

THE MINERAL INDUSTRIES OF EUROPE AND CENTRAL EURASIA

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As a subset of the Eurasian landmass, the region of Europe and Central Eurasia encompasses continental territory that extends from the Atlantic coast of Europe to the Pacific coast of Russia and includes Iceland, Ireland, and the United Kingdom. Greenland in the northwest Atlantic Ocean and Sakhalin and Kurile Islands in the Pacific Ocean, off the Sea of Japan, which are political extensions of Denmark and Russia, respectively, also are included in this volume.

The post-cold-war (1990-2000) European and Central Eurasian environment included new political and economic configurations and trends. In the countries of Central Europe (Czech Republic, Hungary, Slovakia, and Poland), the Balkans (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Serbia and Montenegro, and Slovenia, excluding Greece) and Central Eurasia [comprising the Commonwealth of Independent States (CIS) (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine)] and the Baltic Sea area countries (Estonia, Latvia, and Lithuania), central economic planning was replaced with processes of transition to more open political systems and market-based economies.

The CIS was founded initially in 1991 by several republics of the former Soviet Union (FSU) to promote free economic space in the FSU region; however, it does not have supranational powers, and its member countries have equal standing in international law. The Central European Free Trade Agreement (CEFTA) was founded on December 21, 1992 by Czechoslovakia [now (2000) the Czech Republic and Slovakia], Hungary, and Poland. The chief purpose of the CEFTA was to harmonize all spheres of economic relations among the member countries in conformity with standards and principles promulgated by the General Agreement on Tariffs and Trade and the World Trade Organization. The CEFTA also was viewed by its members as a necessary first step toward ultimate accommodation within Western European political and economic structures. Slovenia, Romania, and Bulgaria joined the CEFTA in 1996, 1997, and 1999, respectively.

Economic integration in Western Europe had evolved into the formation of the European Union (EU), a supranational entity comprising Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The admission of new member countries (including those of CEFTA) as well other countries in the region was one of the significant political questions facing the leadership of the EU.

In 2000, the EU opened accession negotiations with seven countries—Bulgaria, Latvia, Lithuania, Malta, Romania, Slovakia, and Turkey. The EU already had been negotiating formally with six other countries—Cyprus, the Czech Republic, Estonia, Hungary, Poland, and Slovenia; although no entry date had been set, membership was expected to be extended to these

six countries by about 2005. This enlargement would represent the single largest EU enlargement. The last enlargement was in 1995 when Austria, Finland, and Sweden acceded. Candidate countries face large challenges. New member countries must fulfill such political and economic criteria as achieving stability of institutions guaranteeing democracy, the rule of law, human rights, and respect for and protection of minorities. They must have a functioning market economy, which would include the capacity to cope with competitive pressure and market forces within the EU, and be able to take on the such membership obligations as accommodation with the EU's political and economic policies, which would include monetary union.

These and other issues have made the integration of even the more transitionally advanced formerly centrally planned countries slow and contingent on structural conformity with EU norms. Because of the very different paths of development that Western Europe, on the one hand, and Central Eurasia and Central Europe and the Balkans, on the other, followed after the Second World War, an economic asymmetry between these two areas emerged and remained throughout the post-cold-war period of the 1990s. This asymmetry framed the initial commercial relationship in the minerals sphere between the two areas. Western Europe imported raw materials from, toll-smelted raw materials in, sold equipment and technology to, and invested in the mineral development projects in the formerly centrally planned economy countries, largely without reciprocal activities on the part of the latter.

Economic Conditions and Issues

Europe and Central Eurasia play a substantial role in the world mineral economy, occupying an important place at both poles within that economy as a supplier and consumer of all major mineral commodity groups. In 2000, Western Europe continued to be a major world processor, fabricator, and consumer of minerals, whereas the role of Central Eurasia remained that of a major world supplier of minerals. Central Europe and the Balkans, however, played a much lesser role with respect to the supply and disposition of most mineral commodities.

Western Europe, with a population exceeding 300 million, had one of the most advanced regional economies in the world, whose collective value in 2000, measured in terms of gross domestic product (GDP), amounted to more than \$8.5 trillion, or about 88% that of the United States, and a per capita GDP averaging more than \$22,000, which also was about 88% that of the United States (table 1). In 2000, the average growth rate of the GDP in Western Europe was about 3.9%, compared with about 5% growth in the U.S. economy.

On January 1, 1999, the EU adopted the euro (€) as its new single currency for the member states that had met the

macroeconomic conditions necessary to join the European Monetary Union (EMU). Although euro banknotes and coins will not enter into circulation until January 2002, the euro is already being used in electronic transactions and as a unit of account whose value has been fixed irrevocably with the participating member states currencies. The first countries to use the euro will be Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. As of yearend 2000, Denmark, Sweden, and the United Kingdom had not yet entered into the EMU agreement.

As a major world mineral processing and consuming subregion, Western Europe consequently remained a major determinant of world demand for all mineral commodities. With the exhaustion of its mineral reserves and a decline in its role as a world mine producer of minerals, Western Europe continued to be a major producer of copper, iron, lead, and zinc metals based largely on imported raw materials; its mineral processing and manufacturing industries also accounted for a significant share of world production of semimanufactured and fabricated ferrous and nonferrous metals (see table 3). Western Europe, however, played a significant role in the world in the extraction and processing of certain industrial minerals and mineral fuels. Significant petroleum and natural gas resources had been developed in the North Sea, and there were also adequate coal reserves. Germany remained Western Europe's dominant smelter and refiner of most metals and mine producer of a number of industrial minerals and coal.

In 2000, coal subsidies and overcapacity and trade sanctions that have affected the steel industry were some of the major economic issues that concerned the EU. Total coal production in the EU declined to about 328 million metric tons (Mt) in 2000 from 336 Mt in 1999. There was a sharp decline in hard coal (anthracite and bituminous) production to 85 Mt in 2000 from 98 Mt in 1999. The output of hard coal was seriously affected by efforts to reduce dependence on subsidies. Brown coal and lignite production, however, was not subsidized in most of the major producing EU countries.

The European Commission (EC) has called for the closure or suspension of production at coal mines in the EU that performed poorly, despite being granted state aid, with a view to their being restructured and made profitable. The EC has criticized aid paid by member governments to the coal industry, which it claims "is in crisis, despite several years of state aid." The inefficiency and lack of competitiveness in the coal sector not only had not been corrected but in many cases was exacerbated. The EC calculated that in 2000, state aid paid each coal-industry worker \$54,000 in Germany, \$46,000 in France, and just over \$36,000 in Spain. A majority of miners in the EU have spent their entire working career employed by continuously state-supported operations.

Given that the security of energy supply was viewed as an economic priority, the EC recognized the need to guarantee quick and easy access to solid fuels. However, the EC also recognized that this priority should not be used as an argument to continue uneconomic coal production. There were moves within member states to achieve the aims of the EC. France has settled on 2005 as the last year in which coal mining will take place on its territory. Germany and Spain also sought to accelerate their restructuring plans. The United Kingdom reintroduced aid for coal mining in 2000, which, however, was to be phased out in 2001.

Western Europe's steel industry was among the most consolidated steel industries in the world. Usinor Group [24 million metric tons per year (Mt/yr) capacity], Corus Group (22.9 Mt/yr capacity), Arbed Group (22.4 Mt/yr capacity), Thyssen Krupp Group (18.9 Mt/yr capacity), and Rica Group (14 Mt/yr capacity) account for more than 100 Mt/yr of raw steel capacity, which is about one-half the EU total. Acquisitions and consolidations have had the effect of creating global players without adding to overall capacity. In the privatization process, Finland planned to sell the Government's shares in producers of base metals and stainless steel (Outokumpu Oyi) and steel (Rautaruukki Oyi). Outokumpu and Avesta Sheffield of Sweden merged to create a new company, Avesta Polarit Oyi, that would have a total capacity of 1.7 Mt/yr of stainless steel slab.

A key issue that concerned the EU's steel sector was the prospective addition of significant steel industries of the applicant countries (1999 production, about 33 Mt); their accession would add about 20% to the current [2000] steel production of the 15-member EU. Furthermore, the additional steel industries of the prospective member countries were seen to vary in the degree of their conformity to EU standards of efficiency, ownership, productivity, and environmental attributes, which threatened to become a serious point of disagreement during negotiations on accession. Several EU steel industry groups have issued separate but similar demands for the Central European and Balkan countries to adhere more closely to EU rules. EU steel companies are concerned in particular about the slowness of restructuring and privatizing the steel industries of Central Europe and the Balkans. They allege that deadlines agreed upon with the EU for the adoption of necessary capacity reduction plans have not been met and that many steelworks in Central Europe and the Balkans allegedly are kept alive only through state subsidization, which is illegal in the EU. The steel industry group Eurofer was considering filing countervailing duty cases against steel imports from the Central European and Balkan area unless effective and rapid restructuring efforts were made.

In contrast to Western European countries, the transitional economy countries of Central Eurasia and Central Europe and the Balkans with a combined population exceeding 406 million had a combined GDP amounting to about \$2.6 trillion, or about 30% of that of Western Europe and about 26% of that of the United States.

In 2000, within the transitional economy countries, such factors as the growth of per capita income appeared to be more favorable with respect to CEFTA member countries, whose average per capita GDP was almost 2.5 times greater than that of the CIS but whose negative demographic growth was significantly more than that of the CIS (table 1). Compared with Western Europe's low but positive demographic growth (0.28% compared with that of 1999), the population growth rates of Central Europe and the Balkans and Central Eurasia were varied, showing a decrease of 0.21% and an increase of 0.27%, respectively. Most unaffiliated Balkan countries (Albania, Bosnia and Herzegovina, and Croatia) showed positive population growth (table 1). The CIS's average GDP growth rate of more than 6% in 2000 was greater than that in most groupings within Europe and Central Eurasia, reflecting varying combinations of low economic baselines, favorable rises in world prices for hydrocarbons, and their corresponding production increases in such countries as Azerbaijan (11.4%),

Kazakhstan (10.5%), Russia (6.3%), and Turkmenistan (16%).

The countries of the CIS collectively had an extensive minerals economy, which accounted for a major share of the world's extraction of fuels, industrial minerals, and metals and the production of processed mineral products, including metals and petroleum refinery products. Although domestic demand for mineral products was reviving in the CIS countries, consumption of most mineral products remained far below the levels that had existed prior to the break-up of the Soviet Union and well below the levels of advanced industrialized countries.

In 2000, the CIS remained a major world producer of mercury (mine output, 26%), primary aluminum (15%), alumina (11%), mined tungsten (9%), and mined and refined copper (8% and 9%, respectively) and of such precious metals as palladium (54%), platinum (19%), gold (10%), and silver (8%). With respect to ferrous metals, the CIS had a significant share of the world output of manganese ore (18%), mined and refined nickel (22% each), chromite (19%), iron ore (15%), and pig iron (12%). The CIS also produced a significant share of the total world production of such selected industrial minerals and fuels as natural gas (33%), potash (30%), uranium (16%), nitrogen (14%), sulfur (14%), crude petroleum (11%), and phosphate rock (10%).

Russia, which covered about 75% of the territory of the CIS, had the largest mineral industry in Europe and Central Eurasia. Russia produced a broad range of crude and processed mineral commodities. Kazakhstan followed Russia as the country in the region that had the most important place in the world mineral economy. Ukraine, Uzbekistan, and several other CIS countries also were important producers and processors of minerals. According to data and estimates available for this report, Russia ranked first in the world in the production of asbestos, natural gas, nickel, palladium, and titanium sponge; second in the world in the production of aluminum, platinum, and potash; and among the top five leading world producers of other mineral commodities, including the mine output of antimony, boron, beryl, the mine output of cobalt, gem- and industrial-grade diamonds, ferroalloys, gold, iron ore, magnesium metal, crude petroleum, phosphate rock, crude steel, sulfur, and the mine output of tungsten.

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, crude steel, and titanium ores (ilmenite and rutile). Other CIS countries that were significant world producers of one or more mineral commodities included Azerbaijan (oil), Armenia (molybdenum), Belarus (potash), Kyrgyzstan (antimony metal and mercury ore and metal), Tajikistan (aluminum), Turkmenistan (natural gas), and Uzbekistan (gold and uranium); all CIS countries produced a range of other mineral commodities.

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 beginning to be fully developed. These potential resources have created competition between countries concerning their ownership, among companies to get development rights, and among countries to establish export routes. Proven oil reserves for the entire Caspian Sea region, which amount to between 18 billion and 35 billion barrels (Gbbbl), were comparable to those of the United

States (22 Gbbbl) and greater than those in the North Sea (17 Gbbbl); projections of undiscovered petroleum resources indicate 235 Gbbbl of oil.

For the Caspian Sea region to be developed to its full oil and gas potential, the littoral states must first agree on the legal status of the Caspian Sea in order to settle the issue of the ownership of resources. No agreed-upon convention exists that delineates the littoral states' ownership of the Caspian Sea's resources or their development rights. Several conflicts have arisen over claims to regions of the Caspian. Disputes exist concerning whether the resources in the Caspian should be shared in common by all littoral states or if the Caspian Sea should be divided into national sectors. Negotiations between the littoral states have made slow progress in resolving differences. Division into national sectors has been the de facto solution, but disputes have arisen over the delineation of these national sectors.

Central Europe and the Balkans, which transect Western Europe and Central Eurasia roughly from the Baltic Sea to the Black Sea and the Mediterranean-Adriatic Sea areas, had economies and mineral industries similar in kind though not in scope to those of Central Eurasia. With the exception of Poland, which remained a major world producer of bituminous coal, copper, salt, silver, and mined sulfur, most countries of Central Europe and the Balkans produced most minerals primarily for domestic or local use. In the Balkan area, before 1991, former Yugoslavia [now (2000) the independent republics of Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro, and Slovenia] was a major European producer of aluminum, copper, lead, and zinc as well as a broad range of mined and processed metals, industrial minerals, and mineral fuels. Former Yugoslavia also was a major European toll smelter of base metals. The civil war and ethnic strife, which followed the dissolution of former Yugoslavia, left these countries, with the exception of Slovenia, with damaged and ruined industrial plants and infrastructure, and generally depressed economies that greatly diminished investor confidence and interest in them. In 2000, active conflict stemming from ethnic disputes in the region centered in the Serbian province of Kosovo in Serbia and Montenegro as well as in neighboring Macedonia, which threatened to destabilize areas beyond the confines of those countries.

Investment Overview

In Western Europe, despite up-to-date mining legislation, deregulation, and tax relief to encourage investment in mineral resource exploration and development, these activities generally have been decreasing. Apart from exploration activities described later, some investment to reevaluate older mining areas appeared to be forthcoming in 2000.

The need to rationalize and modernize industrial processes to raise their competitiveness and bring them into compliance with environmental standards was one of the chief aims of the economic transition process in Central Europe and the Balkans and Central Eurasia apart from denationalization. Another important aim was the modernization of infrastructure to more efficiently serve social and commercial interests. In Central Europe, these transitional needs presented targets of opportunity for foreign investors. During most of the 1990s and through 2000, strong foreign investor interest in Central Europe was manifested by very high activity in the area's industrial minerals

sector, especially its cement plants and associated quarries for calcareous stone, clay, gypsum, and marl. Investment in other branches of the industrial minerals was highlighted by activity in Hungary's kaolinite, perlite, and silica operations.

By 2000, virtually all of Central Europe's cement operations (clinker and grinding) as well as their quarries had been acquired by Western Europe's (mainly EU) leading cement producers and building material manufacturers. The output of these plants not only met the domestic needs of the Central European countries but also was exported, in many cases to the foreign owners' home countries in the EU. In the Balkans, this also was the case, though later, with respect to Bulgaria, Croatia, Macedonia, and Serbia and Montenegro. Albania received further outside investment that privatized almost the entire sector in 2000.

In 2000, foreign investment activity (mostly from the EU) was especially pronounced. Central Europe's iron and steel sector saw facility expansion and modernization at Poland's Sendzimir, Katowice, and Huta Lucchini steel mills as well as at the Czech Republic's Poldi, Trinecke Zelezarny, and Poldi I steelworks. In Slovakia, U.S. Steel of the United States conducted successful negotiations with the Government of Slovakia to purchase the VSZ steel plant.

Foreign investment in base and precious metals in the Balkans involved the acquisition of mine production and processing rights for copper and gold in Albania, Bulgaria, and Romania. Albania also reported outside investment in its chromite mining and ferrochromium producing operations as well as at its steel plant at Elbasan. Foreign capital also was channeled for acquisition and modernization of iron and steel plants in Bosnia and Herzegovina, Bulgaria, Macedonia (including the sale of the ferronickel producer FENI), Romania, and Slovenia.

One of the major investment considerations that has significant economic, environmental, and geopolitical ramifications involves the proposed routing of additional pipelines to export hydrocarbons from Central Eurasia. This host of issues included the degree that Russia should control export routes by having them pass through its territory, the intent of countries to avoid routing pipelines through such potentially unstable countries as Iran and Afghanistan, the role of Armenia as a potential transit route owing to its conflict with Azerbaijan, and the potential environmental hazards of routing shipments by pipeline under the Caspian Sea or by tanker through the Bosphorus. Such unresolved issues have obstructed the planning and construction of potential export pipelines from the region. A designated northern route was being used to transport the first oil production (early oil) from Azerbaijan, which transits 129 kilometers (km) (about 80 miles) through the war-torn Russian republic of Chechnya en route to the Black Sea port of Novorosiisk. A western route was also in use for early oil that passed through Georgia to the Black Sea. A major route being considered was the Baku-Ceyhan Pipeline route termed the Main Export Pipeline (MEP). The MEP would extend 1,670 km (about 1,038 miles) through Azerbaijan, Georgia, and Turkey and transport oil from the Caspian littoral states. The three countries on whose territory the pipeline would be built have affirmed their support for the project, but the oil companies that would finance the construction of the pipeline would have to agree on the economic feasibility of this project. In 2000, several studies for various pipeline construction routes that could enhance the delivery of natural

gas and petroleum from the CIS to the area were undertaken by a number of Balkan countries.

One of the few instances of investment outside the region by a transitional economy country has been investment and exploration activity since 1997 by KGHM S.A., Poland's copper producer in copper mining properties and deposits in Zambia and the Democratic Republic of the Congo.

Legislation

In contrast to Western Europe, where much of the legislation needed to restrict pollution and to stimulate and regulate general commercial and mineral industry operations was firmly in place, the legislative situation in the transitional economy countries remained more fluid during the 1990s. The legislative agendas of the countries of Central Europe and the Balkans and Central Eurasia focused mainly on reducing social tensions stemming from denationalization of whole economies, while at the same time attempting to bring legal and regulatory practices in the area into greater conformity with those of the developed market economy countries of Western Europe, especially as they relate to environmental standards, private ownership practice, mining law, and foreign investment rules.

Environmental Issues and Trends

Environmental protection continued to be a major issue, especially in the densely populated areas of the region. Environmental laws and regulations and a high degree of their implementation had been to a large extent fully established during the 1980s and 1990s in Western Europe, and most industrial enterprises, including those in the mineral producing and processing sector, were obligated to meet set standards for effluent discharges into the environment. These environmental standards were among the major criteria for accession by new member countries into the EU. The environmental situation in Central Europe and the Balkans and Central Eurasia at the start of their transition to market-based economic systems revealed a landscape of highly polluting heavy industries that in many cases caused serious health concerns to arise in the area. This was not due to an absence or lack of environmental laws in the transitional economy countries, but mainly owing to very little effort expended by the former regimes in these countries to enforce the existing pollution laws and in some cases to correct confusing and sometimes contradictory laws and regulations. Although some evidence pointed to an abatement of discharges of harmful pollutants from the mining and mineral processing sector during the early 1990s, in several Central European and Central Eurasian countries, this largely was the result of a sharp decline in production during that period. More recently, the new applicants for EU membership from these areas have been undertaking serious efforts to make major improvements with respect to the environmental regulatory process and enforcement. Environmental concerns in the Czech Republic and Poland, for example, have led to questions regarding the soundness of developing valuable new gold and lead-zinc deposits.

Exploration

Minerals exploration in Europe and Central Eurasia in 2000 appeared to be following the global trend of decreased

exploration expenditures since 1997, based on data reported by Metals Economics Group (MEG) of Halifax, Canada. Research by the U.S. Geological Survey (USGS) and by MEG indicated that exploration in the region continues to account for less than 9% of the 2000 world exploration budget. The region has been able to sustain interest in certain areas, primarily by junior exploration companies specializing in the region.

In Western Europe, updated mining legislation, deregulation, and tax relief have encouraged mineral resource exploration, primarily for copper, gold, lead, and zinc; exploration for diamonds was conducted in Scandinavia. Mineral exploration activity in Western Europe during 1999 focused on Sweden, Ireland, Finland, Spain, Sardinia, and Greenland (in order of decreasing activity) based on information collected by the USGS from published company reports and industry publications. Sweden has been home to significant metal mining activity for at least a thousand years and still offers very high potential for new mineral discoveries. Exploration expenditure in Sweden during 2000 was more than \$18 million. As shown in table 2, drilling continued to extend gold resources at the Olympias deposit in Greece and the Skellefte Mine in Sweden. Exploration for base metals focused on the Rathdowney Trend of Ireland, the Penikat/Portimo deposit in Finland, and extensions of the Renstrom Mine in Sweden. Gold exploration in Greenland continued, but at a reduced level from that reported in 1997. Many prior mining areas of Europe are being reevaluated with current technology. This took place after gravity surveying led to the recent discovery of the concealed Las Cruces massive sulfide deposit in Spain.

After an economic winnowing process subsequent to the collapse of the FSU and restructuring of Central Eurasia, industries that have survived have been increasingly able to attract foreign investment in the fuels, industrial minerals, and base-metals sectors. In addition, political instability and falling world metal prices have reduced the number of projects reaching the development stage. Foreign exploration companies to date have shown reluctance to incur sizable exploration costs in remote areas, unless they are assured of a reasonable chance to receive economic benefits if discoveries are developed in the future. In 2000, Bulgaria, Romania, and Russia attracted the most interest by Western companies for mineral exploration.

Production

The data presented below in the “Commodity Overview” section were obtained from the summary table in this report and from comparable data in the summary tables of the preceding reports for 1997, 1998, and 1999 in the *Minerals Yearbook*, volume III, Europe and Central Eurasia.

A salient aspect to emerge from the data in these tables was the increase of secondary production and recovery of nonferrous metals. It should be noted, however, that data for Central Eurasia for secondary metals were incomplete. Although ferrous scrap collection as an important component of the raw materials matrix has been in circulation for some time, the large-scale secondary recovery of the majority of nonferrous metals has been a more recent undertaking. The statistics for nonferrous scrap metal recovery, which have become more readily available in recent years, have shown Europe and Central Eurasia to be playing a major role in this endeavor, with Western Europe as the dominant producer of such secondary nonferrous metals as aluminum, copper, lead, tin, and zinc.

Despite playing a much lesser role in secondary nonferrous scrap production, Central Europe and the Balkans and Central Eurasia also began to display some results in this endeavor. Russia in particular showed marked increases in the output of secondary copper and lead from 1997 to 2000.

Available Russian data for 1999 also point to some of the telling issues associated with transitional CIS commerce in nonferrous scrap. A large percentage of collected nonferrous metal scrap was being exported, of which large quantities were being exported in the form of simple manufactured products intended for remelting. Because this was exacerbating critical shortages of scrap in the Russian economy, the Russian Government passed a law to sharply curtail scrap exports in 2000 [to 106,200 metric tons (t) of aluminum and 18,800 t of copper in 2000 from 407,900 t of aluminum and 201,100 t of copper in 1999]. Russia also actively sought to impose additional measures to further curtail nonferrous scrap exports.

Commodity Overview

Metals

Aluminum, Alumina, and Bauxite.—Although production of bauxite in Europe and Central Eurasia was just less than 10% of total world output, the region’s production of alumina and primary aluminum constituted 24% and 33%, respectively, of total world production. Despite the major and virtually equal shares of alumina and primary aluminum that were produced by Western Europe and Central Eurasia, Western Europe was the primary producer of secondary aluminum contributing slightly more than 90% of the 35% of total world production contributed by Europe and Central Eurasia. Western Europe showed apparent steady growth of secondary recovery of aluminum—28% in 1998, 29% in 1999, and 31% in 2000. In contrast to Western Europe, secondary recovery of aluminum in the Balkans, Central Europe, and Central Eurasia remained about 2% of total world production during this period.

Copper.—In 2000, mine production of copper in Europe and Central Eurasia amounted to about 14% of world production; major contributions by the Balkans and Central Europe (mainly Poland) and by Central Eurasia amounted to about 5% and 8%, respectively, of total world production. Central Eurasia, Western Europe, and Central Europe and the Balkans contributed about 9%, 8%, and 4%, respectively, of total world production of primary refined copper. Europe and Central Eurasia was the leading world producing region of secondary copper with about 59% of the total world output. Western Europe led in secondary copper recovery in 2000 with 44% of total world output. Central Eurasia’s share of secondary copper recovery amounted to about 10% of the world total, showing a marked increase compared with 3% of world production in 1998. Secondary copper production in Central Europe and the Balkans reached 5% of total world output from 3% in 1999.

Gold.—Europe and Central Eurasia accounted for about 12% of the world’s total production of gold. In 2000, this share of world production, however, continued to be dominated by Central Eurasia’s gold production (in descending order of output from Russia, Uzbekistan, Kazakhstan, and Kyrgyzstan. Central Eurasia’s share of world gold production has remained the same in 1999 and 2000, amounting to about 10% of total

world gold production.

Iron, Steel, and Ferroalloying Material.—In 2000, Europe and Eurasia's share of world output of iron ore, pig iron, and crude steel amounted to 18%, 31%, and 35%, respectively. Western Europe and Central Eurasia (mainly Russia and Ukraine) accounted for 20% and 12%, respectively, of world output of crude steel (table 2). Central Eurasia's share of world steel production (12%) represented an increase in the area's share of world crude steel production, compared with output levels achieved in 1999 (11%) and 1998 (9%). In Europe and Central Eurasia, the mine output of such ferroalloying materials as chromite, manganese, and nickel amounted to 24%, 19%, and 24%, of total world output, respectively, with the Central Eurasian countries of Kazakhstan, Ukraine, and Russia, accounting for the dominant share of these percentages, respectively. Central Eurasia (Russia) and Western Europe also contributed 22% and 16% of total world output of plant nickel, respectively.

Lead and Zinc.—Europe and Central Eurasia accounted for about 13% of total world mine production of lead, which represented a decline compared with 15% of world production achieved in 1999. Western Europe led the region with 8% of world mine production of lead. Central Eurasia was a relatively minor mine producer of lead whose output had not exceeded 2% of total world production for each year from 1997 to 2000. Central Europe and the Balkans saw mine lead production decline from 6% of world production in 1999 to 4% in 2000. Western Europe was also the region's major producer of primary and secondary refined lead, accounting for 21% and 32%, respectively, of total world production. Central Eurasia accounted for about 8% of total world primary refined lead production and showed a steady upward production trend during the 1997 to 2000 period. Similarly, Europe and Central Eurasia's mine output of zinc accounted for only 15% of world production; however, the production primary and secondary zinc metal accounted for about 69% and 29% of total world production, respectively. Western Europe accounted for about 50% of the world's production of primary zinc metal and 28% of its recovery of secondary zinc. Although secondary recovery of zinc in Central Eurasia and in Central Europe and the Balkans was insubstantial, the production of primary zinc reached 12% and 8%, respectively, of total world production, which doubled their shares of world production (6% and 4%) in 1998.

Mercury.—In 2000, Western Europe accounted for about 40% of world production of mercury. With Central Eurasia having contributed about 26% of total world production, the total output of mercury by Europe and Central Eurasia amounted to 66% of world production.

Nickel.—Europe and Central Eurasia's 24% share of world mine production of nickel in 2000 was almost entirely accounted for by the operations of Russia's Norilsk mining, smelting, and refining complex, which alone accounted for about 22% of world output. Norilsk's production was obtained from complex sulfide ores at Norilsk in Western Siberia and to a lesser degree on the Kola peninsula, near the border with Finland. A much smaller quantity of mined nickel came from the Ural Mountains (Russia accounting for the major portion of

this production, and Kazakhstan accounting for some production, as well). In Western Europe, relatively small quantities of nickel were mined in Greece from laterite deposits, and a much lesser amount was produced by Finland.

Palladium and Platinum.—As in the case of nickel, Russia's Norilsk complex accounted for the major share of the country's output of platinum-group metals (PGMs); a much smaller quantity of PGMs, mainly platinum, came from Russian placer deposits. In 2000, Russia produced about 94 t of palladium and 30 t of platinum, which accounted for virtually all Europe and Central Eurasia's output of PGMs. Only very minor platinum and palladium production was accounted for by Finland, Poland, and Serbia and Montenegro. Russia's production of palladium and platinum represented about 54% and 19%, respectively, of total world mine production in 2000. In contrast to platinum, which was used more in the manufacture of jewelry and in numismatics, palladium has found greater application in the industrial sector where it has been used to a great extent in the production of catalytic converters in automobiles to control exhaust emissions.

Russia's dominant role in world palladium production had a strong influence on the world market. In 2000, price spikes in PGMs, particularly palladium, were associated with uncertainties regarding the quantity of Russian exports and delays in exports. Palladium prices rose to about \$1,000 per troy ounce in 2000 from \$153 per troy ounce in 1995. It was uncertain to what extent the Russian Government was deliberately trying to raise the price of palladium, but the high price was to some extent jeopardizing future palladium sales from Norilsk. This had led some major auto makers to begin to look for ways to develop substitutes for palladium. Russia has the potential to increase its production of PGMs by more than 40% in the next few years, which is a major factor in determining the world's potential PGM supplies.

Silver.—Europe and Central Eurasia was an important source of mined silver, accounting for about 17% of world production in 2000, with major contributions coming from Central Europe and the Balkans (7%) and Central Eurasia (8%). The major portion of this output was byproduct of nonferrous metals processing.

Tin.—Mine output of tin in Europe and Central Eurasia, by world standards, was small, about 3% of total world production, with most production stemming from Central Eurasia (Russia). The production of secondary tin, however, was significant, accounting for 38% of world production, with Western Europe's share of world secondary tin output amounting to about 35% of total world output. Western Europe's output of secondary tin has shown significant growth compared with its 18% share in 1998. The estimated production of secondary tin in Central Eurasia has contributed about 2% of total world production each year from 1998 to 2000.

Titanium.—Europe and Central Eurasia's mine production of titanium was substantial, accounting for about 24% of world output in 2000, with both Western Europe and Central Eurasia (Ukraine) contributing equal amounts to the world total. Central Eurasia's share of mine production of titanium had grown to 12% of world production in 2000 from 4% in 1998. In 2000, Central Eurasia accounted for about 64% of total world

production of titanium sponge, with Russia contributing almost 80% of Central Eurasia's production.

Tungsten.—In 2000, Central Eurasia and Western Europe contributed 9% and 6%, respectively, to the world mine output of tungsten, which was a decrease from 12% and 7%, respectively, in 1999.

Industrial Minerals

Cement.—Europe and Central Eurasia accounted for about 17% of world cement production during the period from 1997 to 2000. Production was largely static in all areas during this time. In 2000, Western Europe accounted for about 12% of total world output of cement; Central Europe and the Balkans and Central Eurasia both accounted for about 3% of total world production of cement.

Diamond.—Europe and Central Eurasia was one of the world's major diamond-producing regions. In 2000, the region accounted for about 20% of world production of natural diamonds and about 80% of world synthetic diamond production. Russia, which produced more than 23 million carats of natural diamonds, accounted for virtually all the region's production of natural gem and industrial-grade diamonds. In 2000, Russia's output of natural diamonds increased by about 1% compared with that of 1999. Within the category of natural diamonds, Russia produced about equal amounts of gem- and industrial-grade material.

Europe and Central Eurasia was the dominant world producer of synthetic diamonds. In 2000, the region produced about 197 million carats, or about 80% of world production. Central Eurasia, dominated by Russian output of about 80 million carats, accounted for about 46% of world production. Western Europe, dominated by Ireland's production of about 60 million carats, accounted for about 34% of total world production. The distribution of synthetic diamond production into its gem- and industrial-grade components, however, was not available.

Nitrogen in Ammonia.—Central Eurasia was the largest regional producer of nitrogen in ammonia, amounting for about 14% of world production in 2000; lesser contributions to world output by Western Europe and by Central Europe and the Balkans amounted to 10% and 4%, respectively.

Phosphate Rock.—Major production of phosphate rock in Europe and Central Eurasia came from Central Eurasia (Russia), which accounted for about 10% of world production in 2000; production during the period from 1997 to 2000 has been uneven, ranging from 4% to 10% of world production. Phosphate rock production in other areas of Europe and Central Eurasia was insignificant.

Potash (K₂O Equivalent).—The region of Europe and Central Eurasia was a substantial source of potash, accounting for 49% of world production in 2000. Central Eurasia, which was the leading producer in the region, accounted for about 30% of total world production, followed by Western Europe, producing 19%.

Salt.—Major mine production of salt came from Western Europe, which accounted for about 20% of world production in

2000. Central Europe and the Balkans, led by Poland, accounted for about 4% of world output. Central Eurasia's share of salt production remained stable at about 3% of world production.

Sulfur.—Europe and Central Eurasia's share of world sulfur production steadily rose to about 28% in 2000 from 24% in 1997. In 2000, Central Eurasia led the region in the production of sulfur from all sources, accounting for about 14% of world output. Western Europe's share of world sulfur production was about 11%, while that of Central Europe and the Balkans, led by Poland, was about 4%, an increase from the 3% level attained in 1999 and 1998. All three subregions increased their shares of world sulfur production from the 12%, 10%, and 3%, respectively, in 1999.

Mineral Fuels

Anthracite.—Central Eurasia was the region's chief producer of anthracite, accounting for 5% of total world production in 2000; production by Central Europe and the Balkans, however, was negligible, and that of Western Europe accounted for about 2% of world output, a decline from the 4% share in attained 1999.

Bituminous Coal.—Central Eurasia accounted for about 9% of total world production of bituminous coal and also was the largest hard-coal-producing area in Europe and Central Eurasia, which accounted for 15% of world output. Production in Central Europe and the Balkans accounted for a 4% share of world output.

Lignite.—The region of Europe and Central Eurasia was the world's dominant regional producer of lignite, which almost attained a 70% share of world output in 2000. Lignite production by Western Europe, Central Europe and the Balkans, and Central Eurasia, respectively, was 28%, 27%, and 11% of world output in 2000.

Natural Gas.—Central Eurasia (mainly Russia) held a substantial share of the world's production of natural gas, which reached about 28% of the total in 2000 but remained unchanged from the 1999 and 1998 levels. Western Europe, however, saw its share of natural gas production decline to 9% in 2000 and to 12% in 1999 and 1998 from about 13% of the world total in 1997. A much lesser production share by Central Europe and the Balkans saw an increase to 2% from 1% of total world natural gas production.

Petroleum.—Central Eurasia (mainly Russia) also led the region in the production of petroleum, accounting for about 12% of world output in 2000. Western Europe was not far behind with a 9% share of total world petroleum output. Petroleum production in Central Europe and the Balkans was less than 1% of total world output.

Uranium.—Central Eurasia was the major regional source of mined uranium (U₃O₈), whose share of world output (U₃O₈ basis) has been steadily rising to 19% in 2000 and 18% in 1999 from 17% in 1998. On balance, Europe and Central Eurasia accounted for about 22% of world's uranium production in 2000.

Trade

Mineral commodity trade in transitional economy countries of Central Eurasia and of Central Europe and the Balkans showed mixed features. Of the transitional economy countries, the countries of the CIS were the major exporters of extracted and processed mineral commodities. Exports primarily went to countries outside the CIS, although there was also significant trade among the countries of the CIS for mineral products in which these countries were deficient, particularly for those mineral commodities that were not salable on world markets. Mineral commodity trade in Central Europe and the Balkans was largely distinguished by import dependence on natural gas and petroleum, on raw materials for iron and steel production, as well as on a variety of nonferrous metal ores. The CIS continued to be a significant exporter to the Balkan and Central European market of many of these commodities, especially hydrocarbons. With respect to general trade trends, the CEFTA member countries of Central Europe and the Balkans gradually have been redirecting a substantial portion of their trade from the FSU toward markets in the EU.

Steel trade in the region was of special importance. There has been a significant flow of steel to Western Europe from Central Europe and the Balkans as well as from other regions. World steel supply has been outstripping demand, and much of this surplus production has been targeted to the European market. In 2000, the top eight countries sending material into the EU, in order of descending tonnage, were Russia, Turkey, Poland, the Czech Republic, Ukraine, Slovakia, Brazil, and Bulgaria. These countries accounted for more than 55% of EU imports. Since 1997, imports from countries outside the EU into Italy, Spain, Sweden, and the United Kingdom have doubled or more than doubled and into Germany have risen by about one-half. Italy, Spain, and the United Kingdom were the largest recipients of steel imports deriving from outside the EU. While imports by the EU have doubled since 1997, imports by the United States, during the same period, have fallen by 12%.

During the latter half of the 1990s, an array of dumping charges were initiated against many steel producing countries in Central Eurasia and Central Europe and the Balkans. During the 1995 to 2002 period, 74 antidumping actions were initiated against Russian ferrous metals exporters, 33 of which resulted in sanctions. Other CIS steel producing countries were experiencing similar problems. The major problem, according to Russian analysts, was that Russian steel exports competed primarily based on their low price because they lacked the necessary attributes to compete on quality, which made these exports an easy target for antidumping actions. Russian analysts did not envision a quick resolution of this problem owing to the overcapacity for steel production on world markets. A longer term solution to facilitate sales on the world and domestic markets would require a restructuring of the Russian steel industry together with continued domestic economic restructuring to facilitate growth as well as an underlying modernization of the country's financial and legal systems.

The issue of iron and steel scrap was another aspect of steel trade that was of some concern in the region. During the 1990s, the transitional economy countries of Europe and Central Eurasia became a major source of ferrous scrap feedstock for Western Europe, which increasingly had been redirecting its steelmaking operations towards greater use of electric furnaces

(EAFs) to obtain greater energy savings and environmental benefits. In Central Europe and in the Balkans and Central Eurasia, the trend toward using EAFs, although nowhere near the levels attained in Western Europe, also had been growing incrementally. In the latter part of the 1990s, iron scrap exports to Western Europe decreased. Consequently, decreasing supplies of ferrous scrap to Western Europe and rising exports of steel from Central Europe and from the Balkans and Central Eurasia had pressed the steel interests in Western Europe to seek a reversal of these trends.

On balance, the EU and the United States continued to share the largest two-way trade and investment relationship in the world. In 1999, the U.S. trade deficit with the EU was about \$44 billion. U.S. merchandise exports to the EU were more than \$151 billion. U.S. merchandise imports from the EU were about \$195 billion. In 1998, U.S. foreign direct investment in the EU was almost \$434 billion, about one-half the country's foreign direct investment abroad; the EU's direct investment in the U.S. was almost \$482 billion, also about one-half its investment abroad. In contrast, commercial activity between the United States and Central Europe and the Balkans and Central Eurasia was significantly less developed.

Consumption

Consumption of practically all mineral commodities in the transitional economy countries of Europe and Central Eurasia had fallen sharply during the 1990s. To some extent, this linked the future of many of the mineral industries in these countries to a revival of consumption in this region. If there were to be a marked revival of demand, then many mineral commodities that were not economic to export could be marketed domestically. A revival of demand also would lessen the pressure to export many mineral products, which could dampen some of the dumping charges that were being leveled at many of the transitional economy countries. A revival of domestic demand would result not only in increased domestic consumption, but also in the production from these mineral commodities of more value-added products for export. If a large portion of the population of the transitional economy countries were to consume minerals at a rate comparable to other more developed industrialized economies, then it would significantly change the mineral trade profile of this region, probably to the economic advantage of some mineral producers and to the disadvantage of some consumers of mineral products in other parts of the world. As would be the case with any major populated region of the world that was raising its mineral consumption to the level of more advanced industrialized countries, the overall demand for the world's mineral resources would increase.

Consumption of minerals in Western Europe has not shown any significant shifts in 2000 and several preceding years. The area's low population growth combined with the attributes of an advanced industrial economy have accounted for the steady rate of mineral consumption.

Outlook

Metals

Western Europe.—With a technologically advanced industrial base but a static demographic picture, Western Europe should continue to rely less on domestic mining for

most metals and more on imported ore and concentrates of ferrous and nonferrous metals. An increased use of secondary metals also will reduce reliance on primary raw materials. Most likely production increases in this area will be associated with increased exports of durables and consumer products manufactured in Western Europe. Domestic consumption should not be expected to rise in the near future.

Central Europe and the Balkans.—In contrast to Western Europe, almost all the countries in this subregion have a significantly lower base of development with respect to markets, industrial efficiency, commercial and social infrastructure, and per capita GDP. The process of transitioning to market economies that would be more in accord with those of Western Europe will continue. This development will require major inputs of iron and steel as well as nonferrous metals to modernize the area's industries and infrastructure. Consequently, increasing consumption of these metals is to be anticipated. This area does have local resources of such nonferrous metals as bauxite, copper, lead, and zinc, whose output should increase to meet most rising consumption requirements. Central Europe, however, will continue to rely on imports of iron ore and concentrate mainly from the CIS and the EU. The drawdown on stocks of iron and steel scrap for domestic consumption also should increase to meet the changing profiles of the area's steel industries.

Central Eurasia.—The CIS, led by Russia and Kazakhstan, will remain a major supplier of most ferrous, nonferrous, and precious metals to the world market for the foreseeable future. As in the case of Central Europe, increased domestic consumption of these commodities is to be anticipated but exports should remain at a high level, given the high profits that are available from their sale outside the region.

Industrial Minerals

Western Europe.—The production of most major industrial minerals has remained stable during recent years. As in the case of metals, production increases more than likely would be directed toward export rather for domestic sales.

Central Europe and the Balkans.—There are adequate resources of most industrial minerals in the region to meet anticipated production and consumption increases. Almost all cement manufacturing and associated quarrying activities have been acquired by major EU cement and building materials manufacturers, and many of these enterprises have been undergoing modernization to bring them into accord with EU standards.

Central Eurasia.—There are adequate resources of most industrial minerals in the region to meet any anticipated production and consumption increases.

Mineral Fuels

Western Europe.—With the exception of North Sea hydrocarbon production, Western Europe's sources of energy should continue to be based on imports from the Middle East and from the CIS area. A resolution of the pipeline issue described in this report would increase Western Europe's imports from Caspian Sea oil-and-gas-producing areas of the CIS. Consonant with the expected consumption of most nonfuel minerals, major increases of fuel consumption in the near term were not anticipated.

Central Europe and the Balkans.—Most of the countries in the region are net importers of energy. Domestic production of brown coal and lignite for electric power generation will be maintained to reduce the cost of imported natural gas and petroleum, which has been largely supplied by the CIS. Poland's hard coal industry will continue to modernize and should continue to play an important regional role in the energy field.

Central Eurasia.—Russia and other CIS oil and gas producers will 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, however, also will depend in large measure on the resolution of the pipeline issue for their delivery. The area has sufficient resources to meet demand increases in both domestic and export markets.

TABLE 1
EUROPE AND CENTRAL EURASIA: OVERVIEW OF POPULATION AND GROSS DOMESTIC PRODUCT IN 2000

Major areas and economic affiliations	Population		Gross domestic product 1/		
	Total	Growth rate 2/	Gross value (billions)	Per capita	Growth rate 2/
Western Europe:					
European Union:					
Austria	8,150,835	0.24	\$203	\$25,000	3.10
Belgium and Luxembourg	10,258,762	0.16	259	25,300	4.10
Denmark, Faroe Islands, Greenland	5,352,815	0.30	138	25,500	2.80
Finland	5,175,783	0.16	118	22,900	5.60
France	59,551,227	0.37	1,448	24,400	3.10
Germany	83,029,536	0.27	1,936	23,400	3.00
Greece	10,623,835	0.21	182	17,200	3.80
Ireland	3,840,838	1.12	82	21,600	9.90
Italy	57,679,825	0.07	1,273	22,100	2.70
Netherlands	15,981,472	0.55	388	24,400	4.00
Portugal	10,066,253	0.18	159	15,800	2.70
Spain	40,037,995	0.10	721	18,000	4.00
Sweden	8,875,053	0.02	197	22,200	4.30
United Kingdom	59,647,690	0.23	1,360	22,800	3.00
Total population and average growth rate	378,271,919	0.28	XX	XX	XX
Total GDP; average per capita GDP; average net GDP growth rate	XX	XX	8,464	20,707	3.74
European Free Trade Association:					
Iceland	277,906	0.54	7	24,800	4.30
Norway	4,503,440	0.49	124	27,700	2.70
Switzerland	7,283,274	0.27	207	28,600	3.00
Total population and average growth rate	12,064,620	0.43	XX	XX	XX
Total GDP; average per capita GDP; average net GDP growth rate	XX	XX	331	18,767	1.90
Unaffiliated countries, Malta					
	394,583	0.74	6	14,300	3.40
Central Europe and the Balkans:					
Central European Free Trade Agreement:					
Bulgaria	7,707,495	-1.14	48	6,200	5.00
Czech Republic	10,264,212	-0.07	132	12,900	2.50
Hungary	10,106,017	-0.32	113	11,200	5.50
Poland	38,633,912	-0.03	328	8,500	4.80
Romania	22,364,022	-0.21	133	5,900	2.20
Slovakia	5,414,937	0.13	55	10,200	2.20
Slovenia	1,930,132	0.14	23	12,000	4.50
Total population and average growth rate	96,420,727	-0.21	XX	XX	XX
Total GDP; average per capita GDP; average net GDP growth rate	XX	XX	832	9,557	3.18
Unaffiliated countries:					
Albania	3,510,484	0.88	11	3,000	7.50
Bosnia and Herzegovina	3,922,205	1.38	7	1,700	8.00
Croatia	4,334,142	1.48	25	5,800	3.20
Macedonia	2,046,209	0.43	9	4,400	5.00
Serbia and Montenegro	10,677,290	-0.27	24	2,300	15.00
Total population and average growth rate	24,490,330	0.78	XX	XX	XX
Total GDP; average per capita GDP; average net GDP growth rate	XX	XX	52	3,725	5.93
Central Eurasia:					
Commonwealth of Independent States:					
Armenia	3,336,100	-0.21	10	3,000	5.00
Azerbaijan	7,771,092	0.32	24	3,000	11.40
Belarus	10,350,194	-0.15	79	7,500	4.00
Georgia	4,989,285	-0.59	23	4,600	1.90
Kazakhstan	16,731,303	0.03	86	5,000	10.50
Kyrgyzstan	4,753,003	1.44	13	2,700	5.70
Moldova	4,431,570	0.05	11	2,500	-1.50
Russia	145,470,197	-0.35	1,120	7,700	6.30
Tajikistan	6,587,681	2.12	7	1,140	5.10
Turkmenistan	4,603,244	1.85	20	4,300	16.00
Ukraine	48,760,474	-0.78	189	3,850	6.00
Uzbekistan	25,155,064	1.60	60	2,400	2.10
Total population and average growth rate	282,939,207	0.44	XX	XX	XX
Total GDP; average per capita GDP; average net GDP growth rate	XX	XX	1,642	3,974	6.04

See footnotes at end of table.

TABLE 1--Continued
EUROPE AND CENTRAL EURASIA: OVERVIEW OF POPULATION AND GROSS DOMESTIC PRODUCT IN 2000

Major areas and economic affiliations	Population		Gross domestic product 1/		
	Total	Growth rate 2/	Gross value (billions)	Per capita	Growth rate 2/
Central Eurasia--Continued:					
Unaffiliated countries:					
Estonia	1,423,316	-0.55	\$15	\$10,000	6.40
Latvia	2,385,231	-0.81	17	7,200	5.50
Lithuania	3,610,535	-0.27	26	7,300	2.90
Total population and average growth rate	7,419,082	-0.54	XX	XX	XX
Total GDP; average per capita GDP; average net GDP growth rate	XX	XX	58	8,167	4.93

XX Not applicable.

1/ Calculated on the basis of purchasing power parity.

2/ Calculated as percentage change from 1999 to 2000.

Source: U.S. Central Intelligence Agency, 2001, The world factbook 2001: U.S. Central Intelligence Agency, 658 p. Country references are in the respective country chapters in this volume.

TABLE 2
EUROPE AND CENTRAL EURASIA: SELECTED EXPLORATION SITES IN 2000

Location	Type 1/	Site	Commodity 2/	Company	Resource notes 2/ 3/	Exploration notes 4/
Finland	E	Penikat/Portimo	PGM, Ni, Cu	Outokumpu Oyj	2.9 million troy ounces PGM	Extensive drilling.
Greece	F	Olympias	Au, Ag	TVX Gold Inc.	4.09 million troy ounces Au equivalent	Development approved.
Greenland	E	Nalunaq	Au	Crew Development Corp.	425,000 troy ounces Au	Bulk sampling and test mining.
Romania	F	Rosia Montana	Au, Ag	Gabriel Resources Ltd.	62 million troy ounces Au, 11 million troy ounces Au	Feasibility drilling.
Sweden	P	Renstrom/Simon	Au, Zn, Cu, Pb, Ag	Boliden Ltd.	Data not released	Extensive drilling.
Do.	do.	Skellefte/Kristineberg	Au, Cu	do.	do.	Do.

1/ D--approved for development; E--active exploration; F--feasibility work ongoing/completed; P--exploration at producing site.

2/ Ag--silver; Au--gold; Cu--copper; Ni--nickel; Pb--lead; PGM--platinum-group metals; Zn--zinc.

3/ Based on 2000 data reported from various sources. Values vary from measured reserves to identified resources. Data not verified by the USGS.

4/ Indicates stage of ongoing activity.

TABLE 3
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals													
	Iron and steel						Ferroalloying materials							
	Iron ore		Pig iron and direct-reduced iron		Crude steel		Chromite		Manganese ore		Nickel			
	Metal content	Percent change 3/	Metal content	Percent change 3/	Gross weight	Percent change 3/	Gross weight	Percent change 3/	Gross weight	Percent change 3/	Mine Metal content	Percent change 3/	Plant Metal content	Percent change 3/
Central Eurasia:														
Armenia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Azerbaijan	NA	NA	--	--	25	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	1,623	21	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	50	233	--	--	59	18	--	--	--	--
Kazakhstan	9,200	(4)	4,010	17	4,799	18	2,607	8	720	(27)	3	(57)	--	--
Kyrgyzstan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	500	4	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	905	14	--	--	--	--	--	--	--	--
Russia	50,000	(39)	46,518	1,053	59,098	15	100	--	115	5	270	4	248	4
Tajikistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	30,600	17	25,699	17	31,780	19	--	--	2,741	38	--	--	--	--
Uzbekistan	--	--	--	--	420	22	--	--	--	--	--	--	--	--
Total	89,800	(24)	76,227	159	99,200	16	2,707	8	3,635	16	273	2	248	4
Percentage of world total	15	(30)	12	145	12	8	19	5	18	17	22	(8)	22	(3)
Eastern and Central Europe:														
Albania	--	--	10	--	180	3,500	70	(11)	--	--	--	--	--	--
Bosnia and Herzegovina	50	43	100	--	150	36	--	--	2	--	--	--	--	--
Bulgaria	300	58	1,220	11	1,900	(5)	--	--	50	--	--	--	--	--
Croatia	--	--	--	--	68	(12)	--	--	--	--	--	--	--	--
Czech Republic	--	--	4,621	15	5,700	2	--	--	--	--	--	--	--	--
Hungary	--	--	1,340	2	1,871	3	--	--	20	33	--	--	--	--
Macedonia	9	800	--	--	--	--	5	--	--	--	--	(100)	--	(100)
Poland	--	--	6,492	23	10,498	19	--	--	--	--	--	--	(4/)	--
Romania	70	(1)	3,069	2	4,770	10	--	--	22	(63)	--	--	--	--
Serbia and Montenegro	15	--	563	317	682	202	--	--	--	--	--	--	--	--
Slovakia	200	(20)	3,000	(3)	3,600	--	--	--	--	--	--	--	--	--
Slovenia	--	--	--	--	450	11	--	--	--	--	--	--	--	--
Total	644	15	20,415	13	29,869	10	75	(5)	94	22	--	(100)	(4/)	(100)
Percentage of world total	(5/)	--	3	7	4	3	1	(8)	(5/)	--	--	--	--	--
Western Europe:														
European Free Trade Association														
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	369	(63)	60	--	620	1	--	--	--	--	3	--	59	(20)
Switzerland	--	--	100	--	1,140	14	--	--	--	--	--	--	--	--
Total	369	(63)	160	--	1,760	9	--	--	--	--	3	--	59	--

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued													
	Iron and steel						Ferroalloying materials							
	Iron ore		Pig iron and direct-reduced iron		Crude steel		Chromite		Manganese ore		Nickel			
	Metal content	Percent change 3/	Metal content	Percent change 3/	Gross weight	Percent change 3/	Gross weight	Percent change 3/	Gross weight	Percent change 3/	Mine Metal content	Percent change 3/	Plant Metal content	Percent change 3/
Western Europe--Continued:														
European Union														
Austria	500	32	4,318	10	5,725	10	--	--	--	--	--	--	2	--
Belgium	--	--	8,472	(4)	11,637	1	--	--	--	--	--	--	--	--
Denmark and Greenland	--	--	--	--	783	12	--	--	--	--	--	--	--	--
Finland	--	--	2,983	1	4,096	4	640	1	--	--	3	200	54	2
France	--	(100)	13,661	(1)	21,002	4	--	--	--	--	--	--	10	(17)
Germany	--	--	30,846	13	46,376	10	--	--	--	--	--	--	--	--
Greece	575	--	--	--	1,056	(12)	12	--	3	--	20	25	17	31
Ireland	--	--	--	--	375	19	--	--	--	--	--	--	--	--
Italy	--	--	11,223	7	26,544	6	--	--	5	--	--	--	--	--
Luxembourg	--	--	--	--	2,571	3	--	--	--	--	--	--	--	--
Netherlands	--	--	4,969	(6)	5,667	(7)	--	--	--	--	--	--	--	--
Portugal	6	(14)	382	(2)	1,060	25	--	--	--	--	--	--	--	--
Spain	--	--	4,059	(2)	15,844	13	--	--	--	--	--	--	--	--
Sweden	12,747	11	3,146	(2)	5,227	3	--	--	--	--	--	--	--	--
United Kingdom	1	--	10,989	(11)	15,306	(8)	--	--	--	--	--	--	38	(3)
Total	13,829	10	95,048	2	163,269	5	652	1	8	--	23	35	121	2
Total, Western Europe	14,198	5	95,208	2	165,029	5	652	1	8	--	26	30	180	(7)
Percentage of world total	2	(3)	16	(3)	20	(2)	5	(2)	(5/)	--	2	16	16	(13)
Total, Europe and Central Eurasia	104,642	(21)	191,850	37	294,098	9	3,434	6	3,737	16	299	3	428	(1)
Percentage of world total	18	(27)	31	29	35	2	24	3	19	17	24	(7)	38	(8)
United States	39,700	9	49,400	3	102,000	5	--	--	--	--	--	--	--	--
Percentage of world total	7	--	8	(3)	12	(3)	--	--	--	--	--	--	--	(100)
Total, world	580,000	8	612,000	6	846,000	8	14,400	3	20,200	(1)	1,250	12	1,120	7

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued															
	Aluminum								Copper							
	Bauxite		Alumina		Metal				Antimony, mine output		Mine		Refined 6/			
	Quantity	Percent change 3/	Quantity	Percent change 3/	Primary	Secondary	Quantity (metric tons)	Percent change 3/	Metal content	Percent change 3/	Primary	Secondary	Metal content	Percent change 3/	Metal content	Percent change 3/
Central Eurasia:																
Armenia	--	--	--	--	--	--	--	--	--	--	14	--	--	--	--	--
Azerbaijan	--	--	200	1,900	(4/)	(5/)	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	--	--	--	--	--	--	8	--	--	--	--	--
Kazakhstan	3,730	3	1,217	6	--	--	--	--	--	--	430	15	395	9	--	--
Kyrgyzstan	--	--	--	--	--	--	--	--	150	50	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	4,200	(12)	2,850	7	3,245	3	--	--	4,500	13	570	8	640	(5/)	200	33
Tajikistan	--	--	--	--	300	31	--	--	2,000	11	--	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	1,360	11	119	6	129	--	--	--	--	--	--	--	--	--
Uzbekistan	--	--	--	--	--	3	--	--	--	--	92	39	75	4	5	--
Total	7,930	(5)	5,627	11	3,664	5	132	(5/)	6,650	13	1,114	13	1,110	3	205	32
Percentage of world total	6	(11)	11	9	15	1	2	10	6	3	8	7	9	--	10	27
Eastern and Central Europe:																
Albania	--	(100)	--	--	--	--	--	--	--	--	--	--	(4/)	--	--	--
Bosnia and Herzegovina	75	--	50	25	95	1,800	5	--	--	--	--	--	--	--	--	--
Bulgaria	--	--	--	--	--	--	4	--	--	--	76	1	26	73	5	--
Croatia	--	--	--	--	35	--	16	7	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	40	--	--	--	--	--	--	--	20	--
Hungary	1,047	16	150	(49)	34	13	65	--	--	--	--	--	12	--	--	--
Macedonia	--	--	--	--	--	--	5	--	--	--	10	11	--	--	--	--
Poland	--	--	--	--	52	2	6	--	--	--	454	(2)	466	4	20	(9)
Romania	--	--	417	51	179	3	(4/)	--	--	--	16	(6)	14	(30)	4	--
Serbia and Montenegro	630	26	250	60	96	32	--	--	--	--	53	2	46	(4)	40	1,900
Slovakia	--	--	100	--	110	(15)	--	--	--	--	--	--	20	(96)	--	--
Slovenia	--	--	70	(30)	84	20	--	--	--	--	--	--	--	--	--	--
Total	1,752	18	1,037	7	685	21	141	1	--	--	609	(2)	584	(44)	89	68
Percentage of world total	1	12	2	5	3	16	2	(7)	--	--	5	(7)	4	(46)	5	61
Western Europe:																
European Free Trade Association																
Iceland	--	--	--	--	226	2	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	1,026	1	255	43	--	--	--	--	27	(18)	--	--
Switzerland	--	--	--	--	36	6	6	(60)	--	--	--	--	--	--	--	--
Total	--	--	--	--	1,288	1	261	35	--	--	--	--	27	(18)	--	--

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued															
	Aluminum								Antimony, mine output		Copper					
	Bauxite		Alumina		Metal				Quantity (metric tons)	Percent change 3/	Mine		Refined 6/			
	Quan- tity	Percent change 3/	Quan- tity	Percent change 3/	Primary		Secondary				Metal content	Percent change 3/	Metal content	Percent change 3/	Metal content	Percent change 3/
Western Europe--Continued:																
European Union																
Austria	--	--	--	--	--	--	158	23	--	--	--	--	2	--	77	1
Belgium	--	--	--	--	--	--	1	--	--	--	--	--	236	17	187	--
Denmark and Greenland	--	--	--	--	--	--	33	136	--	--	--	--	--	--	--	--
Finland	--	--	--	--	--	--	43	--	--	--	12	9	100	(5)	14	(7)
France	--	--	400	(27)	441	(3)	270	13	--	--	(4/)	--	--	--	2	--
Germany	--	--	600	--	644	2	572	18	--	--	--	--	335	24	375	(12)
Greece	1,991	8	600	(4)	163	3	3	--	--	--	--	--	--	--	--	--
Ireland	--	--	1,200	--	--	--	--	--	--	--	--	--	--	--	--	--
Italy	--	--	950	(2)	190	2	568	13	--	--	--	--	--	--	70	141
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	302	6	119	13	--	--	--	--	--	--	--	--
Portugal	--	--	--	--	--	--	18	500	--	--	76	(24)	--	--	--	--
Spain	--	--	1,200	--	366	1	241	8	--	--	23	475	265	10	65	--
Sweden	--	--	--	--	100	4	30	20	--	--	78	10	105	31	25	(17)
United Kingdom	--	--	100	--	305	12	285	4	--	--	--	--	1	--	49	(2)
Total	1,991	(1)	5,050	(4)	2,511	2	2,341	14	--	--	189	2	1,044	16	864	(2)
Total, Western Europe	1,991	(1)	5,050	(4)	3,799	2	2,602	16	--	--	189	2	1,071	15	864	(2)
Percentage of world total	1	(7)	10	(6)	15	(2)	31	7	--	--	1	(4)	8	11	44	(6)
Total, Europe and Central Eurasia	11,673	(2)	11,714	4	8,148	5	2,875	16	6,650	13	1,912	7	2,765	(9)	1,158	7
Percentage of world total	9	(7)	24	2	33	--	35	6	6	3	14	1	21	(13)	59	2
United States	NA	NA	4,780	(3)	3,670	(3)	3,450	(5/)	W	NA	1,470	(8)	1,590	(16)	208	(14)
Percentage of world total	NA	NA	10	(5)	15	(7)	42	(8)	NA	NA	11	(13)	12	(19)	11	(18)
Total, world	135,000	6	49,300	2	24,600	4	8,290	9	118,000	9	13,300	5	13,000	4	1,960	4

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued															
	Gold, mine output		Lead						Mercury, mine output		Platinum-group metals				Silver, mine output	
			Mine		Refined 6/						Palladium		Platinum			
	Quantity	Percent change 3/			Quantity	Percent change 3/	Primary	Percent change 3/	Secondary	Percent change 3/			Quantity	Percent change 3/	Quantity	Percent change 3/
(kilograms)		tity		tity		tity		(metric tons)		(metric tons)		(metric tons)		(metric tons)		
Central Eurasia:																
Armenia	400	(67)	--	--	--	--	--	--	--	--	--	--	--	--	1	--
Azerbaijan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	2,924	83	(4/)	--	--	--	--	--	--	--	--	--	--	--	34	--
Kazakhstan	28,171	28	39	15	206	29	--	--	--	--	--	--	--	--	927	3
Kyrgyzstan	22,000	10	--	--	--	--	--	--	260	(58)	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	140,000	11	13	--	59	97	--	--	50	--	94	11	30	11	370	(1)
Tajikistan	2,700	--	1	--	--	--	--	--	40	(47)	--	--	--	--	5	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	--	--	--	--	15	50	NA	NA	--	--	--	--	--	--
Uzbekistan	62,276	(25)	--	--	--	--	--	--	--	--	--	--	--	--	90	--
Total	258,471	1	53	10	265	39	15	50	350	(53)	94	11	30	11	1,427	(44)
Percentage of world total	10	--	2	8	8	37	1	--	26	(38)	54	11	19	21	8	(46)
Eastern and Central Europe:																
Albania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	(4/)	--	(4/)	--	--	--	--	--	--	--	--	--	--	--
Bulgaria	1,100	(27)	15	(12)	60	--	10	(23)	--	--	--	--	--	--	25	25
Croatia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	15	(38)	--	--	--	--	--	--	--	--
Hungary	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Macedonia	--	--	25	(4)	19	(37)	1	(80)	--	--	--	--	--	--	20	33
Poland	600	--	60	(51)	35	(30)	10	(33)	--	--	--	--	--	--	1,100	--
Romania	4,000	14	20	--	15	(25)	3	--	--	--	--	--	--	--	50	--
Serbia and Montenegro	1,200	(43)	9	200	1	(75)	--	--	--	--	(4/)	--	(4/)	--	8	(11)
Slovakia	300	(17)	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Slovenia	--	--	--	--	--	--	15	--	--	--	--	--	--	--	--	--
Total	7,200	(11)	129	(31)	130	(21)	54	(28)	--	--	(4/)	--	(4/)	--	1,203	1
Percentage of world total	(4/)	(100)	4	(72)	4	(88)	2	(95)	--	(100)	--	--	--	--	7	(73)
Western Europe:																
European Free Trade Association																
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Switzerland	--	--	--	--	--	--	8	(20)	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	8	(20)	--	--	--	--	--	--	--	--

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued															
	Gold, mine output		Lead						Mercury, mine output		Platinum-group metals				Silver, mine output	
			Mine		Refined 6/						Palladium		Platinum			
	Quantity	Percent change 3/			Quantity	Percent change 3/	Primary	Percent change 3/	Secondary	Percent change 3/			Quantity	Percent change 3/	Quantity	Percent change 3/
Western Europe--Continued:																
European Union																
Austria	--	--	--	--	--	--	24	(4)	--	--	--	--	--	--	--	--
Belgium	--	--	--	--	98	18	20	--	--	--	--	--	--	--	--	--
Denmark and Greenland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Finland	5,000	67	--	--	--	--	--	--	45	13	(4/)	--	(4/)	--	24	(20)
France	2,632	(27)	--	--	100	(19)	158	2	--	--	--	--	--	--	1	--
Germany	--	--	--	--	210	24	205	--	--	--	--	--	--	--	--	--
Greece	--	--	14	(13)	--	--	--	--	--	--	--	--	--	--	37	(16)
Ireland	--	--	59	34	--	--	12	(8)	--	--	--	--	--	--	16	7
Italy	1,000	--	2	(67)	75	12	160	8	--	--	--	--	--	--	4	(60)
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	20	--	--	--	--	--	--	--	--	--
Portugal	--	--	--	--	--	--	6	--	--	--	--	--	--	--	25	(7)
Spain	5,000	25	51	82	--	--	120	40	500	15	--	--	--	--	70	(27)
Sweden	6,000	36	108	(7)	38	--	48	45	--	--	--	--	--	--	300	--
United Kingdom	--	--	1	--	166	(10)	171	5	--	--	--	--	--	--	--	--
Total	19,632	31	235	11	687	3	944	6	545	15	(4/)	--	(4/)	--	477	(9)
Total, Western Europe	19,632	31	235	11	687	3	952	6	545	15	--	--	--	--	477	(9)
Percentage of world total	1	30	8	8	21	1	32	2	40	54	--	--	--	--	3	(12)
Total, Europe and Central Eurasia	285,303	2	417	(7)	1,082	6	1,021	4	895	(27)	94	11	30	11	3,107	(27)
Percentage of world total	11	2	13	(9)	33	4	35	--	66	(2)	54	11	19	21	17	(30)
United States	353,000	4	468	(10)	341	(3)	1,130	1	NA	NA	10	--	3	--	1,860	(5)
Percentage of world total	14	3	15	(12)	10	(4)	39	(3)	NA	NA	6	--	2	9	10	(8)
Total, world	2,550,000	(5/)	3,100	3	3,260	2	2,930	4	1,350	(25)	174	--	155	(8)	18,300	3

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued															
	Tin										Zinc					
	Mine		Smelter 6/				Titanium		Tungsten, mine output		Mine		Smelter 6/			
	Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/	Mine output, TiO ₂ content 7/	Metal, sponge	Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/
Central Eurasia:																
Armenia	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--
Azerbaijan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	--	--	--	--	--	--	(4/)	--	--	--	--	--
Kazakhstan	--	--	--	--	--	--	--	8	--	--	322	12	260	4	--	--
Kyrgyzstan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	5,000	11	4,700	119	500	25	--	30	3,500	--	136	3	230	2	--	--
Tajikistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	--	--	--	--	372	NA	--	--	--	--	--	--	--	--
Uzbekistan	--	--	--	--	--	--	--	--	--	(100)	--	--	18	(33)	--	--
Total	5,000	--	4,700	119	500	25	372	38	3,500	(5)	459	9	508	1	--	--
Percentage of world total	2	(8)	2	106	2	29	12	64	9	(21)	5	1	12	89	--	--
Eastern and Central Europe:																
Albania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	--	--	--	--	--	--	(4/)	--	--	--	--	--
Bulgaria	--	--	--	--	10	--	--	--	--	--	11	(8)	85	1	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	100	--	--	--	--	--	--	--	--	--	1	--
Hungary	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Macedonia	--	--	--	--	--	--	--	--	--	--	12	(40)	45	(6)	--	--
Poland	--	--	--	--	--	--	--	--	--	--	155	(17)	175	(2)	--	--
Romania	--	--	--	--	--	--	--	--	--	--	27	(4)	25	--	--	--
Serbia and Montenegro	--	--	--	--	--	--	--	--	--	--	3	(40)	8	167	--	--
Slovakia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--
Slovenia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	110	--	--	--	--	--	208	(17)	338	--	2	--
Percentage of world total	--	--	--	--	(5/)	--	--	--	--	--	2	(24)	8	86	1	(11)
Western Europe:																
European Free Trade Association																
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	50	--	336	--	--	--	--	--	126	(5)	--	--
Switzerland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	50	--	336	--	--	--	--	--	126	(5)	--	--

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Metals--Continued															
	Tin												Zinc			
	Mine		Smelter 6/				Titanium		Tungsten, mine output		Mine		Smelter 6/			
			Primary		Secondary		Mine output, TiO ₂	Metal, sponge	Quantity	Percent change 3/			Primary	Secondary		
Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/	Quantity (metric tons)	Percent change 3/	content 7/		Quantity (metric tons)	Percent change 3/	Quan- tity	Percent change 3/	Quan- tity	Percent change 3/	Quan- tity	Percent change 3/	
Western Europe--Continued:																
European Union																
Austria	--	--	--	--	--	--	--	--	1,600	(1)	--	--	--	--	--	--
Belgium	--	--	--	--	8,500	240	--	--	--	--	--	--	252	9	28	--
Denmark and Greenland	--	--	--	--	100	--	--	--	--	--	--	--	--	--	--	--
Finland	--	--	--	--	--	--	--	--	--	--	16	(20)	223	(1)	--	--
France	--	--	--	--	3	--	--	--	--	--	--	--	348	5	--	--
Germany	--	--	--	--	--	--	--	--	--	--	--	--	325	20	70	--
Greece	--	--	--	--	150	(25)	--	--	--	--	17	(11)	--	--	--	--
Ireland	--	--	--	--	--	--	--	--	--	--	263	16	--	--	--	--
Italy	--	--	--	--	--	--	--	--	--	--	--	--	168	16	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	--	--	--	--	--	--	215	(3)	--	--
Portugal	1,200	(52)	--	(100)	--	--	--	--	750	67	--	--	4	--	--	--
Spain	3	(89)	--	--	25	(50)	--	--	--	--	200	83	391	2	--	--
Sweden	--	--	--	--	--	--	--	--	--	--	176	1	--	--	--	--
United Kingdom	--	--	--	--	--	--	--	--	--	--	--	--	99	(26)	--	--
Total	1,203	(52)	--	(100)	8,778	208	--	--	2,350	14	672	22	2,025	4	98	--
Total, Western Europe	1,203	(52)	--	(100)	8,828	204	336	--	2,350	14	672	22	2,151	3	98	--
Percentage of world total	1	(60)	--	--	35	215	11	--	6	(5)	8	13	50	93	28	(11)
Total, Europe and Central Eurasia	6,203	(12)	4,700	109	9,438	177	708	38	5,850	2	1,339	10	2,997	3	100	--
Percentage of world total	3	(27)	2	97	38	186	23	64	16	(16)	15	1	69	91	29	(11)
United States	--	--	--	--	15,100	(8)	220	--	--	--	829	(2)	228	(5)	143	9
Percentage of world total	--	--	--	--	60	(4)	7	--	--	--	9	(9)	5	76	41	(3)
Total, world	238,000	20	258,000	6	25,000	(3)	3,020	59	37,400	20	8,730	9	4,340	(46)	348	13

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Industrial minerals													
	Cement, hydraulic		Diamonds				Nitrogen		Phosphate rock		Potash, K ₂ O		Salt	
			Natural 8/		Synthetic		Quantity				equivalent			
	Quantity	Percent change 3/	Quantity (thousand carats)	Percent change 3/	Quantity (thousand carats)	Percent change 3/	Quantity (N content of ammonia)	Percent change 3/	Gross weight	Percent change 3/	Quantity	Percent change 3/	Quantity	Percent change 3/
Central Eurasia:														
Armenia	219	(24)	--	--	--	--	--	--	--	--	--	--	30	11
Azerbaijan	200	--	--	--	--	--	--	--	--	--	--	--	4	--
Belarus	1,847	(8)	--	--	25,000	--	730	(3)	--	--	3,786	5	311	--
Estonia	329	(8)	--	--	--	--	128	(12)	--	--	--	--	--	--
Georgia	348	--	--	--	--	--	1	(99)	--	--	--	--	--	--
Kazakhstan	1,175	47	--	--	--	--	--	--	1,000	--	--	--	--	--
Kyrgyzstan	453	17	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	W	NA	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	570	(14)	--	--	--	--	420	5	--	--	--	--	--	--
Moldova	222	344	--	--	--	--	--	--	--	--	--	--	--	--
Russia	32,400	14	23,200	1	80,000	--	8,735	14	11,500	158	3,700	(12)	3,200	60
Tajikistan	50	67	--	--	--	--	1	(90)	--	--	--	--	--	--
Turkmenistan	450	(5)	--	--	--	--	75	(6)	--	--	--	--	215	(2)
Ukraine	5,311	(9)	--	--	8,000	--	4,351	17	--	--	30	(14)	2,287	(9)
Uzbekistan	3,521	7	--	--	--	--	810	3	300	100	--	--	--	--
Total	47,095	9	23,200	1	113,000	--	15,251	12	12,800	128	7,516	(4)	6,047	18
Percentage of world total	3	7	20	--	46	89	14	12	10	142	30	(3)	3	16
Eastern and Central Europe:														
Albania	110	(27)	--	--	--	--	10	--	1	--	--	--	10	--
Bosnia and Herzegovina	300	--	--	--	--	--	1	--	--	--	--	--	50	--
Bulgaria	1,700	--	--	--	--	--	533	(47)	--	--	--	--	2,500	92
Croatia	2,852	5	--	--	--	--	325	2	--	--	--	--	20	11
Czech Republic	4,093	(7)	--	--	--	--	246	10	--	--	--	--	--	--
Hungary	3,000	1	--	--	--	--	352	41	--	--	--	--	--	--
Macedonia	585	13	--	--	--	--	--	--	--	--	--	--	--	--
Poland	14,807	(4)	--	--	--	--	1,862	62	--	--	--	--	4,200	23
Romania	8,264	32	--	--	--	--	1,016	48	--	--	--	--	2,070	(10)
Serbia and Montenegro	2,117	34	--	--	--	--	100	32	--	--	--	--	78	22
Slovakia	3,000	--	--	--	--	--	271	8	--	--	--	--	100	(16)
Slovenia	1,300	18	--	--	--	--	--	--	--	--	--	--	2	(60)
Total	42,128	5	--	--	--	--	4,716	19	1	--	--	--	9,030	24
Percentage of world total	3	3	--	--	--	--	4	19	(5/)	--	--	--	4	21
Western Europe:														
European Free Trade Association														
Iceland	144	66	--	--	--	--	7	--	--	--	--	--	4	--
Norway	1,720	1	--	--	--	--	334	1,013	--	--	--	--	--	--
Switzerland	3,600	--	--	--	--	--	33	10	--	--	--	--	300	--
Total	5,464	1	--	--	--	--	374	523	--	--	--	--	304	--

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Industrial minerals													
	Cement, hydraulic		Diamonds				Nitrogen		Phosphate rock		Potash, K ₂ O equivalent		Salt	
			Natural 8/		Synthetic									
	Quantity	Percent change 3/	Quantity (thousand carats)	Percent change 3/	Quantity (thousand carats)	Percent change 3/	Quantity (N content of ammonia)	Percent change 3/	Gross weight	Percent change 3/	Quantity	Percent change 3/	Quantity	Percent change 3/
Western Europe--Continued:														
European Union														
Austria	3,900	3	--	--	--	--	450	--	--	--	--	--	401	--
Belgium	8,000	--	--	--	--	--	863	15	--	--	--	--	--	--
Denmark and Greenland	2,650	2	--	--	--	--	2	--	--	--	--	--	605	1
Finland	1,350	50	--	--	--	--	6	--	700	17	--	--	--	--
Finland	20,000	7	--	--	3,600	20	1,700	13	--	--	321	(8)	7,000	17
Germany	38,000	1	--	--	--	--	2,473	3	--	--	3,409	(4)	15,700	(1)
Greece	14,500	(3)	--	--	750	--	121	48	--	--	--	--	150	--
Ireland	2,000	--	--	--	60,000	--	410	2	--	--	--	--	--	--
Italy	36,000	6	--	--	--	--	408	11	--	--	--	--	3,600	(5)
Luxembourg	700	17	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	3,200	--	--	--	--	--	2,543	5	--	--	--	--	5,000	--
Portugal	9,200	(2)	--	--	--	--	246	10	--	--	--	--	600	--
Spain	30,000	7	--	--	--	--	442	1	--	--	522	(20)	3,200	(11)
Sweden	2,150	2	--	--	20,000	(20)	--	--	--	--	--	--	--	--
United Kingdom	12,800	(1)	--	--	--	--	814	(10)	--	--	600	21	5,800	--
Total	184,450	3	--	--	84,350	(5)	10,478	5	700	17	4,852	(4)	42,056	1
Total, Western Europe	189,914	3	--	--	84,350	(5)	10,852	8	700	17	4,852	(4)	42,360	1
Percentage of world total	12	1	--	--	34	80	10	8	1	--	19	(3)	20	(2)
Total, Europe and Central Eurasia	279,137	4	23,200	1	197,350	(5)	30,819	12	13,501	117	12,368	(4)	57,437	5
Percentage of world total	17	2	20	--	80	79	28	12	10	131	49	(3)	27	3
United States	89,500	2	--	--	--	(100)	12,300	(13)	38,600	(5)	1,300	8	45,600	1
Percentage of world total	5	--	--	--	--	(100)	11	(13)	29	1	5	9	21	(1)
Total, world	1,640,000	2	118,000	1	247,000	(47)	109,000	(5)	133,000	(6)	25,400	(1)	214,000	2

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Industrial minerals--		Mineral fuels											
	Continued		Coal						Natural gas				Uranium	
	Sulfur, all forms		Anthracite		Bituminous		Lignite		Quantity		Petroleum, crude		Quantity	
	Quantity	Percent change 3/	Quantity	Percent change 3/	Quantity	Percent change 3/	Quantity	Percent change 3/	(million cubic meters)	Percent change 3/	Quantity	Percent change 3/	(metric tons)	Percent change 3/
Central Eurasia:														
Armenia	--	--	--	--	--	--	--	--	--	--	--	--	NA	NA
Azerbaijan	--	--	--	--	--	--	--	--	5,600	(6)	14,100	2	--	--
Belarus	20	(97)	--	--	--	--	--	--	257	(14)	1,841	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	7	(30)	--	--	100	--	110	21	--	--
Kazakhstan	1,500	15	--	--	71,900	27	3,000	106	11,542	155	30,648	15	1,740	27
Kyrgyzstan	--	--	--	--	213	(17)	212	33	32	--	77	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	(100)	NA	NA
Moldova	--	--	--	--	40	25	--	--	--	--	--	--	--	--
Russia	5,900	32	1,050	(93)	172,060	4	83,740	--	584,000	(1)	325,000	7	2,000	--
Tajikistan	--	--	--	--	--	(100)	21	--	40	--	20	--	--	--
Turkmenistan	9	(10)	--	--	--	--	--	--	47,000	2,001	7,350	(6)	--	--
Ukraine	80	--	17,000	(5)	62,900	(4/)	1,067	(24)	17,847	900	3,693	(3)	500	--
Uzbekistan	460	1	--	--	80	38	2,480	(13)	55,600	(5/)	7,921	53	2,350	10
Total	7,969	14	18,050	(45)	307,200	7	90,520	1	722,018	9	390,760	7	6,590	10
Percentage of world total	14	14	5	(54)	9	5	11	(4)	33	19	11	5	16	(2)
Eastern and Central Europe:														
Albania	14	--	--	--	--	--	30	--	14,000	--	320,000	(1)	--	--
Bosnia and Herzegovina	1	--	--	--	--	--	1,800	--	--	--	--	--	--	--
Bulgaria	180	80	18	6	100	(97)	26,976	19	15	--	41	5	--	--
Croatia	15	--	--	--	--	(100)	--	--	1,768	25	1,768	9	--	--
Czech Republic	35	(13)	--	--	17,028	(1)	51,063	13	800	183	168	(5)	500	(18)
Hungary	30	--	--	--	725	(2)	13,080	671	3,000	(12)	1,136	(9)	10	--
Macedonia	15	150	--	--	--	--	7,000	(7)	--	--	--	--	--	--
Poland	1,699	13	--	(100)	103,331	769	59,484	(2)	4,956	(3)	653	54	--	--
Romania	65	5	14	--	--	(100)	29,279	35	14,577	929	6,038	(2)	50	(50)
Serbia and Montenegro	32	(68)	--	--	88	80	34,036	10	729	29	805	14	--	--
Slovakia	25	--	--	--	--	--	3,479	(7)	250	(12)	60	2	NA	NA
Slovenia	--	--	--	--	--	(100)	4,700	17	13	--	100	--	NA	NA
Total	2,111	11	32	(90)	121,272	226	230,927	15	40,108	222	330,769	(1)	560	(22)
Percentage of world total	4	11	(5/)	--	4	219	27	9	2	249	10	(3)	1	(31)
Western Europe:														
European Free Trade Association														
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	115	(2)	--	--	330	32	--	--	42	(100)	140,000	(9)	--	--
Switzerland	3	(25)	--	--	--	--	--	--	--	--	--	--	NA	NA
Total	118	(2)	--	--	330	32	--	--	42	(100)	140,000	(9)	NA	NA

See footnotes at end of table.

TABLE 3--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERALS IN 2000 1/ 2/

(Thousand metric tons, unless otherwise specified)

Region and/or country	Industrial minerals--		Mineral fuels											
	Continued		Coal						Natural gas		Petroleum, crude		Uranium	
	Sulfur, all forms		Anthracite		Bituminous		Lignite		Quantity		Quantity		Quantity	
Quantity	Percent change 3/	Quantity	Percent change 3/	Quantity	Percent change 3/	Quantity	Percent change 3/	(million cubic meters)	Percent change 3/	Quantity	Percent change 3/	(metric tons)	Percent change 3/	
Western Europe--Continued:														
European Union														
Austria	9	(84)	--	--	--	--	1,100	(3)	1,800	6	1,078	--	--	--
Belgium	410	37	--	--	--	(100)	--	--	375	--	--	--	--	--
Denmark and Greenland	11	10	--	--	--	--	--	--	--	(100)	11,900	1	--	--
Finland	850	1	--	--	--	--	--	--	--	--	--	--	NA	NA
France	1,110	35	200	(53)	3,166	(33)	297	(58)	2,600	31	1,887	1	319	(27)
Germany	1,240	2	1,300	(67)	36,000	(10)	168,051	4	22,000	(5)	3,172	15	40	21
Greece	78	8	--	--	--	--	62,000	7	40	--	476	--	--	--
Ireland	--	--	--	--	--	--	--	--	2,500	77	--	--	--	--
Italy	693	2	--	--	--	--	50	(17)	18,500	5	4,900	2	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	512	(12)	--	--	--	--	--	--	70,000	(7)	2,800	5	NA	NA
Portugal	30	275	--	--	--	--	--	--	125	--	--	--	10	--
Spain	685	(28)	4,651	(14)	6,681	6	12,153	(3)	179	--	238	(26)	251	(2)
Sweden	151	26	--	--	--	--	--	--	4,000	--	--	--	NA	NA
United Kingdom	191	(5)	797	(20)	31,175	(14)	--	--	105,000	6	124,079	(8)	NA	NA
Total	5,970	2	6,948	(36)	77,022	(12)	243,651	4	227,119	(5)	150,530	(6)	620	(16)
Total, Western Europe	6,088	2	6,948	(36)	77,352	(12)	243,651	4	227,161	(18)	290,530	(8)	620	(16)
Percentage of world total	11	2	2	(46)	2	(14)	28	(2)	10	(11)	8	(9)	2	(25)
Total, Europe and Central Eurasia	16,168	9	25,030	(43)	505,824	23	565,098	8	989,287	4	1,012,059	--	7,770	4
Percentage of world total	28	8	7	(52)	15	20	66	2	45	13	30	(2)	19	--
United States	10,300	(9)	4,150	(11)	892,000	(3)	77,600	1	548,000	4	298,200	(1)	1,720	(19)
Percentage of world total	18	(9)	1	(25)	27	(5)	9	(4)	25	13	9	(3)	4	(28)
Total, world	57,200	(5)	351,000	18	3,270,000	2	857,000	6	2,210,000	(8)	3,430,000	2	41,000	12

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

1/ Some of the individual entries in this table may differ from those appearing in individual country production tables elsewhere in this volume owing to the inclusion in this table of data received at a later date.

Percentages in parentheses are negative in value.

2/ U.S. data and world totals are rounded to no more than three significant digits.

3/ 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.

4/ Less than 1/2 unit.

5/ Less than 1% but greater than 0%.

6/ Primary production also includes undifferentiated (primary and secondary) production for those countries listed.

7/ Includes ilmenite, rutile, and titaniferous slag.

8/ Includes gem and industrial diamonds.