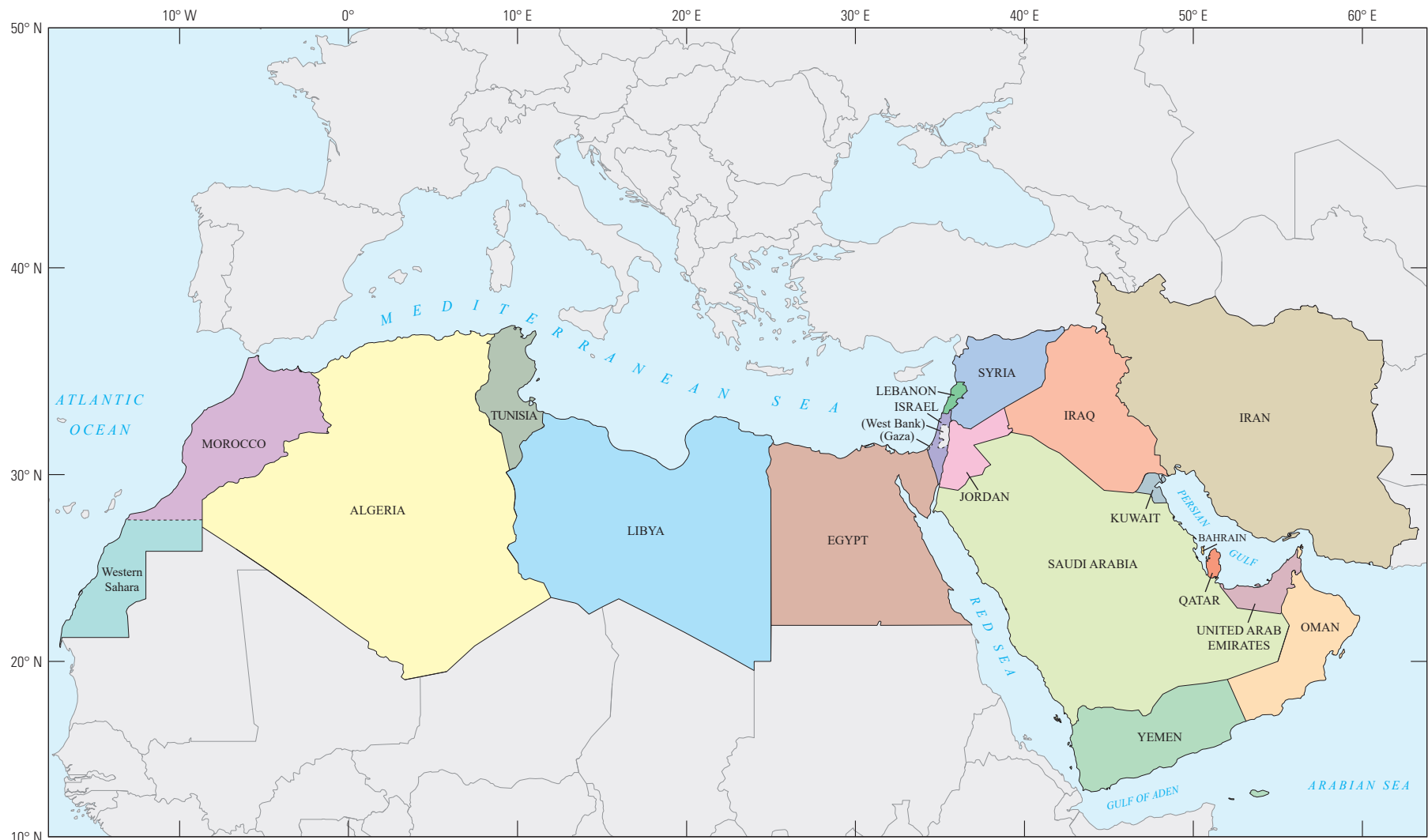




2017–2018 Minerals Yearbook

MIDDLE EAST AND NORTH AFRICA



Base modified from ESRI ArcGIS online world countries (generalized) map data, 2017
 Mercator Auxiliary Sphere projection
 World Geodetic System 1984 datum

Figure 1. Map of the Middle East and North Africa. The countries covered in this report are labeled on the map; bordering countries are shown in gray and not labeled. On December 10, 2020, the United States recognized provisionally the sovereignty of Morocco over all the area of the Western Sahara; the area is referred to and shown here as a distinct area according to the status during the timeframe covered in this report.

THE MINERAL INDUSTRIES OF THE MIDDLE EAST AND NORTH AFRICA

By Mowafa Taib, Ji Won Moon, and Philip A. Szczesniak

The countries and dependencies that are covered in this chapter have a combined population of approximately 448 million people and a land area of 11.5 million square kilometers (fig. 1; table 1). In 2018, the gross domestic product (GDP) of the Middle East and North Africa (MENA) region was \$7.3 trillion, accounting for 5.7% of the world's GDP. The region's real GDP growth was 1.4% compared with 2.7% in 2017 (table 2).

The MENA region was a significant producer of mineral fuels in 2018; it accounted for 38.5% of the world's crude petroleum (including condensate) production, 27.0% of dry natural gas production, and 10.2% of refined petroleum products production. Some countries of the MENA region were globally significant producers of mineral fuels. Saudi Arabia was the region's leading producer of crude petroleum and refined petroleum products and accounted for 12.3% and 3.2%, respectively, of the world's output. Iran was the region's leading producer of dry natural gas and accounted for 7.9% of the world's output. Data on mineral production for selected mineral commodities, by country in the region, are in table 3.

The MENA region accounted for 27.8% of the world's output of phosphate rock; 15.7%, of ammonia; 10.4%, of gypsum; 9.6%, of primary aluminum; 8.4%, of potash; 7.6%, of cement; 2.8%, of raw steel; 2.7%, of chromite; 2.0%, of mined copper; 1.8%, of mined zinc; 1.6%, of mined silver; 1.4%, of bauxite; and 0.9%, of refined primary copper metal. Some countries of the MENA region were globally significant producers of metals and industrial minerals. The major producers of phosphate rock in the region were Morocco and Western Sahara, which together accounted for 15.6% of the world's output; Jordan, 3.6%; and

Saudi Arabia, 2.8%. The major producers of ammonia in the region were Saudi Arabia, which accounted for 3.2% of the world's output; Egypt, 2.8%; and Iran and Qatar, 2.5% each. The major producers of gypsum in the region were Iran, which accounted for 4.7% of the world's output; Oman, 2.7%; and Saudi Arabia, 1.0%. The United Arab Emirates was the region's leading producer of aluminum and accounted for 4.2% of the world's output (fig 2; table 3).

Acknowledgments

The U.S. Geological Survey acknowledges and expresses its sincere appreciation to the following organizations for providing mineral production statistics, basic economic data, and exploration and mineral-related information:

- For mineral production statistics—
- Algeria—Ministry of Mines;
 - Bahrain—National Oil and Gas Authority;
 - Israel—Department of Quarries and Mines, Ministry of National Infrastructure, Energy and Water Resources;
 - Jordan—Ministry of Energy and Mineral Resources;
 - Kuwait—Central Statistical Office, Ministry of Planning;
 - Morocco—Ministry of Energy, Mines, and the Environment;
 - Oman—Ministry of Commerce and Industry;
 - Saudi Arabia—Central Department of Statistics and Information, Ministry of Economy and Planning; and Deputy Ministry for Mineral Resources, Ministry of Industry and Mineral Resources; and
 - United Arab Emirates—National Bureau of Statistics.

TABLE 1
MIDDLE EAST AND NORTH AFRICA: AREA AND POPULATION IN 2018

Country or territory	Area ¹ (square kilometers)	Estimated population ² (thousands)
Algeria	2,381,740	42,228
Bahrain	760	1,569
Egypt	1,001,450	98,424
Iran	1,648,195	81,800
Iraq	438,317	38,434
Israel	21,937	8,883
Jordan	89,342	9,956
Kuwait	17,818	4,137
Lebanon	10,400	6,849
Libya	1,759,540	6,679
Morocco	446,550	36,029
Oman	309,500	4,829
Qatar	11,586	2,782
Saudi Arabia	2,149,690	33,700
Syria	187,437	16,906
Tunisia	163,610	11,565
United Arab Emirates	83,600	9,631
West Bank and Gaza Strip	6,220	4,569
Western Sahara	266,000	652 ¹
Yemen	527,968	28,499
Regional total	11,522,000	448,121
World total	148,940,000 ³	7,591,945 ⁴

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

²Source: The World Bank, 2021 World Development Indicators Database.

³World area total includes the areal extent of some countries and (or) territories not covered in the Minerals Yearbook.

⁴World population total includes populations of some countries and (or) territories not covered in the Minerals Yearbook.

TABLE 2
MIDDLE EAST AND NORTH AFRICA: GROSS DOMESTIC PRODUCT^{1,2}

Country or territory	Gross domestic product in 2018 based on purchasing power parity		Real gross domestic product growth rate (percentage)		
	Gross value	Per capita	2016	2017	2018
	(million dollars)	(dollars)			
Algeria	496,403	11,659	3.2	1.3	1.4
Bahrain	74,292	50,155	3.6	4.3	1.8
Egypt	1,145,576	11,798	4.3	4.1	5.3
Iran	1,097,973	13,331	12.5	3.7	-5.4
Iraq	421,362	11,052	15.2	-2.5	-0.1
Israel	359,191	40,452	3.8	3.6	3.5
Jordan	102,181	10,317	2.0	2.1	1.9
Kuwait	213,859	46,274	2.9	-4.7	1.2
Lebanon	109,493	15,962	1.5	0.9	-1.9
Libya	83,357	12,799	-7.4	64.0	17.9
Morocco	278,727	7,914	1.0	4.2	3.0
Oman	140,232	33,556	4.9	0.3	0.9
Qatar	259,125	93,880	3.1	-1.5	1.2
Saudi Arabia	1,642,519	49,157	1.7	-0.7	2.4
Syria ³	16,361	966	-4.0	-1.5	2.7
Tunisia	127,538	10,939	1.2	1.9	2.7
United Arab Emirates	660,454	63,320	3.1	2.4	1.2
West Bank and Gaza Strip	29,542	6,086	8.9	1.4	1.2
Western Sahara	907 ⁴	2,500 ⁴	NA	NA	NA
Yemen	62,631	2,032	-9.4	-5.1	0.8
Regional total	7,321,723	16,339 ⁵	4.6 ⁶	2.7 ⁶	1.4 ⁶
World total ⁷	128,711,608	16,954 ⁵	3.3	3.8	3.5

NA Not available.

¹Source: International Monetary Fund, World Economic Outlook Database, October 2020.

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

³Source: United Nations data 2021. Gross domestic product values at current prices.

⁴Source: U.S. Central Intelligence Agency, The World Factbook 2007 estimate.

⁵Calculated as gross domestic product divided by population.

⁶Annual change in regional gross domestic product.

⁷World gross domestic product total includes the gross domestic product of some countries and (or) territories not covered in the Minerals Yearbook.

TABLE 3
MIDDLE EAST AND NORTH AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2018¹

(Thousand metric tons unless otherwise specified)

Country or locality	Metals								
	Aluminum		Chromite, mine output, gross weight	Copper		Iron and steel, steel, raw	Silver mine output, Ag content (metric tons)	Zinc (metric tons)	
	Bauxite	Metal, primary		Mine output, Cu content	Metal, refined, primary			Mine, output Zn content	Metal, primary
Algeria	--	--	--	--	--	2,000 ^e	(2)	1,300 ^e	--
Bahrain	--	1,011	--	--	--	960 ^e	--	--	--
Egypt	--	300 ^e	--	--	--	7,807	--	--	--
Iran	700 ^e	350 ^e	330 ^e	300 ^e	150	25,000	90 ^e	140,000 ^e	--
Iraq	--	--	--	--	--	--	--	--	--
Israel	--	--	--	--	--	--	--	--	--
Jordan	--	--	--	--	--	150 ^e	--	--	--
Kuwait	--	--	--	--	--	--	--	--	--
Lebanon	--	--	--	--	--	--	--	--	--
Libya	--	--	--	--	--	442	--	--	--
Morocco and Western Sahara	--	--	--	29 ^e	--	600	348	56,000	--
Oman	--	380	688	--	22	2,000 ^e	--	--	--
Qatar	--	616	--	--	--	2,700 ^e	--	--	--
Saudi Arabia	3,885	802	--	59	--	5,240	6	24,000	--
Syria	--	--	--	--	--	5 ^e	--	--	--
Tunisia	--	--	--	--	--	83	--	--	--
United Arab Emirates	--	2,640	190	--	--	3,247	--	--	--
Yemen	--	--	--	--	--	--	--	--	--
Regional total	4,600 ^e	6,100 ^e	1,200 ^e	388 ^e	172	50,200 ^e	444 ^e	221,000 ^e	--
Share of world total	1.4%	9.6%	2.7%	2.0%	0.9%	2.8%	1.6%	1.8%	--
United States	W	891	--	1,220	1,070	86,600	934	824,000	116,000
Share of world total	W	1.4%	--	6.4%	5.4%	4.8%	3.5%	6.6%	0.8%
World total	339,000	63,600	44,300	19,000	20,000	1,810,000	27,000	12,500,000	13,800,000

See footnotes at the end of table.

TABLE 3—Continued
MIDDLE EAST AND NORTH AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2018¹

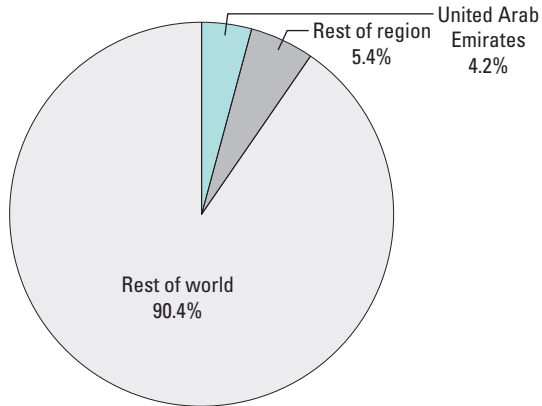
(Thousand metric tons unless otherwise specified)

Country or locality	Industrial minerals					Mineral fuels and related materials		
	Cement, hydraulic	Gypsum	Nitrogen, N content of ammonia	Phosphate rock, P ₂ O ₅ content	Potash, K ₂ O equivalent	Natural gas	Petroleum	
						Dry (million cubic meters)	Crude, including condensate (thousand 42-gallon barrels)	Refinery products (thousand 42-gallon barrels)
Algeria	31,100	2,500 ^e	2,235	340 ^e	--	97,500	459,170	167,000
Bahrain	1,500 ^e	--	346	--	--	8,550 ^e	71,000 ^e	98,900
Egypt	81,200	1,000 ^e	3,700 ^e	1,500 ^e	--	62,271	224,475	193,000
Iran	58,000 ^e	16,000 ^e	3,400 ^e	78 ^e	--	248,524	1,720,975	617,000
Iraq	10,000 ^e	1,000 ^e	35 ^e	--	--	11,130	1,684,232	216,000
Israel	5,858	76	--	1,100	2,200	9,400	552	122,000
Jordan	5,130 ^e	250 ^e	--	2,567	1,486	94	7,500	23,800
Kuwait	4,000 ^e	--	250 ^e	--	--	17,738	1,113,000	326,000
Lebanon	5,600	--	--	--	--	--	--	--
Libya	6,200	310	200 ^e	--	--	13,880	347,188	27,700
Morocco and Western Sahara	15,300	--	--	11,000	--	45 ^e	30 ^e	--
Oman	6,000 ^e	9,086	1,700 ^e	--	--	37,333	357,100	113,000
Qatar	6,600 ^e	210 ^e	3,300 ^e	--	--	181,594	685,835	134,000
Saudi Arabia	42,181	3,307	4,300	1,949	--	112,300	3,844,545	1,139,000
Syria	1,600 ^e	150 ^e	270	30 ^e	--	3,600	5,840	41,000 ^e
Tunisia	7,850	900 ^e	228	1,000 ^e	--	1,961	13,936	21,800
United Arab Emirates	25,000 ^e	700 ^e	995 ^e	--	--	47,624	1,439,000	405,000
Yemen	1,980	100 ^e	--	--	--	600	14,600	10,200
Regional total	315,000 ^e	35,600 ^e	21,000 ^e	19,600 ^e	3,690 ^e	854,000 ^e	12,000,000 ^e	3,600,000 ^e
Share of world total	7.6%	10.4%	15.7%	27.8%	8.4%	27.0%	38.5%	10.2%
United States	87,000	21,100	12,500 ³	7,250	520	30,800 ⁴	4,000,000 ⁴	6,190,000 ⁵
Share of world total	2.1%	6.2%	9.3%	10.3%	1.2%	1.0%	12.8%	17.5%
World total	4,140,000	342,000 ⁶	134,000	70,600	44,000	3,160,000	31,200,000	35,300,000

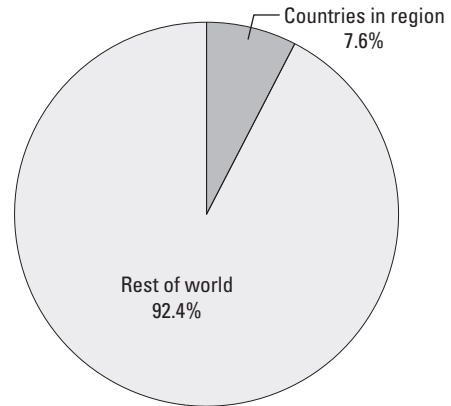
^eEstimated. W Withheld to avoid disclosing proprietary data. -- Zero.¹Table includes data available through March 10, 2021. All data are reported unless otherwise noted. World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown owing to independent rounding. Percentages were calculated using unrounded data.²Less than ½ unit.³Synthetic anhydrous ammonia; excludes coke oven byproduct ammonia.⁴Source: U.S. Energy Information Administration.⁵Source: BP Statistical Review of World Energy. Refinery, throughput.⁶Gypsum world total may include synthetic gypsum powder production.

Middle East and North Africa region

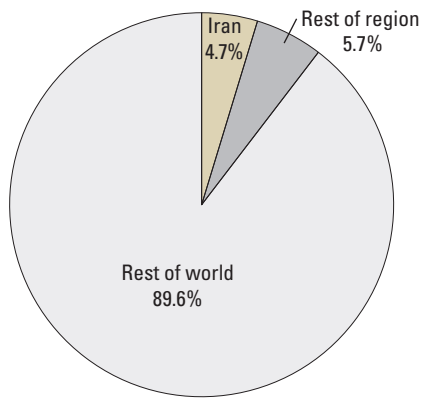
Aluminum, metal, primary



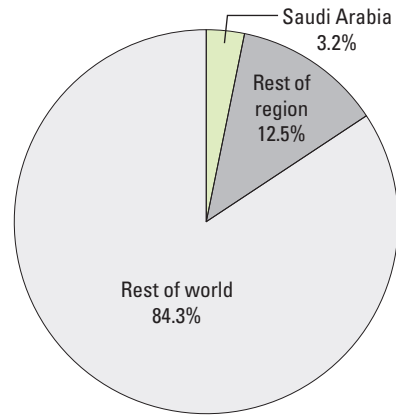
Cement, hydraulic



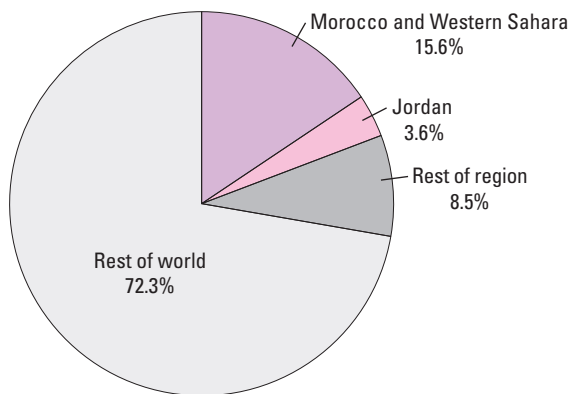
Gypsum



Nitrogen (fixed)—Ammonia (N content)



Phosphate rock (P₂O₅ content)



Potash (mine output, K₂O equivalent)

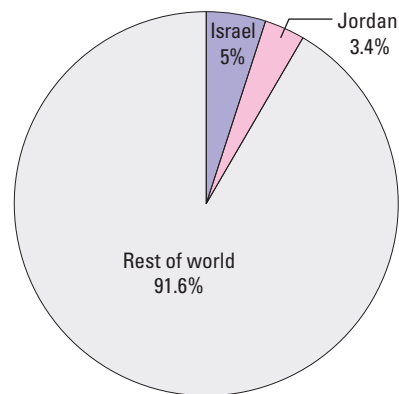


Figure 2. Pie charts showing percentage of world production of selected mineral commodities (aluminum, ammonia, cement, gypsum, phosphate rock, and potash) by countries of the Middle East and North Africa region in 2018. Individual countries of the region are labeled if they accounted for at least 3% of world production. Data are from table 3; however, percentages may differ slightly from those shown in table 3 because of independent rounding. Also, percentages may differ from those reported in individual country chapters owing to differences in the source or date of reporting.