



2011 Minerals Yearbook

EUROPE AND CENTRAL EURASIA

THE MINERAL INDUSTRIES OF EUROPE AND CENTRAL EURASIA

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Europe and Central Eurasia as defined in this volume encompasses territory that extends from the Atlantic coast of Europe to the Pacific coast of the Russian Federation and includes the British Isles, Iceland, and Greenland (a self-governing part of the Kingdom of Denmark).

The European Union (EU) is a supranational entity that at yearend 2011 comprised the following 27 countries: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. The euro (€) operates as a single currency for countries within the EU that have fulfilled the stated requirements of the European Central Bank (located in Frankfurt, Germany) for inclusion in the euro area. As of January 1, 2012, the EU countries that were part of the euro area were Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain. Kosovo and Montenegro officially adopted the euro as their sole currency without an agreement with the euro area and therefore they did not have euro issuing rights in 2011 (European Commission, 2007).

Croatia signed an accession treaty with the EU in December 2011 and was to become part of the EU, pending ratification of the treaty, on July 1, 2013. Other countries that were candidates to join the EU were Iceland, Macedonia, Montenegro, Serbia, and Turkey (although no date was given for expected accession, as they were still in the negotiation stage). Albania, Bosnia and Herzegovina, and Kosovo (under UN Security Council Resolution 1244) were considered potential candidate countries and were expected to start negotiations for EU candidate country status (European Commission, 2007, p. 2–8).

The Commonwealth of Independent States (CIS) was founded in 1991 by several Republics of the former Soviet Union and later was extended to include all the former Soviet Republics except the Baltic States of Estonia, Latvia, and Lithuania. The countries that made up the CIS in 2010 were Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, and Uzbekistan. Georgia withdrew from the CIS in 2008, and Ukraine was not officially a member, although it continued to cooperate and participate in CIS-related agreements. The CIS does not have supranational powers, and all member countries have equal standing under international law. Although the member countries had pledged to work on economic integration, few actual measures have been taken to make the CIS a functioning integrated economic bloc similar to that of the EU. Some member states of the CIS, however,

established the Eurasian Economic Community with the goal of creating a full-fledged common market.

A Customs Union agreement between Belarus, Kazakhstan, and Russia went into effect on January 1, 2010. According to the agreement, the countries form a joint customs territory where no customs duties or other economic restrictions on the movement of goods apply. Each of the members of the Customs Union applies the same customs rates and trade regulations for goods traded with countries outside of the Customs Union. The members of the Customs Union were projected to save more than \$400 billion by 2015 owing to reduced shipping times. Kyrgyzstan and Tajikistan expressed their interest in joining the Customs Union in the future (International Centre for Trade and Sustainable Development, 2010).

Starting on January 1, 2012, the Customs Union among the three countries was transformed into a Common Economic Space (CES), which was the next step in the Eurasian integration process. The CES agreement removed barriers to the movement of goods, capital, and labor between the three countries. It also included coordinated principles of business regulation and coordination of macroeconomic and monetary policies, although it did not imply the introduction of a common currency. The Eurasian Economic Commission, which was a new supranational body, was expected to govern the integration processes within in the CES framework, had the right to make decisions that would become mandatory for all three states. In 2012, the CES court in Minsk, Belarus, which was to resolve economic disputes between member states as well as between individual economic agents, started operations. The complete package of CES integration documents included 17 international treaties and was signed in November 2011 in Moscow. The ultimate goal of the integration between the CES members is creation of a Eurasian Economic Union, which was planned for 2015 (Utro.ru, 2012).

The European Free Trade Association (EFTA), which is an alternative entity to the EU in Western Europe, comprised Iceland, Liechtenstein, Norway, and Switzerland. The agreement on the European Economic Area (EEA), which had been in force since 1994, brings all 27 EU members and 3 of the EFTA members (Iceland, Liechtenstein, and Norway) into a single internal market. The EEA provides for the free movement of goods, services, persons, and capital among the 30 EEA states. Switzerland was not part of the EEA but had a bilateral agreement with the EU that addresses the same issues covered by the EEA (European Free Trade Area, 2010).

The 49 countries in the Europe and Central Eurasia region encompass an area of 29.4 million square kilometers, which is about three times larger than that of the United States; 17.1 million square kilometers of the area are occupied by Russia.

In 2011, the 49 countries had a total population of 821 million people. The EU population in 2011 was 503.5 million people, which was about 60% larger than that of the United States. The total gross domestic product (GDP) based on purchasing power parity of the 49 countries in the region was about \$20 trillion, and the weighted average per capita GDP was \$24,464; the per capita GDP ranged from \$2,067 in Tajikistan to \$80,119 in Luxembourg (tables 1, 2).

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- Lithuania—Statistics Lithuania;
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General Economic Conditions

In 2011, the global mineral industry underwent a significant recovery, but unique exogenous shocks affected industrial output throughout the year. The recovery in industrial output growth from a period of slower growth in the second half of 2010 was interrupted in early 2011 by the adverse weather conditions and the shock to global supply chains as a result of the Tohoku earthquake and tsunami in Japan in March 2011. Industrial output growth began to strengthen again by midyear, but was negatively affected again by uncertainty brought about by the debate over the debt ceiling crisis in the United States and the fiscal crisis in the euro area. All these shocks and the rebounds from them affected industrial output growth to different degrees and had differentiated effects across regions, industries, and time.

Europe and Central Eurasia, where the industrial sector is reliant on demand from Europe, started the year strongly, with industrial output expanding at a 17% annualized growth rate; growth significantly weakened after March, however, and output contracted during much of the second and third quarters. In the last quarter of the year, the industrial activity recovered slightly, bolstered by increased industrial activity in Romania, Russia, and Ukraine. Although the economy of the region as a whole had average growth of 2.2%, the economies of a number of countries in the region grew at a much faster rate in 2011, including those of Turkmenistan (which expanded by 14.7%), Uzbekistan (8.3%), Estonia (7.6%), Kazakhstan (7.5%), and Tajikistan (7.4%) (International Monetary Fund, 2012; World Bank, The, 2012).

Uranium production in the region of Europe and Central Eurasia accounted for 52.9% of the world's production of this mineral commodity (measured in U_3O_8 content); lignite coal, 51.5%; refined palladium, 44.9%; and titanium metal, 44.6%. The region's output of potash (K_2O equivalent) accounted for 43.3% of world production; secondary aluminum, 39.3%; nickel metal, 37.4%; and secondary copper, 25.8%. The region also produced 20.6% of the world's output of primary aluminum, 19.9% of the world's output of primary copper, 19.3% of the world's output of crude steel, and 19.0% of the world's output of refined platinum. The region was practically self-sufficient in the production of construction materials and remained among the world's leading producers of natural gas. Russia accounted for 28.2% of total natural diamond (gemstone and industrial) production in the world (table 4). The region was a leading crude oil producer and had significant coal reserves.

The EU countries were substantial participants in the world mineral economy and occupied an important role mostly as processors and consumers of most major mineral commodities. In Central Eurasia, however, mining of several mineral commodities remained important and made significant contributions to the GDP and export revenues of the countries that produced them. In 2011, Central Eurasia remained a major world supplier of mined and processed minerals, and the consumption of these commodities in the region had increased in the past few years. The countries of Central and Eastern Europe and the CIS produced mineral commodities mainly for export, and the output of mineral commodities in these countries was significantly influenced by economic conditions in the

rest of the world. China and the EU were especially significant markets for mineral products from Central and Eastern Europe and the CIS. As economies began to show signs of recovering from the global economic crisis that began in 2008, consumption of mineral commodities increased and drove the recovery of production in the region.

In the CIS, Russia and Kazakhstan were the two leading producers of mineral commodities. In Russia, mining and quarrying contributed \$168.5 million (10.7%) to the total value added in the economy in 2011, and hydrocarbon production contributed about 22%. Mineral products made up 71.1% of the total value of Russian exports, and crude oil alone contributed 34.8% to the total value of exports. Petroleum products, natural gas, and ferrous metals accounted for 18.3%, 12.2%, and 4.7%, respectively (Federal State Statistics Service of the Russian Federation, 2012a, b).

Russia, which occupied about 80% of the territory of the CIS, was by far the largest country in the CIS in terms of both population and territory and had the leading mineral production sector. Many other CIS countries also were significant producers and processors of minerals. In 2011, Russia ranked among the top world producers or was a significant regional producer of such mineral commodities as aluminum, arsenic, asbestos, bauxite, boron, cadmium, cement, coal, cobalt, copper, diamond, fluor spar, gold, iron ore, lime, magnesium compounds and metals, mica (scrap sheet and flake), natural gas, nickel, nitrogen, palladium, peat, petroleum, phosphate rock, pig iron, platinum, potash, selenium, silicon, steel, sulfur, titanium sponge, tungsten, uranium, and vanadium.

In Kazakhstan, the value added by mining and quarrying made up 18.2% of the GDP. Total industrial production was valued at \$109 billion, of which \$68.8 billion (63%) was from mining and \$13.2 billion (12%) was from metallurgy (including \$5.4 billion from ferrous metallurgy). Mineral commodity exports made up 91% of the value of Kazakhstan's total exports. Mineral products accounted for \$68.3 billion (78%) of total exports, and base metals and articles thereof contributed \$11.6 billion (13%) (Agency of Statistics of the Republic of Kazakhstan, 2012).

Kazakhstan was a leading producer of uranium (36% of the world production); the third ranked producer of chromium (13%); and the fourth ranked producer of titanium sponge (17%), rhenium (6%), and magnesium metal (3%). The country was also a significant producer of such mineral products as barite, cadmium, copper, ferroalloys, lead, petroleum, and zinc. Ukraine was a significant producer of such mineral products as ferroalloys, iron ore, manganese ore, pig iron, steel, and titanium raw materials. Other CIS countries were significant world or regional producers of one or more mineral commodities, including Armenia (molybdenum), Azerbaijan (petroleum), Belarus (potash), Kyrgyzstan (antimony metal and mercury ore and metal), Tajikistan (antimony ore), Turkmenistan (natural gas), and Uzbekistan (gold and uranium), and all the CIS countries produced a range of other mineral commodities.

The EU was mostly dependent on imported mineral raw materials for metals, industrial minerals, and fuel minerals. The import dependence for many metal ores was 100% [including for antimony, cobalt, ilmenite, molybdenum,

niobium, platinum-group metals (PGMs), rare-earth metals, rutile, tantalum, and vanadium], and the EU was from 70% to 90% import dependent for most other metallic ores. The EU's dependence on imports of metallic mineral raw materials (such as concentrates, ores, and scrap) and obtaining sources of energy for its metal refining and processing industries were key concerns for the EU's mineral industry (European Commission, 2008).

As a major world mineral processing and consuming area, the EU remained a significant determinant of world demand for nearly all mineral commodities. Its mineral processing and manufacturing industries accounted for a significant share of the world production of semimanufactured and fabricated ferrous and nonferrous metals. In 2011, Germany was still the EU's dominant smelter and refiner of most metals. With a high per capita income and standard of living, the EU was one of the world's major consumers of mineral fuels and of mineral products in consumer goods.

Legislation

On January 1, 2012, the new Polish Geological and Mining Law of June 9, 2011, went into effect. One of the main goals behind the new law was to implement several EU directives into the Polish legal system. The new law makes administrative procedures more efficient, simplifies procedures for entrepreneurs, and implements the European Commission's (EC's) Directive 94/22/EC on the conditions for granting and using authorizations for the prospecting, exploration, and production of hydrocarbons. Those provisions are especially important with respect to mining deposits of shale gas, of which those in Poland were estimated to be the largest in Europe.

The new law also simplifies the rules and regulations for mining of minerals that are not of strategic importance, shortens the time in which the authorities are required to make decisions on projects, and sets a 2-year limit on inclusion of areas with mineral deposits into local zoning plans. The new law spells out the rights of entrepreneurs and property owners. For example, under certain conditions, entrepreneurs may request a buyout of real estate located in the mining area. At the same time, the term during which the landowners can make claims about damages resulting from mining activity is extended to 5 years. Overall, the new law makes the relationship between investors, land owners, and the Government less opaque. Strategic minerals, such as shale gas, continue to be considered the property of the state Treasury (Madej, 2011).

In Finland, a new Mining Act came into force on July 1, 2011. The new law promotes mining but also takes into account environmental issues and citizen and landowner rights and gives municipalities more tools to influence decisionmaking regarding mining projects. Under the new Mining Act, the right to exploit a deposit is based on a mining permit, and the review of permits is more comprehensive than under the previous law. The new Mining Act significantly increases the compensation to landowners. As under the previous law, the holders of exploration permits, mining permits, and gold panning permits are required to provide full compensation for any damages caused. In addition, the amount of the compensation that the license holder is required to pay the owner is increased under

the new law. For the first 4 years of the exploration permit, the compensation amount is set at €20 per hectare (\$10.8 per acre) and is to increase gradually after the fourth year. The compensation for gold panning is set at €50 per hectare (\$27 per acre), and the claim fee of €6.75 per hectare (\$3.65 per acre) payable to the state is abolished. The mining permit holders must pay an annual excavation fee of €50 per hectare and an additional excavation fee of 0.15% of the value of the minerals extracted from the land. The mining operator's termination and post-mining obligations are also more extensive, and the mining operator is required to provide a security deposit for the purpose of fulfilling those obligations. Also, under the new mining law, the supervision of mining affairs is transferred to the Finnish Safety and Chemicals Agency from the Ministry of Employment and the Economy (Mineweb.com, 2011).

The EC had proposed amendments to the existing EC directive on transparency requirements for listed companies and to directives on accounting rules for annual accounts and consolidated accounts. In particular, it proposed to introduce country-by-country reporting as part of the Responsible Business Initiative package of measures (IP/11/1238). The EC proposed to introduce a new requirement that listed and large nonlisted extractive and logging companies must report all material payments made to Governments, broken down by country, and, when these payments are linked to specific projects, by project. The types of payments include production entitlements; taxes on profits; royalties; dividends; signature, discovery, and production bonuses; license fees, rental fees, entry fees, and other payments for licenses and concessions; and other direct payments to the Governments. The proposal aims to improve the transparency of payments made to Governments all over the world by the extractive and logging industries. Such disclosure is intended to provide the public in resource-rich countries with the information needed to hold their Governments accountable to any income made through the exploitation of natural resources. The disclosed information would be made publicly available either through the stock market information repository or through the business registry of the country of incorporation. The requirement is similar to that in the Dodd-Frank Act in the United States (Europa.eu, 2011).

The United Kingdom enacted a new anti-bribery law, called the United Kingdom Bribery Act. The Act holds mining and mineral exploration companies accountable for any action that might be considered bribery (Creamer, 2011).

In 2011, a new mining code was in preparation in Kyrgyzstan. The conceptually new mining code was expected to outline the principles of mineral industry regulation and coordination of relations between investors, the Government, and the country's residents. The new law was still in the early stages of being written; the first draft was being prepared by a special working group. In the meantime, four new amendments to the old mining code were introduced; one of them was adopted and the other three were still under discussion. The adopted amendment states that all prospecting, development, and mining licenses can be issued only as a result of tenders and auctions. The Ministry of Natural Resources retains the authority to issue licenses either when the deposits are considered small or when only one party is interested in a particular resource body. The amendment went

into effect on November 1, 2011, and was expected to make the process of issuing mineral licenses more transparent.

Exploration

Information on the total exploration budget for Europe and Central Eurasia is not available; however, data provided by the Metals Economics Group (MEG) show that the budgets for projects in mainland Asia, the CIS, Europe, and the Middle East combined, increased by about 57% to about \$2.4 billion in 2011 from \$1.5 billion in 2010 (Metals Economics Group, 2011). The exploration budget for Russia was reported to have decreased to about \$337 million, or by about 3% of the world's exploration budget in 2011, compared with a decrease equivalent to 4% of the world's exploration budget in 2010. Selected exploration sites are listed in table 3.

In terms of the number of exploration sites, the greatest amount of exploration in Europe and Central Eurasia took place in Kazakhstan, Russia, and the Scandinavian countries, particularly Finland and Sweden. On the basis of exploration site data compiled by the USGS, Russia accounted for about 24% of the exploration sites, Kazakhstan accounted for 11%, Sweden accounted for 10%, and Finland accounted for about 8%. The exploration sites that made up the remaining 47% were located in 22 other countries in the CIS and Europe. Exploration activity in the CIS focused primarily on gold (69%), copper (8%), and iron ore, PGMs, rare-earth elements, and silver (4% each). European mineral exploration was focused primarily on gold (39%), nonferrous metals (26%), and iron ore and uranium (7% each); the remaining 21% was focused on nine other mineral commodities.

Commodity Overview

This report includes mineral commodity outlook tables. Estimates for production of major mineral commodities for 2011 and beyond have been based upon supply-side assumptions, such as announced plans for increased production or new capacity construction and bankable feasibility studies. The outlook tables in this summary chapter show historic and projected production trends; therefore, no indication is made about whether the data are estimated or reported and revisions are not identified. Data on individual mineral commodities in tables in the individual country chapters are labeled to indicate estimates and revisions. The outlook segments of the mineral commodity tables are based on projected trends that could affect current producing facilities and on planned new facilities that operating companies, consortia, or Governments have projected to come online within indicated timeframes. Forward-looking information, which includes estimates of future production, exploration and mine development, cost of capital projects, and timing of the start of operations, are subject to a variety of risks and uncertainties that could cause actual events or results to differ significantly from expected outcomes. Projects listed in the following section are presented as an indication of industry plans and are not a USGS prediction of what will take place.

Metals

Bauxite and Alumina and Aluminum.—In 2011, Kazakhstan and Russia accounted for the majority of bauxite production in the region with production of 5.5 million metric tons (Mt) and 4.5 Mt, respectively. Bauxite production was likely to increase gradually in Russia to a projected output of 5.5 million metric tons per year (Mt/yr) by 2018 whereas bauxite production in Kazakhstan was projected to remain unchanged within this timeframe. In 2011, Russia was the leading source of alumina in Europe and Central Eurasia with annual production of 2.9 Mt. Ireland ranked second with 1.9 Mt and was followed by Kazakhstan (1.7 Mt), Ukraine (1.6 Mt), and Spain (1.5 Mt) (table 4).

In 2011, Russia, which was the leading individual producer of primary and secondary aluminum in Europe and Central Eurasia, produced 3.9 Mt. The next ranked producers in the region were Norway (1.37 Mt); Italy (1.22 Mt), and Germany (1.07 Mt). The projected output of primary and secondary aluminum in Russia was expected to remain unchanged through 2018. Production capacity was expected to be increased in Italy to 1.5 Mt/yr by 2018, but it was not expected to change significantly in Germany and Norway (tables 4, 5, 6).

United Company RUSAL (RUSAL) of Russia was the world's leading producer of aluminum. RUSAL operated 14 smelters in Russia and Europe (12 in Russia, 1 in Ukraine, and 1 in Sweden). In 2011, RUSAL's global production of aluminum increased by just 1%, primarily because of the increased production in European Russia and Siberia, and at the Kubal plant in Sweden.

In April in Ukraine, RUSAL halted production at its Zaporozhye smelter because of high electricity costs. Electricity costs made up about 45% of the total cost of primary aluminum production in Ukraine, and RUSAL's attempts to convince the Government of Ukraine to supply electricity at reduced prices were not successful. The Eurallumina facility in Italy, which was owned by RUSAL, did not produce any alumina in 2011 owing to the suspension of operations. The reason provided by RUSAL was the high costs of running the facility. In Ireland, RUSAL owned an alumina refinery that was operated by Aughinish Alumina plc and was located on Aughinish Island on the south side of the Shannon estuary near Limerick City. Aughinish Alumina produced 1.93 Mt of alumina in 2011, which was a record amount for this refinery (United Company RUSAL, 2012).

The leading aluminum producer in Germany was Trimet Aluminium AG. Norsk Hydro ASA of Norway was the second ranked producer of aluminum in Germany, and the company also owned the largest capacity primary aluminum smelter in Germany (the Rheinwerk primary smelter at Neuss). In 2011, production of primary aluminum in Germany increased by 7.5%, and production of secondary aluminum increased by 3.8%. The increases happened despite the increased production cost of aluminum in both 2010 and 2011.

Copper.—In 2011, Russia was the region's leading producer of both mined copper and refined copper. Russia's mine production of copper was projected to increase to 750,000 metric tons per year (t/yr) by 2018 from 673,000 metric tons (t) in 2011.

Other leading producers of mined copper in 2011 were Poland (427,000 t), Kazakhstan (417,000 t), Bulgaria (105,000 t), and Uzbekistan (92,000 t). Russia's production of refined copper was projected to increase to 900,000 t/yr by 2018 from 884,000 t in 2011. Other leading producers of refined copper in 2011 were Germany (720,000 t), Poland (571,000 t), Belgium (380,000 t), and Kazakhstan (338,000 t). Production in Germany was expected to decrease slightly to 700,000 t/yr in 2018; production in Kazakhstan was projected to increase to 540,000 t/yr by 2018; and production in Poland was expected to remain at about the same level (tables 7, 8).

The two main copper producers in Russia were OAO Ural GMK and Nornickel, which together produced about 80% of the country's copper ore. About 60% of all copper was produced from deposits in the Norilsk ore province (located in the Taymyr municipality of Krasnoyarskiy Krai). Other places where copper deposits occur are the Murmansk region in the north and the Middle and Southern Ural Mountains.

Kazakhmys plc was the dominant producer of copper ore and metals in Kazakhstan; the company operated 17 mines, 10 concentrating plants, and 2 smelting and refinery plants. The company produced 303,000 t of copper contained in concentrate and 301,000 t of refined copper cathodes, which accounted for about 73% of the copper in concentrate and 89% of the refined copper produced in Kazakhstan in 2011, respectively. The average copper grade of crude ore produced by Kazakhmys decreased to 1.01% from 1.09% in 2010, resulting in a 6% decrease in the copper content of ore production despite a 1.5% increase in crude ore production. Ore grades were expected to continue to decrease, but Kazakhmys planned to partially offset this decrease by increasing crude ore production volumes. One of the new projects that was under development was Bozshakol Mine. The production at Bozshakol was planned for 2015, and the project was expected to produce 100,000 t/yr of copper in concentrate through 2030 (Kazakhmys plc, 2012).

Uzbekistan produced 92,000 t of mined and refined copper in 2011. The main copper producer in Uzbekistan was Almalyk GMK, which was located in the Tashkent region. The company had mining, beneficiation, and metallurgical facilities. Copper ore was mined from the Kalmakyr and the Sary-Cheku deposits; a new deposit, Dalnee, which is similar in ore structure to Kalmakyr, was to serve as a replacement as the first two deposits become depleted. In 2011, Almalyk completed construction of a new beneficiation plant for copper, lead, and zinc ores.

Gold.—In 2011, Europe and Central Eurasia accounted for about 14% of world gold production; the majority of gold produced in the region came from Central Eurasia. The principal producers, by volume, were Russia, which produced about 199,650 kilograms (kg) of primary gold, followed by Uzbekistan (91,000 kg), Kazakhstan (36,670 kg), and Kyrgyzstan (21,000 kg). Russia's production of gold is projected to increase to 220,000 kilograms per year (kg/yr) by 2018, and that of Uzbekistan and Kazakhstan is projected to increase to 93,000 kg/yr and 70,000 kg/yr, respectively. Russia, Uzbekistan, and Kazakhstan are projected to remain the principal producers of gold in the Europe and Central Eurasia region for the foreseeable future (table 9).

In 2011, Russia produced a total 212.1 t of gold, which included 185.3 t of primary recovery mine production, 14.35 t as a coproduct during mine production of other metals, and 9.3 t of secondary production; the remainder was likely artisanal production of alluvial gold. The total output in 2011 constituted a 4.7% increase compared with the output in 2010. Mine production of gold increased by 6.8% compared with that of 2010. In 2011, the leading gold-producing regions in Russia were Krasnoyarskiy Kray (39.3 t), Amurskiy Kray (28.5 t), Chukotskiy Avtonomnyy Okrug (19.6 t), and Sakha Republic (Yakutiya) (19.4 t). The leading producers of gold in 2011 were OAO Polyus Zoloto (43.0 t), Petropavlovsk plc (19.6 t), Kinross Gold Corp. (18.3 t), and OAO Polymetall (10.9 t). Gold prices had increased markedly in the past decade from an average of \$271 per troy ounce in 2001 to an average of \$1,572 per troy ounce in 2011. Given this price increase, the Union of Gold Producers of Russia put forward a proposed list of laws and regulations to promote further increases in gold production and a set of measures to be taken. The proposed changes included simplifying the procedure for obtaining gold exploration licenses, allowing regions to issue licenses for exploration and mining for deposits under 10 t, eliminating taxes on gold mining from alluvial and technogenous deposits, and adoption of the proposed Federal program for development of the gold mining industry. The Union stated that a realistic goal would be an increase in gold production to 300 t/yr (Braiko and Ivanov, 2011; Rough and Polished, 2011; Zolotonews.ru, 2012).

In 2011, Uzbekistan produced an estimated 91 t of gold. The main gold producer in Uzbekistan was Navoi mining and metallurgical complex (Navoi GMK), which was responsible for more than 80% of Uzbekistan's gold production. The resource base of Navoi GMK included 13 deposits that make up about 85% of all gold resources of Uzbekistan. The largest deposit, Muruntau (located in the central Qizilqum region), contained gold quartz ores and was mined by an open pit method. The Zamitan gold extraction complex, which was a part of the Navoi GMK, mined the Charmitan, the Gughumsai, the Karakutan, the Marjanbulak, and the Promezhutochnoe deposits in the Samarqand gold ore region. The Navoi GMK was one of the few mining complexes in the world that had a complete integrated cycle of gold production, from exploration to jewelry production and sale. The Navoi GMK included four metallurgical plants in Navoi, Uchkuduk, Zarafzhan, and Zarmitan; a mechanical engineering plant; a jewelry-making plant; and several research laboratories. Other gold producers in Uzbekistan included the Almalyk mining and metallurgical complex and Amantaytau Goldfields, which was a joint venture with Oxus Gold plc. of the United Kingdom.

In 2010, the President of Kazakhstan announced that Kazakhstan planned to more than double gold production to about 70 t/yr by 2017 (in 2011, Kazakhstan reported 36,670 kg of gold mine output) (Thomson Reuters, 2010). The likelihood of Kazakhstan reaching that production target was unknown, but a number of development projects were underway, and production could significantly increase. The leading producers of gold in Kazakhstan were Kazzinc JSC and Kazakhmys plc, which accounted for 36% and 10%, respectively, of Kazakhstan's total gold production in 2011. The companies'

development outlooks for gold production were not known, but gold production by Kazakhmys was likely to decrease because the Mizek Mine stopped production in 2010 and the Mukur Mine was expected to shut down in 2012. Kazakhmys' substantial Bozshakol copper development project was reported to contain gold and could be a significant new source of production.

As of 2011, Kyrgyzstan had 86 known gold deposits that contain more than 2,000 t of gold resources. The largest of the operating mines was the Kumtor gold mine, which is located about 350 kilometers (km) southeast of Bishkek. The Kumtor Mine was operated by Centerra Gold Inc. of Canada. In 2011, Centerra produced 6.02 Mt of gold ore and extracted 18.1 t of gold content. Kumtor contributed 11.7% to the GDP of Kyrgyzstan and 26.1% to the total industrial production of the country. The second ranked gold mine in Kyrgyzstan, the Makmal Mine, was wholly owned by the Kyrgyz Government. In 2011, the Makmal Mine produced about 505 kg of gold. As of 2011, at least three more deposits (Bozymchak, Jerooy, and Taldy-Bulak) were at various stages of development or very early production.

Iron and Steel.—Europe and Central Eurasia produced about 19.3% of the world's crude steel output and 15.2% of the pig iron and direct-reduced iron output in 2011. Russia was the leading producer of crude steel, with 68.1 Mt, followed by Germany (44.3 Mt), Ukraine (35.3 Mt), and Italy (28.7 Mt). Russia's production capacity was projected to increase slightly to 72 Mt/yr by 2018. The production volumes in Ukraine and Italy were expected to increase at a faster rate to 40 Mt/yr and 32 Mt/yr, respectively, and the output volume in Germany was projected to decrease slightly to 43 Mt/yr (tables 4, 10).

According to the World Steel Association, Ukraine was the world's eighth ranked producer of steel and the sixth ranked exporter. In 2011, Ukraine exported about 26 Mt of steel, which was about 76% of the country's total steel production. Metinvest Holding was the leading producer of crude steel in Ukraine and accounted for 41% of production. The iron and steel industry in Ukraine had the advantage of large domestic sources of iron ore but was dependent on export markets for product sales, and it operated inefficiently owing to a need for technical investment (Metall Ukrainy, 2011; Metinvest B.V., 2011; World Steel Association, 2012).

In 2011, Italy's pig iron production increased by about 15% compared with output in 2010 to 9.84 Mt, and the production of crude steel increased by about 11.6% to 28.7 Mt, which was still below Italy's highest ever production levels of 32 Mt achieved in 2007. Italy's apparent consumption of crude steel increased to 26.6 Mt and ranked the country second in the EU after Germany (World Steel Association, 2012).

Iron Ore.—Europe and Central Eurasia produced 9.9% of the world's iron ore in 2011; Russia produced 61.4 Mt (measured in Fe content), Ukraine produced an estimated 44.3 Mt; Sweden, 15.2 Mt; and Kazakhstan, an estimated 14.1. Russia's production was expected to increase to 65 Mt/yr by 2018; Ukraine's, to 50 Mt/yr; and Kazakhstan's, to 17 Mt/yr. Sweden's production was expected to remain practically unchanged (table 11).

Nickel.—In 2011, Europe and Central Eurasia accounted for 10.7% of the world's mined nickel and 37.4% of the world's

refined nickel production. Production of the region's mine output of nickel was almost entirely the result of Russian mining activity, and refined nickel production took place mainly in Russia and Western Europe. Russia accounted for about 84.9% of nickel mine output and 53.3% of nickel refinery production in the region in 2011. Other countries, most notably Finland and Greece, also mined nickel ore, but in much smaller amounts. Production of refined nickel was more diversified across different countries. Whereas Russia produced 281,000 t in 2011, Norway, the United Kingdom, and Finland produced 88,000 t, 52,000 t, and 49,000 t, respectively.

Russia was among the world's leading nickel mining countries in 2011. Nornickel was Russia's leading nickel producer and the world's leading nickel mining company; the company produced 16.4% of the world's mined nickel. Nornickel's operations in Russia were located on the Kola Peninsula in the northwest of the country and in the Norilsk region on the Taymyr Peninsula in East Siberia. Nornickel also owned assets in other countries; in particular, the Hajavatta smelter in Finland. The company was planning to invest more than \$35 billion in its Russian assets through 2025 with emphasis on aggressive technological development. By 2025, the company planned to increase crude ore production on the Kola Peninsula to 9.5 Mt, and on the Taymyr Peninsula, to 29 Mt.

Finland's Talvivaara nickel deposit was the largest nickel deposit in Europe; it was composed of two polymetallic deposits—the Kolmisoppi and the Kuusilampi—which are located about 30 km from Sotkamo. Based on estimated proven reserves, the deposit was considered to have resources to produce about 2.5% of the world's nickel during its scheduled 24-year operating life. Talvivaara's bioheap-leach project was planned to produce nickel from an open pit operation with cobalt, copper, and zinc as byproducts. In 2011, Talvivaara reported production of 16,087 t of nickel from its installations in Sotkamo. The company indicated that the nickel production capacity of between 25,000 t/yr and 30,000 t/yr was expected to be reached in 2012 (Mining Technology, 2008). The Kevitsa nickel deposit, which is located in northern Finland, was one of the world's major undeveloped nickel sulfide deposits. First Quantum Minerals Ltd. of Canada was planning to begin mining the Kevitsa deposit in early 2012 (NorthernMiner.com, 2012).

Platinum-Group Metals.—Within the region of Europe and Central Eurasia, almost all mining for platinum-group metals (PGMs) took place in Russia, although small amounts of PGMs were also mined in Finland, Poland, and Serbia. Russia and South Africa were the world's leading PGM ore producers; Russia was the world's leading producer of palladium, producing 84,300 kg, which accounted for 35% of the world's production. It also produced an estimated 25,900 kg of platinum (tables 4, 12, 13).

PGMs have important applications in the industrial sector. Palladium, platinum, and rhodium are critical components of catalytic converters, which control automobile emissions, and platinum is the critical catalytic element in proton exchange membrane fuel cells used in stationary devices to provide power to buildings and to power automobiles. PGMs are expected to be in much greater demand as the world's automobile fleet increases and is equipped with catalytic converters. As

legislation calling for stricter automobile emissions controls is enacted, greater loadings of PGMs in catalytic converters will likely be required. Also, the need for alternative sources of energy to petroleum could result in the development of a hydrogen-based economy powered by fuel cells that use platinum as a catalyst. Russia's production of mined palladium is expected to increase to 90,000 t/yr by 2018 from 84,300 t in 2011. Russia's production of mined platinum is expected to increase only slightly (tables 12, 13).

Tin.—Data on tin mine and metal production and projections for future production are in tables 14 and 15.

Titanium.—Europe and Central Eurasia produced about 6.9% of the world's production of ilmenite (which is an ore of titanium) and about 44.6% of world titanium metal sponge output in 2011. Ukraine was the leading producer of ilmenite, and produced an estimated 295,000 t of TiO₂ in 2011; Kazakhstan was a distant second, having produced 15,000 t of TiO₂. Russia was the leading producer of titanium sponge, having produced 25,000 t; Kazakhstan and Ukraine produced 20,700 t and 9,000 t, respectively (table 4).

The titanium industry in Ukraine consisted of ilmenite and rutile concentrate production, titanium sponge production at the Government-owned Zaporozhye Titanium & Magnesium Combine, and titanium ingot production by a small number of producers that had a combined capacity of 12,000 t/yr of titanium ingots. The dominant producers of ilmenite and rutile ores and concentrate were the Irshansk mining and beneficiation complex (GOK) and the Volnogorsk State Mining-Metals Complex. In addition, there was considerable activity in new projects involving production of mined titanium. The Mezhdurechensk GOK started production in 2011 and had an annual production capacity of 84,000 t/yr of ilmenite concentrate. Velta LLC began production of ilmenite from the Birzulovo deposit in Kirovograd Oblast' in December 2011, but commercial deliveries of ilmenite concentrate did not begin until 2012. A new apatite-ilmenite-titanomagnetite deposit was in development in the Zhytomyr region, but it was not known when production was likely to start.

The main producer of titanium sponge in Russia was OAO Corp. VSMPO-Avisma; it was producing titanium sponge at its titanium and magnesium complex in Permskiy Kray. The raw material for the production was imported, mostly from Ukraine. VSMPO-Avisma planned to increase production of titanium sponge to 44,000 t/yr by 2014 from 25,000 t in 2011. VSMPO-Avisma supplied titanium sponge to the world's leading aircraft manufacturers.

Zinc.—Europe and Central Eurasia produced about 11.7% of the world's production of mined zinc and about 21.3% of the world's zinc metal output in 2011. Kazakhstan and Ireland were the leading producers of zinc ore and produced 420,000 t and 344,000 t, respectively; Russia and Sweden were the next ranked zinc ore producers with production volumes of 275,000 t and 190,251 t, respectively. Spain, Belgium, Kazakhstan, Finland, and Russia, in order of output, were the principal producers of refined zinc in Europe and Central Eurasia; total production from those five countries combined was about 1.7 Mt, or 62% of the total refined zinc production in Europe and Central Eurasia.

Kazakhstan was the world's eighth ranked zinc producer. Kazzinc was the top producer of zinc in Kazakhstan, and, in 2011, the company produced 300,800 t of zinc metal, of which 246,000 t was produced from Kazzinc's own mine output.

Industrial Minerals

Diamond.—Russia was the world's leading diamond producer and the only significant diamond mining country in Europe and Central Eurasia. Almost all Russia's output of diamond was mined by the Joint Stock Company ALROSA (ALROSA) of Russia, which had its main operation in the Sakha Republic (Yakutiya) in East Siberia. ALROSA was one of the world's leading companies in the field of diamond exploration, diamond mining, sales of rough diamond, and diamond processing, and the company accounted for 97% of Russia's diamond production. Russia's share of global natural, gemstone, and industrial diamond production was 28.2% in 2011. Russia's production of gem-grade diamond was expected to increase to 25 million carats in 2018 from 20.14 million carats in 2011, whereas the production of industrial-grade diamond is projected to remain stable (tables 4, 16).

Lithium.—Data on historic and projected lithium production are in table 17.

Potash.—In 2011, Europe and Central Eurasia produced 15.7 Mt of potash (in K_2O equivalent), or 43.3% of the world's production. Russia was the leading regional potash producer in 2011 with output of 6.5 Mt; it was followed by Belarus (5.3 Mt) and Germany (an estimated 3.0 Mt) (table 4). OAO Uralkali (Uralkali) of Russia was the world's leading producer of potash. In May, the company merged with another large Russian producer of potash, OAO Silvinit; the combined company retained the name Uralkali. The combined production of Uralkali and Silvinit in 2011 was 10.83 Mt of potassium chloride (which contained 6.49 Mt of K_2O), which was a 6.4% increase compared with production in 2010. After the merger, the combined production capacity of Uralkali reached 12.5 Mt/yr of potassium chloride. The company was planning to invest \$5.6 billion by 2021 to increase its production capacity by 52% to 19 Mt/yr of potassium chloride.

OAO Belaruskali of Belarus was one of the world's leading producers of potash mineral fertilizers, and it had a 16% share of the world market. In 2011, the production of potash in Belarus increased to about 5.3 Mt, or by 1.59%; 88.5% of potash produced in Belarus was exported. In 2011, the total annual capacity of the company was 8.8 Mt/yr, but the company was working on a significant expansion of operations in the next decade. In particular, Belaruskali was focusing on development of new mines. The three relatively new mines were the Krasnoslobodskiy Mine, the Beryozovskiy Mine, and the Darasinskiy Mine (the seventh mine of the Starobin deposit). Overall, Belaruskali expected to increase its total production capacity to 11 Mt/yr by 2015.

Mineral Fuels and Related Materials

Coal.—In 2011, Europe and Central Eurasia accounted for 51.5% of the world's lignite production, 9.2% of the world's

bituminous coal production, and 5.8% of the world's anthracite production. In Central Eurasia, Kazakhstan, Russia, and Ukraine were the leading coal producers, and within the EU, Germany and Poland were the leading coal producers. A number of other countries throughout the region also mined coal (tables 4, 18).

The dynamics of coal consumption and production among the EU member countries and the CIS countries demonstrates the different priorities of those countries. All countries in the EU reduced their combined coal production between 2007 and 2011 by 4.4%. During the same period of time, however, the CIS countries increased their coal production by 14.7%. Several countries in Central Asia (for example, Kyrgyzstan and Tajikistan) made concerted efforts to switch their energy-intensive enterprises to coal from natural gas, in part because natural gas is more costly and entails regular conflicts with Russia, which was the main supplier of the natural gas in the region. On the other hand, the EU countries often face a tradeoff between the cost of natural gas and the cost of noncompliance with the European environmental regulations and the emissions trading scheme. So far, the majority of the EU members have determined that the potential consequences of noncompliance with the environmental regulation are more serious than a simple price increase. It is possible, however, that if the shale gas revolution puts Europe in a competitive disadvantage with respect to the United States, the trend of coal production reduction in Western Europe could be (at least temporarily) reversed (U.S. Energy Information Administration, 2012b).

Russia ranked fifth in the world in the total volume of coal mined following China, the United States, India, and Australia. In every year since 1999, Russia had recorded (albeit rather slow) growth in coal output. During that time, domestic coal consumption remained at about the same level from year to year, and consumption of coal for energy generation decreased, in part because of warmer winters in Russia and larger volumes of water in rivers and reservoirs, which allowed an increase in hydroelectric power output. In 2011, the Russian Federation adopted a new program for development of the coal industry through 2030. The goal of the program was to increase Russia's coal production to 450 Mt/yr in 2030 from 334.8 Mt in 2011. The more detailed goals included an increase in the share of Eastern Siberia in the coal production, doubling production of the coking coal, and an increase in coal exports by 150% (tables 4, 18; U.S. Energy Information Administration, 2012e).

Ukraine was among the world's leading coal mining countries. Ukraine's energy strategy, which was approved by the Government in 2006, called for increasing coal output to 130.3 Mt/yr by 2030. The country's economic (balansovye) reserves as of January 1, 2005 (calculated according to the reserve classification system used during the Soviet period and later by many of its successor states) were reportedly about 8.7 billion metric tons (Gt), of which 6.5 Gt was classified as industrial reserves. Metallurgical coal made up 54% of total industrial reserves, and steam coal reserves accounted for 46%. Production was more than 20% below domestic consumption. Explored reserves in Ukraine were reportedly 117 Gt (Ukrinform, 2006).

Given its lack of significant petroleum and natural gas resources, the Government of Poland considered coal to be one of the most important components of the country's energy

security and sought to promote the efficient and effective management of coal deposits. The Energy Policy of Poland Until 2030 (released in 2009) emphasized the importance of coal and predicted that it would remain the most important domestically produced mineral fuel for the foreseeable future. The report forecast that, in 2010, electricity generated from bituminous coal and lignite would make up 53% and 35%, respectively, of total electricity generation in Poland, and by 2030, electricity from these sources would make up 36% and 21%, respectively, of total electricity generation in Poland. The report also estimated that bituminous coal and lignite would make up 31% and 8%, respectively, of Poland's primary energy demand in 2030. To ensure that the coal and lignite resources of Poland would be used efficiently, the Government planned to increase geologic research in coal and lignite, abolish legal barriers to the development of coal and lignite deposits, include coal deposits in land development plans to ensure that access to coal and lignite deposits would not be blocked, and adopt other measures to encourage future coal and lignite production (Ministry of Economy of the Republic of Poland, 2011).

Coal production in the United Kingdom increased slightly in 2011, making it 4 years in a row that an increase in production had been achieved against the long-term trend of production decreases. Scottish Coal Co. Ltd. was the leading opencast coal mining company in the United Kingdom and the second ranked net coal producer. The generation of electricity accounted for the majority of the country's total coal consumption. About one-third of all electricity generated in the United Kingdom was supplied by coal (British Geological Survey, 2012).

Natural Gas.—In 2011, Europe and Central Eurasia contributed 34.6% to the world's production of natural gas. Russia was the leading producer in the region and the second ranked producer in the world with 2011 production of 671 billion cubic meters; it was followed by Norway (110 billion cubic meters), the Netherlands (80.7 billion cubic meters), Turkmenistan (66.2 billion cubic meters), Uzbekistan (63 billion cubic meters), and the United Kingdom (57 billion cubic meters). Russia was the world's second ranked (after the United States) natural gas producer and the leading exporter; it had the world's largest natural gas reserves, with 47.6 trillion cubic meters of reserves, which was about 24% of total world natural gas reserves. A large number of countries in the region of Europe and Central Eurasia produced natural gas, but generally not in large amounts. Norway, the Netherlands, and the United Kingdom, in order of volume, were significant regional producers of natural gas in Europe; Turkmenistan and Uzbekistan were notable regional natural gas producers in the CIS (table 4; U.S. Energy Information Administration, 2012b).

Norway had estimated proven reserves of 2.0 trillion cubic meters of natural gas as of January 2012. Norway's natural gas production had been steadily increasing since 1994. The annual increases had been sustained by incorporating new fields in the Barents Sea and the Norwegian Sea. Norway's single largest natural gas field was the Troll-Oseberg field, which accounted for about one-third of Norway's natural gas production (U.S. Energy Information Administration, 2012d).

Almost 90% of Russia's natural gas was produced in the Ndym-Pur-Taz (NPT) region in northern West Siberia (the

region's name was derived from the names of three rivers that border it). The NPT region hosts three massive Russian gasfields (the Medvezh'ye, the Urengoy, and the Yamburg), which had been the country's main producers and had supplied about 70% of the country's gas production. These three fields were in decline, however, as reserves were being depleted. To keep up with the growth in the Russian economy and the country's long-term export commitments to Europe to increase gas output, Russia was expected to have to incur greater costs to develop fields further north and to the east in an even more difficult physical environment than in the NPT region. A main target for future development would be the Yamal Peninsula, where large reserves were discovered in several fields. The newly developed Zapolyarnoye field on the Yamal Peninsula was a major contributor to replacing decreasing production from large older fields where reserves were more than 50% depleted.

AO Gazprom, which was Russia's leading gas producer, projected that between 2008 and 2030, Russia would increase natural gas output. Most of the increases in natural gas output were projected to come from independent gas companies, such as Itera, Northgaz, and Novatek, which although blocked from the export market, had found a niche supplying the domestic market.

Petroleum.—In 2011, Europe and Central Eurasia produced 6 billion barrels (Gbbbl), or 21.9% of the total world production. Russia was the leading oil producer in the region and a top exporting nation; in 2011 it produced 3.6 Gbbbl of crude oil, or 60% of the total regional output. Other significant producers were Norway, which produced 775 million barrels (Mbbbl); Kazakhstan (582 Mbbbl); the United Kingdom (422.6 Mbbbl), and Azerbaijan (331.6 Mbbbl). Azerbaijan was engaged in major oil development projects offshore in the Caspian Sea, and Kazakhstan was engaged in major projects both onshore and offshore.

Estimates of Azerbaijan's proven crude oil reserves range between 7 and 13 Gbbbl (about 950 Mt and 1.77 Gt). The State Oil Company of the Azerbaijan Republic (SOCAR) estimated the country's proven oil reserves to be 925 Mt. Azerbaijan had signed more than 20 major agreements to develop oilfields with about 30 companies from 15 countries. Plans for 2008 to 2015 called for engaging in 110,000 meters (m) of exploratory drilling. Implementation of SOCAR's program for full-scale development of the Azeri-Chirag-Guneshli (AGC) deposits, along with the possibility of developing new oil and gas condensate deposits in the offshore part of the Azerbaijan sector of the Caspian Sea, provided the basis for SOCAR to project that, by 2015, oil production would stay at the level of about 66 Mt/yr [about 480 million barrels per year (Mbbbl/yr)] (U.S. Energy Information Administration, 2012a).

Kazakhstan reportedly had the largest recoverable crude oil reserves in the Caspian Sea region and produced about one-half of the crude oil produced in this region. The country's oil reserves were estimated to be about 30 Gbbbl (about 4.1 Gt) (table 4; U.S. Energy Information Administration, 2012c). Oil production in Kazakhstan was expected to increase in the next decade primarily from the Tengiz field, where production was expected to double, and from the Kashagan offshore field, which could produce an additional 1 million barrels per day (Mbbbl/d) after 2011. The Tengiz field, which had been in operation since 1993 by the Tengizchevroil joint venture, was the

country's leading oil producer; the field had recoverable crude oil reserves estimated by Chevron Corp. of the United States to be between 6 and 9 Gbbl (800 Mt and 1.2 Gt). The Kashagan field, which is located off the northern shore of the Caspian Sea near the Kazakh city of Atyrau, was the largest oilfield outside the Middle East and the fifth largest in the world (in terms of reserves). The field's recoverable reserves were estimated to be 13 Gbbl (1.77 Gt) of oil equivalent, with total reserves-in-place of about 38 Gbbl (5.2 Gt). The field started to produce about 300,000 barrels per day in 2011, and full-scale commercial production was expected to commence in 2013. Expected peak production from the Kashagan field was estimated to be about 1.3 Mbbbl/d. The Kashagan field had presented particular challenges for its developers as it contains a high proportion of natural gas under very high pressure and it also contains large quantities of sulfur. Offshore platforms must also withstand extreme weather fluctuations in the northern Caspian Sea. Additional oil production could originate from the Karachaganak oil and gas condensate field onshore in northern Kazakhstan near the border with Russia's Orenburg field. Karachaganak's oil reserves were estimated to be between 8 and 9 Gbbl (1.1 and 1.2 Gt) of oil and gas condensate (U.S. Energy Information Administration, 2012c).

The Buzzard oilfield in the Outer Moray Firth was again the most prolific oilfield on the United Kingdom Continental Shelf (UKCS). As of 2011, the United Kingdom's estimated proven crude oil reserves totaled 2.9 Gbbl, which was the largest within the EU; the reserves were located mostly offshore on the UKCS. Most of the country's production had come from basins east of Scotland in the central North Sea. The northern North Sea, east of the Shetland Islands, also contains considerable reserves, and smaller deposits are located in the North Atlantic Ocean. Besides these offshore assets, the country had the Wytch Farm field, which was the largest onshore oilfield in Europe (British Geological Survey, 2012; U.S. Energy Information Administration, 2013).

For the coming decade, Russian oil production was projected to increase at an annual rate of between 1.5% and 2.5% owing in part to increased oil output from Sakhalin Island. This increase would be coupled with a slowdown in growth from the major mature oilfields in West Siberia, a number of which had passed peak production. New fields that were under development were expected to account for almost all Russia's increase in annual oil output in the next 5 years and would probably produce more than one-half of the country's oil in 2020.

Uranium.—In 2011, Central Eurasia accounted for 52.9% of the world's uranium production. Kazakhstan was the leading uranium producer in the world, and its production volume amounted to 22,939 t (U_3O_8 content). The next ranked producers were Russia (3,502 t); Uzbekistan (2,950 t); Kyrgyzstan (2,385 t), and Ukraine (1,050 t). Uranium mining took place in several other countries in the region (the Czech Republic, Germany, and Romania), but in smaller quantities.

In 2011, Kazakhstan remained the leading producer of mined uranium, having produced 37% of the world's output. Kazakhstan had no nuclear powerplants, and all uranium production was exported. Within the past 8 years, Kazakhstan rapidly increased investment in its uranium industry, and the

country's production of uranium oxide increased from 3,300 t in 2003 to 22,939 t in 2011. Foreign direct investment made up about 66% of uranium mining investment in 2011 and was accomplished mainly through establishment of joint ventures with the state-owned company Kazatomprom JSC. As of 2011, Kazakhstan had 629,000 t of known recoverable resources of uranium, or 12% of the world resources and the second largest supply of uranium resources after Australia (World Nuclear Association, 2013).

In 2011, Russia produced 3,502 t of uranium (U_3O_8 content). OAO Atomredmetzoloto (ARMZ) was one of the leading uranium producers in the world, and the company's uranium reserves totaled 726,500 t as of January 1, 2011. In 2011, ARMZ produced 7,091 t of uranium at its facilities located in Russia and abroad. ARMZ's enterprises worldwide employed more than 10,000 workers (ARMZ.ru, 2012).

In Russia, the three main uranium producers were OAO Priargunsky Mining and Chemical Association (located in Zabaykalskiy Krai), ZAO Dalur (located in Kurganskaya Oblast'), and OAO Khiagda (located in the Republic of Buryatiya); all three were subsidiaries of ARMZ. ARMZ was planning to open at least three more uranium enterprises in Russia—ZAO Elkonskiy GMK [located in western Sakha Republic (Yakutiya)], and ZAO Orlovskaya GHK and ZAO UDK Rudnoe (both located in Zabaykalskiy Krai). The cost of uranium extraction at the Elkonsky Mine was predicted to be only about \$80 per kilogram (ARMZ.ru, 2012).

Ukraine's uranium reserves were estimated to be between 130,000 and 200,000 t. Nuclear powerplants in Ukraine accounted for 48% of all the electricity produced in the country, and domestic uranium production accounted for about 30% of all uranium used in Ukraine's nuclear powerplants. The remaining nuclear fuel required for Ukraine's nuclear powerplants was purchased from JSC TVEL of Russia, but Ukraine was examining ways to reduce its dependence on TVEL and was considering Westinghouse Electric Co. as a possible alternative source of nuclear fuel. In September 2010, TVEL was awarded a contract for the construction of a nuclear fuel assembly plant in Ukraine; production was planned to begin in 2014 (JSC TVEL, 2010; World Nuclear Association, 2013).

Ukraine's state-owned uranium miner Vostochny GOK produced 1,050 t of uranium oxide; it was expected to produce slightly less in 2012 and 2013 owing to reduced production from the Ingul'skaya and the Smolinskaya Mines; 2,100 t in 2014 owing to increased production at the Novokonstantinovskoye deposit; and, from 2017 onward, about 3,500 t/yr. The level of production planned for 2017 would allow Ukraine to supply 100% of the uranium needs for its domestic nuclear powerplants (RBK-Ukraine, 2010).

In Uzbekistan, the Navoi GMK held monopoly rights for the extraction and production of uranium. In 2011, Uzbekistan produced 2,950 t of uranium (U_3O_8 content). Several new mines were under construction at the Kukhnur and the Northern Kanimekh deposits. According to Uzbekistan's State Geology and Mineral Resources Committee (Goskomgeo), uranium extraction was expected to increase in the next few years as new mines start production. In 2009, Goskomgeo and the Chinese company CGNPC Uranium Resources Co. created

a joint venture, Uz-China Uran, to explore for and develop uranium deposits in the Bostaus area. According to Goskomgeo, forecasted uranium resources in the area were in the order of 5,500 t. No information was available as how the new joint venture would affect the monopoly rights of the Navoi GMK.

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TABLE 1
EUROPE AND CENTRAL EURASIA: AREA AND POPULATION IN 2011

Country	Area ¹ (square kilometers)	Estimated population ² (thousands)
Albania	28,748	3,216
Armenia	29,743	3,100
Austria	83,871	8,419
Azerbaijan	86,600	9,168
Belarus	207,600	9,473
Belgium	30,528	11,008
Bosnia and Herzegovina	51,197	3,752
Bulgaria	110,879	7,476
Croatia	56,594	4,407
Cyprus	9,251	1,117
Czech Republic	78,867	10,546
Denmark, including Greenland	2,209,180	5,631
Estonia	45,228	1,340
Finland	338,145	5,387
France	551,500	65,437
Georgia	69,700	4,486
Germany	357,022	81,726
Greece	131,957	11,304
Hungary	93,028	9,971
Iceland	103,000	319
Ireland	70,273	4,487
Italy	301,340	60,770
Kazakhstan	2,724,900	16,558
Kosovo	10,887	1,794
Kyrgyzstan	199,951	5,507
Latvia	64,589	2,220
Lithuania	65,300	3,203
Luxembourg	2,586	517
Macedonia	25,713	2,064
Malta	316	419
Moldova	33,851	3,559
Montenegro	13,812	632
Netherlands	41,543	16,696
Norway	323,802	4,952
Poland	312,685	38,216
Portugal	92,090	10,637
Romania	238,391	21,390
Russia	17,098,242	141,930
Serbia	77,474	7,261
Slovakia	49,035	5,440
Slovenia	20,273	2,052
Spain	505,370	46,235
Sweden	450,295	9,453
Switzerland	41,277	7,907
Tajikistan	143,100	6,977
Turkmenistan	488,100	5,105
Ukraine	603,550	45,706
United Kingdom	243,610	62,641
Uzbekistan	447,400	29,341
Regional total	29,362,393	820,952
World total	510,072,000	6,840,507

¹Source: U.S. Central Intelligence Agency, The World Factbook 2012.

²Source: The World Bank, 2012 World Development Indicators Database.

TABLE 2
EUROPE AND CENTRAL EURASIA: GROSS DOMESTIC PRODUCT^{1,2}

Country	Gross domestic product in 2011 based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value (million dollars)	Per capita (dollars)	2009	2010	2011
	Albania	24,910	7,741	3.3	3.5
Armenia	17,941	5,384	-14.2	2.1	4.4
Austria	352,015	41,822	-3.9	2.1	3.1
Azerbaijan	93,055	10,202	9.3	5.0	0.0
Belarus	141,771	15,028	0.2	7.6	5.3
Belgium	413,281	37,737	-2.7	2.1	1.9
Bosnia and Herzegovina	31,638	8,133	-2.9	0.7	1.7
Bulgaria	101,036	13,597	-5.5	0.2	1.7
Croatia	80,334	18,192	-6.0	-1.2	0.0
Cyprus	23,728	29,074	-1.7	1.0	0.5
Czech Republic	284,952	27,062	-4.1	2.3	1.7
Denmark, including Greenland	206,586	37,152	-5.2	1.7	1.1
Estonia	27,313	20,380	-13.9	3.1	7.6
Finland	195,723	36,236	-8.2	3.6	2.9
France	2,217,900	35,156	-2.6	1.4	1.7
Georgia	24,541	5,491	-3.8	6.4	6.7
Germany	3,099,080	37,897	-5.1	3.6	3.1
Greece	294,339	26,294	-2.3	-4.4	-6.7
Hungary	195,640	19,591	-6.7	1.2	1.7
Iceland	12,409	38,061	-6.9	-3.5	3.1
Ireland	181,595	39,639	-7.0	-0.4	0.7
Italy	1,846,950	30,464	-5.2	1.3	0.4
Kazakhstan	216,785	13,001	1.2	7.3	7.5
Kosovo	12,859	6,700 ³	2.9	4.0	5.0
Kyrgyzstan	13,125	2,372	2.9	-1.4	5.7
Latvia	34,921	15,662	-18.0	-0.3	5.5
Lithuania	61,605	18,856	-14.7	1.3	5.9
Luxembourg	41,221	80,119	-3.6	3.5	1.0
Macedonia	21,345	10,367	-0.9	1.8	3.0
Malta	10,757	25,428	-3.3	3.1	2.1
Moldova	11,998	3,373	-6.0	6.9	6.4
Montenegro	7,157	11,545	-5.7	1.1	2.5
Netherlands	704,034	42,183	-3.5	1.6	1.3
Norway	265,911	53,471	-1.7	0.3	1.7
Poland	771,658	20,334	1.6	3.8	4.4
Portugal	248,981	23,361	-2.5	1.3	-1.5
Romania	267,151	12,476	-7.1	-1.3	2.5
Russia	2,383,400	16,736	-7.8	4.0	4.3
Serbia	78,869	10,642	-3.5	1.0	1.8
Slovakia	126,918	23,304	-4.8	4.0	3.3
Slovenia	57,892	28,642	-8.1	1.2	-0.2
Spain	1,413,470	30,626	-3.7	-0.1	0.7
Sweden	381,719	40,394	-5.3	5.7	4.0
Switzerland	339,890	43,370	-1.9	2.7	1.9
Tajikistan	16,221	2,067	3.9	6.5	7.4
Turkmenistan	43,359	7,846	6.1	9.2	14.7
Ukraine	329,497	7,233	-14.5	4.2	5.2
United Kingdom	2,260,800	36,090	-4.9	1.4	0.7
Uzbekistan	95,239	3,302	8.1	8.5	8.3
Regional total/weighted average	20,083,519	24,464	XX	2.3	2.2

See footnotes at end of table.

TABLE 2—Continued
 EUROPE AND CENTRAL EURASIA: GROSS DOMESTIC PRODUCT^{1,2}

Country	Gross domestic product in 2011 based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value	Per capita	2009	2010	2011
	(million dollars)	(dollars)			
World total/weighted average	78,897,430	11,534	-0.7	5.1	3.9

XX Not applicable.

¹Source: International Monetary Fund, World Economic Outlook Database, April 2012.

²Gross domestic product (GDP) listed may differ from that reported in individual country chapters owing to differences in source or date of reporting.

³Per capita GDP from the U.S. Central Intelligence Agency, The World Factbook 2012.

TABLE 3
EUROPE AND CENTRAL EURASIA: SELECTED EXPLORATION ACTIVITY IN 2011

Country	Type ¹	Site	Commodity ²	Company	Resource notes ³
Armenia	E	Almulsar	Au	Lydian International Ltd.	1.1 Moz Au (ID).
Kazakhstan	F	Bakyrchik (Kyzyl)	Au	Altynalmas Gold plc.	6.2 Moz Au (ID).
Kyrgyzstan	E	Unkurtash	Au	Highland Gold Mining Ltd.	1.4 Moz Au (R).
Romania	E	Rovina Valley	Au, Cu	Carpathian Gold Inc.	3 Moz Au, 348,000 t Cu (D).

¹E—active exploration; F—feasibility work ongoing/completed.

²Abbreviations used in this table for commodities are as follows: Au, gold; Cu, copper

³Based on 2011 data reported from various sources. D—measured + indicated; ID—indicated; R—proven + probable. Resource data not verified by the U.S. Geological Survey.

TABLE 4
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}
(Thousand metric tons unless otherwise specified)

Country	Aluminum				Metals				
	Alumina	Bauxite		Metal		Antimony, mine output, metal content (metric tons)	Chromite, mine output, gross weight	Copper	
		Primary ³	Secondary	Primary ³	Secondary			Mine output, metal content	Primary ³
Albania ^e	--	--	--	--	--	290	3	--	--
Armenia	--	--	--	--	--	--	34	--	--
Austria	--	--	--	300 ^e	--	--	--	--	113 ^p
Azerbaijan	6	--	20 ^e	--	--	--	(4) ^e	--	--
Belarus	--	--	--	--	--	--	--	--	--
Belgium ^e	--	--	--	(4)	--	--	--	380	--
Bosnia and Herzegovina	262	708	131	--	--	--	105 ^s	--	--
Bulgaria ^e	--	--	--	12	--	--	--	227 ^s	--
Croatia	--	--	--	--	--	--	--	--	--
Cyprus ^e	--	--	--	--	--	--	--	4	--
Czech Republic	--	--	--	45 ^e	--	--	--	--	--
Denmark-Greenland ^e	--	--	--	25	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--
Finland	--	--	--	20	--	--	(4) ^e	117	--
France	524 ^e	--	334	191	--	--	--	--	--
Georgia ^e	--	--	--	--	--	--	--	6	--
Germany	950 ^e	--	432	634	--	--	--	394 ^p	326 ^p
Greece ^e	725	1,900	138	--	--	1	--	--	--
Hungary	200 ^e	278	--	200 ^e	--	--	--	--	--
Iceland	--	--	781	--	--	--	--	--	--
Ireland	1,927	--	--	--	--	--	--	--	--
Italy	--	--	168	1,049	--	--	--	24	--
Kazakhstan	1,670	5,495	249	--	800 ^e	--	3,800 ^e	417	338
Kosovo	--	--	--	--	--	--	--	--	--
Kyrgyzstan	--	--	--	1,500 ^e	--	--	--	--	--
Latvia ^e	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--
Macedonia	--	--	--	--	--	--	--	8 ^e	(4) ^e
Malta	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--
Montenegro	--	159	--	93	--	--	--	--	--
Netherlands ^e	--	--	300	--	--	--	--	--	--
Norway ^e	--	--	1,070 ^s	300	--	--	--	32	--
Poland	--	--	--	14 ^e	--	--	--	427	571
Portugal ^p	--	--	--	18 ^e	--	--	--	80	--
Romania ^e	520	--	262	21 ^s	--	--	--	7	--

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}

(Thousand metric tons unless otherwise specified)

Country	Metals									
	Aluminum			Antimony,		Chromite,		Copper		
	Alumina	Bauxite	Metal Primary ³	Secondary	mine output, metal content (metric tons)	mine output, gross weight	Mine output, metal content	Primary ³	Metal, refined Secondary	Secondary
Russia	2,868	4,495	3,912	--	6,348	400 ^e	673	663	220	220
Serbia ^e	--	--	--	2	--	--	29	28	1	1
Slovakia ^e	--	--	163 ⁵	--	--	--	--	--	--	--
Slovenia ^e	--	--	41	16	--	--	--	--	--	--
Spain ^e	1,500	--	408	243	--	--	74	255	35	35
Sweden	--	--	111	30 ^e	--	--	83	179	40 ^e	40 ^e
Switzerland ^e	--	--	--	(4)	--	--	--	--	--	--
Tajikistan	--	--	278	--	2,000 ^e	--	--	--	--	--
Turkmenistan ^e	--	--	--	--	--	--	--	--	--	--
Ukraine	1,601	--	7	130 ^e	--	--	--	--	20 ^e	20 ^e
United Kingdom	--	--	213 ^e	301	--	--	--	--	--	--
Uzbekistan	--	--	--	3 ^e	--	--	92	92	--	--
Total, Europe and Central Eurasia	12,800	13,000	9,110	3,550	10,600	4,490	2,050	3,300	755	755
Share of world total	13.9%	5.2%	20.6%	29.3%	5.8%	15.0%	12.9%	19.9%	25.8%	25.8%
United States	3,570	NA	1,990	3,110	--	--	1,110	993	37	37
Share of world total	3.9%	NA	4.5%	25.6%	--	--	7.0%	6.0%	1.3%	1.3%
World total	91,800	252,000	44,300	12,100	185,000	29,900	15,900	16,600	2,930	2,930

See footnotes at end of table.

TABLE 4—Continued
 EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}
 (Thousand metric tons unless otherwise specified)

Country	Metals—Continued									
	Gold, mine output (kilograms)	Iron and steel		Steel, crude	Mine output, metal content	Lead		Manganese ore, mine output, metal content	Mercury, mine output, metal content (metric tons)	
		Iron ore, mine output, metal content	Pig iron and direct-reduced iron			Primary ³	Secondary			
Albania ^e	--	--	--	440	--	--	--	--	--	
Armenia	1,266	--	--	--	--	--	--	--	--	
Austria	--	655 ^e	5,815	7,474	--	--	23	--	--	
Azerbaijan	1,775	114	--	232	--	--	--	--	--	
Belarus	--	--	--	2,779	--	--	--	--	--	
Belgium ^e	--	--	4,725 ^s	8,026 ^s	--	--	88 ^s	--	--	
Bosnia and Herzegovina	--	794 ^e	685	649	4 ^e	--	(4) ^e	--	--	
Bulgaria ^e	4,400	--	--	834 ^s	12 ^s	71	--	42 ^e	--	
Croatia	--	--	--	90 ^e	--	--	--	--	--	
Cyprus ^e	--	--	--	--	--	--	--	--	--	
Czech Republic	--	--	4,137	5,583	--	--	32 ^e	--	--	
Denmark-Greenland ^e	1,600	--	--	--	--	--	--	--	--	
Estonia	--	--	--	--	--	--	8	--	--	
Finland	6,417	--	3	3,985	--	--	--	5	--	
France	--	--	9,698	15,780	--	--	54 ^e	--	--	
Georgia ^e	2,000	--	--	--	(4)	--	--	116	--	
Germany	--	42 ^e	28,175	44,288	--	135 ^e	303 ^e	--	--	
Greece ^e	--	550	--	1,993 ^s	12	--	10	(4)	--	
Hungary	--	--	1,315	1,733	--	--	--	16 ^e	--	
Iceland	--	--	--	--	--	--	--	--	--	
Ireland	--	--	--	--	51	--	18 ^e	--	--	
Italy	--	--	9,838	28,735	1 ^e	67	170	--	--	
Kazakhstan	36,670	14,100 ^e	3,141	3,699	35	111	--	390 ^e	--	
Kosovo	--	--	--	--	5	4 ^e	--	--	--	
Kyrgyzstan	21,000 ^e	--	--	--	--	--	--	--	250 ^e	
Latvia ^e	--	--	--	515	--	--	--	--	--	
Lithuania	--	--	--	--	--	--	--	--	--	
Luxembourg	--	--	--	2,521	--	--	--	--	--	
Macedonia	--	--	--	386	40	--	--	--	--	
Malta	--	--	--	--	--	--	--	--	--	
Moldova	--	--	--	321	--	--	--	--	--	
Montenegro	--	--	--	42	--	--	--	--	--	
Netherlands ^s	--	--	5,943 ^s	6,937 ^s	--	--	17	--	--	
Norway ^e	--	3,200	100	620 ^s	--	--	--	--	--	
Poland	500 ^e	--	3,975	8,777	59 ^e	30 ^e	70 ^e	--	--	
Portugal ^p	--	10 ^e	100 ^e	1,400 ^e	--	--	3 ^e	--	--	
Romania ^e	500	--	1,595 ^s	3,811 ^s	--	7 ^s	3	--	--	

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}
(Thousand metric tons unless otherwise specified)

Country	Metals—Continued										
	Gold, mine output (kilograms)	Iron ore,		Iron and steel		Steel, crude	Lead		Secondary	Mercury,	
		mine output, metal content	Pig iron and direct-reduced iron	Mine output, metal content	Primary ³		Mine output, metal content	Manganese ore, mine output, metal content		Mine output, metal content	
Russia	199,650	61,360	52,900	68,100	95 ^e	87 ^e	--	30 ^e	50 ^e	--	--
Serbia ^e	360	--	1,226 ⁵	1,324 ⁵	2	--	1	--	--	--	--
Slovakia ^e	500	NA	3,346 ⁵	4,236 ⁵	--	--	--	--	--	--	--
Slovenia ^e	--	--	--	600	--	--	12	--	--	--	--
Spain ^e	3,400	--	3,540	15,591 ⁵	--	--	125	--	--	--	--
Sweden	5,935	15,159	3,240	4,866	62	52 ^e	41 ^e	--	--	--	--
Switzerland ^e	--	--	--	1,400	--	--	3	--	--	--	--
Tajikistan	2,240	--	--	--	1 ^e	--	--	--	--	--	(4) ^e
Turkmenistan ^e	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	44,300 ^e	28,881 ⁵	35,332 ⁵	--	--	7 ^e	330 ^e	--	--	--
United Kingdom	--	--	6,625	9,478	(4) ^e	150 ^e	144 ^e	--	--	--	--
Uzbekistan	91,000 ^e	--	--	746	--	--	--	--	--	--	--
Total, Europe and Central Eurasia	379,000	140,000	179,000	293,000	377	725	1,130	923	305	--	--
Share of world total	14.2%	9.9%	15.2%	19.3%	8.0%	14.3%	23.0%	5.8%	16.5%	--	--
United States	234,000	34,300	30,200	86,400	334	118	1,130	--	NA	--	--
Share of world total	8.8%	2.4%	2.6%	5.7%	7.0%	2.3%	23.0%	--	NA	--	--
World total	2,670,000	1,420,000	1,180,000	1,520,000	4,730	5,090	4,920	15,800	1,850	--	--

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}

(Thousand metric tons unless otherwise specified)

Country	Nickel				Platinum-group metals, refined, primary and secondary (kilograms)					Metals—Continued		
	Mine output, metal content	Refinery products, metal content	Platinum		Palladium	Silver, mine output, metal content (metric tons)	Tin (metric tons) Mine output, metal content	Titanium (metric tons)				
			Palladium	Platinum				TiO ₂ content	Ilmenite, metal sponge, metal content			
Albania ^e	--	--	--	--	--	--	--	--	--	--	--	--
Armenia	--	--	--	--	--	73 ^e	--	--	--	--	--	--
Austria	--	1 ^e	--	--	--	--	--	--	--	--	--	--
Azerbaijan	--	--	--	--	--	1,217	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--
Belgium ^e	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	--	55	--	--	--	--	--	--
Bulgaria ^e	--	--	--	--	--	--	--	--	--	--	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	--
Cyprus ^e	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	--	--	--	--	--	--
Denmark-Greenland ^e	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--
Finland	18	49	--	--	275 ^e	73	--	--	--	--	--	--
France	--	13 ^e	--	--	--	--	--	--	--	--	--	--
Georgia ^e	--	--	--	--	--	1	--	--	--	--	--	--
Germany	--	--	23,808	16,448	--	--	--	--	--	--	--	--
Greece ^e	14	14	--	--	--	30	--	--	--	--	--	--
Hungary	--	--	--	--	--	--	--	--	--	--	--	--
Iceland	--	--	--	--	--	--	--	--	--	--	--	--
Ireland	--	--	--	--	--	6	--	--	--	--	--	--
Italy	--	--	--	--	--	--	--	--	--	--	--	--
Kazakhstan	1 ^e	--	--	--	--	645	--	--	15,000 ^e	20,700	--	--
Kosovo	8	--	--	--	--	--	--	--	--	--	--	--
Kyrgyzstan	--	--	--	--	--	--	--	--	--	--	--	--
Latvia ^e	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--
Macedonia	--	17	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--
Montenegro	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands ^e	--	--	--	--	--	--	--	--	--	--	--	--
Norway ^e	(4)	88	--	--	--	1,167	--	--	400	--	--	--
Poland	--	--	15 ^e	25 ^e	--	28	--	--	--	--	--	--
Portugal ^p	--	--	--	--	--	--	39	--	--	--	--	--
Romania ^e	--	--	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}

(Thousand metric tons unless otherwise specified)

Country	Metals—Continued										
	Nickel		Platinum-group metals, refined, primary and secondary (kilograms)			Silver, mine output, metal content (metric tons)		Tin (metric tons)		Titanium (metric tons)	
	Mine output, metal content	Refinery products, metal content	Palladium	Platinum	mine output, metal content (metric tons)	Mine output, metal content	Metal, primary ³	TiO ₂ content	Ilmenite, metal content	Metal sponge, metal content	
Russia	264	281	84,300 ^e	25,900 ^e	1,150	300 ^e	500 ^e	--	--	25,000	
Serbia ^e	--	--	20	--	5	--	--	--	--	--	
Slovakia ^e	--	--	--	--	--	--	--	--	--	--	
Slovenia ^e	--	--	--	--	1	--	--	--	--	--	
Spain ^e	6 ⁵	--	--	--	3	--	--	--	--	--	
Sweden	--	--	--	--	238	--	--	--	--	--	
Switzerland ^e	--	--	--	--	--	--	--	--	--	--	
Tajikistan	--	--	--	--	3 ^e	--	--	--	--	--	
Turkmenistan ^e	--	--	--	--	--	--	--	--	--	--	
Ukraine	--	12 ^e	--	--	--	--	--	295,000 ^e	9,000 ^e	--	
United Kingdom	--	52	--	--	--	--	--	--	--	--	
Uzbekistan	--	--	--	--	60 ^e	--	--	--	--	--	
Total, Europe and Central Eurasia	311	527	108,000	42,600	4,760	339	500	310,000	54,700		
Share of world total	10.7%	37.4%	44.9%	19.0%	5.7%	0.1%	0.2%	6.9%	44.6%		
United States	--	--	12,400	3,700	1,120	--	--	219,000	--	--	
Share of world total	--	--	5.2%	1.7%	1.4%	--	--	4.9%	--	--	
World total	2,910	1,410	241,000	224,000	82,800	256,000	319,000	4,510,000	123,000		

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}
(Thousand metric tons unless otherwise specified)

Country	Metals—Continued				Industrial minerals					
	Tungsten, mine output, metal content (metric tons)	Zinc (metric tons)		Metal, primary and secondary	Ammonia, N content	Cement, hydraulic	Diamond, natural, gemstones and industrial (thousand carats)	Phosphate rock, P ₂ O ₅ content	Potash, K ₂ O equivalent	Salt
		Mine output, metal content	Metal, secondary							
Albania ^e	--	--	--	--	--	1,800	--	--	--	25
Armenia	--	8,475	--	--	--	422	--	--	--	36
Austria	861 ^e	--	--	400 ^e	4,427	--	--	--	--	1,000 ^e
Azerbaijan	--	--	--	--	1,425	--	--	--	--	19
Belarus	--	--	--	804	4,604	--	--	--	5,306	1,700 ^e
Belgium ^e	--	--	322,000	830	6,844 ^s	--	--	--	--	--
Bosnia and Herzegovina	--	6,900 ^e	--	--	893	--	--	--	--	832
Bulgaria ^e	--	7,600	93,000	320	1,900 ^e	--	--	--	--	1,300
Croatia	--	--	--	367 ^e	4,754	--	--	--	--	30 ^e
Cyprus ^e	--	--	--	--	1,207 ^s	--	--	--	--	--
Czech Republic	--	--	--	200 ^e	3,831	--	--	--	--	--
Denmark-Greenland ^e	--	--	--	2	16	--	--	--	--	600
Estonia	--	--	--	--	449	--	--	--	--	--
Finland	--	64,115	307,352	70 ^e	1,514	--	280 ^e	--	--	--
France	--	--	164,000	3,500 ^e	19,433	--	--	--	--	5,430 ^e
Georgia ^e	--	300	--	150	860	--	--	--	--	30
Germany	--	--	169,000 ^e	2,698	33,540	--	--	--	3,000 ^e	18,800 ^e
Greece ^e	--	20,000	--	130	11,000	--	--	--	--	200
Hungary	--	--	--	300 ^e	2,600 ^e	--	--	--	--	--
Iceland	--	--	--	--	140 ^e	--	--	--	--	5 ^e
Ireland	--	344,000	--	--	2,200 ^e	--	--	--	--	--
Italy	--	--	105	460 ^e	33,120	--	--	--	--	2,912
Kazakhstan	--	420,000	319,752	--	7,642	--	350 ^e	--	--	325
Kosovo	--	3,000	5,500 ^e	--	600 ^e	--	--	--	--	--
Kyrgyzstan	--	--	--	--	1,015	--	--	--	--	1 ^e
Latvia ^e	--	--	--	--	1,100	--	--	--	--	--
Lithuania	--	--	--	870	996	--	--	--	--	--
Luxembourg	--	--	--	--	1,319	--	--	--	--	--
Macedonia	--	36,000	--	--	981	--	--	--	--	6 ^e
Malta	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	1,000 ^e	--	--	--	--	--
Montenegro	--	--	--	--	--	--	--	--	--	10 ^e
Netherlands ^e	--	--	261,000	1,800	2,700	--	--	--	--	6,000
Norway ^e	--	--	150,000	300	1,800	--	--	--	--	--
Poland	--	60,000	156,000	1,700 ^e	18,993	--	--	--	--	4,282
Portugal ^p	1,032	4,227	--	244 ^e	7,200	--	--	--	--	631
Romania ^e	--	--	220	160	7,846 ^s	--	--	--	--	2,500

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}

(Thousand metric tons unless otherwise specified)

Country	Metals—Continued				Industrial minerals						
	Tungsten, mine output, metal content (metric tons)	Zinc (metric tons)		Metal, primary and secondary	Ammonia, N content	Cement, hydraulic	Diamond, natural, gemstones and industrial (thousand carats)	Phosphate rock, P ₂ O ₅ content	Potash, K ₂ O equivalent	Salt	
		Mine output, metal content	Mine output, primary and secondary								
Russia	3,500 ^e	275,000 ^e	267,280	10,400 ^e	56,200	35,140 ^e	4,000 ^e	6,498	1,800 ^e		
Serbia ^e	--	1,000	--	84	2,095 ^s	--	--	--	23 ^s		
Slovakia ^e	--	--	--	563 ^s	3,219 ^s	--	--	--	38		
Slovenia ^e	--	--	--	--	1,000	--	--	--	2		
Spain ^e	--	--	489,000 ^s	400	20,700	--	--	436 ^s	1,174 ^s		
Sweden	--	190,251	--	--	2,900 ^e	--	--	--	--		
Switzerland ^e	--	--	--	30	4,000	--	--	--	500		
Tajikistan	--	--	--	--	315	--	--	--	52 ^e		
Turkmenistan ^e	--	--	--	270	1,500	--	--	--	215		
Ukraine	--	--	--	4,300 ^e	10,515	--	--	--	5,938		
United Kingdom	--	--	--	1,100 ^e	7,850 ^e	--	--	470	5,800 ^e		
Uzbekistan	--	--	50,000 ^e	1,294	6,698	--	187 ^e	--	--		
Total, Europe and Central Eurasia	5,390	1,440,000	2,750,000	33,700	307,000	35,100	4,820	15,700	62,200		
Share of world total	7.4%	11.7%	21.3%	24.4%	7.6%	28.2%	8.0%	43.3%	22.7%		
United States	--	769,000	248,000	9,350	68,600	--	8,160	1,020	45,000		
Share of world total	--	6.2%	1.9%	6.8%	1.7%	--	13.6%	2.8%	16.4%		
World total	72,500	12,300,000	12,900,000	138,000	4,040,000	125,000	60,100	36,300	274,000		

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}

(Thousand metric tons unless otherwise specified)

Country	Mineral fuels and related materials							Uranium, U ₃ O ₈ content (metric tons)
	Coal		Lignite	Natural gas, dry (million cubic meters)	Petroleum, crude (thousand 42-gallon barrels)	Uranium, U ₃ O ₈ content (metric tons)		
	Anthracite	Bituminous						
Albania ^e	--	--	4	8	6,200	--	--	
Armenia	--	--	--	--	--	--	--	
Austria	--	--	--	1,750 ^e	6,000 ^e	--	--	
Azerbaijan	--	--	--	16,361	331,610 ^e	--	--	
Belarus	--	--	--	222	1,682	--	--	
Belgium ^e	--	--	--	--	--	--	--	
Bosnia and Herzegovina	--	--	12,732	--	--	--	--	
Bulgaria ^e	--	2,220	34,900	434 ^s	170	--	--	
Croatia	--	--	--	2,471	5,616	--	--	
Cyprus ^e	--	--	--	--	--	--	--	
Czech Republic	--	10,967	46,848	187	1,105	297 ^e	--	
Denmark-Greenland ^e	--	--	--	9,000	80,665 ^s	--	--	
Estonia	--	--	--	--	--	--	--	
Finland	--	--	--	--	--	--	--	
France	--	--	--	1,132	6,508	--	--	
Georgia ^e	--	250	--	8	363	--	--	
Germany	2,006	10,053	176,502	11,900 ^e	19,600	10 ^e	--	
Greece	--	--	54,000	(4)	4,404	--	--	
Hungary	--	--	9,559	2,670 ^e	4,470 ^e	--	--	
Iceland	--	--	--	--	--	--	--	
Ireland	--	--	--	356	--	--	--	
Italy	--	--	--	8,438	36,201	--	--	
Kazakhstan	--	103,015	8,368	39,504	582,000	22,939	--	
Kosovo	--	--	8,212	--	--	--	--	
Kyrgyzstan	--	94	745	27	656	2,385	--	
Latvia ^e	--	--	--	--	--	--	--	
Lithuania	--	--	--	--	114	--	--	
Luxembourg	--	--	--	--	--	--	--	
Macedonia	--	--	7,902	--	--	--	--	
Malta	--	--	--	--	--	--	--	
Moldova	--	--	--	--	--	--	--	
Montenegro	--	--	1,973	--	--	--	--	
Netherlands ^e	--	--	--	80,731 ^s	8,121 ^s	--	--	
Norway ^e	--	1,800	--	110,000 ^{s,6}	775,000 ^s	--	--	
Poland	--	76,454	62,841	5,825	4,600	--	--	
Portugal ^p	--	--	--	--	1,725	--	--	
Romania	--	--	35,000	11,005	31,000	88	--	
Russia	10,000	248,000	76,800	671,000	3,578,000 ^e	3,502	--	

See footnotes at end of table.

TABLE 4—Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2011^{1,2}

(Thousand metric tons unless otherwise specified)

Country	Mineral fuels and related materials							Uranium, U ₃ O ₈ content (metric tons)
	Coal		Lignite	Natural gas, dry (million cubic meters)	Petroleum, crude (thousand 42-gallon barrels)	Uranium, U ₃ O ₈ content (metric tons)		
	Anthracite	Bituminous						
Serbia ^e	--	134 ⁵	41,440 ⁵	616 ⁵	7,570	--	--	
Slovakia ^e	--	--	2,376 ⁵	100	140	--	--	
Slovenia ^e	--	--	4,519 ⁵	2 ⁵	2 ⁵	--	--	
Spain ^e	4,265 ⁵	2,358 ⁵	--	44 ⁵	234 ⁵	--	--	
Sweden	--	--	--	--	--	--	--	
Switzerland ^e	--	--	--	--	--	--	--	
Tajikistan	--	237	--	19	83 ^e	--	--	
Turkmenistan ^e	--	--	--	66,200 ⁵	71,800	--	--	
Ukraine	16,000 ^e	66,000 ^e	200 ^e	19,935	24,000 ^e	1,050 ^e	--	
United Kingdom	1,213	17,279	--	57,000 ^e	422,568	--	--	
Uzbekistan	--	244	3,600	63,036	26,237	2,950	--	
Total, Europe and Central Eurasia	33,500	539,000	589,000	1,180,000	6,040,000	33,200	--	
Share of world total	5.8%	9.2%	51.5%	34.6%	21.9%	52.7%	--	
United States	2,030	918,000	73,600	681,000	2,060,000	1,810	--	
Share of world total	0.4%	15.6%	6.4%	20.0%	7.5%	2.9%	--	
World total	577,000	5,880,000	1,140,000	3,410,000	27,600,000	63,000	--	

^eEstimated; estimated data, U.S. data, and world totals are rounded to no more than three significant digits; may not add to totals shown. ^pPreliminary. NA Not available.

-- Zero or zero percent.

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

²Totals may not add because of independent rounding. Table includes data available as of January 31, 2013.

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

⁴Less than 1/2 unit.

⁵Reported figure.

⁶Reported as total methane sales.

TABLE 5
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED BAUXITE MINE PRODUCTION, 2005–2018¹

(Thousand metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^c
Bosnia and Herzegovina	1,032	844	708	800	800	800
Greece	2,441	1,902	1,900	2,000	2,000	2,000
Hungary	535	307	278	250	250	250
Italy	300	--	--	--	--	--
Kazakhstan	4,800	5,310	5,495	5,500	5,500	5,500
Montenegro	672	61	159	160	160	160
Russia	6,400	5,475	4,495	5,100	5,300	5,500
Total	16,200	13,900	13,000	13,800	14,000	14,200

^eEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 6
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED ALUMINUM METAL PRODUCTION
(PRIMARY AND SECONDARY), 2005–2018¹

(Thousand metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Austria	150	375	300	350	350	350
Azerbaijan	32	--	20	40	60	60
Bosnia and Herzegovina	131	118	131	115	115	115
Bulgaria	5	12	12	12	12	12
Czech Republic	30	45	45	45	45	45
Denmark-Greenland	20	25	25	25	25	25
Finland	34	18	20	19	19	19
France	664	540	525	530	540	540
Germany	1,366	1,014	1,067	1,000	1,000	1,000
Greece	163	137	138	140	140	140
Hungary	81	234	200	200	200	200
Iceland	273	826	781	800	800	800
Italy	1,314	1,414	1,217	1,400	1,450	1,500
Kazakhstan	--	226	249	250	250	250
Macedonia	4	--	--	--	--	--
Montenegro	117	82	93	90	90	90
Netherlands	391	300	300	300	300	300
Norway	1,376	1,060	1,370	1,100	1,100	1,100
Poland	66	16	14	14	14	14
Portugal	18	18	18	18	18	18
Romania	246	258	283	280	280	280
Russia	3,647	3,947	3,912	4,000	4,000	4,000
Serbia	(²)	2	2	2	2	2
Slovakia	162	163	162	160	160	160
Slovenia	139	58	57	58	58	58
Spain	637	651	651	651	651	651
Sweden	133	104	141	140	140	140
Switzerland	238	25	25	25	25	25
Tajikistan	380	349	278	350	350	350
Ukraine	244	155	137	130	130	130
United Kingdom	574	498	514	520	530	540
Uzbekistan	3	3	3	3	3	3
Total	12,600	12,700	12,700	12,800	12,900	12,900

^eEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Less than 1/2 unit.

TABLE 7
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED COPPER MINE PRODUCTION, 2005–2018¹

(Cu content in thousand metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Albania	2	3	3	6	6	6
Armenia	16	31	34	40	45	50
Azerbaijan	--	--	--	1	2	5
Bulgaria	112	105	105	105	105	105
Finland	16	15	16	16	16	16
Georgia	10	7	6	7	7	7
Kazakhstan	402	427	417	430	500	550
Macedonia	22	8	8	8	8	8
Poland	512	425	427	430	430	430
Portugal	90	74	80	81	81	81
Romania	15	5	7	7	7	7
Russia	640	703	673	730	740	750
Serbia	27	19	29	30	30	30
Spain	5	46	74	75	75	75
Sweden	98	77	83	85	85	85
Uzbekistan	104	90	92	95	95	95
Total	2,070	2,030	2,050	2,150	2,230	2,300

^eEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 8
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED REFINED COPPER METAL PRODUCTION
(PRIMARY AND SECONDARY), 2005–2018¹

(Thousand metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Austria	72	114	113	110	110	110
Belgium	383	381	380	380	380	380
Bulgaria	61	215	227	230	230	230
Cyprus	--	3	4	4	4	4
Czech Republic	--	--	--	--	--	--
Finland	125	113	117	120	120	120
Germany	638	704	720	700	700	700
Hungary	--	--	--	--	--	--
Italy	32	25	24	25	26	28
Kazakhstan	388	323	338	400	450	540
Macedonia	--	--	²	3	3	3
Norway	39	3	4	4	4	4
Poland	560	547	571	530	580	580
Romania	21	4	--	--	--	--
Russia	933	874	884	900	900	900
Serbia	27	21	29	45	45	45
Slovakia	--	46	49	50	50	50
Spain	302	270	270	270	270	270
Sweden	222	191	219	220	230	240
Uzbekistan	104	92	92	92	92	92
Total	3,910	3,930	4,040	4,080	4,190	4,300

^eEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Less than 1/2 unit.

TABLE 9
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED GOLD MINE PRODUCTION, 2005–2018¹

(Kilograms)

Country	2005	2010	2011	2014 ^c	2016 ^c	2018 ^c
Armenia	1,400	974	1,266	1,400	1,600	1,800
Azerbaijan	--	1,900	1,775	2,200	3,000	5,000
Bulgaria	3,868	4,400	4,400	4,400	4,400	4,400
Denmark-Greenland	1,000	1,600	1,600	1,800	1,800	1,800
Finland	3,747	1,800	6,417	6,500	6,500	6,500
France	1,500	1,500	--	--	--	--
Georgia	2,000	2,000	2,000	2,000	2,000	2,000
Kazakhstan	18,062	29,941	36,670	50,000	60,000	70,000
Kyrgyzstan	16,700	18,300	21,000	23,000	24,000	25,000
Macedonia	400	--	--	--	--	--
Poland	510	500	500	500	500	500
Romania	400	400	500	500	500	500
Russia	163,186	189,000	199,650	210,000	215,000	220,000
Serbia	335	356	360	400	400	400
Slovakia	109	534	535	535	535	535
Spain	3,971	3,400	3,400	3,400	3,400	3,400
Sweden	6,600	6,242	5,935	6,000	6,000	6,000
Tajikistan	3,000	2,049	2,240	2,500	2,500	2,500
Uzbekistan	84,210	90,000	91,000	92,000	92,000	93,000
Total	311,000	355,000	379,000	407,000	424,000	443,000

^cEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 10
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED CRUDE STEEL PRODUCTION, 2005–2018¹

(Thousand metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Albania	87	440	440	450	450	450
Austria	7,031	7,206	7,474	7,200	7,200	7,200
Azerbaijan	286	129	232	250	270	300
Belarus	2,076	2,672	2,779	2,900	2,950	3,000
Belgium	10,420	7,973	8,026	7,800	7,500	7,500
Bosnia and Herzegovina	283	591	649	650	650	650
Bulgaria	1,969	740	834	850	850	850
Croatia	74	95	90	90	90	90
Czech Republic	6,189	5,180	5,583	5,200	5,200	5,200
Finland	4,738	4,023	3,985	4,000	4,000	4,000
France	19,481	15,414	15,780	15,800	15,800	15,800
Germany	44,524	43,830	44,288	43,000	43,000	43,000
Greece	2,266	1,839	1,993	2,000	2,000	2,000
Hungary	2,005	1,681	1,733	950	950	950
Italy	29,061	25,750	28,735	30,000	30,000	32,000
Kazakhstan	4,452	3,338	3,699	5,000	7,000	7,000
Latvia	550	655	515	500	500	500
Luxembourg	2,194	2,563	2,521	2,500	2,500	2,500
Macedonia	326	292	386	350	350	350
Moldova	1,000	242	321	500	650	800
Montenegro	104	45	42	42	40	40
Netherlands	6,919	6,651	6,937	6,800	6,800	6,800
Norway	701	514	620	650	650	650
Poland	8,336	7,996	8,777	9,000	10,000	10,000
Portugal	1,400	1,351	1,400	1,400	1,400	1,400
Romania	6,280	3,724	3,811	4,000	4,000	4,000
Russia	66,186	66,800	68,100	69,500	70,500	72,000
Serbia	1,286	1,254	1,324	1,000	1,000	1,000
Slovakia	4,242	4,580	4,236	4,400	4,500	4,500
Slovenia	583	606	600	600	600	600
Spain	17,800	16,343	15,591	16,000	16,000	16,000
Sweden	5,692	4,844	4,866	4,800	4,800	4,800
Switzerland	1,158	1,330	1,400	1,400	1,400	1,400
Ukraine	38,636	33,599	35,332	38,000	40,000	40,000
United Kingdom	13,210	9,709	9,478	9,500	9,500	9,500
Uzbekistan	607	731	746	750	755	760
Total	312,000	285,000	293,000	298,000	304,000	308,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 11
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED IRON ORE PRODUCTION, 2005–2018¹

(Fe content in thousand metric tons)

Country	Average iron content	2005	2010	2011	2014 ^c	2016 ^c	2018 ^e
Austria	32%	665	662	655	670	670	670
Azerbaijan	57%	4	33	114	140	170	200
Bosnia and Herzegovina	42%	702	588	794	850	850	850
Germany ²	11%	38	41	42	45	45	45
Greece	38%	575	560	550	550	500	400
Kazakhstan	57%	11,100	13,800	14,100	15,000	17,000	17,000
Norway	62%	420	3,105	3,200	3,200	3,000	3,000
Portugal	36%	10	10	10	10	10	10
Romania	52%	69	--	--	--	--	--
Russia	58%	56,100	56,581	61,360	63,000	64,000	65,000
Slovakia	34%	182	--	--	--	--	--
Sweden	60%	15,300	16,750	15,159	15,500	15,500	15,500
Ukraine	55%	37,700	43,000	44,300	46,000	48,000	50,000
United Kingdom	54%	(³)	--	--	--	--	--
Total	XX	123,000	135,000	140,000	145,000	150,000	153,000

^cEstimated. XX Not applicable. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

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

³Less than 1/2 unit.

TABLE 12
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PALLADIUM MINE PRODUCTION, 2005–2018¹

(Kilograms)

Country ²	2005	2010	2011	2014 ^c	2016 ^c	2018 ^e
Poland	10	15	15	15	15	15
Russia	97,400	84,700	84,300	86,500	88,500	90,000
Serbia	19	22	20	20	20	20
Total	97,400	84,700	84,300	86,500	88,500	90,000

^cEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²Palladium production for Finland and Norway has not been estimated.

TABLE 13
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PLATINUM MINE PRODUCTION, 2005–2018¹

(Kilograms)

Country	2005	2010	2011	2014 ^c	2016 ^c	2018 ^e
Finland	678	275	275	275	275	275
Poland	20	25	25	25	25	25
Russia	29,000	25,000	25,900	26,000	26,500	27,000
Serbia	3	--	--	--	--	--
Total	29,700	25,300	26,200	26,300	26,800	27,300

^cEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 14
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED TIN MINE PRODUCTION, 2005–2018¹

(Sn content in metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Portugal	243	22	39	40	40	40
Russia	3,000	160	300	700	1,000	1,200
Total	3,240	182	339	740	1,040	1,240

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 15
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED TIN METAL PRODUCTION
(PRIMARY AND SECONDARY), 2005–2018¹

(Metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
France	1,500	1,500	--	--	--	--
Russia	5,500	400	500	900	1,200	1,500
Total	7,000	1,900	500	900	1,200	1,500

^eEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

TABLE 16
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED NATURAL DIAMOND PRODUCTION, 2005–2018^{1,2}

(Thousand carats)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Russia:						
Gem grade	23,000	17,800	20,140	22,000	23,500	25,000
Industrial grade	15,000	15,000	15,000	15,000	15,000	15,000
Regional total	38,000	32,800	35,100	37,000	38,500	40,000

^eEstimated.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

²The large increase in Russian diamond production reflects mainly newly released Russian diamond production data. Future volumes will reflect revised historic Russian diamond production data.

TABLE 17
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED LITHIUM PRODUCTION, 2005–2018

(Li content in metric tons)

Country	2005	2010	2011	2014 ^e	2016 ^e	2018 ^e
Portugal	520	800	820	820	820	820

^eEstimated; estimated data are rounded to no more than three significant digits.

TABLE 18
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED SALABLE COAL PRODUCTION, 2005–2018^{1,2}

(Thousand metric tons)

Country	2005	2010	2011	2014 ^c	2016 ^c	2018 ^c
Albania	13	4	4	4	4	4
Austria	14	--	--	--	--	--
Bosnia and Herzegovina	9,144	10,976	12,732	13,000	15,000	15,000
Bulgaria	24,909	29,300	37,100	37,000	37,000	37,000
Czech Republic	61,903	55,124	57,815	58,000	58,000	58,000
Georgia	5	241	250	300	370	450
Germany	202,815	182,303	188,561	190,000	185,000	180,000
Greece	73,585	53,600	54,000	52,000	50,000	50,000
Hungary	9,580	9,114	9,559	9,500	9,500	9,500
Kazakhstan	86,385	106,568	111,383	120,000	130,000	130,000
Kosovo	6,391	7,958	8,212	8,500	8,500	8,500
Kyrgyzstan	340	575	839	1,200	1,600	2,000
Macedonia	6,949	6,583	7,902	8,000	8,000	8,000
Montenegro	1,297	1,938	1,973	2,000	2,000	2,000
Norway	300	1,685	1,800	1,700	1,600	1,600
Poland	159,039	133,238	139,295	140,000	140,000	140,000
Romania	34,201	30,000	35,000	35,000	35,000	35,000
Russia	298,300	326,050	334,800	350,000	365,000	380,000
Serbia	34,993	38,598	41,574	42,000	42,000	42,000
Slovakia	2,511	2,378	2,376	2,400	2,300	2,200
Slovenia	4,539	4,430	4,519	4,600	4,600	4,500
Spain	19,354	8,434	6,623	7,000	7,000	7,000
Tajikistan	99	200	237	260	280	300
Ukraine	74,559	75,200	82,200	85,000	85,000	90,000
United Kingdom	20,498	18,159	18,492	18,000	18,000	18,000
Uzbekistan	3,000	3,300	3,844	4,300	4,700	5,000
Total	1,130,000	1,100,000	1,160,000	1,190,000	1,210,000	1,230,000

^cEstimated. -- Zero.

¹Estimated data and totals are rounded to no more than three significant digits; may not add to totals shown.

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