



Independent Statistics & Analysis

U.S. Energy Information
Administration

Country Analysis Executive Summary: Angola

Last Updated: January 25, 2021

Overview

- Angola is the second-largest oil producer in Africa, after Nigeria. Angola's economy depends heavily on hydrocarbon production, making its economy vulnerable to crude oil price swings. According to the World Bank Group, the crude oil sector accounts for about one-third of the country's gross domestic product (GDP) and more than 90% of total exports. Latest estimates by Oxford Economics, an economic research consulting firm, forecast real GDP to contract by 9.3% in 2020. The firm attributes the contraction to an overall deterioration in global trade and investment caused by the outbreak of the novel coronavirus (COVID-19) and the crude oil production cuts stipulated in the agreement between member countries of the Organization of Petroleum Exporting Countries (OPEC) and select non-member countries (OPEC+).¹
- The acute economic crisis caused by COVID-19 and its impact on energy markets has led Angola to seek debt relief measures to alleviate economic hardship. In September 2020, the executive board at the International Monetary Fund (IMF) conducted a third review of Angola's three-year extended arrangement for the country's extended fund facility with the IMF. When the review is complete, Angola can receive an increase of \$765 million through the end of the arrangement and can receive an immediate disbursement of \$1 billion. The extended fund facility is an IMF assistance program that allows countries experiencing significant payment imbalances to receive support and funding to correct the imbalances over an extended period of time. Angola has also received a debt repayment suspension under the Group of 20 (G-20) Debt Service Suspension Initiative in September 2020, which will allow Angola to defer debt-servicing payments due between May and December 2020. Angola is also currently engaged in negotiations over its debt service burden with China. A significant amount of its external debt is owed to Chinese government entities in the form of oil-backed loans and direct repayments.²

Sector organization

Recent updates

- In November 2017, President João Lourenço replaced Isabel dos Santos as the head of Sonangol with Carlos Saturnino, who was previously dismissed from Sonangol's board by Isabel dos Santos. Lourenço has also merged the Ministry of Petroleum and the Ministry of Mining and appointed Diamantino Azevedo as the head of the newly merged Ministry of Petroleum and Mining.³
- Lourenço issued a number of decrees in May 2018 to attract investors and develop upstream resources. The decree regarding marginal fields reduced the petroleum production tax rate from

20% to 10% and has expanded the definition of a marginal field to include deepwater fields with reserves greater than 300 million barrels if the project's internal rate of return (IRR) is less than 15%. A marginal field was previously defined as a field with reserves less than 300 million barrels.⁴ A decree regarding exploration allows developmental zone boundaries to be redefined if a new discovery extends outside of the area and does not encroach on another contract area's border. Another decree establishing the Natural Gas Framework allows foreign investors ownership rights to associated and nonassociated gas reserves. Previously, Sonangol was the sole entity that held ownership rights to natural gas.⁵

- Sonangol, the national oil company, is undergoing an organizational restructuring to streamline its operations and reduce costs in order to address its growing debt burden. Sonangol Group is to be split into three new holding companies to improve operational efficiency and strategic focus, and it has also ceded its regulatory and operational functions to a new regulator, the National Oil and Gas Agency (ANPG) in mid-2019. Asset sales are also a part of Sonangol's restructuring strategy, and it plans to divest a number of non-core assets and reduce its stake in several upstream blocks to streamline its operations and raise cash to service its debt. The divestment strategy has raised \$77 billion through the sale of five non-core businesses, and Sonangol's most recent financial disclosure indicates that the company made no profit from its core activities in 2019 as a result of its debt servicing obligations. Against the backdrop of the current investment climate and lower oil prices, Sonangol's ability to overcome these financial challenges is uncertain.⁶
- Sonangol was planning for an initial public offering (IPO) of approximately 30% of its equity stake on the domestic stock exchange for 2022, although it will most likely delay this offering. The IPO is a bid for the company to diversify its funding and is part of a broader effort to enhance privatization of state-owned companies and raise additional revenue for the government. A number of significant issues such as Sonangol's lack of transparency regarding its corporate structure and governance as well as an environment of lower foreign investor interest may have a negative effect on the successful launch of the IPO. A number of significant issues such as Sonangol's lack of transparency regarding its corporate structure and governance as well as an environment of lower foreign investor interest may have a negative effect on the successful launch of the IPO.⁷

Petroleum and other liquids

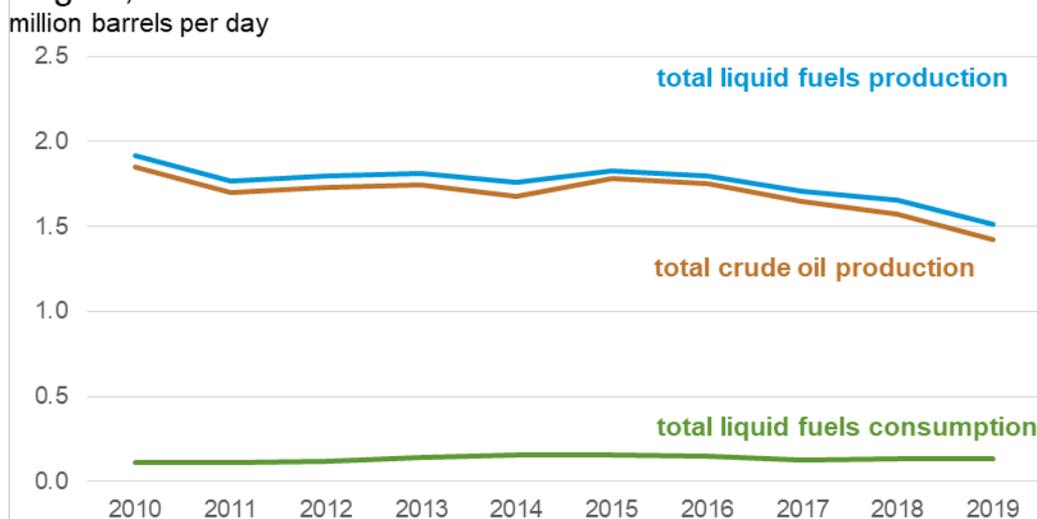
Exploration and production

- Angola holds 8.2 billion barrels of proved crude oil reserves as of the beginning of 2020, according to the latest estimates from the *Oil & Gas Journal* (OGJ), down from 8.4 billion barrels in the previous year.⁸
- Angola's total liquid fuels production steadily declined during the past decade (Figure 1). In 2019, total liquid fuels production was about 1.51 million barrels per day (b/d), down from 1.92 million b/d in 2010. The downward trend in total liquid fuels production is the result of a lack of investment in upstream development. Rapid reservoir depletion and the lack of enhanced oil recovery (EOR) investments to extend the lifetime of currently producing fields have also contributed to steep decline rates at some fields. The Angolan government has been looking to attract new investment and develop its hydrocarbon resources by making changes to the sector's legal and regulatory framework, such as restructuring Sonangol and partially privatizing

the company through a stock offering. When these changes will occur is unclear, as is whether they will be sufficient in attracting investor interest.⁹

- As a member of OPEC, Angola agreed to limit its monthly crude oil production as part of the April 15, 2020, agreement, which was in response to the acute drop in economic activity and global crude oil demand caused by the outbreak of COVID-19. Angola was able to progressively reduce its crude oil production, reaching a low of 1.2 million b/d in July. EIA expects that Angola's production will rise in subsequent months, as the production cuts stipulated in the agreement began to gradually taper off for the duration of the agreement.¹⁰
- The global outbreak of COVID-19 and the resulting slowdown in global economic activity has significantly affected Angola's plans to attract investment for upstream exploration and development. Drilling in Angola's offshore fields came to a halt as oil companies cut back on capital spending on exploration and development in relatively higher-cost fields and delayed final investment decisions on projects that were to be approved in the near term. Although Total reportedly restarted drilling in August, the lack of upstream development will accelerate the decline at Angola's offshore fields and lead to lower production levels in the future unless this trend is reversed with increased investment in new field development.¹¹

Figure 1. Total annual liquid fuels production and consumption in Angola, 2010–2019



Source: U.S. Energy Information Administration

- The global outbreak of COVID-19 also delayed a number of projects in Angola that were expected to come online in the near future. Additional development of the Eni-operated Agogo project in Block 15/06 was reportedly delayed as a result of Eni cutting back capital expenditures for 2020 and 2021. The Palas-Astraea-Juno (PAJ) project located in Block 31 and operated by BP is also reportedly delayed; the project was expected to come online in 2022, adding 100,000 b/d to production. The CLOV phase 2, Zinia phase 2, and Dalia phase 3 projects, all of which are located in Block 17, were expected to come online in 2020 and 2021 but have been delayed.¹²

- Angola’s National Agency of Petroleum, Gas, and Biofuels is planning to launch a bidding round for upstream exploration for three blocks in the Lower Congo Basin and six blocks in the Kwanza Basin in January 2021. The bidding round was originally scheduled for May 2020, but it was postponed because of the outbreak of COVID-19. The Angolan government is providing tax breaks and other incentives to encourage local companies to participate in the bidding round.¹³

Refining and refined oil products

- According to latest estimates by the OGJ, Angola’s total nameplate refining capacity was 65,000 b/d in 2019 (Table 1). Angola is planning to expand its refining capacity further, but the expansion projects have faced significant delays.¹⁴
- The Angolan government postponed the announcement of the company winning the tender to build the Soyo refinery; the winner was to be announced in March 2020, but the announcement will be delayed until after the pandemic caused by COVID-19 is under control.¹⁵
- Construction of the Sonaref refinery in Lobito has been put on hold because of high costs and issues around the project’s feasibility. The refinery expects to be operating in 2025, but whether this timeline will be extended is unclear.¹⁶
- Construction of the Malongo refinery in Cabinda began in September 2020. The first phase is expected to be completed in 2021, providing an initial capacity of 30,000 b/d, and the second and third phases are expected to be completed by 2023, adding another 30,000 b/d of capacity. The second and third phases will add a reformer that will convert naphtha to gasoline and a hydrocracker. The refinery will enable Angola to refine its domestic crude oil and supply local and regional markets with higher-value petroleum products.¹⁷
- Angola hired Kinetics Technology, a subsidiary of Maire Tecnimont, an Italian engineering, procurement, and construction firm, to upgrade Angola’s sole working refinery at Luanda under a \$200 million contract. Kinetics Technology is to install a naphtha hydrotreater and a catalytic reformer, which will allow the refinery to significantly increase its gasoline output once completed.¹⁸

Table 1. Refineries in Angola, 2020

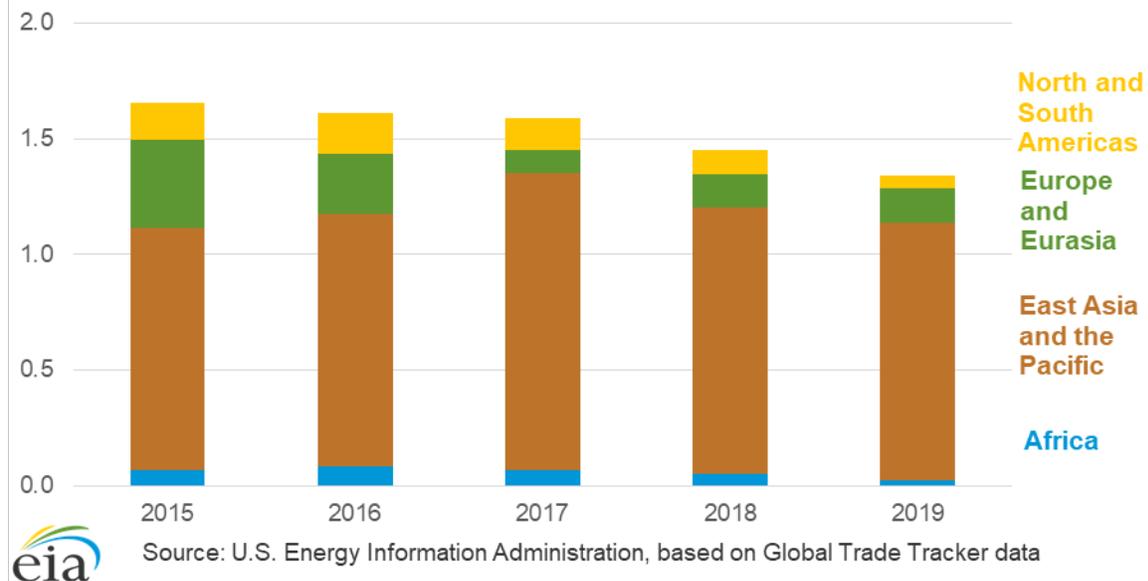
Refinery name	Location	Status	Nameplate capacity (barrels per day)
Luanda	Luanda	upgrade; expected completion in 2021	65,000
Sonaref	Lobito	under development; expected 2025	200,000
Soyo	Zaire	under development; expected 2021	100,000
Malongo	Cabinda	under development; expected 2024	60,000

Source: S&P Global Platts, *Oil & Gas Journal*

Petroleum and other liquids exports

- In 2019, Angola exported about 1.34 million b/d of crude oil, of which about 83% went to the Asia-Pacific region (Figure 2). China received the largest share of Angola’s exports in 2019, at approximately 950,000 b/d, followed by India, which imported about 116,000 b/d. In 2019, the United States imported 30,000 b/d of crude oil from Angola.¹⁹

Figure 2. Annual crude oil exports from Angola, 2015–2019
million barrels per day

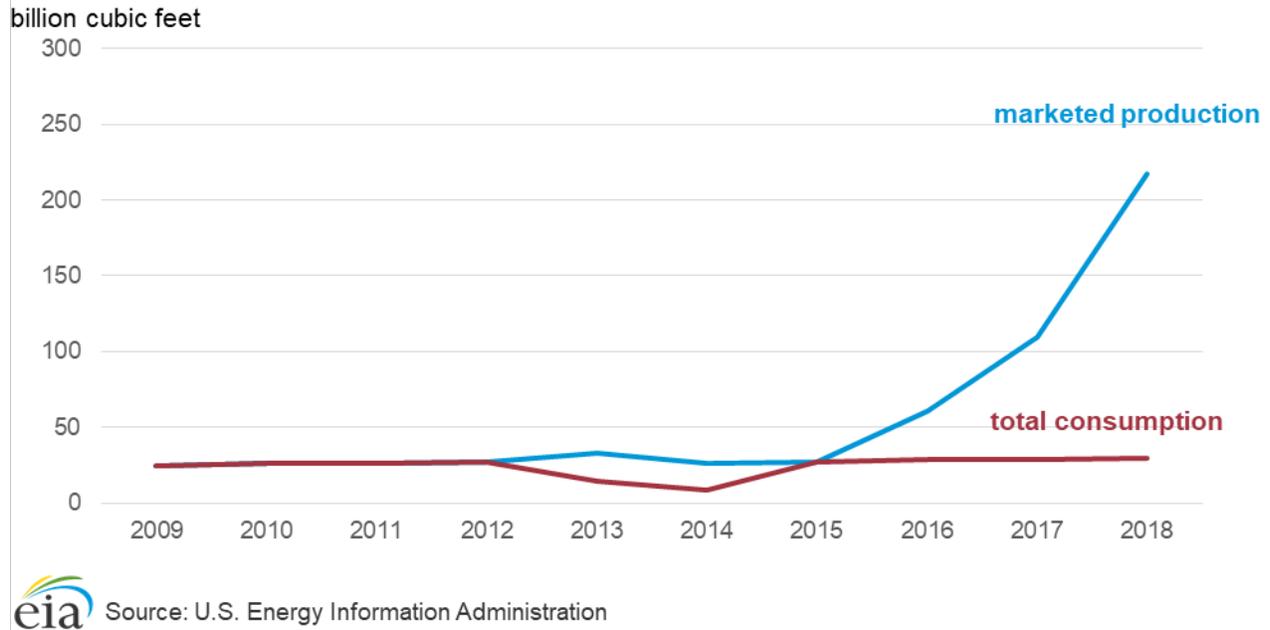


Natural gas

Exploration and production

- According to the latest OGJ estimates, as of January 1, 2020, Angola holds an estimated 13.5 trillion cubic feet (Tcf) of proved natural gas reserves, down from 14.9 Tcf estimated in 2019.²⁰
- Angola produces small quantities of marketed natural gas, but most of its production is flared as a by-product of oil operations or is reinjected into oil fields to increase oil recovery. Dry natural gas production in Angola was 218 billion cubic feet (Bcf) in 2018 (Figure 3).²¹

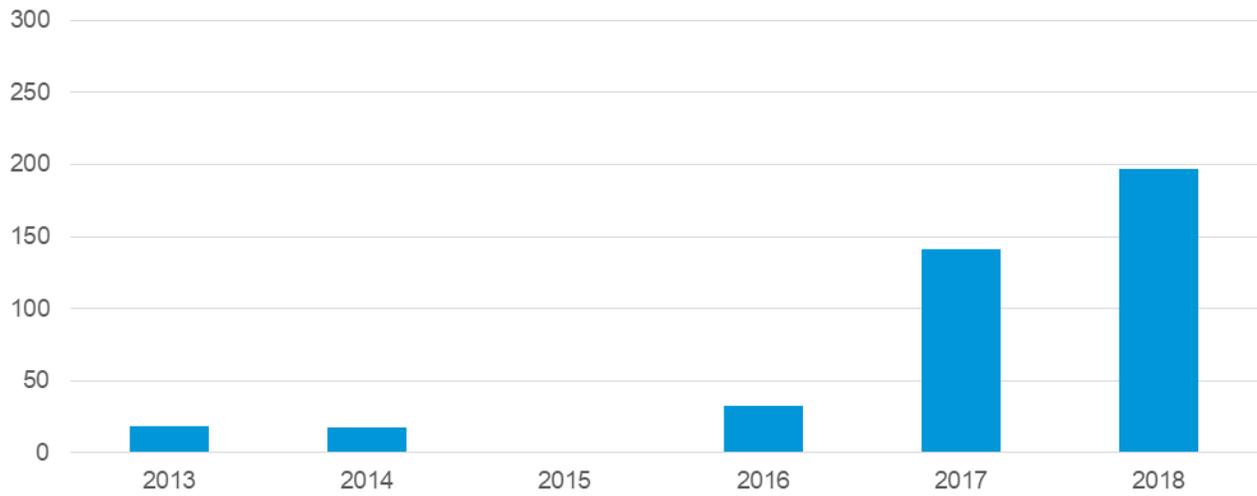
Figure 3. Annual natural gas production and consumption in Angola, 2009–2018



Natural gas exports

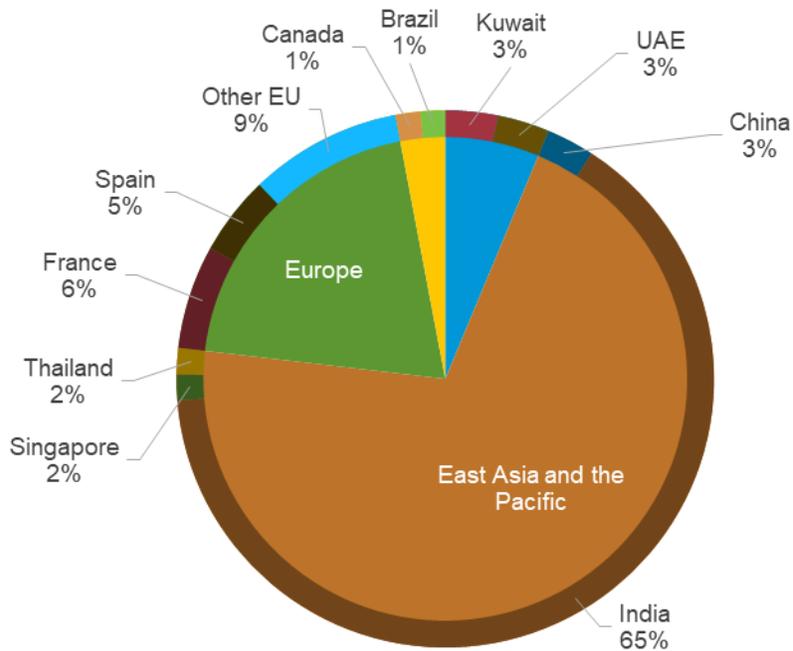
- In 2019, liquefied natural gas (LNG) exports increased to 204 Bcf, and the East Asia and Pacific region received most of Angola’s exports. India received 131 Bcf, or about 65% of Angola’s total exports for that year. Other significant importers of Angola’s LNG in 2019 were Spain (10 Bcf) and France (13 Bcf), (Figure 4 and 5).²² The Angola LNG project began operation in 2013, but was taken offline in 2014 as a result of technical difficulties that required extensive repair and did not resume operations until 2016.²³

Figure 4. Angola's annual natural gas exports, 2013–2018
billion cubic feet



 Source: U.S. Energy Information Administration

Figure 5. Total liquefied natural gas exports from Angola by region and country, 2019

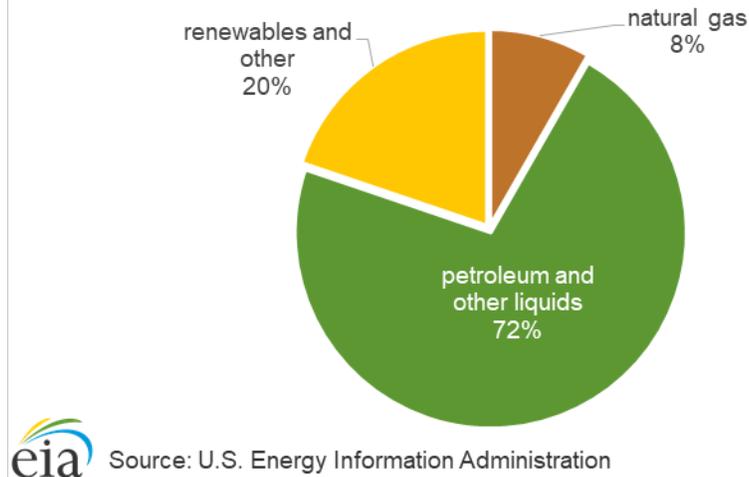


 Source: BP 2020 Statistical Review of World Energy
Note: Total liquefied natural gas exports in 2019 were about 204 billion cubic feet. Percentages are estimates as a result of rounding.

Energy consumption

- According to the latest estimates, in 2017, 72% of Angola's primary energy consumption was petroleum and other liquids. Other major fuel sources consumed were natural gas and solid biomass and waste (Figure 6). Angola does not have any nuclear capacity nor does it use coal for primary energy consumption.²⁴

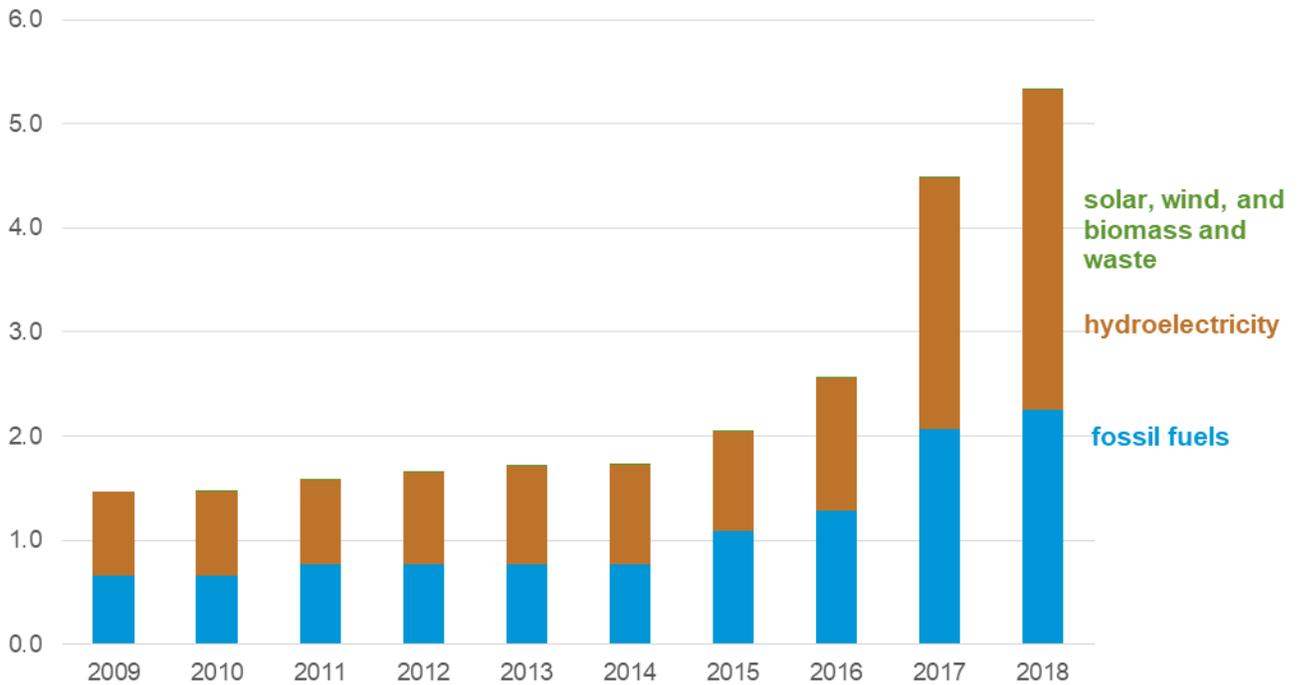
Figure 6. Primary energy consumption in Angola, 2017



Electricity

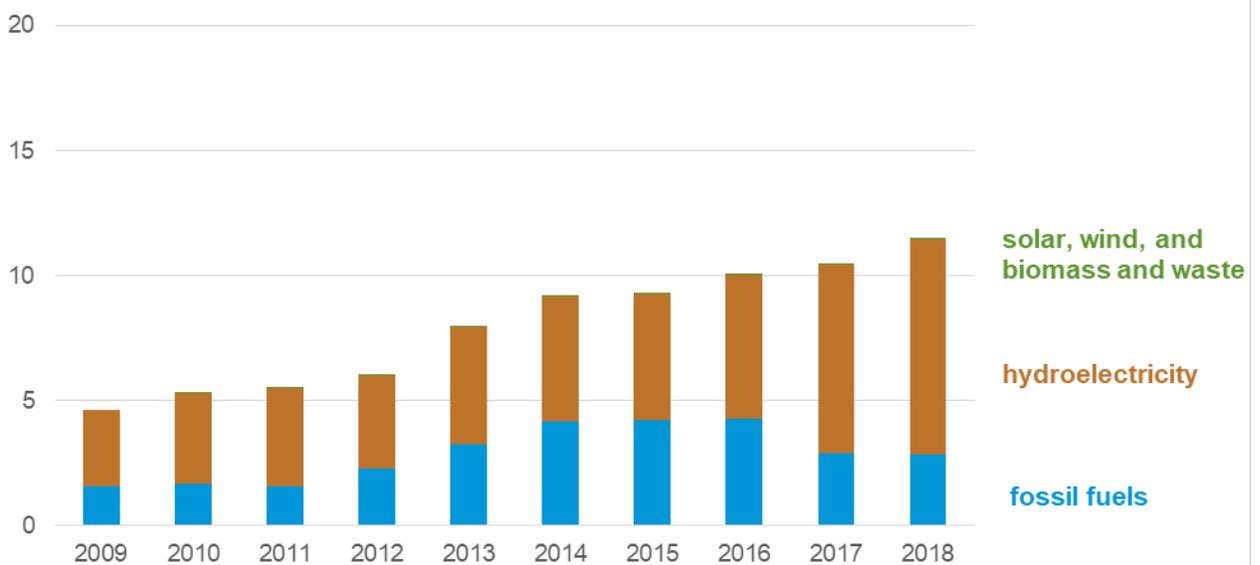
- In 2017, Angola had an electricity capacity of 5.4 gigawatts and generated 11.7 billion kilowatthours (kWh) of electricity, primarily from hydroelectric or fossil fuel sources²⁵ (Figures 7 and 8).
- The latest estimates from the World Bank indicate that only 43% of Angolans had access to electricity in 2018, which is an increase of about 10% from 2010 levels. Much of the growth in power generation has come from hydropower projects that were brought online during the past few years, but providing reliable access to end users remains a significant challenge because the transmission and distribution network in the country has not been upgraded or expanded. The distribution network also suffers from significant power loss because of illegal connections and poor enforcement of revenue collection from un-metered end users.²⁶
- The Soyo combined-cycle natural gas turbine (CCGT) plant added 750 megawatts (MW) of total installed capacity in 2017 after plant construction and the connecting pipeline from Angola LNG to the power plant were completed. The Soyo CCGT plant provides an opportunity for Angola to diversify its power infrastructure and to channel some of its natural gas production toward electricity generation. An expansion of the Soyo plant to add another 500 MW of generation is reportedly underway, but no concrete deadlines have yet been made public.²⁷

Figure 7. Angola's electricity capacity by fuel type, 2009–2018
gigawatts



 Source: U.S. Energy Information Administration

Figure 8. Angola's net electricity generation by fuel type, 2009–2018
billion kilowatthours



 Source: U.S. Energy Information Administration

Renewable Energy Sources

Hydropower

- Two major hydropower projects, the Cambembe expansion and the Laúca hydroelectric dam, have added substantial hydropower to the country's total installed capacity. The second phase of the Cambembe hydropower plant, which consisted of a 180 MW expansion and four new turbines, was completed in June 2017, adding 700 MW of installed capacity.²⁸ The Laúca hydropower plant was completed in 2019, adding 2,070 MW of additional installed capacity with the addition of six 340 MW turbines to generate hydropower.²⁹
- The Caculo Cabaça hydropower plant is also under development. Construction at the 2,170 MW hydropower plant started in July 2017 after it secured funding from China Gezhouba Group Co. Ltd. at an estimated \$4.5 billion. The plant expects to be operating by 2024.³⁰

Notes

- In response to stakeholder feedback, the U.S. Energy Information Administration has revised the format of the *Country Analysis Briefs*. As of December 2018, updated briefs are available in two complementary formats: the Country Analysis Executive Summary provides an overview of recent developments in a country's energy sector and the Background Reference provides historical context. Archived versions will remain available in the original format.
- Data presented in the text are the most recent available as of January 25, 2021.
- Data are EIA estimates unless otherwise noted.

¹ The World Bank Group, [Angola: Country Overview](#), updated July 1, 2020. Gerrit van Rooyan, "Country Economic Forecast: Angola," July 6, 2020.

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³ "Sonangol: Government Drivers," *IHS Markit*, April 2018.

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⁵ Stephan Eisenhammer. ["Angola cuts tax rates for development of marginal oil fields,"](#) *Reuters*, May 21, 2018. "Angola Oil: Presidential decrees further brighten growth prospects offshore," *IHS Markit Strategic Horizons*, July 12, 2018.

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⁸ "Worldwide Look at Reserves and Production," *Oil & Gas Journal*, Worldwide Report [Table], December 2, 2019, pg. 17.

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- ¹⁴ “2019 Worldwide Refining Survey: Global,” *Oil & Gas Journal*, Worldwide Report [Table], January 7, 2020.
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- ¹⁶ “[REFINERY NEWS ROUNDUP: Most refineries in Africa back online](#),” S&P Global Platts, September 9, 2020. “Cabinda refinery site cleared of mines,” *Afroil*, Newsbase, Issue 850, Week 38, September 23, 2020.
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