

Syria

International energy data and analysis

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[full report](#)

Overview

Syria's energy sector is in turmoil because of the ongoing civil conflict that began in the spring of 2011, with oil and natural gas production declining dramatically since then.

Syria's energy sector has encountered a number of challenges as a result of conflict and subsequent sanctions imposed by the United States and the European Union. Damage to energy infrastructure—including oil and natural gas pipelines and electricity transmission networks—hindered the exploration, development, production, and transport of the country's energy resources.

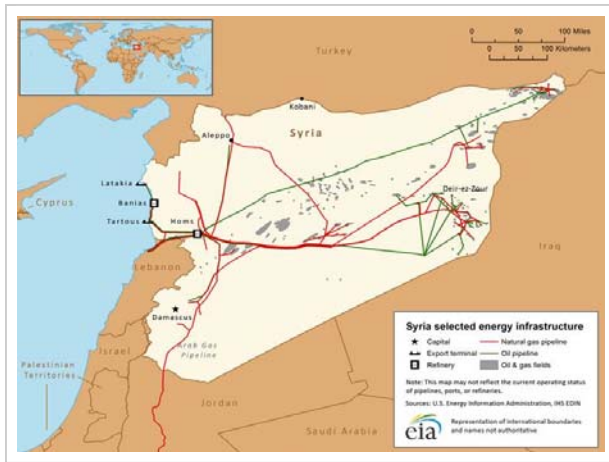
Syria, previously the [eastern Mediterranean's](#) leading oil and natural gas producer, has seen its production fall to a fraction of pre-conflict levels. Syria is no longer able to export oil, and as a result, government revenues from the energy sector have fallen significantly. Prior to the current conflict, when Syria produced 383,000 barrels per day (b/d) of oil and 316 million cubic feet per day (Mmcf/d) of natural gas, Syria's oil and gas sector accounted for approximately one fourth of government revenues.

Syria faces major challenges in supplying fuel oil to its citizens. Electricity service in much of the country is sporadic as a result of fighting between government, opposition forces and the Islamic State of Iraq and Syria (ISIS). Further, the exploration and development of the country's oil and natural gas resources have been delayed indefinitely. Nevertheless, even if the fighting were to subside, it would take years for the Syrian domestic energy system to return to pre-conflict operating status.

Syria summary energy statistics

Oil		
Proved reserves, 2015 (million barrels)	Petroleum and other liquids supply, 2014 (thousand b/d)	Petroleum and other liquids consumption, 2013 (thousand b/d)
2,500	33	224
Natural gas		
Proved reserves, 2015 (billion cubic feet)	Dry natural gas production, 2013 (billion cubic feet)	Dry natural gas consumption, 2013 (billion cubic feet)
8,500	187	200
Electricity		
Generating capacity, 2012 (gigawatts)	Electricity generation, 2012 (billion kilowatthours)	Electricity consumption, 2012 (billion kilowatthours)
8.9	29.5	25.7

Source: U.S. Energy Information Administration, *Oil & Gas Journal*



Sector organization

In 1964, Syria passed legislation that limited licenses for exploration and investment to the Syrian government. The Ministry of Petroleum and Mineral Resources oversees the Syrian oil and natural gas sectors, and is in charge of setting policy priorities and coordinating the efforts of the state-led companies that operate in the sector. The following information reflects the pre-conflict operating status of Syria's oil and natural gas sector.

The General Petroleum Company (GPC) oversaw the strategies for exploration, development, and investment in Syria's oil and gas sector, and supervised the activities of its many affiliated companies, including the Syrian Petroleum Company (SPC) and the Syrian Gas Company (SGC). The SPC was Syria's largest state-owned oil company, and it had a number of production-sharing agreements (PSAs) in place throughout the oil sector. Most of the country's PSAs were split equally between the SPC and its partners. These arrangements often ensured that the Syrian government retained a certain percentage of the oil produced in its fields as royalties. Contracts regularly lasted up to 25 years.

The SPC operated through several subsidiaries, the most notable being the Al-Furat Petroleum Company (AFPC), which was a joint venture between the SPC, Royal Dutch Shell, the Chinese National Petroleum Company (CNPC), and India's Oil and Natural Gas Corporation (ONGC). Other SPC subsidiaries included the Deir Ez-zor Petroleum Company, the Syria-Sino Alkawab Oil Company, the Hayan Petroleum Company, the Oudeh Petroleum Company, and the Dijla Petroleum Company. International oil companies with interests in Syria prior to the conflict included Gulsands, Sinopec, and Total, as well as several other smaller companies. By most accounts, nearly all of Syria's foreign partners have left the country.

The General Organization for Refining and Distribution of Petroleum Products (GORDPP) managed the country's downstream portfolio for oil and natural gas. It also oversaw the operations of the Baniyas Refinery Company and the Homs Refinery Company, among other duties. Other important state entities overseen by the GORDPP included the Syrian Company for Oil Transport (SCOT, which operated the country's pipelines), Mahrukat (which dealt with refined products), and Sytrol (the state marketer of petroleum products).

The Syrian Gas Company (SGC)—which fell under the GPC—was the key entity in Syria's upstream natural gas operations, a position it inherited after being split off from the SPC in 2003. Syria's natural gas distribution network was managed by the SCOT. The majority of Syria's gas-processing plants were operated by state-owned firms—led by the SPC—but there were a handful that were operated by international companies.

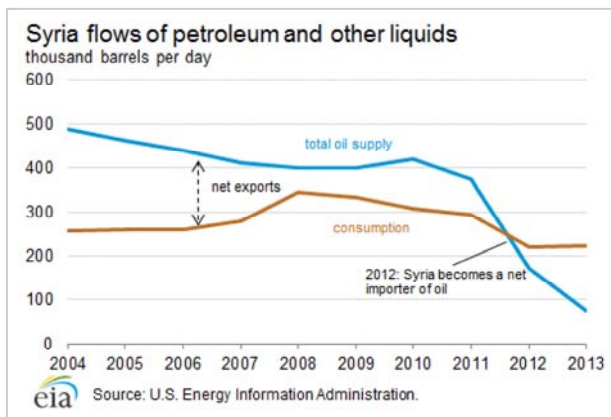
The Ministry of Electricity oversaw the electricity sector in Syria, while the General Establishment for Electricity Transmission operated the country's transmission system. Syria also had separate entities for the generation and distribution of electricity.

Petroleum and other liquids

Syria's oil sector has been in a state of disarray since 2011. Production and exports of crude oil have fallen to nearly zero, and the country is facing supply shortages of refined products.

The *Oil & Gas Journal* estimated Syria's proved reserves of oil at 2.5 billion barrels as of January 1, 2015, a total larger than each of Syria's neighbors except for Iraq.¹ Most of Syria's crude oil is heavy (low gravity) and sour (high sulfur content), which requires a specific configuration of refineries to process. Sanctions placed on Syria by the European Union in particular—whose countries accounted for the majority of Syrian oil exports previously—limited the number of markets available to import and process the heavier Syrian crudes. The loss of oil export capabilities severely limited Syrian government revenues, particularly the lost access to European markets, which in 2011 imported over \$3 billion worth of oil from Syria, according to the European Commission.² Prior to sanctions, European refineries were the target market for Syrian oil because they were configured to process heavy, sour oil.

Since the swift advance of ISIS in 2014, Syrian oil production has essentially ceased. The lack of domestic crude oil production has caused the country's two main refineries to operate at less than half of normal capacity, resulting in supply shortages for refined petroleum products. Further, sanctions—and the resulting loss of oil export revenues—make importing petroleum products difficult. It is likely that Iran continues to supply Syria with crude oil and refined products.³ Oil theft is also a problem, with Syrian officials claiming that hundreds of barrels of crude oil are being stolen and shipped to neighboring countries each day.



Exploration and production

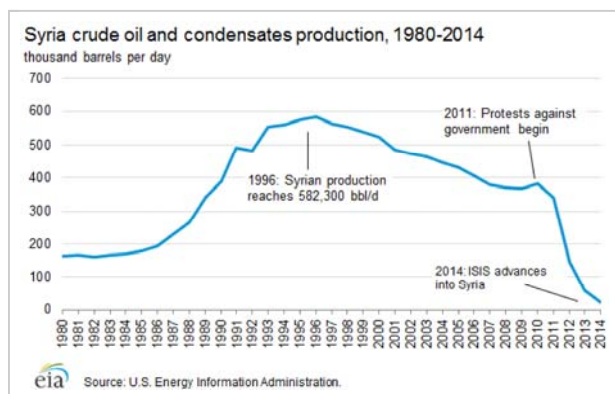
Syria's oil production, which averaged over 400,000 b/d between 2008 and 2010, was less than 25,000 b/d in May 2015.

With the onset of sanctions by the [United States](#), the European Union, and other countries, almost all of the international oil companies (IOCs) and national oil companies (NOCs) ceased operations in Syria, significantly limiting Syria's exploration and production capabilities. Most of Syria's existing oil fields are located in the east near the border with Iraq or in the center of the country, east of the city of Homs. Possession of Syria's largest producing fields including the Deir-ez-Zour region—which includes Syria's largest field, Omar—has fallen to ISIS.⁴ The exact level of current production from these fields is unknown, but U.S.-led airstrikes have certainly caused structural damage in the region and have limited its output.

Syria's average oil production from 2008—10 was stable at approximately 400,000 b/d, but since the combined disruptions of military conflict and economic sanctions began, the country's production dropped dramatically. The latest U.S. Energy Information Administration (EIA) estimates indicate that Syrian crude oil and condensates production has fallen to barely 25,000 b/d—including production outside the control of the Syrian government. This level is a drop of roughly 90% since the conflict began in March 2011.

The years prior to the onset of hostilities saw an increased emphasis on the use of enhanced oil recovery (EOR) techniques in Syria, with several companies promising increased investment in the country's mature oil fields. The AFPC utilized water- and gas-injection systems to aid recovery in many of its fields, and—with little in the way of new discoveries expected—EOR techniques are likely to become increasingly important for ensuring stable output should production resume.

Syria also has shale oil resources, with estimates of reserves in 2010 ranging as high as 50 billion tons according to Syrian government sources.⁵ The Syrian government delayed a bidding round for the country's shale resources—scheduled for November 2011—because of the political situation in the country.



Imports and exports

Syria's crude oil exports are assumed to have ceased, and the country is having difficulties importing refined petroleum products.

In the years leading up to 2011, Syria began importing more refined petroleum products to meet rising domestic demand. In 2010, the country imported an average of 105,000 b/d of refined petroleum products, and exported just 36,000 b/d. At the time, Syria was also exporting more than 150,000 b/d of crude oil, but the country's crude exports are now effectively zero. Following the imposition of sanctions and the advancement of ISIS, Syria has experienced a shortage of crude oil and petroleum products. Iran continues to supply Syria with approximately 60,000 b/d of crude oil, but this level is still insufficient to meet demand.⁶

Syria has three export terminals on the Mediterranean Sea, all operated by the Syrian Company for Oil Transport (SCOT) under the GORDPP. Syria has two crude oil export blends, Syrian Light and Syrian Heavy (also known as Souedieh).

Refining and consumption

The combined capacity of Syria's two refineries has fallen to roughly half its pre-conflict output.

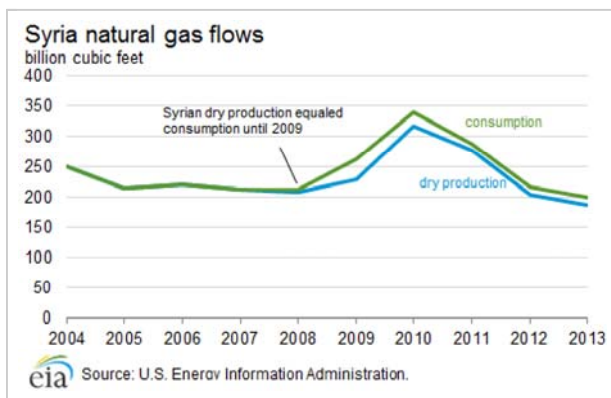
Syria has two state-owned refineries, one in Homs and the other in Banias. The combined nameplate capacity of the two refineries at the beginning of 2015 was slightly less than 240,000 b/d according to the *Oil & Gas Journal*;⁷ a total capacity that met only three-fourths of Syria's pre-conflict demand for refined products. With damage to pipelines and other infrastructure around the refinery at Homs in particular, Syrian officials claim that the country's actual refining capacity now is closer to 50% of its pre-war nameplate capacity.⁸ Several proposed refineries are now on hold or canceled altogether, such as the proposed 100,000 bbl/d facility at Abu Khashab backed by the CNPC, which was canceled because of the security situation in the country.

Natural gas

Syria's natural gas sector has not been affected quite as severely by the ongoing conflict as its oil sector, although dry natural gas production is down by at least 40% compared with pre—conflict totals.

The *Oil & Gas Journal* reported that Syria held proved reserves of 8.5 trillion cubic feet (Tcf) of natural gas as of January 2015. Like the country's oil fields, the majority of Syria's natural gas fields are in the central and eastern parts of the country. Most of Syria's natural gas is used by commercial and residential customers and in power generation. Syria also uses its natural gas in oil—recovery efforts, with approximately 20% of daily gross production reinjected into the country's oil fields between 2004 and 2013.

In 2008, Syria became a net importer of natural gas, but the country's current state of conflict—and sanctions—have affected the ability of Syria to receive natural gas. The only source of natural gas imports, the Arab Gas Pipeline, became the target of attacks as the conflict intensified, forcing the pipeline to shut down. Syria's plans to convert all existing thermal power generation facilities to natural gas—fired plants (many are currently using refined petroleum products) hinge on these import volumes being available, but this goal seems out of reach.



Exploration and production

Syria's dry natural gas production fell to less than 200 billion cubic feet (Bcf) in 2013 according to estimates from EIA.

In 2010, the last year under normal operating conditions, Syria produced 316 billion cubic feet (Bcf) of dry natural gas. By 2012, that figure dropped by 28% to about 227 Bcf, and EIA estimates that production was 187 Bcf in 2013. Prior to the current conflict, more than half of Syria's natural gas production came from nonassociated fields, with those volumes being redirected to oil fields and domestic demand centers through the country's domestic pipeline network. In 2012, 25% of Syrian natural gas production was reinjected into the country's oil fields to aid in oil recovery, a slight increase from the 2002—11 average of nearly 19%. According to Syrian government officials, in 2013 more than 90% of the country's natural gas production was used by the country's power sector.

Imports and exports

According to press reports, Syria is not currently importing natural gas from Egypt via the Arab Gas Pipeline.

Syria has never produced sufficient volumes of natural gas to export. Prior to the recent conflict, Syria imported a small amount of natural gas from [Egypt](#) to supplement its own domestic production, but production volumes dropped by more than 60% between 2010 and 2011 (from 24.4 Bcf to 8.8 Bcf, according to Cedigaz data) and stopped in 2012. Those imports came via the Arab Gas Pipeline, which started operating in 2008 and sends Egyptian gas into Syria (near Homs) via [Jordan](#). There were plans to expand the pipeline into [Turkey](#), [Lebanon](#), and eventually to Europe, but developments are now unlikely.

Arab Gas Pipeline



U.S. Energy Information Administration, IHS
Representation of international boundaries is not necessarily authoritative

Electricity

Syria's electricity infrastructure, including power plants, substations, and transmission lines, has been a frequent target of sabotage.

In 2010, Syria generated almost 44 billion kilowatt-hours of electricity, 94% of which came from conventional thermal power plants. The remaining 6% came from hydroelectric power plants. Refined petroleum products and natural gas fuel Syria's thermal generating facilities. Syria plans to convert all of its thermal generation facilities to run on natural gas as soon as possible, although this is unlikely until hostilities end. Syria's lack of domestic refining capacity, the ongoing sanctions on the country's energy sector, and declining natural gas production combine to limit the availability of the necessary fuel for Syria's electric plants and have contributed to blackouts in many parts of the country.

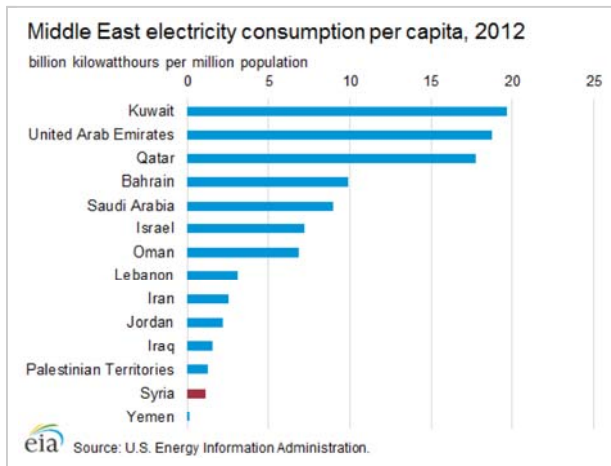
By early 2013, more than 30 of Syria's power stations were inactive, and at least 40% of the country's high voltage lines had been attacked, according to Syria's Minister of Electricity. Syria's electricity generating capacity was 8.9 gigawatts in 2012, although damage to electricity generating facilities, high voltage power lines, and other infrastructure has likely reduced the country's effective capacity. Electricity distribution losses, already 17% of total generation in 2012, have likely climbed even further.

Prior to the current conflict, the Syrian government hoped to emphasize the importance of renewable energy and laid out plans to develop renewable energy sources in the country. The *11th Five-Year Plan for 2011—2015* made that goal clear; however, there will be no progress in the near term.

Syria, along with Egypt, Iraq, Jordan, Libya, Lebanon, the Palestinian Territories, and Turkey, is a member of the Eight Country Interconnection Project, but the current state of Syria's

electricity sector leaves the future of the project—within Syria—in doubt. In 2012, Syria reduced its imports of electricity from neighboring Egypt, Jordan, and Turkey, opting to pursue an arrangement with Iran instead. That agreement would connect 250 megawatts of transmission capacity from Iran to Syria, and came after the announcement that Syria had suspended purchasing electricity from Turkey. Iran agreed to provide Syria with a \$1 billion credit facility in mid-2013, with half of the total earmarked for electric power projects.⁹

In September 2012, Syria's Minister of Electricity announced plans to boost generating capacity by an additional 1.5 gigawatts over the next several years. However, as with most projects in the country, current conflict and lack of access to international capital makes such an undertaking impossible.



Notes

- Data presented in the text are the most recent available as of June 24, 2015.
- Data are EIA estimates unless otherwise noted.

Sources

¹Oil & Gas Journal, Worldwide Look at Reserves and Production, January 1, 2015.

²European Commission, [Trade in goods with Syria](#), April 2015, page 5.

³Middle East Economic Survey, “[Damascus Cash Crunch as Crude Below 10,000 b/d](#)”, volume 58, issue 18 (May 1, 2015).

⁴Middle East Economic Survey, “[Syria's Economic Woes Only Set to Intensify](#)”, volume 58, issue 5 (January 30, 2015).

⁵International Business Times, “[Syrian Oil and Gas: Little-known Facts on Syria's Energy Resources and Russia's Help](#)”, September 4, 2013.

⁶Middle East Economic Survey, “[Syria's Economic Hardships Intensify with Fuel Shortage](#)”, volume 58, issue 9 (February 27, 2015).

⁷Oil & Gas Journal, Worldwide Refining Survey, January 1, 2015.

⁸Middle East Economic Survey, “[Damascus Cash Crunch as Crude Below 10,000 b/d](#)”, volume 58, issue 18 (May 1, 2015).

⁹Reuters, “[Iran grants Syria \\$3.6 billion credit facility to buy oil products](#)”, July 31, 2013.