



# 2019 Minerals Yearbook

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**SYRIA [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF SYRIA

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The mineral industry in Syria continued to be adversely affected by the ongoing armed conflict in the country, which began in 2011 and continued throughout 2019. The Government maintained control of most of the southern and western parts of the country. The Syrian Democratic Forces (SDF) controlled most of the areas located north of the Euphrates River. Syrian rebels, with the support of Turkish troops, controlled Idlib Province and some Syrian towns and crossings along the border with Turkey. Prior to 2019, Syria's mining activities, with the exception of steel, had been limited to the production of mineral fuels and industrial minerals. In 2019, mineral production, which included cement, crude petroleum, gypsum, iron and steel, marble, natural gas, phosphate rock, and salt, continued in the country, although at reduced levels (table 1; Noack and Steckelberg, 2019).

In 2019, there was no credible information regarding Syria's real gross domestic product (GDP) or its nominal GDP owing to the unavailability of data. The economy, however, continued to deteriorate as inflation, numbers of refugees inside the country and in neighboring countries, and unemployment rates increased to historically high levels coupled with a stoppage of petroleum exports (U.S. Central Intelligence Agency, 2020).

On December 20, the U.S. President signed into law the Caesar Syria Civilian Protection Act of 2019 (Caesar Act). The Caesar Act sanctioned the Government of Syria, including the Syrian President, for war crimes against the Syrian population. The Act and Executive Order 13894 warned foreign interests from entering into business agreements with the Syrian regime or enriching it. The Government and some Syrian individuals remained subject to economic and financial sanctions imposed by the United States and the European Union in 2015. The Syria Accountability Act of 2004 prohibited the export of most United States manufactured goods to Syria. The USA PATRIOT Act placed specific sanctions against the Commercial Bank of Syria in 2006, and sanctions were contained in several Executive orders from the President of the United States concerning Syria, which were issued between 2004 and 2012. These sanctions prohibited United States imports of petroleum and petroleum products from Syria and banned United States citizens from investing and operating in the country (U.S. Department of State, 2020; U.S. Department of the Treasury, 2020).

## Government Policies and Programs

Law No. 26 of 2009 grants the state ownership of all surface and subsurface mineral resources within the country's borders and territorial waters. Law No. 91 of January 24, 2010, gives the General Establishment of Geology and Mineral Resources (GEGMR) the responsibility for all mining and quarrying activities in the country. Phosphate rock production is carried out by the General Company for Phosphate and Mines (GECOPHAM), which is a subsidiary of GEGMR.

The GEGMR carries out virtually all mining activities in the country, either directly or through private contractors, including development, exploration, production activities, field and laboratory analyses, and geologic and geophysical studies. The General Petroleum Corp. (GPC) of the Ministry of Petroleum and Mineral Resources, which was created by law No. 15 of 2009, is responsible for the country's hydrocarbon sector. The GPC's affiliates include Syrian Gas Co. (SGC), Syrian Petroleum Co. (SPC), and Syrian Company for Oil Transport (General Establishment of Geology and Mineral Resources, 2009; General Company for Phosphate and Mines, 2018; General Petroleum Corp., 2020; Ministry of Petroleum and Mineral Resources, 2020).

## Production

Data on mineral production are in table 1.

## Structure of the Mineral Industry

In 2019, the Government owned—in the areas under its control—all the crude petroleum fields, gasfields, natural gas processing and treatment plants, petroleum and natural gas pipelines, and petroleum refineries. The SDF controlled crude petroleum fields and some natural gas facilities in northeastern Syria. The Ministry of Industry was responsible for the management, planning, and security of most cement and steel industries in the country through several state-owned enterprises that included the General Organization for Cement and Building Materials, the General Fertilizers Co. (GFC), and the General Company for Iron and Steel Products. Privately operated local companies, including Al Badia Cement J.S.C. and Hmisho Steel S.A., were producing cement, and iron and steel, respectively. Small-scale private companies were quarrying for industrial minerals that are used as building materials, such as basalt, clay, dolomite, iron oxide, and limestone. Table 2 is a list of major mineral industries facilities.

## Commodity Review

### *Industrial Minerals*

**Phosphate Rock.**—In 2019, phosphate rock production was carried out by GECOPHAM at the Al Sharqiyah Mine A, the Al Sharqiyah Mine B, and the Khunayfis Mine. The Al Sharqiyah Mine A had the capacity to produce 1.1 million metric tons per year (Mt/yr) of phosphate rock, the Alsharqiya Mine B had the capacity to produce 700,000 metric tons per year (t/yr) of phosphate rock, and the Khunayfis Mine had the capacity to produce 800,000 t/yr of phosphate ore. In 2019, phosphate rock exports were estimated to have decreased to 220,000 metric tons (t) from 328,000 t in 2018. The countries that reported importing phosphate rock from Syria in 2019 were Serbia (160,000 t), Iran (30,000 t), and Ukraine (20,000 t).

Phosphate rock shipments to these countries went through the Port of Tartus on the Mediterranean Sea after being transferred by rail from the mines, which are located in Palmyra in eastern Syria. The Government planned to increase the country's phosphate rock production capacity to 6 Mt/yr in the short run and to 10 Mt/yr in the long run by upgrading the railroad shipping capacity between the phosphate rock mines and the export terminal at the Port of Tartus. In 2017, the Government signed a memorandum of understanding with the Government of Iran to mine phosphate rock from the two Al Sharqiyah mines for 50 years, but there was no verifiable information on the status of the Iranian mining companies' activities in Syria as of yearend 2019. In 2018, the Government and the Parliament approved the creation of a joint-venture agreement with OAO Stroytransgaz of Russia to mine phosphate rock deposits at the Al Sharqiyah mines. The Government was also negotiating a third agreement with Womco Associate Doo of Serbia to produce 500,000 t/yr of phosphate rock from deposits at the Khunayfis Mine (table 2; Cornish and others, 2019; International Fertilizer Association, 2020; Rostom, 2020; Alfred and others, 2022).

In 2018, the Government approved the creation of a joint venture of GEGMR and OAO Stroytransgaz to produce 2.2 Mt/yr of phosphate rock from existing phosphate mines near Palmyra. Stroytransgaz would receive a 70% share of the output and GEGMR would receive 30%. The status of the project was unknown as of yearend 2019, but the increase in production and exports of phosphate rock was an indication of the flow of OAO Stroytransgaz's investment into the mines. In November 2018, OAO Stroytransgaz signed an investment agreement with the Government, which gave the company the task of rehabilitating and upgrading GFC's plants in Homs. In this joint venture, OAO Stroytransgaz would receive a 65% share of the profits, and GFC, 35%. GFC's plants produced calcium nitrate, phosphoric acid, triple superphosphate, and urea (Marks, 2018; Cornish and others, 2019; Enab Baladi, 2019).

## Mineral Fuels

**Natural Gas and Petroleum.**—In both 2019 and 2018, Syria's crude petroleum and condensate production was 24,000 barrels per day (bbl/d), which was a decrease from the 25,000 bbl/d produced in both 2017 and 2016. Crude petroleum production in the past 5 years represented only a small fraction of the country's production in 2011, which was 353,000 bbl/d. Natural gas output increased slightly to 3.7 billion cubic meters in 2019 from 3.6 billion cubic meters in 2018 and 8.3 billion cubic meters in 2010. The decrease in crude petroleum and natural gas production was attributed to military attacks on natural gas treatment plants and the Government losing control of most of the oilfields in northeastern Syria to the Islamic State of Iraq and Syria (ISIS) in 2014. Most of the lost fields were captured by the SDF and were held under its control. Crude petroleum was delivered by pipeline and by trucks to the state-owned Baniyas and Homs refineries, which produced an estimated 41 million barrels of refined products using both domestic and imported crude petroleum from Iran to meet domestic demand (tables 1, 2; U.S. Energy Information Administration, 2015; Thomson Reuters, 2019; BP p.l.c., 2020, p. 16, 34).

Syria's proved natural gas and petroleum reserves totaled 300 billion cubic meters and 2.5 billion barrels, respectively, in 2019. The Government signed two agreements with Mercury L.L.C. and Velada L.L.C. (both of Russia) in 2019 to explore and develop an oilfield in northeastern Syria and a gasfield north of Damascus. Soyuzneftegaz of Russia, which had signed an agreement with the Government of Syria to explore for and develop natural gas and petroleum resources in Block 2 offshore in the Mediterranean Sea in 2013, canceled its offshore project as well as another two onshore exploration projects in Syria in 2015 owing to the continuation of the armed conflict in the country (Shurmina and Lyrchikova, 2015; Thomson Reuters, 2019; BP p.l.c., 2020, p. 14, 32).

## Outlook

The outlook for Syria's economy is expected to continue to be negative in 2020 owing to the adverse effects of armed conflict and sanctions; it is expected to decline further in 2021 owing to the widespread damage to the infrastructure caused by years of armed conflict. The resumption of phosphate rock mining and fertilizer production allowed the country to produce fertilizers to meet domestic demand and to export phosphate rock ore to a few countries. Exports of phosphate rock are expected to decrease in 2020 owing to international sanctions on the Government and companies that do business with it.

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

(Thousand metric tons, gross weight, unless otherwise specified)

Commodity <sup>2</sup>	2015	2016	2017	2018	2019
<b>METALS</b>					
Iron and steel, raw steel <sup>e</sup>	5	5	5	5	5
<b>INDUSTRIAL MINERALS</b>					
Cement, hydraulic	1,850	2,450 <sup>r</sup>	2,120 <sup>r</sup>	2,150 <sup>r</sup>	2,200 <sup>e</sup>
Gypsum <sup>e</sup>	150	150	150	150	150
Nitrogen, N content:					
Ammonia	--	--	20 <sup>e</sup>	270	270 <sup>e</sup>
Urea	--	--	20 <sup>e</sup>	140	150 <sup>e</sup>
Phosphates:					
Phosphate rock:					
Gross weight	538 <sup>r</sup>	--	100 <sup>e</sup>	2,000 <sup>r,e</sup>	2,000 <sup>e</sup>
P <sub>2</sub> O <sub>5</sub> content, 30% P <sub>2</sub> O <sub>5</sub>	167	--	30 <sup>e</sup>	600 <sup>r,e</sup>	600 <sup>e</sup>
Products:					
Fertilizers	--	--	30 <sup>e</sup>	150	150 <sup>e</sup>
Phosphoric acid	--	--	-- <sup>e</sup>	20 <sup>e</sup>	25 <sup>e</sup>
Pumice and related minerals, volcanic tuff <sup>e</sup>	200	200	200	200	200
Salt <sup>e</sup>	20	25	25	25	40
Stone sand, and gravel, construction:					
Sand and gravel, unspecified <sup>e</sup>	600	600	500	500	500
Stone:					
Crushed:					
Dolomite, refractory grade <sup>e</sup>	2,000	2,000	2,000	2,000	2,000
Gravel, including crushed rock <sup>e</sup>	150	150	150	150	150
Marble, materials <sup>e</sup>	90	80	100	100	100
Dimension, marble, block	7	7	8	10 <sup>e</sup>	10 <sup>e</sup>
Sulfur:					
Byproduct, natural gas and petroleum, S c	metric tons	NA	NA	NA	44
Compounds, sulfuric acid:					50 <sup>e</sup>
Gross weight <sup>e</sup>	21	--	40	50	50
S content	7 <sup>e</sup>	--	13 <sup>e</sup>	16 <sup>e</sup>	20 <sup>e</sup>
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Natural gas:					
Dry basis	million cubic meters	4,100	3,500	3,400	3,600
Gross	do.	4,500 <sup>e</sup>	6,500	8,000 <sup>e</sup>	10,000
Petroleum:					
Crude, including condensate	thousand 42-gallon barrels	9,855 <sup>r</sup>	9,125 <sup>r</sup>	9,125 <sup>r</sup>	8,760 <sup>r</sup>
Natural gas liquids	do.	2,920	2,920	2,920	2,920

<sup>e</sup>Estimated. <sup>r</sup>Revised. do. Ditto. NA Not available. -- Zero.

<sup>1</sup>Table includes data available through August 6, 2020. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

<sup>2</sup>In addition to the commodities listed, clay, natural crude asphalt, and refined petroleum products may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2  
SYRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Asphalt, natural crude		General Establishment of Geology and Mineral Resources (GEGMR) (Government, 100%)	Mines at Al Bishri, Dayr az Zawr, and Kafriyah, Latakia <sup>1</sup>	100
Cement, hydraulic		Adra Cement and Building Materials Co. (Altoun Group) <sup>2</sup>	Plant at Adra	1,000
Do.		Al Badia Cement J.S.C. (Al Muhaidib Holding Co., 33.9%; Syrinvest Holding B.V., 26%; public stockholders, 21.5%; Al Zaim Holding Co., 7.4%; Ibrahim Sheikh Deeb, 6.2%; Al Fozan Holding Co., 5%)	Plant at Abu ash Shamat	1,600
Do.		Al-Hasakeh Cement L.L.C. (Guris Holdings, 100%)	Clinker mill at Yaroubiyeh, Al-Hasakah	700
Do.		Al-Shahaba Cement and Building Materials Co. <sup>2</sup>	Plant <sup>1</sup> at Sheikh Said, Aleppo	740
Do.		do.	Plant at Maslamieh, Aleppo	220
Do.		Arabian Cement Co.	Plant at Sheikh Said, Aleppo	876
Do.		Guris Raqqa Cement Co. (Guris Holdings, 100%)	Clinker mill <sup>1</sup> at Ar Raqqa	300
Do.		Lafarge Cement Syria (LafargeHolcim Ltd., 98.67%, and Government, 1.33%)	Plant at Jalabiya, <sup>1</sup> Aleppo	3,000
Do.		Military Housing Cement Group (Government, 100%)	Plant at Maslamieh, Aleppo	336
Do.		Rastan Cement and Building Materials Co. <sup>2</sup>	Plant at Rastan	1,131
Do.		Tartus Company for Manufacturing of Cement and Building Materials (Pharaon Group) <sup>2</sup>	Plant at Tartus	1,800
Do.		The Syrian Company for Cement and Building Materials <sup>2</sup>	Plant at Kafer Buhm, Hamah	1,500
Gypsum		General Establishment of Geology and Mineral Resources (GEGMR) (Government, 100%)	Mines at Ar Raqqa, <sup>1</sup> Jayrud, and Latakia	573
Natural gas	million cubic meters	General Petroleum Corp. (GPC) (Government, 100%)	Ash Shaer <sup>1</sup> and Cherrif gasfields	2,500
Do.	do.	Syrian Democratic Forces (SDF)	Processing plant at Dayr az Zawr	4,750
Do.	do.	do.	Processing plant at Jebissa	1,060
Do.	do.	do.	Processing plant at Suwaydiyah	240
Do.	do.	do.	Abu Rabah, Abu Al Dhuhr, Al-Fayed north, Al-Rasm, Qumqum, and Bilas gasfields	1,825
Do.	do.	do.	Processing plant <sup>1</sup> at Omar field	2,400
Do.	do.	Syrian Gas Co. (Government, 100%)	Arak gasfield, Palmyra	13,770
Do.	do.	do.	Dubayat gasfield, Palmyra	14,872
Do.	do.	do.	Processing plant at Palmyra	2,200
Nitrogen:				
Ammonia <sup>3</sup>		General Fertilizers Co. and OAO Stroytransgaz	Plant at Homs	300
Calcium nitrate		do.	do.	100
Urea		do.	do.	330
Petroleum:				
Crude	thousand 42-gallon barrels	General Petroleum Corp. (GPC) (Government, 100%)	Al Mahr, Ash Shaer, Jazl, Johar, Thayyam Fields	9,000
Do.	do.	Syrian Democratic Forces (SDF)	Al Izba, Al Kishima, al-Mazraa, Attala North Jafra, Al Ward, Galban, Jarnof-Saban, Karatchok, Khurbet East, Maleh-Azraq, Omar, Oudeh, Qahar, Rumailan, Sijan, Suwaydiyah, Tabiyeh, Tanak, oilfields	13,000
Refined:	do.	Banias Refinery Co. (Government, 100%)	Refinery at Banias	48,545
Do.	do.	Homs Refinery Co. (Government, 100%)	Refinery at Homs	43,800
Do.	do.	Small-scale operators	Makeshift refineries in Dayr az Zawr Province	NA

See footnotes at end of table.

TABLE 2—Continued  
 SYRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
<b>Phosphates:</b>			
Phosphate rock	General Company for Phosphate and Mines (GECOPHAM) (Government, 100%)	Mines at Al Sharqiyah A, Al Sharqiyah and Khunayfis, Palmyra	2,600
Do.	General Establishment for Geology and Mineral Resources (GEGMR), and OAO Stroytransgaz	Mines at Al Sharqiyah A and Al Sharqiyah B	2,200
<b>Products:</b>			
Fertilizers	General Fertilizers Co.(GFC) and OAO Stroytransgaz	Plant at Homs	450
Phosphoric acid	do.	do.	100
Pumice and related materials, volcanic tuff	General Establishment of Geology and Mineral Resources (GEGMR) (Government, 100%)	Quarries at Daraa, As Suwayda, Al Hasakah, and Ar Raqqa	1,000
Salt	do.	Jebseh and Palmyra brines <sup>1</sup>	120
Do.	do.	Tabni Mine, <sup>1</sup> Dayr az Zawr	100
<b>Steel:</b>			
Raw	General Company for Iron and Steel Products (Hadeed Hama) (Government, 100%)	Plant at Hamah	70
Rolled	Al Wahib Group	Plant at Tartus	100
Do.	Arabian Steel Co. (ASCO)	Plant at Jableh	300
Do.	General Company for Iron and Steel Products (Hadeed Hama) (Government, 100%)	Plant at Hamah	78
Do.	Hmisho Steel S.A.	Plant at Latakia	500
Do.	International Company for Steel Rolling	Plant at Hessya <sup>1</sup>	300
Do.	Joudco Steel Ltd.	do.	150
Do.	Middle East Steel Industries	Plant at Yabroud <sup>1</sup>	140
Do.	Orient Co.	Plant at Aleppo <sup>1</sup>	NA
Do.	Syria Steel and Iron Co. (SALB)	Plant at Adra	NA
Stone dimension, marble	General Establishment of Geology and Mineral Resources (GEGMR) (Government, 100%)	Quarries at Zobar, Latakia, and Sabboura	800
Do.	Small-scale miners	Quarried at Rheibah	NA
Sulfur	Homs Refinery Co.	Plant at Homs	40
Do.	do.	Processing plant at Suwaydyia	NA
Do.	Syrian Petroleum Co. (Government, 100%)	Processing plant at Jebissa	NA
Sulfuric acid	Joint venture of General Fertilizers Co. (GFC) and OAO Stroytransgaz	Plant at Homs	NA

Do., do. Ditto. NA Not available.

<sup>1</sup>Production curtailed since 2014.

<sup>2</sup>Subsidiary of the General Organization of Cement and Building Materials (GOCBM), which was 100% Government owned.

<sup>3</sup>Expressed in nitrogen equivalent.