



# 2015 Minerals Yearbook

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**CROATIA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF CROATIA

By John R. Matzko

Croatia produced mostly industrial minerals and hydrocarbons in 2015. Petroleum extraction and refining remained important sectors in Croatia's mineral industry; metal production in the country was limited to aluminum alloys and steel. None of Croatia's mineral commodities were produced in quantities that were significant on a world or regional scale. Mineral resources included clay, gravel, gypsum, lime, natural gas, petroleum, salt, sand, stone, and sulfur (Loncke and Gicquel, 2015, p. 7).

The Mining Sector of the Directorate for Energy and Mining was responsible for issuing licenses for the exploration and extraction of all minerals except for mineral fuels, and for granting approvals for mining concessions. The Mining Act (Official Gazette No. 56/13, 14/14), which became effective in May 2013, regulated the exploration and production of minerals in general. The Ministry of Economy and the Croatian Hydrocarbon Agency regulated activity in the hydrocarbon sector. The Hydrocarbon Agency, which was established in February 2014, issued permits for onshore and offshore exploration and extraction of hydrocarbon resources. Exploration and production of petroleum and natural gas reserves in Croatia was regulated by the Hydrocarbon Exploration and Exploitation Act (Official Gazette No. 94/13, 14/14), which became effective in July 2013 (Rajal and Santic, 2015, p. 58–59; 2016; Ministry of Economy, 2016).

In 2015, Croatia's real gross domestic product (GDP) growth rate was about 1.6%; the nominal GDP was \$48.9 billion. In 2013, the mineral sector was a small component of Croatia's economy and generated about 5.1% of the gross value added compared with 5.5% in 2012. Mining and quarrying accounted for 2.5% of the gross value added; the manufacture of fabricated metal products, except machinery and equipment, accounted for 1.3%; the manufacture of nonmetallic mineral products, 0.7%; the manufacture of chemicals and chemical products, 0.4%; the manufacture of base metals, 0.2%, and the manufacture of coke and refined petroleum products, 0.02%. As of the end of December 2014, the mining and quarrying sector consisted of 398 registered and 304 active business enterprises, and, as of the end of March 2014, the sector employed 5,388 people (Croatian Bureau of Statistics, 2015, p. 87, 149, 216; International Monetary Fund, 2016).

In 2015, Croatia's total exports amounted to \$12.8 billion and total imports were valued at \$20.6 billion. In 2015, the mining and quarrying sector accounted for about 1% of the country's exports, by value. Fabricated metal products (except machinery and equipment), base metals, and nonmetallic mineral products together accounted for 12.7% of exports, by value; and mineral fuels and lubricants accounted for 10.9%. Croatia's main export partners in 2015 were Italy, which received 13.4% of Croatia's exports; Slovenia, 12.5%; Germany, 11.4%; Bosnia and Herzegovina, 9.9%; and Austria, 6.6%. In 2015, the mining and quarrying sector accounted for about 6.7% of imports, by value. Mineral fuels and lubricants accounted for 15.2%

of total imports, by value; fabricated metal products (except machinery and equipment), base metals, and nonmetallic mineral products together accounted for 10.4%. The country's main import partners in 2015 were Germany, which supplied 15.5% of imports; Italy, 13.1%; Slovenia, 10.7%; Austria, 9.2%; and Hungary, 7.8% (Croatian Bureau of Statistics, 2016; U.S. Central Intelligence Agency, 2016).

## Production

The production quantities of several mineral commodities increased significantly in 2015. The production of salt increased by 57%; silica sand, by 53%; dimension stone, by 26%; crude petroleum, by 15%; and total refinery products, by 11%. The mineral commodities for which output decreased significantly in 2015 were total aluminum semimanufactures, by 35%; crude steel, by 27%; crude gypsum and anhydrite, by 15%; and sulfur as a byproduct of petroleum, by about 10% (table 1; INA-Industrija nafte d.d., 2016, p. 5).

## Structure of the Mineral Industry

Most of the mineral producers in Croatia were privately owned with the exceptions of the principal hydrocarbon producer INA-Industrija nafte d.d. (INA) and fertilizer producer Petrokemija d.d. INA was jointly owned by the Hungarian petroleum company Magyar Olaj-és Gázipari (MOL) Group (49.08%), the Government of Croatia (44.84%), and other investors (6.08%). Petrokemija d.d. had been carrying out restructuring measures since 2013, and the ownership structure changed significantly in 2015; the Government interest nearly doubled to 79.9% from 43.8% in 2014 (INA-Industrija nafte d.d., 2016, p. 20; Petrokemija d.d., 2016, p. 19, 41).

The leading aluminum producer in Croatia was Tvornica Lakhir Metala d.d. (TLM d.d.), which was privatized in 2007. Its subsidiaries were Tvornica Lakhir Metala-Tvornica Valjanih Proizvoda d.o.o. (TLM-TVP d.o.o.), which operated an aluminum hot-rolling mill, and Tvornica Lakhir Metala-Tvornica Presanih Proizvoda d.o.o. (TLM-TPP d.o.o.), which operated an aluminum extruded-products mill and produced bars, profiles, and tubes. All three companies were based in Sibenik. At the end of 2014, TLM d.d. was owned by Fintrust Holding GmbH of Austria; in February 2015, a private investor acquired majority ownership in TLM-TPP d.o.o and TLM-TVP d.o.o (Loncke and Gicquel, 2015, p. 8).

The two major steel producers in the country were ABS Sisak d.o.o., which was wholly owned by the Danieli Group of Italy, and Adria Celik d.o.o. (Adria Steel d.o.o.), which was wholly owned by Techcom GmbH of Germany. Table 2 is a list of the major mineral industry facilities in Croatia (Loncke and Gicquel, 2015, p. 8).

## Commodity Review

### Metals

**Aluminum.**—Production of aluminum semimanufactures decreased by about 35%, to 132,000 metric tons (t) in 2015 from 201,800 t in 2014. The decrease was owing to financial difficulties arising from high electricity costs and unfavorable market conditions. TLM d.d. had encountered financial losses and faced bankruptcy. After acquisition by the new owner in 2015, production at the plants stopped during the year owing to the lack of raw materials, and, in December, TLM d.d. declared bankruptcy. Iveral d.o.o. operated an aluminum diecasting plant and employed about 90 people. Top-Tvornica Olovni Proizvoda Aluminijskih d.d., a manufacturer of aluminum and lead products, was based in Sveta Nedelja and also faced bankruptcy (Loncke and Gicquel, 2015, p. 8–9; Slovenia Times, The, 2015; Varosanec, 2015; bne IntelliNews, 2016; Djukanovic, 2016; Poslovnna Hrvatska, 2016).

**Iron and Steel.**—The production of crude steel in Croatia decreased by about 27% to 122,000 t in 2015 from 167,000 t in 2014. ABS Sisak suspended steel production from the beginning of December 2015 owing to lack of orders. About 100 workers were expected to be laid off. The company manufactured steel billets and seamless pipes for various industries worldwide. The company's products were exported to Europe, the Middle East, North Africa, and the United States. Adria Steel, which was located in Split, produced steel billets and hot-rolled bars. The company stopped production in the summer of 2014; the stoppage continued through 2015 owing to high electricity prices and mounting debt. In November 2015, the company was declared bankrupt in the commercial court of the City of Split and the jobs of 190 workers at the plant were expected to be terminated (Eurofound, 2015; Hrvatska izvještajna novinska agencija, 2015; Prerad, 2015; Bloomberg L.P., 2016).

### Industrial Minerals

**Cement.**—Cemex Hrvatska d.d., which was wholly owned by CEMEX S.A.B. de C.V. of Mexico (CEMEX), was a leading cement producer in Croatia. In August 2015, CEMEX agreed to sell its Cemex Hrvatska d.d. operations in Croatia, which included cement plants at Kolovoz, Sveti Juraj, and Sveti Kajo, along with assets in Bosnia and Herzegovina, Montenegro, and Serbia, to Duna-Drava Cement Ltd. of Hungary, for about \$251 million. The total assets from the sale included two aggregate quarries, three cement plants, and seven ready-mix concrete plants. The three cement plants located in Croatia had a combined production capacity of 2.4 million metric tons per year (Mt/yr). The sale was expected to be completed in the first half of 2016. In July, the Integrated Pollution Prevention and Control (IPPC) permit issued to Cemex Hrvatska by the Ministry of Environment was revoked as a result of a lawsuit filed by the city of Kastela against the Ministry. A new IPPC permit was issued by the Ministry in November, but that permit was also challenged by the city (CEMEX S.A.B. de C.V., 2016, p. 79, 89, 98, 113).

**Nitrogen.**—Petrokemija d.d. produced about 1.2 million metric tons (Mt) of fertilizers in 2015, which was an increase of

11.5% compared with that of 2014. The production of nitrogen, phosphorus, and potassium (NPK) fertilizers increased by 65.4%; nitrogenous fertilizers (calcium ammonium nitrate, ammonium nitrate, urea and ammonium nitrate, and ammonium sulfonitrate) increased by 1.5%; and the production of urea decreased by 3.7% owing to unfavorable currency exchange rates, low market prices, high costs of working capital, and company debt. About 72% of the company's output was exported in 2015. In 2015, domestic sales increased by 5.4% compared with those of 2014, and export sales increased by 11.6%. The Program of Restructuring and Financial Consolidation for 2014–18, which was initiated in 2014, was modified by a revision program for 2015–19 that was adopted at the end of 2014. This revised program included reactivation of the NPK–2 and sulfuric acid plants that had been idle, a reduction in planned investments, and introduction of new products. Under the program, Petrokemija introduced granulated ammonium sulfonitrate, which the company anticipated would reduce its exposure to the instability of the global urea market. Petrokemija employed 1,617 people as of yearend (Petrokemija d.d., 2016, p. 1, 9–10).

### Mineral Fuels

**Natural Gas and Petroleum.**—Croatia's first offshore licensing round, which was held in 2014, offered 29 exploration blocks in the Adriatic Sea. In early January 2015, the Government granted 10 licenses for exploration and exploitation, of which INA was awarded 2—the South Adriatic 25 Block and the South Adriatic 26 Block. The other successful bidders were a consortium of Marathon Oil Corp. of the United States and OMV Aktiengesellschaft (Austria), and a consortium of ENI S.p.A. (Italy) and Mediterranean Oil and Gas Plc. (United Kingdom). In July, Marathon and OMV withdrew their application, citing economic conditions. The first onshore licensing round was held in 2015 and offered six exploration blocks. Six licenses were awarded in June—four to Vermillion Zagreb Exploration, one to Oando plc (Nigeria) and one to INA for the Drava-2 block, but signing of the production-sharing agreements for the offshore and onshore blocks was postponed by the Government (Croatian Hydrocarbons Agency, 2014, p. 15; Offshore Energy Today.com, 2015; Thomson Reuters, 2015a, b).

INA played a key role in Croatia's petroleum and gas industry. The company was involved in domestic offshore and onshore hydrocarbon exploration and production and was the only producer of natural gas in the country. The company was also involved in petroleum refining and in the distribution of petroleum products. In 2015, the company drilled three exploration and three development wells in Croatia. In 2015, INA reported proven and probable onshore reserves of 158 million barrels (Mbbbl) of oil equivalent and offshore reserves of 14 Mbbbl of oil equivalent. In 2015, INA's onshore crude petroleum production in Croatia was reported as 10,700 barrels per day (bbl/d) of oil equivalent, which was an increase of 20% compared with that of 2014. Onshore natural gas production was 12,800 bbl/d of oil equivalent, which was 2% lower than in 2014. Offshore natural gas production increased to 12,200 bbl/d of oil equivalent, which was 10% higher than in 2014, owing to a full year of production from the

Izabela and the Ika SW fields. The production of condensate was 1,900 bbl/d of oil equivalent (down 9% from 2014) (INA-Industrija nafte d.d., 2016, p. 2, 31–33, 74–75).

INA also operated Croatia's two petroleum refineries. The Rijeka refinery, which is located on the Urinj Peninsula, was capable of processing crude petroleum originating from Africa, the Caspian Basin, the Middle East, Russia, and elsewhere. The refinery was connected to the Adria (Jadranski Naftovod plc—JANAF) crude petroleum pipeline and was also supplied by undersea pipeline from the island of Krk. The refinery had a crude petroleum distillation capacity of 90,000 bbl/d (4.5 Mt/yr) and employed 730 people. In 2015, INA was preparing to undertake a residue upgrade project at the refinery, which had an estimated investment value of \$400 million. The project was intended to improve the refinery's market competitiveness and would include installation of a delayed coker, a coke port, and a handling system, and was planned to be operational in 2019. INA's Sisak refinery was located near Zagreb and was also connected to the JANAF pipeline, through which it imported Azeri crude petroleum from the Caspian Sea, and Russian export blend (REB). Domestic crude petroleum from the Moslavina region was transported by pipeline to the refinery, and crude petroleum from the Slavonija region, by barge. The refinery had a crude petroleum distillation capacity of 44,000 bbl/d (2.2 Mt/yr) and employed approximately 700 people. The refineries produced a combined total of about 22 Mbbbl (3.1 Mt) of refined products in 2015 (Brelsford, 2015; INA-Industrija nafte d.d., 2016, p. 2, 8–10, 44, 45; MOL Group, 2016a, b; Private Infrastructure Development Group, undated).

## References Cited

- Bloomberg L.P., 2016, Company overview of ABS Sisak d.o.o.: Bloomberg L.P. (Accessed September 16, 2016, at <http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=24309968>.)
- bne IntelliNews, 2016, Slovenia's Impol aims to acquire Croatian aluminum producer TLM in 2016: bne IntelliNews, March 9. (Accessed December 5, 2016, at <http://www.intellinews.com/slovenia-s-impol-aims-to-acquire-croatian-aluminium-producer-tlm-in-2016-92402/>.)
- Brelsford, Robert, 2015, Croatian refinery lets contract for upgrading project: Oil & Gas Journal, July 7. (Accessed September 12, 2016, at <http://www.ogj.com/articles/2015/07/croatian-refinery-lets-contract-for-upgrading-project.html>.)
- CEMEX S.A.B. de C.V., 2016, Form 20-F—Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934: CEMEX S.A.B. de C.V., April 22, 296 p. (Accessed September 9, 2016, at [http://www.cemex.com/InvestorCenter/files/2015/CEMEX2015\\_20F.pdf](http://www.cemex.com/InvestorCenter/files/2015/CEMEX2015_20F.pdf).)
- Croatian Bureau of Statistics, 2015, Statistical yearbook of the Republic of Croatia: Zagreb, Croatia, Croatian Bureau of Statistics, December, 615 p. (Accessed September 6, 2016, at [http://www.dzs.hr/Hrv\\_Eng/ljetopis/2015/sljh2015.pdf](http://www.dzs.hr/Hrv_Eng/ljetopis/2015/sljh2015.pdf).)
- Croatian Bureau of Statistics, 2016, Foreign trade in goods of the Republic of Croatia, 2015—Final data: Zagreb, Croatia, Croatian Bureau of Statistics, May 25. (Accessed September 6, 2016, at [http://www.dzs.hr/Hrv\\_Eng/publication/2016/04-02-02\\_01\\_2016.htm](http://www.dzs.hr/Hrv_Eng/publication/2016/04-02-02_01_2016.htm).)
- Croatian Hydrocarbons Agency, 2014, 1st offshore licensing round 2014: Zagreb, Croatia, Ministry of Economy, 20 p. (Accessed October 20, 2016, at <http://www.azu.hr/Portals/0/Dokumenti/Croatian-licence-round-booklet-v6-lo-res.pdf>.)
- Djukanovic, Goran, 2016, A new start for Croatian TLM: Aluminum Insider, August 24. (Accessed December 5, 2016, at <http://aluminiuminsider.com/a-new-start-for-croatian-tlm/>.)
- Eurofound, 2015, Adria Celik (Adria Steel): European Foundation for the Improvement of Living and Working Conditions. (Accessed September 16, 2016, at <http://www.eurofound.europa.eu/observatories/emcc/erm/factsheets/adria-celik-adria-steel>.)
- Hrvatska izvještajna novinska agencija, 2015, Italy's ABS shutting down steel production in Sisak: About Croatia, November 28. (Accessed September 16, 2016, at <https://aboutcroatia.net/news/business/italys-abs-shutting-down-steel-production-sisak-2815>.)
- INA-Industrija nafte d.d., 2016, Annual report 2015: Zagreb, Croatia, INA-Industrija nafte d.d., March, 255 p. (Accessed September 12, 2016, at [http://www.ina.hr/UserDocsImages/investitori/GI%202015\\_ENG\\_final\\_objava.pdf](http://www.ina.hr/UserDocsImages/investitori/GI%202015_ENG_final_objava.pdf).)
- International Monetary Fund, 2016, World economic outlook database—Croatia: Washington, DC, International Monetary Fund, April. (Accessed October 20, 2016, at [http://www.imf.org/external/pubs/ft/weo/2016/01/weodata/weorept.aspx?sy=2011&ey=2017&scsm=1&ssd=1&sort=country&ds=.&br=1&pr1.x=40&pr1.y=9&c=960&s=NGDP\\_R%2CNGDP\\_RPCH%2CNGDP%2CNGDPD%2CTMG\\_RPCH%2CTXG\\_RPCH%2CGGXWDG\\_NGDP&grp=0&a=](http://www.imf.org/external/pubs/ft/weo/2016/01/weodata/weorept.aspx?sy=2011&ey=2017&scsm=1&ssd=1&sort=country&ds=.&br=1&pr1.x=40&pr1.y=9&c=960&s=NGDP_R%2CNGDP_RPCH%2CNGDP%2CNGDPD%2CTMG_RPCH%2CTXG_RPCH%2CGGXWDG_NGDP&grp=0&a=).)
- Loncke, Alexandre, and Gicquel, Etienne, 2015, Metal industry in Croatia: Flanders Investment and Trade Market Survey, May, 20 p. (Accessed September 15, 2016, at [http://www.flandersinvestmandtrade.com/export/sites/trade/files/market\\_studies/2015-Croatia-Metal-Report.pdf](http://www.flandersinvestmandtrade.com/export/sites/trade/files/market_studies/2015-Croatia-Metal-Report.pdf).)
- Ministry of Economy [Croatia], 2016, Organization—The structure of the Ministry: Zagreb, Croatia, Ministry of Economy. (Accessed September 28, 2016, at <http://www.mingo.hr/en/page/kategorija/organization-of-the-ministry>.)
- MOL Group, 2016a, Rijeka: MOL Group. (Accessed September 12, 2016, at <https://molgroup.info/en/our-business/downstream/refining/Rijeka>.)
- MOL Group, 2016b, Sisak: MOL Group. (Accessed September 12, 2016, at <https://molgroup.info/en/our-business/downstream/refining/sisak>.)
- Offshore Energy Today.com, 2015, Croatia awards 10 offshore licenses: Offshore Energy Today.com, January 5. (Accessed September 30, 2016, at <http://www.offshoreenergytoday.com/croatia-awards-10-offshore-licenses/>.)
- Petrokemija d.d., 2016, Consolidated financial statements for the year ended 31 December 2015: Kutina, Croatia, Petrokemija d.d., March, 62 p. (Accessed September 21, 2016, at <http://en.petrokemija.hr/portals/0/Financije/AnnualReportGroupPetrokemija2015AUDITED.pdf>.)
- Poslovna Hrvatska, 2016, TOP d.d.: Poslovna Hrvatska. (Accessed September 26, 2016, at <http://www.poslovna.hr/lite/top-kerestinec/316018/subjekti.aspx>.)
- Prerad, Daniel, 2015, ABS Sisak privremeno obustavlja proizvodnju u Zeljezari [ABS Sisak temporarily suspends steel production]: Vecernji list [Zagreb, Croatia], November 28. (Accessed September 16, 2016, at <http://www.vecernji.hr/hrvatska/abs-sisak-privremeno-obustavlja-proizvodnju-u-zeljezari-1040784>.)
- Private Infrastructure Development Group, [undated], Boost for Croatian fuel production—Industrija nafte (INA), Croatia: Private Infrastructure Development Group, 2 p. (Accessed September 12, 2016, at <http://www.pidg.org/resource-library/case-studies/pidg-case-study-croatia-refineries.pdf>.)
- Rajal, Bernd, and Santic, Petra, 2015, Energy law in Croatia, in Newbery, Mark, and Goldberg, Silke, eds., European energy handbook 2015: London, United Kingdom, Herbert Smith Freehills, March, p. 55–61.
- Rajal, Bernd, and Santic, Petra, 2016, Croatia—Oil & gas regulation 2016: International Comparative Legal Guides. (Accessed September 27, 2016, at <http://www.iclg.co.uk/practice-areas/oil-and-gas-regulation/oil-and-gas-regulation-2016/Croatia>.)
- Slovenia Times, The, 2015, Impol mulling acquisition in Croatia following EUR 50m bond issue: The [Ljubljana] Slovenia Times, October 20. (Accessed September 15, 2016, at <http://www.sloveniatimes.com/impol-mulling-acquisition-in-croatia-following-eur-50m-bond-issue>.)
- Thomson Reuters, 2015a, Update 1—Croatia awards six onshore oil and gas exploration licenses: Thomson Reuters, June 2. (Accessed September 30, 2016, at <http://af.reuters.com/article/commoditiesNews/idAFL5N0YO46Y20150602>.)
- Thomson Reuters, 2015b, Update 2—Marathon, OMV hand back Croatia oil exploration licenses: Thomson Reuters, July 29. (Accessed September 30, 2016, at <http://www.reuters.com/article/marathon-omv-croatia-idUSL5N1091Z120150729>.)
- U.S. Central Intelligence Agency, 2016, Croatia, in The world factbook: U.S. Central Intelligence Agency, September 16. (Accessed September 29, 2016, at <https://www.cia.gov/library/publications/the-world-factbook/geos/hr.html>.)
- Varosanec, Susan, 2015, Ruski investitor Igor Shamis novi vlasnik sibenskog TLM-a [Russian investor Igor Shamis new owner of the Sibenik TLM]: Vecernji list [Zagreb, Croatia], February 25. (Accessed December 5, 2016, at <http://www.vecernji.hr/kompanije-i-trzista/ruski-investitor-igor-shamis-novi-vlasnik-sibenskog-tlm-a-991796>.)

TABLE 1  
CROATIA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity	2011	2012	2013	2014	2015	
<b>METALS</b>						
Aluminum:						
Alloys	36,988	41,772	34,143 <sup>r</sup>	30,083 <sup>r</sup>	30,000 <sup>e</sup>	
Semimanufactures:						
Extruded	7,880 <sup>r</sup>	8,250 <sup>r</sup>	6,840 <sup>r</sup>	6,460 <sup>r</sup>	6,500 <sup>e</sup>	
Rolled	60,120 <sup>r</sup>	69,650 <sup>r</sup>	160,160 <sup>r</sup>	195,340 <sup>r</sup>	125,500	
Total	68,000 <sup>r</sup>	77,900 <sup>r</sup>	167,000 <sup>r</sup>	201,800 <sup>r</sup>	132,000	
Steel:						
Crude, from electric furnaces	96,000	1,000	135,000	167,000	122,000	
Semimanufactures, hot-rolled	95,440 <sup>r</sup>	1,016	110,062 <sup>r</sup>	148,890 <sup>r</sup>	149,000 <sup>e</sup>	
<b>INDUSTRIAL MINERALS</b>						
Cement:						
Portland cement	thousand metric tons	2,577	2,154	2,333	2,359 <sup>r</sup>	2,339
Other hydraulic cement	do.	105	100	103	112 <sup>r</sup>	110 <sup>e</sup>
Total hydraulic cement <sup>2</sup>	do.	2,682	2,254	2,436	2,471 <sup>r</sup>	2,449
Clinker	do.	2,072	1,999	2,210	2,312 <sup>r</sup>	2,162
Clay, ceramic clay		67,914	86,303	24,129 <sup>r</sup>	32,751 <sup>r</sup>	--
Gypsum and anhydrite, crude		231,008 <sup>r</sup>	182,557	114,450	120,055	138,088
Lime	thousand metric tons	271 <sup>r</sup>	207	185	205	186
Nitrogen, N content of ammonia	do.	368	342	343	376	375
Pumice and related materials, volcanic tuff	do.	36 <sup>r</sup>	8 <sup>r</sup>	14 <sup>r</sup>	20 <sup>e</sup>	20 <sup>e</sup>
Salt, all sources		55,963	46,000	42,502	33,039	51,877
Sand and gravel, excluding glass and silica sand	thousand metric tons	4,003	3,683	3,199	3,497	3,545
Silica sand (quartz, quartzite, glass sand)		227,437	106,276	102,070	127,276	194,771
Stone:						
Crushed	thousand metric tons	13,033	11,152	12,409	12,989	12,922
Dimension stone		1,400,000 <sup>e</sup>	1,028,230	973,784	1,115,535	1,409,587
Sulfur, byproduct of petroleum		7,254	17,411	15,902	19,384	17,540
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Natural gas, gross production	million cubic meters	1,872	2,013	1,862	1,804	1,828
Petroleum:						
Crude, gross weight, includes condensate <sup>3</sup>	thousand 42-gallon barrels	4,900	4,600	4,600	4,000 <sup>r</sup>	4,600
Refinery products:						
Distillate fuel oil	do.	7,365 <sup>r</sup>	10,005 <sup>r</sup>	9,510 <sup>r</sup>	7,665 <sup>r</sup>	8,430
Residual fuel oil	do.	3,630 <sup>r</sup>	2,930 <sup>r</sup>	2,791 <sup>r</sup>	2,384 <sup>r</sup>	2,591
Jet fuel	do.	936 <sup>r</sup>	769 <sup>r</sup>	864 <sup>r</sup>	849 <sup>r</sup>	833
Liquefied petroleum gases	do.	2,482	2,738 <sup>r</sup>	2,424 <sup>r</sup>	2,204 <sup>r</sup>	2,436
Motor gasoline	do.	7,481 <sup>r</sup>	9,682 <sup>r</sup>	9,110 <sup>r</sup>	7,029 <sup>r</sup>	8,069
Total	do.	21,894 <sup>r</sup>	26,124 <sup>r</sup>	24,699 <sup>r</sup>	20,131 <sup>r</sup>	22,359

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits. <sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through September 29, 2016.

<sup>2</sup>Data may not add to totals shown because of independent rounding.

<sup>3</sup>Figures were converted to barrels from production in metric tons, which were reported as follows: 2011—644,440; 2012—620,835; 2013—620,795; 2014—535,281; 2015—613,281.

TABLE 2  
CROATIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, semimanufactures		Tvornica Lakh Metala-Tvornica Valjanih Proizvoda d.o.o. (TLM-TVP d.o.o.) (private investor, 90%)	Sibenik	100 <sup>e</sup>
Do.		Tvornica Lakh Metala-Tvornica Presanih Proizvoda d.o.o. (TLM-TPP d.o.o.) (private investor, 75%)	do.	10
Do.		Top-Tvornica Olovni Proizvoda Aluminijskih d.d.	Sveta Nedelja	NA
Do.		Ivanal d.o.o.	Sibenik	3
Cement		Cemex Hrvatska d.d. (Duna-Drava Cement Ltd., <sup>1</sup> 100%)	Plants at Kolovoz, Sveti Juraj, and Sveti Kajo	2,400
Do.		Holcim (Hrvatska) d.o.o. (LafargeHolcim Ltd., 100%)	Plant at Koromacno	1,000
Do.		Calucem d.o.o (CALUCEM Group)	Plant at Pula	NA
Do.		Tvornica Cementa Umag d.o.o. (Istramineral Umag d.o.o., 100%)	Cement plant at Umag	350
Do.		Nasicecement d.d. (Nexe Grupa d.d.)	Nasice	680
Natural gas	million cubic meters	INA-Industrija nafte d.d. (MOL Group, 49.08%; Government, 44.84%; others, 6.08%)	Natural gasfields at Ika JZ, Izabela, Molve, offshore platforms in the Adriatic Sea, and other locations	2,000 <sup>e</sup>
Nitrogen:				
Ammonia		Petrokemija d.d. (Government, 79.9%; pension funds, 9.5%; others, 10.6%)	Plant at Kutina	450
Calcium ammonium nitrate		do.	do.	400
Nitric acid		do.	do.	415
NPK fertilizer		do.	do.	600
Urea		do.	do.	500
Petroleum:				
Crude	thousand 42-gallon barrels per day	INA-Industrija nafte d.d. (MOL Group, 49.08%; Government, 44.84%; others, 6.08%)	Oilfields at Kalinovac, Sandrovac, Struzec, Zutica, and other locations	25 <sup>e</sup>
Refined	do.	do.	Refinery at Rijeka (Urinj Peninsula)	90
Do.	do.	do.	Refinery at Sisak	44
Salt	metric tons	Solana Pag d.d.	Pag Island (marine salt)	15,000 <sup>2</sup>
Do.	do.	Small producers	Ston, Nin	5,000
Steel, crude		ABS Sisak d.o.o. (Danieli Group, 100%) <sup>3</sup>	Plant at Sisak	324
Do.		Adria Steel d.o.o. (Techcom GmbH, 100%) <sup>4</sup>	Plant at Split	50

<sup>e</sup>Estimated. Do., do. Ditto. NA Not available.

<sup>1</sup>Cemex Hrvatska d.d. operations sold to Duna-Drava Cement Ltd. by CEMEX S.A.B. de C.V. in August 2015.

<sup>2</sup>Reported as marine salt.

<sup>3</sup>Production suspended from the beginning of December 2015.

<sup>4</sup>Previously known as Zeljezara Split d.d. Production was suspended in summer 2014 through 2015.