newly released Russian diamond production data. Future volumes will reflect revised historic Russian diamond production data.

TABLE 22
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PHOSPHATE ROCK PRODUCTION, 1990-2011[1]

(P_2O_5 content in thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Denmark-Greenland	(2)	(2)	(2)	(2)	1	1	1
Finland	201	243	277	300	300	310	310
Total	201	243	277	300	300	310	310
Central Eurasia:							
Kazakhstan	2,900	2	10	52	80	120	150
Russia	12,000	3,400	4,450	4,500	4,550	4,600	4,400
Uzbekistan	--	--	36	102	130	150	170
Total	14,900	3,400	4,500	4,650	4,800	4,900	4,700
Regional total	15,100	3,640	4,780	4,950	5,100	5,200	5,000

[e]Estimated. -- Zero.
[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.
[2]Less than 1/2 unit.

TABLE 23

EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF MARKETABLE COAL[1, 2]

(Thousand metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
Austria	2,450	1,250	1,260	6	6	5	--
France	12,700	7,010	4,100	--	--	--	--
Germany	427,000	260,000	201,000	203,605	200,000	200,000	190,000
Greece	49,900	56,600	64,000	73,585	65,000	65,000	65,000
Italy	15,500	352	14	--	10	10	10
Norway	358	343	330	300	250	220	200
Spain	35,900	23,300	23,500	17,500	16,000	15,000	14,000
Sweden	11	--	--	--	--	--	--
United Kingdom	94,400	53,000	32,000	20,600	21,000	21,000	20,000
Total	638,000	402,000	326,000	316,000	300,000	300,000	290,000
Central Europe:							
Albania	2,070	81	21	12	20	20	20
Bosnia and Herzegovina	18,200	1,810	7,440	9,000	10,000	10,000	10,000
Bulgaria	31,700	30,800	27,100	24,910	27,000	27,000	27,000
Croatia	155	75	--	--	--	--	--
Czech Republic	124,000	80,100	68,100	61,900	65,000	65,000	65,000
Hungary	17,600	14,500	14,300	9,580	14,000	14,000	14,000
Macedonia	6,640	7,990	7,520	8,200	8,000	8,000	8,000
Poland	205,000	201,000	163,000	159,040	170,000	170,000	170,000
Romania	38,200	41,100	29,300	31,122	35,000	35,000	35,000
Serbia and Montenegro	44,700	40,600	32,300	35,400	40,000	40,000	40,000
Slovakia	4,770	4,140	3,590	2,511	3,500	3,500	3,500
Slovenia	5,580	4,880	4,480	4,539	4,500	4,500	4,500
Total	499,000	427,000	357,000	346,000	380,000	380,000	380,000
Central Eurasia:							
Georgia	800	40	7	8	10	10	10
Kazakhstan	131,000	113,000	74,900	86,385	90,000	95,000	100,000
Kyrgyzstan	3,400	500	425	3,318	340	350	350
Russia	395,000	263,000	274,000	298,000	320,000	330,000	340,000
Tajikistan	300	100	21	95	95	100	105
Ukraine	136,000	83,800	81,900	77,900	83,000	85,000	80,000
Uzbekistan	3,200	3,200	2,560	2,700	3,500	4,000	4,500
Total	670,000	464,000	434,000	468,000	500,000	514,000	520,000
Regional total	1,810,000	1,290,000	1,120,000	1,130,000	1,200,000	1,200,000	1,200,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes anthracite, bituminous, and run-of-mine lignite.

TABLE 24
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF URANIUM[1]

(U content in metric tons)

Region and country	1990	1995	2000	2005	2007[e]	2009[e]	2011[e]
Europe:							
Western Europe:							
France	2,780	712	318	--	--	--	--
Germany	2,530	297	237	80	70	60	50
Portugal	76	22	13	--	--	--	--
Spain	193	356	294	--	--	--	--
Total	5,580	1,390	862	80	70	60	50
Central Europe:							
Bulgaria	700	600	600	600	600	600	600
Czech Republic	2,540	611	498	435	450	450	450
Hungary	--	277	--	--	--	--	--
Slovakia	34	--	--	--	--	--	--
Total	3,270	1,490	1,100	1,040	1,100	1,100	1,100
Central Eurasia:							
Kazakhstan	3,000	1,630	1,740	4,357	6,400	10,000	13,000
Russia	4,000	2,250	2,500	3,430	3,700	4,000	4,300
Ukraine	1,000	500	600	800	900	1,200	1,500
Uzbekistan	3,000	1,800	2,350	2,300	2,300	2,500	3,000
Total	11,000	6,180	7,190	10,900	13,000	18,000	22,000
Regional total	19,900	9,060	9,150	12,000	13,000	19,000	23,000

[e]Estimated. -- Zero.

[1]Historic data, estimated data, and totals are rounded to no more than three significant digits; may not add to totals shown.