2009 Minerals Yearbook

LIBYA

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The Mineral Industry of Libya

By Mowafa Taib

Crude oil and natural gas were Libya's major contributions to the world's mineral production in 2009. Libya produced 2.0% of the world's crude oil output and was the fourth ranked African country in terms of the volume of crude oil produced after Nigeria, Algeria, and Angola. Libya was the leading country in Africa and the world's seventh ranked country in terms of the size of its proven crude oil reserves, which were estimated to be 44.3 billion barrels, or 3.3% of the world's total crude oil reserves. Libya produced 15.3 billion cubic meters of natural gas, which accounted for about 0.5% of the world supply of gas, and held 1.54 trillion cubic meters of natural gas reserves, which was about 0.8% of the world's total. Libya produced cement, crude steel, direct-reduced iron (DRI), gypsum, lime, methanol, nitrogen fertilizer, refined petroleum products, salt, and sulfur (BP p.l.c., 2010, p. 6, 8, 22, 24; U.S. Energy Information Administration, 2010).

Minerals in the National Economy

The Libyan economy contracted by 2.3% (in 2003 prices) in 2009 compared with an expansion of 2.3% in 2008 and 7.5% in 2007. The value of hydrocarbon sector activity decreased by 8.9% in 2009 compared with a decrease of 1.6% in 2008 owing to the decrease in crude oil output and crude oil prices during 2009. Libya, which was a member of the Organization of the Petroleum Exporting Countries (OPEC), complied with the decision by OPEC to reduce crude oil production to prevent crude oil prices from further decreases. Libya's crude oil prices averaged $60.44 per barrel in 2009, which was 37% less than the prices in 2008, which averaged $96.40 per barrel. The contribution of the hydrocarbon sector to the country's gross domestic product (GDP) decreased to 45.1% in 2009 from 48.5% in 2008 and 50.1% in 2007. The share of the mining and quarrying sector (excluding hydrocarbons) was 0.3% of the GDP between 2007 and 2009 and continued its expansion, which began in 2005; and the real value of production in this sector increased by 10.0% compared with an increase of 14.8% in 2008 and 24.6% in 2007. The real value of construction sector projects increased by 9% owing to increased investments in commercial buildings, housing, and infrastructure projects in the country. The value of Libya's total exports decreased by about 39% to $37.6 billion[1] from $61.6 billion in 2008. In 2009, crude oil exports decreased in value by about 40.0% to $35.0 billion and in volume by 10.0% to 478.2 million barrels (Mbbl) from $57.9 billion and 525.7 Mbbl, respectively, in 2008. Hydrocarbon exports accounted for 96.4% of the country's total exports compared with 97.7% in 2008. The Government revenue from the hydrocarbon sector decreased to $28.5 billion in 2009, which was equivalent to 51.4% of the GDP, from about $52.0 billion in 2008, which was equivalent to 57.4% of the GDP (Central Bank of Libya, 2010, p. 36, 47; International Monetary Fund, 2010, p. 56, 58).

In 2009, the United States imported an average of 80,000 barrels per day (bbl/d) of crude oil from Libya, which was a decrease of about 32% compared with the average rate of 117,000 bbl/d imported in 2007. The decrease was attributed to decreased demand for crude oil because of the U.S. economic downturn (U.S. Energy Information Administration, 2010).

Government Policies and Programs

Law No. 2 of 1971 and its amendments cover mining and quarrying activity, and Law No. 5 of 1997 regulates foreign investment in the nonoil sectors. Petroleum law No. 25 of 1955, Petroleum Regulations Nos. 8 and 9, and the provisions of the 5-year Exploration and Production-Sharing Agreement IV govern the hydrocarbon sector. Additionally, law No. 443 of 2006 also applies to international companies, including hydrocarbon and mineral commodity production companies that intend to operate in Libya. This legislation requires foreign companies to have a local partner, either state-owned or private, that holds a minimum of a 35% share in any joint venture. State-owned National Oil Corp. (NOC) played a dual role as a regulator and a production partner in the hydrocarbon sector. Decree No. 151 of the General People's Committee created the Libyan Mining Co. in 1996 to invest in the country's natural resources and minerals, to meet the national demand for minerals by the domestic industries, and to attract foreign investment in the mining sector (MEED, 2009a).

In 2009, the Government outlined the objectives of Libya's industrial development program for the period 2010-13, which included achieving economic diversity by expanding production of mineral resources to all the geographical regions of the country. The Government identified sites of minable mineral commodities throughout the country. The mineral commodities that were identified to have potential for economic mining included clays, coal, dimension stone, diatomite, dolomite, gold, gypsum, iron ore, limestone, salt, silica sand, and travertine (General People's Committee for Industry, Economy and Commerce, 2010, p. 5-12).

China Railway Construction Corp. Ltd. was building a 352-kilometer (km) east-west railway from Sirte to Al Khums and an 800-km north-south railway from Misurata to Sabha. Russian Railways, which was owned by the Russian Government, was awarded a $3.16 billion contract to extend the coastal railway from Sirte to Benghazi eastward by about 500 km (Asharq Alawsat, 2010).

Structure of the Mineral Industry

The international oil companies (IOCs) that were involved in oil and gas production and exploration in Libya had an eventful year in 2009. The Government issued a decree that required

[1]Where necessary, values have been converted from Libyan dinars (LD) to U.S. dollars (US$) at a rate of 1.24 LD=US$1.00 for 2009.

the IOCs working in Libya to have Libyan citizens serve as chiefs of local operations. The NOC demanded that contracting and engineering companies that have local offices in Libya be eligible to bid for future contracts. The Libyan Investment Authority purchased Verenex Energy Inc. of Canada's assets in Libya for $316 million after blocking the sale of Verenex's assets in Libya to China National Petroleum Corp. In October, the Government ordered Suncor Energy Inc. of Canada (which was merged with Petro-Canada in August 2009) to reduce its crude oil output in Libya by one-half in apparent retaliation to the Canadian Government's disapproval of the Libyan Government's welcoming reception for convicted Lockerbie bomber Abdel Basset Al-Megrahi after he was released early from a British jail (Petroleum Economist, 2009; Swartz, 2009).

In 2009, NOC owned 100% of the shares of both Arabian Gulf Oil Co. and Sirte Oil Co. and had an 88% majority interest in Akakus Oil Operations (which was a subsidiary of the joint venture of Harouge Oil Co., Repsol YPF, S.A. of Spain, and Zuweitina Oil Co.), an 85.5% interest in Mellitah Oil Co., a 65% interest in OMV Libya, a 60% interest in Mellitah Gas Co., a 59.2% interest in Waha Oil Co., a 51% interest in Wintershall Libya, and a 50% interest in Mabruk Oil Co. (a subsidiary of Total S.A. of France) (Central Bank of Libya, 2010, p. 34).

Government-owned Libyan Iron and Steel Co. (Lisco) was the sole producer of iron and steel products in the country. Lisco had been on the Government's list for privatization since 2005. The company's assets were valued at $4 billion in 2009 and were divided into 522 million shares. Lisco planned to offer 10% of its shares on the Libyan Stock Exchange for Libyan investors as an introduction to a larger privatization process (Arab Steel, 2009).

Economic and Social Development Fund (ESDF) was the Government's investment company. It had ownership shares in cement production projects, including Italcementi Libya (50%), Libyan Cement Manufacturing Joint Venture Manufacturing Co. (44%), African Cement Co. (40%), and Alahliya Cement Co. (32.9%), (Economic and Social Development Fund, 2009, p. 13).

Employment in the mining and quarrying sector had been increasing in recent years. It accounted for 2.8% of the total number of workers in Libya's economic sectors compared with 2.5% in 2008 and 2.2% in 2007. The number of people working in the mining and quarrying sector increased by 19% to 44,190 workers in 2009 compared with 35,654 workers in 2008 and by 45% from 30,466 workers in 2007 (Central Bank of Libya, 2010, p. 44).

Production

Libya's crude oil and condensates production decreased by about 14% compared with that of 2008. The decrease in crude oil production was attributable to the decreased demand for crude oil resulting from the global financial crisis and to OPEC's crude oil production cuts in December 2008. Dry natural gas production decreased by 3.8% compared with that of 2008, thus ending the upward trend in gas production that started in 2004. There was only a slight increase in the production of refined petroleum and petrochemical products compared with that of 2008. Notable production decreases included the decrease in DRI production, by 30%; crude steel, by 20%; and sulfur, by 8% (table 1; Organization of Arab Petroleum Exporting Countries, 2010, p. 18).

Commodity Review

Metals

Aluminum.—In October 2008, ESDF signed a memorandum of understanding with United Company RUSAL of Russia to form a joint venture to build Libya's first aluminum smelter; the smelter would have the capacity to produce 600,000 metric tons per year of aluminum and would include a 1,500-megawatt natural gas-fired power station. The venture would be owned by UC RUSAL Holding (60% interest) and ESDF (40% interest), and the natural gas for the project would be supplied by NOC under a 30-year agreement. A prefeasibility study for the project was conducted in 2009. The Libyan Investment Authority bought most of the shares offered by RUSAL during the initial public offering in Hong Kong in January 2010 where RUSAL sold 10.6% of its share for $2.24 billion. The Government bought 1.43% of RUSAL's stocks for $300 million (Engineering and Mining Journal, 2008, p. 20; RIA Novosti, 2010).

Iron and Steel.—In 2009, the volume of Lisco's output of DRI (including hot-briquetted iron) decreased by more than 30% to about 1.1 million metric tons (Mt) from about 1.6 Mt in 2008. Production of crude steel decreased by about 20% to 914,000 metric tons (t) in 2009 from about 1.1 Mt in 2008. Lisco sold more than 1 Mt of various steel products to the local market and exported about 500,000 t of steel products to Italy, Morocco, Tunisia, and other countries. Lisco attributed the decrease in its production of DRI in 2009 to the effects of the global financial crisis. The company expected production to bounce back in 2010 with the expected increase in international and local demand for steel products (Arab Steel, 2010; World Steel Association, 2010).

Industrial Minerals

Cement.—Alahliya Cement was the leading producer of cement in the country. It produced more than 2.5 Mt of cement in 2009. The company's plants at El Margueb, Lubda, Souk Al Khamis, and Zliten had a combined capacity of 4.3 million metric tons per year (Mt/yr). The Libyan Cement Co. had cement plants at Benghazi, Al Fataih, and El Hawari; the three plants had a combined capacity of 2.8 Mt/yr. The Arab Union Contracting Co. owned two plants, Burj Cement 1 and Burj Cement 2, which had a combined cement production capacity of 3.0 Mt/yr (General People's Committee for Industry, Economy and Commerce, 2010, p. 34).

The Government, through the National Mining Corp. (NMC) and the General People's Committee for Industry, Economy and Commerce, was focused on increasing cement production capacity in the country to meet increased local demand for cement and other building materials, such as steel-reinforcing bar. Libya's cement production capacity was expected to increase to 28.6 Mt/yr by yearend 2013 from the current (2009) capacity, which was estimated to be about 10 Mt/yr.

NMC awarded four licenses to establish cement-related operations to produce limestone and other mineral commodities used in cement production, such as clay, iron ore, and lime. Cemena Libya Co., which was a partnership of Cemena Holding Co. B.S.C. of Bahrain and ESDF, was awarded a license to develop two 2-Mt/yr-capacity cement plants at Ajdabiya (located south of Benghazi) and at Misurata; both plants would be built near the Mediterranean Sea coast. NMC also signed an agreement with Aska Al Ramada Construction Co. to build a new 1.5-Mt/yr-capacity cement plant at Wadi Zaza. NMC awarded Emmar Group of the United Arab Emirates (UAE) a license to build a 1.5-Mt/yr-capacity cement plant at the Al-Marj, which is located in the Zliten area (General People's Committee for Industry, Economy and Commerce, 2010, p. 34-35).

Libya Africa Investment Portfolio and NMC signed an agreement to build two cement plants: a 2-Mt/yr-capacity plant at Karsah in the Al-Jabal Al Akhdar region in northeastern Libya and a 2-Mt/yr-capacity plant at Misurata in the northwest. A 1-Mt/yr-capacity plant was being built at Fezzan in southwestern Libya by the African Company for Cement Manufacturing (General People's Committee for Industry, Economy and Commerce, 2010, p. 54-56).

Al Hadena National Co. was established to build a new greenfield cement plant at Nalut, which is located about 280 km southwest of Tripoli. The company signed an agreement with FLSmidth A/S of Denmark to build the plant, which was expected to have a cement production capacity of 1.8 Mt/yr and to cost about $170 million to build (World Cement, 2009, p. 12).

The project to build a new greenfield 4-Mt/yr-cement plant at a cost of more than $500 million by Italcementi Libya, which was a 50-50 joint venture of Italcementi Group of Italy and ESDF, was suspended in 2009 pending the receipt of further Government approval. The startup of the plant, which would be located at Ain Al Ghazala (near Tubruq in northeastern Libya) was expected by yearend 2011 (Italcementi Group, 2010, p. 61).

Mineral Fuels

Petroleum.—The volumes of crude oil production at most of the oil companies that were operating in Libya decreased in 2009 compared with that of 2008. The decreases included a decrease of 21.6% at Harouge Oil Co., 20.5% at Wintershall Libya, 11.3% at Mellitah Oil Co., 8.4% at Akakus Oil Operations, 7.3% at Arabian Gulf Oil Co., 6.0% at Sirte Oil, 5.7% at Zuweitina Oil Co., and 4.6% at Waha Oil Co. Crude oil production at Mabruk Oil Co., however, increased by about 57% compared with that of 2008, and production at OMV Libya was unchanged (Central Bank of Libya, 2010, p. 34).

State-owned Zawra Oil Refining Co. Ltd. (ZORCO) appointed HSBC Bank as a financial advisor for its new refinery project at Millita, which is located in northwestern Libya. The new 200,000-bbl/d refinery was expected to commence production in 2014 at a cost of about $4 billion. ZORCO was owned by the Government and Tamoil Africa Holdings Ltd. (MEED, 2010).

In March, Libyan Emirates Oil Refining Co. (LERCO), which was 50-50 joint venture of NOC and TRASTA Energy Ltd. of the UAE, assumed ownership of the Ras Lanuf refinery, which had been 100% owned by NOC prior to 2009. LERCO planned to invest $2 billion to optimize and upgrade the 200,000-bbl/d-capacity refinery (Libyan Emirates Oil Refining Co., 2009).

Preparation work to build the Marsa el-Braga and the Ras Lanuf "energy cities" was expected to start in 2010. The Ras Lanuf project was expected to include a natural gas and oil processing plant, a 220,000-bbl/d refinery, and a petrochemical plant. The Marsa el-Braga energy city would increase production of liquefied natural gas by 25% (MEED, 2009b, p. 9; 2010, p. 20).

Outlook

The Government, which plans to increase crude oil production to 3.0 million barrels per day (Mbbl/d) by 2017 from the current (2009) level of production of 1.6 Mbbl/d, plans to invest about $10 billion to develop and improve 24 oilfields in the country. The Government intends to invest $500 billion by the year 2020 to make up for 40 years of economic stagnation in the country. Investment would be in construction, energy, and infrastructure projects. The country is in the process of establishing a rail network and connecting it with the existing and future railway networks of Algeria, Egypt, and Tunisia. Demand for cement, iron and steel products, and other building materials is expected to increase to satisfy the needs of the country's construction projects (Alexander's Gas & Oil Connections, 2009).

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TABLE 1
LIBYA: PRODUCTION OF MINERAL COMMODITIES[1]

(Thousand metric tons unless otherwise specified)

Commodity[2]		2005	2006	2007	2008	2009
METALS						
Iron and steel, metal:						
Direct-reduced iron[3]		1,669	1,663	1,660	1,569	1,097
Crude steel		1,255	1,151	1,250	1,137	914
INDUSTRIAL MINERALS						
Cement, hydraulic[e]		3,621 [4]	5,300	5,500 [r]	6,000 [r]	6,500
Gypsum[e]		175	200	240	260	300
Lime[e]		250	250	250	250	260
Nitrogen:						
N content of ammonia		513	518	524	417	488
N content of urea		384	381	359	277	312
Salt[e]		40	40	40	40	40
Sulfur, byproduct of petroleum and natural gas[e]		16	128	128	142	130
MINERAL FUELS AND RELATED MATERIALS						
Gas, natural:						
Gross	million cubic meters	21,674	26,847	29,008	29,786 [r, 4]	29,316
Dry	do.	11,300	13,195	15,280	15,900	15,300
Natural gas liquids	thousand 42-gallon barrels	21,900	21,900	29,200	29,200	29,200
Methanol		595	641 [r]	618 [r]	669	664
Petroleum:						
Crude	thousand 42-gallon barrels	639,918 [r, 4]	661,088 [r, 4]	640,174 [r, 4]	657,548 [r, 4]	567,174
Refinery products:						
Liquefied petroleum gas	do.	2,555 [r]	2,884 [r]	2,519 [r]	2,117 [r]	2,336
Gasoline	do.	4,672 [r]	4,672 [r]	4,891 [r]	4,855 [r]	5,183
Naphtha	do.	23,559 [r]	22,776 [r]	22,302 [r]	20,221 [r]	21,827
Kerosene and jet fuel	do.	11,810	10,841 [r]	11,425 [r]	11,717 [r]	14,491
Distillate fuel oil	do.	29,310 [r]	29,419 [r]	29,675 [r]	25,331 [r]	29,456
Residual fuel oil	do.	47,450 [r]	47,195 [r]	46,027 [r]	48,144 [r]	45,589
Total	do.	119,355 [r]	117,786 [r]	116,837 [r]	112,384 [r]	118,881

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. do. Ditto.
[1]Table includes data available through December 31, 2010.
[2]In addition to the commodities listed, various clays, dolomite, limestone, sand, and crushed construction stone were produced, and natron (soda ash) may have been produced, but available information is inadequate to make estimates of output. Natural gas liquids also were produced but were blended with crude petroleum and reported as part of that total.
[3]Includes hot-briquetted iron.
[4]Reported figure.

TABLE 2
LIBYA: STRUCTURE OF THE MINERAL INDUSTRY IN 2009

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Libyan Cement Co. [Libyan Cement Manufacturing Joint Venture Co. (JLCC, 90%, and plant employees, 10%]	Benghazi	1,000
Do.		do.	El Fataih, Derna	1,000
Do.		do.	El Hawari	1,000
Do.		Arab Union Contracting Co.	Burj Cement 1 at Zliten	1,400
Do.		do.	Burj Cement 2 at Zliten	1,600
Do.		Alahliya Cement Co. [National Investment Co., 64.9%; Economic and Social Development Fund (ESDF), 32.8%; employees, 1.7%; indvidual investors, 0.6%)	Lubda	1,000
Do.		do.	Souk el Khamis	1,000
Do.		do.	Zliten	1,000
Do.		do.	El Margueb	300
Gypsum		do.	Ghadames	100
Do.		do.	Souk el Khamis	9
Do.		Arab Union Contracting Co.	Burj Cement 1 at Zliten	35
Iron and steel:				
Iron:				
Hot-briquetted iron		Libyan Iron and Steel Co. (Government, 100%)	Misuratah	650
Sponge iron		do.	do.	1,100
Steel:				
Crude		do.	do.	1,241
Rolled:				
Bar and rod		do.	do.	800
Cold-rolled strip		do.	do.	140
Hot-rolled strip		do.	do.	580
Methanol		Sirte Oil Co. [National Oil Corp. (NOC), 100%]	Marsa El Brega	665
Natural gas, liquefied		do.	do.	700
Nitrogen:				
Ammonia		do.	do.	803
Urea		do.	do.	1,041
Petroleum:				
Crude	thousand 42-gallon barrels	Mellitah Oil Co. [National Oil Corp. (NOC), 85%, and Eni S.p.A., 15%]	Oilfields include the Bhar Essalam, the Bouri, the Bu Attifel, the El Feel, the KK, the NC-125, the NC-169, the NC-174, the OO-82, the Rimal, the UU-82, the XX-82, and the Wafa	107,000
Do.	do.	National Oil Corp. (NOC) (Government, 100%)	Oilfields include the Ali, the Almas, the Amal, the Ar Rchmat, the Aswad, the Balat, the Beda, the Belhedan, the Bualwan, the Bu Mras, the Choboc, the Deba, the Dahra, the Dor Mansour, the Ed Dib, the El-Meheiriga, the Eteila, the Facha, the Farigh, the Farrud, the Fidaa, the Ghani, the Ghazzaun, the Gsur, the Hakim, the Hamada NC5, the Hamada NC8, the Harash, the Jebel, the Jofra, the Khalifa, the Kotla, the the Lehib Dor Marada, the Mabruk, the Magid, the Masrab, the Maeghil, the Mellugh, the Messla, the Nafoora Non-unit, the Nasser, the Rakb, the Ralah, the RR-82, Sabah, the Safsaf, the Sahabi, the Samah, the Shatirah, the Tibisti, the Tmed, the Wadi, the Zaggut, the Zella, and the Zenad	117,000

See footnotes at end of table.

TABLE 2—Continued
LIBYA: STRUCTURE OF THE MINERAL INDUSTRY IN 2009

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum—Continued:				
Crude—Continued	thousand 42-gallon barrels	Arabian Gulf Oil Co. [National Oil Corp. (NOC), 100%]	Oilfields include the Sarir and the Nagoora Augila	146,600
Do.	do.	Akakus [National Oil Corp. (NOC), 88%, and Repsol YPF, S.A., 12%]	NR186 oilfield in Murzuq Basin	101,200
Do.	do.	Waha Oil Co. [National Oil Corp. (NOC), 59.2%, and ConocoPhillips Co., Marathon Oil Corp., and Amerada Hess Corp., 40.8%]	Oilfields include the Bahi, the Defa, the Gialo, and the Waha	121,100
Do.	do.	Sirte Oil Co. [National Oil Corp. (NOC), 100%]	Oilfields include the Assumud, the Attahadi, and the Raguba	31,400
Do.	do.	Wintershall Libya [National Oil Corp. (NOC), 51%, and Wintershall AG, 49%]	Oilfields include the As-Sarah, the Hamid, the Jakhir, the Nakhla, and the Tauma	31,800
Do.	do.	Harouge Oil Co. [National Oil Corp. (NOC), 88%, and Suncor Energy Inc., 12%]	Oilfields include the En Naga North and the En Naga West	27,300
Do.	do.	Zuweitina Oil Co. [National Oil Corp. (NOC), 88%, and OMV Libya, 12%]	Intisar oilfield	19,700
Do.	do.	Mabruk Oil Co. [National Oil Corp. (NOC), 50%, and Total S.A., 50%]	Al Jurf oilfield	18,200
Refined	do.	Libyan Emirates Oil Refining Co. [National Oil Corp. (NOC), 50%, and TRASTA Energy Ltd., 50%]	Ras Lanuf	80,300
Do.	do.	Az Zawiya Oil Refining Co. [National Oil Corp. (NOC)]	Az Zawiya	44,000
Do.	do.	Arabian Gulf Oil Co. [National Oil Corp. (NOC)]	Tobruq	7,300
Do.	do.	do.	Sarir	3,650
Do.	do.	National Oil Corp. (NOC)	Marsa el Brega	3,000

Do., do. Ditto.