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The Mineral Industry of Kuwait

By Loyd M. Trimmer III

Kuwait's economy was dominated by the production of crude petroleum and the refining of petroleum. In 2015, the country's crude petroleum exports accounted for about 88% of total exports and about 90% of Government revenue. Kuwait was the world's ninth-ranked crude petroleum producer and its output averaged about 3.1 million barrels per day (Mbbl/d). By yearend 2015, proven crude petroleum reserves were estimated to be 101.5 billion barrels (Gbbl) and accounted for about 6.0% of the world's total. The country's proven natural gas reserves were estimated to be about 1.8 trillion cubic meters and accounted for 1.0% of the world's total (BP p.l.c., 2016, p. 6, 8, 20, 22; Central Bank of Kuwait, 2016, tables 26, 35).

Nonfuel mineral commodities produced included cement, iron and steel, lime, nitrogen fertilizer, salt, and sulfur. Production of mineral fuels other than petroleum included condensate, natural gas, and refined petroleum products (table 1).

In 2015, Kuwait's real gross domestic product (GDP) increased by 0.9%. In 2014, real GDP growth was zero and that of 2013 was 1.0%. In 2015, the value of total exports decreased by 47% to about $55 billion[1] from about $104 billion in 2014. The decline was almost entirely due to the 50% decrease in the total value of crude petroleum exports, which decreased to about $49 billion from $98 billion in 2014. The average price of Kuwait Export, the country's single export blend, decreased to $48.13 per barrel in 2015 from $95.32 per barrel in 2014. The value of total imports increased by 2.8% to about $32 billion from about $31 billion in 2014. The country continued to develop a range of petroleum and natural gas downstream projects, having awarded an estimated $19.8 billion in contracts in 2015 (U.S. Energy Information Administration, 2014, p. 9; Central Bank of Kuwait, 2016, tables 26, 35; International Monetary Fund, 2016, p. 173; Latif, 2016; Organization of the Petroleum Exporting Countries, 2016, p. 86).

In March 2015, Kuwait published Executive Regulations under Law No. 116 of 2014, which replaced the legal framework for public-private partnerships as provided under Law No. 7 of 2008. Law No. 116 of 2014 established a Higher Committee and the Kuwait Authority for Partnership Projects. The Higher Committee, under the jurisdiction of the Ministry of Finance, is responsible for granting approvals for contracts, feasibility studies, and land allocations for public-private partnership projects. The Kuwait Authority for Partnership Projects (KAPP), under the authority of the Higher Committee, is authorized to establish public joint stock companies to implement public-private partnership projects. Additionally, KAPP is responsible for the assessment of feasibility studies and for developing contracts and public-private partnership agreements. Article 34 lifts foreign ownership restrictions of project companies (Ashurst LLP, 2015).

[1]Where necessary, values have been converted from Kuwaiti dinars (KWD) to U.S. dollars (US$) at the average annual exchange rate of KWD0.30099=US$1.00 for 2015 and KWD0.28449=US$1.00 for 2014.

Production

Data on mineral commodities production are in table 1.

Structure of the Mineral Industry

Government organizations responsible for the petroleum sector include the Kuwait Petroleum Corp. (KPC), the Ministry of Oil, and the Supreme Petroleum Council. KPC subsidiaries included Kuwait Oil Co. K.S.C. (KOC), which managed exploration and production operations of crude petroleum and natural gas; Kuwait Gulf Oil Co., which managed crude petroleum and natural gas operations in the Partitioned Neutral Zone between Kuwait and Saudi Arabia (which also is known as the Divided Zone); Petrochemical Industries Co. K.S.C., which dominated Kuwait's fertilizer manufacturing sector; and Kuwait National Petroleum Co. K.S.C. (KNPC), which operated the country's petroleum refineries. State-owned Kuwait Investment Authority held interests in Kuwait's cement companies. Privately owned companies were active in the industrial minerals and metals sectors, including cement producer ACICO Industries Co. K.S.C. and steel manufacturer Ali Al-Sarraf International Group Co. (table 2).

Commodity Review

Metals

Iron and Steel.—In 2015, United Steel Industrial Co. K.S.C.C. operated a billet melt shop and rolling mill in the Shuaiba Industrial Area that used imported iron ore and intermediates from Oman, Qatar, and Russia. The rolling mill, with a capacity of 900,000 metric tons per year (t/yr), produced steel reinforcing bars. The melt shop, with a capacity of 1 million metric tons per year (Mt/yr) of crude steel, produced steel billets from an electric arc furnace and a ladle refining furnace (table 2; United Steel Industrial Co. K.S.C.C., 2015; United Nations Statistics Division, 2016).

Industrial Minerals

Cement.—In 2015, cement production was estimated to have increased by 10% to 3.2 million metric tons (Mt) from a revised 2.9 Mt in 2014. Kuwait Cement Co. K.S.C. was the leading cement producer in Kuwait. In 2015, the company completed a second kiln line project at the Shuaiba Industrial Area, which increased the company's capacity to 5.3 Mt/yr of clinker. By yearend 2015, Kuwait Cement Co. completed construction of a 1.0-Mt/yr portland cement mill and had started pilot operations. The company reported that capacity could expand to 1.2 Mt/yr if the mill was used exclusively for masonry cement. In 2015, new grinding mills installed at existing mills were expected to increase cement production by 20%. The company reported increasing the import capacity of berth No. 19 at the

Shuaiba Port by 25%. The installation of a second unloader at berth No. 20 awaited Government approval. The company expected that raw material supplied to both kilns would exceed 7 Mt/yr (table 2; International Cement Review, 2015; Kuwait Cement Co. K.S.C., 2015).

In 2015, ACICO Cement Co., a subsidiary of ACICO Industries Co. K.S.C., operated a 1.0-Mt/yr clinker plant and two grinding mills with a combined capacity of 1.0 Mt/yr at the Shuaiba Industrial Area. In April 2015, ACICO Cement began producing white cement from a 200,000-t/yr grinding mill in response to local demand (table 2; Global Cement, 2015).

Mineral Fuels

Natural Gas.—In 2015, Kuwait's consumption of natural gas increased by about 4.2% to 19.4 billion cubic meters compared with about 18.6 billion cubic meters in 2014. From 2010 to 2015, Kuwait's consumption of primary energy increased at an average annual rate of 4.5%. The country relied on imports of natural gas to meet in increasing domestic energy demand. In 2015, natural gas imports increased by about 27% to about 3.9 billion cubic meters from about 3.0 billion cubic meters in 2014. In both 2014 and 2015, crude petroleum and natural gas accounted for about 57.5% and 42.5%, respectively, of the country's primary energy consumption. In recent years, the Government has focused on developing the natural gas sector to meet domestic energy demand (BP p.l.c., 2016, p. 23, 41; Organization of the Petroleum Exporting Countries, 2016, p. 108).

Since 2009, Kuwait has been importing liquefied natural gas (LNG) at a floating storage and regasification unit (FSRU) near the Mina Al-Ahmadi GasPort® refinery in southern Kuwait. The 7.5-billion-cubic-meter-per-year FSRU was chartered in March 2014 by KNPC from Golar LNG Partners LP of the Republic of the Marshall Islands for 9 months per year through 2019 until the planned land-based LNG import and regasification terminal at the planned Al Zour refinery area became operational. In March 2015, KNPC approved $3.3 billion for the construction of the LNG receiving terminal. The regasification plant was expected to have a design capacity of 42 million cubic meters per day, with the ability to expand to 84 million cubic meters per day. KNPC was expected to award the construction contract in April 2016 and planned to start commercial operation of the terminal in 2020 (U.S. Energy Information Administration, 2014, p. 11; Natural Gas Asia, 2015; Golar LNG Ltd., 2016; Golar LNG Partners LP, 2016, p. F-31; Latif, 2016).

In June 2015, Tecnicas Teunidas S.A. of Spain was awarded the construction contract for the Mina Al Ahmadi refinery Fifth Gas Train project. The $1.45 billion gas train project was expected to have a processing capacity of 22.5 million cubic meters per day of natural gas and 106,000 barrels per day (bbl/d) of natural gas liquids (NGL) condensate. KNPC planned to supply the project with associated natural gas from the northern and southeastern petroleum fields, as well as refinery gases from the Mina Al Ahmadi refinery and the Shuaiba acid gas removal plant. The construction contract included a compressor station, feed gas and liquid petroleum gas (LPG) dehydration units, a natural gas liquid recovery unit, and a fractionation and product-treating station. The project was expected to be completed in July 2019 (Oil and Gas News, 2015).

Petroleum.—In 2015, Kuwait's crude petroleum production decreased slightly compared with that of 2014. Production of total refined petroleum products increased by about 10% in 2015. Production of gasoline increased by about 30%, returning to past production levels. Kuwait had 1,731 active crude petroleum wells in 2015 compared with 1,760 active wells in 2014. Exports of crude petroleum decreased by 1.6% to 717 million barrels of petroleum in 2015, of which 56% was exported to Asia and the Pacific and 39% was exported to Europe (BP p.l.c., 2016, p. 8; Organization of the Petroleum Exporting Countries, 2016, p. 26, 37, 50, 52).

KNPC continued to implement the clean fuels project, a $12 billion initiative to modernize and integrate the country's two oil refineries—the Mina Abdulla refinery and the Mina Al Ahmadi refinery. The project was expected to increase the capacity of the Mina Abdullah refinery to 454,000 bbl/d from 270,000 bbl/d. After renovations, the Mina Al Ahmadi refinery was expected to have a capacity of 346,000 bbl/d compared with its current capacity of 466,000 bbl/d. The new 800,000-bbl/d integrated refinery complex was expected to produce higher value low-sulfur fuels from lower value fuel petroleum for domestic and international markets. The KNPC planned to commission the integrated refinery complex by the third quarter of 2018. KNPC planned to permanently close the 200,000-bbl/d Shuaiba refinery by April 2017 and to convert the facility to storage reservoirs (U.S. Energy Information Administration, 2014, p. 9; Kuwait Times, 2015; Kuwait National Petroleum Co. K.S.C., 2016b, c; Latif, 2016).

In October, KNPC signed contracts for the construction of the $16 billion Al Zour refinery. The 615,000-bbl/d refinery was expected to process Kuwait Export Crude and Kuwait Heavy Crude. KNPC planned to begin initial operations in December 2018 and to commission the refinery in July 2019. The Al Zour refinery project was expected to increase the country's refining capacity to 1.41 Mbbl/d in 2019 (Zawya, 2015; Kuwait National Petroleum Co. K.S.C., 2016a).

In February 2015, KOC signed a $4 billion contract with Petrofac Corp. Ltd. of the United Kingdom, to implement the first phase of the Lower Fars Heavy Oil Development Program, located in the Lower Fars field in northern Kuwait. Phase 1 included the construction of Lower Fars heavy crude petroleum handling and processing facilities and a 162-kilometer pipeline to transport heavy crude petroleum to the planned Al Zour refinery in southern Kuwait. The project aimed to develop 7 to 15 Gbbl of heavy crude petroleum and was expected to produce 60,000 bbl/d over 10 years (Finlayson, 2015; Kuwait Oil Co. K.S.C., 2015; Latif, 2016).

By yearend 2015, KOC had tendered three contracts, representing a combined value of $5.7 billion, for the development of the Jurassic nonassociated gas reserves in four fields—East Raudhatain, Sabriyah, Umm Niqa, and West Raudhatain. KOC was scheduled to award the contracts in early 2016 (Latif, 2016).

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TABLE 1
KUWAIT: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2011	2012	2013	2014	2015
METALS						
Iron and steel:[e]						
Crude		800,000	975,000 [r]	1,150,000 [r]	1,150,000 [r]	1,150,000
Rolled-steel bar		1,100,000	1,300,000	1,300,000	1,300,000	1,300,000
INDUSTRIAL MINERALS						
Cement[e]		2,250,000 [r]	2,400,000 [r]	2,700,000 [r]	2,900,000 [r]	3,200,000
Lime, hydrated and quicklime[e]		50,000	50,000	50,000	50,000	NA
Nitrogen:						
N content of ammonia		521,000	451,000	552,000	542,000 [r]	450,000
N content of urea		435,000	379,000	458,000	482,000 [r]	405,000
Salt[e]		15,000	15,000	15,000	14,000	15,000
MINERAL FUELS AND RELATED MATERIALS						
Natural gas:						
Gross	million cubic meters	13,750	15,742	16,529	15,250 [r]	17,131
Dry	do.	13,533	15,515	16,311	15,029 [r]	16,909
Natural gas liquids and liquefied petroleum gases	thousand 42-gallon barrels	68,000	71,000	71,000	70,000	72,000 [e]
Petroleum:						
Crude, including condensate	do.	1,064,000 [r]	1,157,000 [r]	1,144,000 [r]	1,139,000 [r]	1,130,000
Refinery products:						
Gasoline	do.	20,768	19,126	21,608	13,432	17,447
Kerosene	do.	64,568	65,992	68,547	71,467	69,241
Distillate fuel oil	do.	89,352	83,074	90,629	89,242	82,527
Residual fuel oil	do.	65,773	72,927	65,627	54,713	67,635
Other[3]	do.	81,431	144,686	115,705	106,324	132,970
Total	do.	321,894 [r, 4]	385,805	362,117	335,180 [r]	369,818
Elemental sulfur, petroleum byproduct		825,000	900,000 [r]	850,000	800,000 [e]	850,000 [e]
Sulfuric acid		18,000	18,000	18,000	18,000 [e]	18,000 [e]

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised. do. Ditto. NA Not available.

[1]Table includes data available through July 18, 2016.

[2]In addition to commodities listed, secondary aluminum, chlorine, clays, glass, gypsum, methanol, and sand and gravel were produced, but available information was inadequate to make reliable estimates of output.

[3]Includes bitumen and petroleum coke.

[4]Individual refinery products do not add to total.

TABLE 2
KUWAIT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, secondary		Arabian Light Metals Co. K.S.C. (Kuwait Industries Co. Holding K.S.C.)	Ahmadi	15,000
Cement:				
Clinker		Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%)	2 kilns at Shuaiba Industrial Area	5,300,000
Do.		ACICO Cement Co. (subsidiary of ACICO Industries Co. K.S.C.)	do.	1,000,000
Gray portland		Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%)	do.	3,190,000
Do.		ACICO Cement Co. (subsidiary of ACICO Industries Co. K.S.C.)	Mill at Shuaiba Industrial Area	800,000
White		ACICO Industries Co. K.S.C.	do.	200,000
Do.		Kuwait Cement Co. K.S.C. (Kuwait Investment Authority, 32%, and National Industries Group, 22.4%)	Kiln and mill at Shuaiba Industrial Area	170,000
Iron and steel, steel:				
Crude		Al Oula Steel Manufacturing Co. K.S.C.	Shuaiba Industrial Area	150,000
Do.		United Steel Industrial Co. K.S.C.C. (Local investors, 51%; Ahwaz Steel Commercial and Technical Services GmbH, 49%)	Melt shop at Shuaiba Industrial Area	1,000,000
Rolled:				
Bar and rod		do.	Rolling mill at Shuaiba Industrial Area	900,000
Do.		Kuwait Reinforcement Steel Manufacturing Co. (Ali Al-Sarraf International Group Co.)	do.	400,000
Pipes		Kuwait Pipes Industries and Oil Services Co. K.S.C.	Pipe mill at Sulaibiya Industrial Area	120,000
Do.		do.	Pipe mill at Shuwaikh	65,000 [1]
Natural gas	million cubic meters	Various[2]	Various fields	17,000
Liquefied natural gas	million cubic meters per day	Kuwait National Petroleum Co. K.S.C. (KNPC) [Kuwait Petroleum Corp. (KPC), 100%]	Mina Al-Ahmadi GasPort® import facility, Mina Al-Ahmadi	17 [3]
Natural gas liquids	thousand 42-gallon barrels	Kuwait Oil Co. K.S.C. (KOC) [Kuwait Petroleum Corp. (KPC), 100%]	do.	65,000
Nitrogen:				
Ammonia		Petrochemical Industries Co. K.S.C. [Kuwait Petroleum Corp. (KPC), 100%]	Plant B, Shuaiba Industrial Area	676,000
Urea		do.	Plants A and B, Shuaiba Industrial Area	1,130,000
Petroleum:				
Coke, calcined		do.	Shuaiba	350,000
Crude	42-gallon barrels per day	Al-Khafji Joint Operations (Kuwait Gulf Oil Co., 50%, and Aramco Gulf Operations Co., 50%)	Khafji field, offshore Partitioned Neutral Zone	600,000
Do.	do.	Kuwait Oil Co. K.S.C. (KOC) [Kuwait Petroleum Corp. (KPC), 100%]	Southern and eastern fields (Burgan, Khasman, and Madina fields)	1,350,000
Do.	do.	do.	Northern fields (Abdali, Bahra, Ratqa, Matraba, Raudhatain, and Sabiya fields)	559,000
Do.	do.	do.	Western fields (Abdaliya, Kra' Al-Mero, Managish, and Umm Gudair fields)	427,000
Do.	do.	Kuwait Gulf Oil Co. [Kuwait Petroleum Corp. (KPC), 100%]	South Fuwaris and South Umm Gudair fields, onshore Partitioned Neutral Zone	80,000

See footnotes at end of the table.

TABLE 2—Continued
KUWAIT: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum—Continued:				
Crude—Continued	42-gallon barrels per day	Kuwait Gulf Oil Co. [Kuwait Petroleum Corp. (KPC), 100%]	Wafra field, onshore Partitioned Neutral Zone	80,000
Do.	do.	do.	Hout field, offshore Partitioned Neutral Zone	NA
Refined products	do.	Kuwait National Petroleum Co. K.S.C. (KNPC) [Kuwait Petroleum Corp. (KPC), 100%]	Mina Al-Ahmadi refinery	466,000
Do.	do.	do.	Mina Abdulla refinery	270,000
Do.	do.	do.	Shuaiba refinery	200,000
Salt		Al Kout Industrial Projects Co. K.S.S.C.	Shuaiba	15,000
Sulfur		Kuwait National Petroleum Co. K.S.C. (KNPC) [Kuwait Petroleum Corp. (KPC), 100%]	Mina Abdulla, Mina Al-Ahmadi, and Shuaiba refineries	990,000
Do.		Kuwait Sulphuric Acid Co.	Safat	18,000

Do., do. Ditto. NA Not available.

[1]Seasonal operations, typically April through October.

[2]Some natural gas was produced and recovered from most crude petroleum production operations in Kuwait and the Partitioned Neutral Zone. No associated natural gas was produced from the Sabriyah field.

[3]Includes refinery-produced liquefied petroleum gases.