



ТЕМПЕРИ ЛОДЖИСТИКС ЕООД TEMPERI LOGISTICS LTD



Член на Търговско-Промышлена Палата Стара Загора
Chamber of Commerce and Industry Stara Zagora member

9000 България, гр. Варна, р-н Младост, бул. Сливница 166А, ет. 6 ап. офис 459000, Bulgaria,
Varna, district Mladost, 166A, Slivnitsa blv, fl. 6, off 45

Company Registration № (ЕИК): 206032947
VAT Number: BG206032947

Web page: www.temperi-logistics.com
E-mail: temperilogistics.bg@gmail.com

Oil refineries in the Arab world:

Mauritania. Morocco. United Arab Emirates. Oman. Saudi Arabia.



2023

Contents

Introduction.....	2
1. Mauritania	3
2. Marocco	5
3. United Arab Emirates	9
4. Oman	19
5. Saudi Arabia	23

Introduction

Over the past four decades, the economies of the Arab world have been determined in one way or another by oil and its links. The oil sector has played a key role in these countries' social, political, and economic transformations at different historical stages. Arab oil-exporting countries have had a larger share of the world's oil reserves, production, and exports than any other group of countries for more than 30 years. This situation has led to the relative dominance of the oil sector in the Arab oil-producing economies and, consequently, in the entire Arab world.

The oil sector, which has contributed to the growth and development of the Arab world, is projected to continue its role. For the region's oil-exporting economies, differences will include changes in the relative size of the sector and its relation to the economy, investment needs and problems in the oil and gas sector and the economy as a whole, population growth, and the absorptive capacity of the economy. For Arab economies, differences include changes in the trade and investment climate and policies, the level of integration with the regional and global economies, and the fiscal and foreign position.

Most leading energy forecasts show that global oil consumption will increase by an average of 2.1 million bpd until 2025, slowing down over the next 10 years and stabilizing by 2035. By 2030, OPEC analysts expect oil demand to increase to 108.3 million bpd, continue to grow to 109.5 million bpd in 2035, to 109.8 million bpd in 2040 and 109.8 million bpd in 2045, which means growth over 25 years will be 12.9 million bpd. The vast majority of this increase will occur in the non-OECD region, which will account for 8.6 million bpd of growth over the medium term. For petroleum products, long-term demand growth is expected to be significant for kerosene (+3.8 million b/d) - by 2045 relative to 2021, diesel/gasoil (+2.4 million b/d), gasoline (+1.9 million b/d), and ethane/LPG (+2.6 million b/d), naphtha (+2 million b/d).

To cope with future challenges, Arab economies will need to transition from an oil-dominated economy to a more diversified economy, from a public sector to a private sector-dominated economy, and from a closed to a more open economy integrated with the rest of the Arab world and globally. At the same time, their oil industry must change from a passive to an active oil industry. The such restructuring will require a new set of innovative fiscal, industrial, trade, and labor policies in all Arab countries.

Because of its contribution to GDP, investment, external balances, and overall growth, the oil and gas sector will play a central role in the success of the above adjustments.

Mauritania

The Islamic Republic of Mauritania is a sub-Saharan African country of 1,030,000 square kilometers (km²) with an Atlantic coastline of 700 km.

Despite being rich in natural resources, Mauritania has one of the lowest GDPs in Africa. The GDP per person in Mauritania was \$1,247 in 2012. The economy is based on mining, the country, exports mainly iron ore, copper, and gold, in addition to crude oil.

Oil was discovered in Mauritania in 2001 in the Chinguetti offshore field. Although potentially important to Mauritania's economy, it remains to be seen how much it will help the country. Mauritania has been described as "a desperately poor desert nation that sits between the Arab and African worlds and is the newest, though small, oil producer in Africa. There may be additional onshore oil reserves in the Taoudéni Basin, although the harsh conditions would make production expensive.

Chinguetti oil production was 2,242,358 barrels (or 6,143 bpd in 2013, and the country will soon be extracting natural gas, which will be used exclusively for power generation. To date, the country remains underexplored, with only 1.7 wells per 10,000 km² in license areas, compared to the global average of 50 wells per 10,000 km² (Zawya, 2013). The Banda gas field has estimated gas reserves of 1.2 trillion cubic feet.

As of 2016, Mauritania's proven oil reserves are 20,000,000 barrels, which ranks 83rd in the world. Mauritania's proven reserves are 3.2 times its annual consumption.

Overall, industrial activity accounts for 48% of GDP. oil revenues represent 17% of all Mauritanian extractive industry revenues.

Notably, Mauritania spent nearly \$546 million on petroleum product imports in 2008, compared to total export revenues of \$1,627 million, of which \$326 million came from crude oil exports.

Oil consumption in Mauritania was estimated at 17,000 barrels per day in 2016.

This level of demand corresponds to net imports of 10,000 barrels per day. Despite domestic crude oil production, the country is a net oil importer.

It is proposed that the country will reduce its dependence on imported resources (including petroleum products) by increasing the use of renewable energy in all sectors of the economy. Now the share of renewable power is 19.8% and is expected to increase to 26% after the construction of a new 30 MW wind farm in Nouakchott.

Nouadhibou Refinery

The only refinery in Nouadhibou is owned by the Société Mauritanienne d' Industrie de Raffinage (SOMIR) operated under the technical management of Naftal, the Algerian oil corporation.

The refinery project was started in 1973 and completed in 1978 for \$100 million. Final acceptance of the refinery did not take place due to a technical defect that prevented it from operating after completion (the project was implemented and launched without any feasibility study).

As a result of this technical defect, the project supervising company SNIM and the well-known Austrian company Voest Alpine reached an agreement by mutual consent, according to which Voest Alpine paid compensation in the amount of \$20 million (without elimination of the defect).

Thus, the refinery did not operate until 1982.



In 1981, the government established SOMIR (National Industrial and Processing Company) and entrusted it with the operation and management of the facility.

SOMIR had several contracts as it borrowed \$10 million from British Lloyds Bank to repair and operate the refinery. It also partnered with Sonatrach to supply it with 20,000 tons of crude oil, and this was the first time the refinery had conducted a refining process in which Sumir incurred heavy losses, causing the refining experiment to stop in 1983.

Operation of the refinery was limited to the storage of materials imported by SNIM and the Mauritanian Petroleum Products Marketing Company (SMCPP).

In 1985 the governments of Mauritania and Algeria signed an agreement to rehabilitate the refinery and equip the oil port, under which the Algerian Oil Company was entrusted with the task of operating and managing the refinery.

The refinery's operation was limited to producing gasoline for the country's needs and operating for 6 months a year, while the company imported most of its diesel fuel and fuel needs from abroad.

In 1999 Naftal ceased all refining operations, incurring huge losses, as had happened to Sumir earlier. Once again, the refinery's use was limited to the storage of imported materials.

From 2002 to now, the refinery remained completely shut down and was used only for storage.

Studies and consultations subsequently carried out by many experts, the most recent of which was a study by Canada's Sima Optic, confirmed that the refinery was unprofitable and that the cost of materials produced there was much more expensive than the supply of imported materials.

The current state of the refinery confirms:

The port is in very good condition and still satisfactorily receives ships.

Two-thirds of the storage facilities are in good condition and are currently being used to store fuel imported into the country.

The shutdown refinery is still fully operational and only requires inspection and replacement of some parts.

Marocco

Morocco produces small amounts of oil, natural gas, and petroleum products and is a net importer of hydrocarbons.

Morocco has 684,000 barrels of proven oil reserves as of 2016, ranking 97th in the world. Morocco's total oil reserves are less than even one year of oil consumption (100,375,000 barrels as of 2016), making Morocco highly dependent on oil imports to maintain its consumption levels.

Morocco consumes 275,000 barrels per day (b/d) of oil as of 2016 and ranks 45th in the world for oil consumption. Morocco consumed 11.2 million tons of petroleum products in 2020, of which 79% were diesel and butane.

Morocco produces 200,000 barrels of oil per day, ranking 123rd in the world.

Because Morocco's domestic energy resources are insufficient to meet local demand, up to 90% of its energy needs have to be imported. The government is encouraging increased use of the country's coal deposits as a source of energy and hydroelectric power. Nevertheless, it is still an importer of about 6 million tons of crude oil.

In 2020, Morocco imported \$2.67 billion worth of refined oil, becoming the 41st largest importer of refined oil in the world. In the same year, refined oil was the 1st most imported product in Morocco. Morocco imports refined oil primarily from Spain (\$799 million), Saudi Arabia (\$367 million), Italy (\$333 million), the United States (\$333 million), and the Netherlands (\$129 million). The fastest-growing refined oil import markets for Morocco between 2019 and 2020 were the United Kingdom (\$96.9 million), Belgium (\$41.1 million), and Mexico (\$11.9 million).

Morocco exported \$61.5 million worth of refined oil in 2020, making it the 98th largest exporter of refined oil in the world. In the same year, refined oil was Morocco's 72nd most exported product. Morocco's main refined oil export destinations are Ghana (\$12.3 million), Senegal (\$8.47 million), Cote d'Ivoire (\$7.17 million), Burkina Faso (\$6.32 million), and Mauritania (\$5.13 million).

Morocco has the significant infrastructure to support active oil and gas exploration and production. Major seaports, highways, airports, pipelines, and refineries are close to major cities endowed with the usual European and North American amenities.

Morocco has exploration and production potential that is being developed. Although Morocco's hydrocarbon deposits are represented by various liquid and gas accumulations, from dry gas in the Rarb basin, condensate in Essaquira, light oil in Essaquira and Prarefe to heavy oil in Tarfaya, most sedimentary basins are still largely unexplored. Exploration can take place year-round.

Previously Morocco had an oil refining industry. Refineries, I, located in Sidi Casem and Mohammedia near Casablanca and had a capacity of 7 million tons. The Société Anonyme Marocaine de l'Industrie Raffinage (Samir) refinery with a capacity of 125,000 barrels per day at Mohammedia Port and the Société Chérifiennedes Pétroles (SCP) refinery with a capacity of 25,000 barrels per day at Sidi Casem are now closed and not operating.

The French company Vitogaz is building an LPG terminal and oil depot near Casablanca with a capacity of 40,000 tons per year. Somas, owned by Elf, Afriquia, Shell, Total, and Sodipi, has an underground tank farm at Sidi Larbi with a capacity of 110,000 tons.

SAMIR

The Moroccan Italian Refining Company (SAMIR) was born as a joint initiative of BEPI (Bureau of Industrial Research and Participation) and ANIC, an Italian company dependent on the National Hydrocarbons Administration (ENI) in 1959.

SAMIR operates two main sites:

Mohammedia: Crude Oil Processing.

Sidi Kasem: Storage of Petroleum Products.

Société Anonyme Marocaine de l'Industrie Raffinage (Samir) Refinery.

The refinery is located near the oil port of Mohammedia, Morocco's largest fuel-industry zone. It was developed by SNAM-Progetti to refine 1.25 million tons of crude oil per year and is connected to the port by a modern pipeline.



In the same year, construction began on the first crude distillation unit in Mohammedia with a capacity of 1.25 million tons per year. The refinery was completed in 1961.

The state nationalized SAMIR in 1973 to control price fluctuations on the international market.

The refining capacity is 125,000 barrels per day.

SAMIR now has a refining capacity of 10 million tons per year and a storage capacity of more than 2 million m².

Products: propane, butane, both types of gasoline, naphtha, diesel, oils, kerosene, bitumens, and paraffin fins.

The complex includes a stripping unit and a catalytic reforming unit with preceding gasoline desulfurization with an annual capacity of 230,000 tons of 90-190°C gasoline fraction. There are also three chemical treatment units with a capacity of 15,500 tons/year of liquefied petroleum gas, 85,000 tons/year of light gasoline, and 63,000 tons/year of oil, respectively. The first two are of the continuous type and the last one is of the intermittent type.

A unit with a capacity of 21,000 t/year for de-ethanization of the incoming product and separation of propane from butane is available for the regeneration of LPG, a reforming product. The de-ethanization unit can also use liquefied petroleum gas from the stripping unit to separate propane from butane.



The plant has a storage capacity of about 200,000 cubic meters of finished products, raw materials, and semi-finished products.

Next to the technological plants, there is a combined heat and power plant with 3 boilers of 12 t/h each at 45 atmospheres and 2 turbo-generators of 1500 kVA.

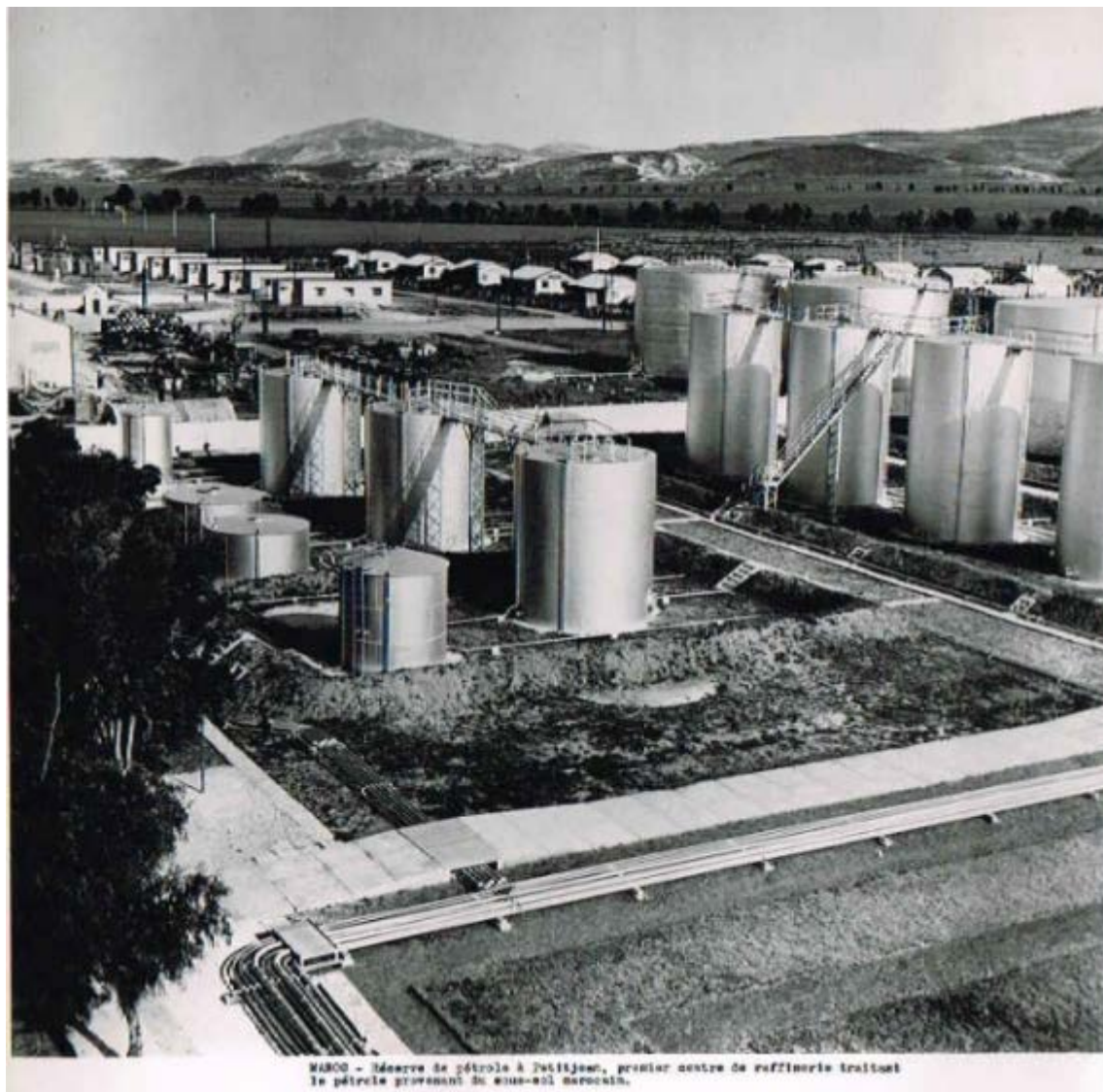
The auxiliary services consist of an air compression unit, fuel oil pumping, and distribution of fuel, gas, and water.

The refinery occupies a total area of about 721,000 square meters and is complemented by buildings for offices, workshops, stores, and laboratories.

In August 2015. Samir ceased operations due to financial difficulties. Liquidation was announced in June 2016. The company, which employed 867 people at the time, had accumulated debts of 45 billion dirhams (more than 3 billion euros), particularly to customs.

Sidi Qasem Refinery (Petizhan)

In 1949 the Société Chérifienne des Pétroles (SCP), a national company of Morocco, was founded, together with French-Belgian and French groups of companies, built a refinery at Sidi Qasem (formerly Petitjean) in the Rabat region of northwestern Morocco.



MAROC - Réserve de pétrole à Petitjean, premier centre de raffineries traitant le pétrole provenant de sous-sol marocain.

Commissioning of the first atmospheric distillation unit in 1940, whose capacity was increased to 400,000 tons in 1954.

Commissioning of a pipeline connecting the refinery with the Casablanca port via several pumping stations.

Construction of a catalytic cracking unit in 1954, whose capacity was increased in 1976 to 300,000 tons per year.

Construction of catalytic reforming unit No. 1 in 1966 with an annual capacity of 50,000 tons.

Construction of a complex of units in 1972, including:

- Atmospheric distillation unit No. 2 with a capacity of 800,000 t/year;
- Vacuum distillation unit № 2 with a capacity of 400 000 tons a year;
- Catalytic reforming unit № 2 with an annual capacity of 70,000 tons.

In 1981 optimization and reorganization of old units.

Construction in 1992 of the Mohammedia oil terminal with a capacity of 240,000 m³ of crude oil and 60,000 m³ of gasoline.

In 1996, a new 14-inch pipe was put into operation, increasing the refinery's initial capacity to 1,600,000 tons per year, which significantly reduced transportation costs.

By the end of October 1952, all the oil produced by the Cherifian Oil Company in the Oued field and in the Meller field, namely 83,716 tons, had been refined at the Peridjan plant.

A total of 103,000 tons of oil were refined in 1952, compared with 75,500 tons in 1951 and 36,200 tons in 1950, accounting for 12 to 15 percent of the country's consumption at that time.

In 1957, in addition to Moroccan oil, the refinery received 33,000 tons of imported crude oil, for a total tonnage of 107,000 tons.

The current processing capacity of the refinery is about 1.5 million tons.

The refinery covered all of Morocco's petroleum product needs in the northern zone: propane, butane, gasoline, fuel oil, diesel, and kerosene. It covers 25 to 30% of the country's petroleum product needs and more than 40% of its LPG needs.

Operating principle of the units: atmospheric distillation.

SCP came into the fold of Samir in a merger and acquisition operation in 1999. In 2009 the Sidi Qasem refinery was finally shut down, due to the dismantling of customs duties and the accumulation of company debts, which plunged the region into a serious economic and social crisis.

After court approval, the rights to operate the refinery's tanks were transferred to the National Authority of Hydrocarbons and Mines (ONHYM).

United Arab Emirates

The United Arab Emirates (UAE) is one of the world's top 10 oil producers and is a member of the Organization of Petroleum Exporting Countries (OPEC), the Gas Exporting Organization, and the Gas Exporting Countries Forum (GECF).

The UAE is rich in natural resources. Relatively energy intensive compared to other industrialized countries, the UAE's economy is mainly powered by natural gas, oil, and other liquid hydrocarbons: oil and other liquid hydrocarbons 40%, natural gas 59%, hydropower 1%.

The United Arab Emirates has 111, 000 million barrels of proven oil reserves (as of 2022) and ranks 7th in the world according to the global ranking, with most of the reserves in Abu Dhabi (about 96% of the UAE). The other six emirates account for just 4% of the UAE's crude oil reserves, led by Dubai, which has about 2 billion barrels. The UAE has about 6% of the world's proven oil reserves. Most of the UAE's crude oil production is light crude with predominantly low sulfur content

The UAE contains about 6% of the world's proven oil reserves. Most of the oil produced in the UAE is light crude oil with predominantly low sulfur content.

Crude oil production is 3,772,788 barrels per day. In 2019, the UAE was the third largest OPEC oil producer after Saudi Arabia and Iraq. Crude oil production that year exceeded one billion barrels. Each emirate controls its own oil and gas production processes. The emirate of Abu Dhabi controlled more than 90 percent of the country's reserves. It was handled by the Abu Dhabi National Oil Company (ADNOC). Abu Dhabi's exports exceeded 800 million barrels in 2019.

Consumption, on the other hand, is 896,000 barrels per day and ranked 24th globally.

The UAE is both a major exporter and consumer of liquid petroleum products. According to Clipper Data, the UAE exported more than 2.9 million barrels per day of crude oil in 2019, most of it to Japan (29%) and other Asian markets. The United Arab Emirates exports 66% of its oil production, representing \$54,595 million for 2021

All oil exports are shipped by sea. The oil produced offshore in the UAE is exported from two oil terminals located on Das Island (Lower Zakum and Umm Shaif fields) and Ez-Zarqa Island (Upper Zakum field). Ez-Zarqa (Upper Zakum field). Oil from onshore fields is exported mainly through the Jebel Dhana terminal in Abu Dhabi Emirate. Once the Abu Dhabi Crude Oil Pipeline becomes operational, most of the onshore oil will be exported through the Fujairah terminal.

Hydrocarbons continue to play a crucial role in the UAE economy, with 30% of the UAE's GDP directly dependent on the oil and gas industry and 13% of their exports. The UAE remains heavily dependent on profits from oil and gas exports, which provide most of the UAE's government revenue.

The mining sector, including crude oil and gas, contributed approximately AED 227.14 billion to the gross domestic product (GDP) of the United Arab Emirates, which for 2021 is 409,967 million dirhams

The UAE's domestic market depends on imports to meet the demand for petroleum products. Most of the UAE's oil imports are fuel oil with limited imports of motor gasoline and diesel fuel.

The UAE has several refineries, the largest of which is Ruwais: Ruwais, Umm Al-Narr, Jebel Ali, and Fujairah.

Ruwais Refinery



The Abu Dhabi National Oil Company's (ADNOC) AlRuwais Refinery, located on the Persian Gulf Coast in the UAE, in the town of Ruwais in the Al Dhafra region of Abu Dhabi, is considered the fourth largest refinery in the world in one location - according to ADNOC - with a design production capacity of about 837,000 barrels per day. The refinery currently processes 922 thousand barrels per day.

The Ruwais refinery includes two complexes:

The Ruwais-East refinery, which opened in 1982, and the Ruwais-West refinery, which has been in operation since 2014.

The Ruwais-Sharq refinery can refine crude oil with a capacity of 140,000 barrels per day and 280,000 barrels of condensate.

Refined Products

Crude oil, LPG, gasoline, diesel, naphtha, jet fuel, base oils, fuel oil, gasoil, and specialty products such as black carbon and calcined coke. In addition to refining and producing LNG, LPG, paraffin naphtha, and sulfur for export, the refinery supplies over 3 billion standard cubic feet of gas to the UAE national energy grid and industrial partners.

While the \$12 billion **Ruwais-West** refinery can refine oil up to 417,000 barrels per day with the ability to process more, and the materials produced from it include transportation fuels and black carbon - a commercial form of solid carbon, anode-grade coke, and propylene.

According to ADNOC, the Ruwais-West refinery has one of the world's largest liquid cracking units, a chemical process that uses a catalyst to produce gasoline and distillate fuel, as well as a carbon black and coke unit.

The plant also has four berths for ships, which allows several large and small cargo ships to be loaded simultaneously.

There is a network of pipelines with a length of 1600 kilometers to supply local consumers.

Abu Dhabi - Umm Al-Nar Refinery (closed)

Located about 25 km from Abu Dhabi, this refinery was commissioned in 1976 with a capacity of 15,000 bpd. In 1983, a second unit of the Umm Al-Nar II refinery with a capacity of 60,000 bpd was commissioned, while the first unit was shut down.

The second refinery processes crude oil from the Asab and Sahil fields of the Murban zone. The capacity of Umm al-Nar II was increased to 85,000 bpd in 1993, the same year a new gasoil desulfurization unit at the refinery began operation.

Other units at the refinery include a crude desalting and distillation unit, an LPG purification and fractionation unit, a naphtha hydrodesulfurization unit, and a sour water stripper. A catalytic reforming continuous regeneration unit was also built at the refinery.

The sulfur granulation unit was expanded from 1,750 tpd to 4,300 tpd. Umm el-Nar also has a lube oil plant with a capacity of 30,000 tpd.

In October 1993, a 4,000-ton/year lubricant plant was started up in Umm el-Nar. It is operated by ADNOC-FOD. The plant was built to meet local demand for lubricating oils and greases as well as for export to Arab and African countries.

Refinery processing capacity: 85,000 barrels per day.

The refinery is connected to an offshore terminal serving tankers of 5,000-20,000 deadweight tons. The refinery's tank farm has been expanded with the addition of three storage tanks and the reconstruction of the existing 11 tanks.

ADNOC recently announced the closure of its refinery in Umm al-Nar, also known as Abu Dhabi. Due to recent pandemic-related losses and ADNOC's optimization strategy focused on the Ruwais refinery, the decision was made to close Umm al-Nar.

Ruwais development outlook

In May 2018, ADNOC announced plans to turn Ruwais into the world's largest refining and petrochemical complex to increase refining capacity by more than 65% to 1.5 million bpd by 2025. The expansion includes a plan to build a mixed feed cracker to triple ADNOC's production capacity to 14.4 million metric tons per year (MMtpa) from 4.5 MMtpa in 2016.

Contacts

<https://www.adnoc.ae/en/adnoc-refining/about-us/who-we-are>

Jebel Ali refinery



The Jebel Ali Refinery was built between 1996 and 1999 in the Emirate of Abu Dhabi. It is located in Dubai and has an area of 500,000 m² and is operated by Emirates National Oil Co (ENOC), which belongs to the government of Dubai. It is a gas condensate refinery that processes mainly condensate or light crude oil. The ENOC plant in Jebel Ali has a pipeline connection to the tank farm at Dubai International Airport, which ensures a constant supply.



The storage capacity exceeds four million barrels of condensate and oil products. Feedstock is purchased from several different suppliers in the Gulf region (Qatar, Iran, and Australia) and is delivered to the plant by pipeline or by ships of up to 120,000 deadweight tons.

Built by the Italian company Technip, the refinery produces a full range of naphtha, which accounts for 55% of its production, some gasoline, gasoil with 0.2% sulfur content, jet fuel, fuel oil, and liquefied petroleum gas.

The refining capacity is 140 thousand barrels per day.

Refined products

LPG, gasoline, naphtha, jet fuel, gasoil, diesel fuel, and heating oil.

The plant consists of two 60 kbps condensate distillation units and five Merox desulfurization units.



Naphtha, totaling about 66,000 bpd, is exported for use in petrochemicals in Southeast Asia, while the remaining liquids are sold domestically.

In 2010, the production of reformat and low-sulfur naphtha was upgraded with a reformer and a hydrotreating unit. In 2014 the company began a modernization project to produce Euro V.

To minimize sulfur emissions, the sulfur recovery unit recycles hydrogen sulfide-rich streams from amine treatment and acid water stripping.

Two sulfur production plants, each operating at 100% of the required capacity, provide full protection even if one plant is completely shut down.

Most of the naphtha is sold to Japan. Most of the diesel produced is exported to India. Some LPG is sold to Japan and South Korea. Most of the jet fuel is sent to Dubai International Airport.

Development Outlook

ENOC plans to build a second jet fuel pipeline to Dubai International Airport from Jebel Ali Terminal.

Contacts:

enoc.com

Al Fujairah Refinery VTTI

The Fujairah refinery in Al-Fujairah is controlled by Vitol.



Owned 90% by VTTI.



Centrally positioned in one of the world's largest oil trading hubs, right at the entry and exit point of the Gulf. Capitalizing on its unique position next to the oil berths of the Port of Fujairah, VTTI Fujairah offers more than 1.9 million m³ of storage, manages and operates a refinery (80,000 BPD), and operates crude processing units (80,000 BPD). With its dedicated cargo lines to the Port of Fujairah, deep water, and jetty flexibility, VTTI Fujairah can accommodate any size or type of vessel whilst offering facilities for products right across the barrel, from crude oil to condensate, naphtha, gasoil, jet fuel, kerosene, and fuel oil – making this a very versatile terminal.

Characteristics of VTTI Fujairah Terminal

Capacity (m³): 1 943 000 м³

Number of berths: 11

Number of Tanks: 66

Maximum draught (m): 16.5 m

Contacts

<https://www.vtti.com/terminal/vtti-ftl-united-arab-emirates/>

Al Fujairah Refinery Uniper Energy DMCC

Uniper, headquartered in Düsseldorf, is an international energy company with operations in more than 40 countries. In 2015, Uniper Energy subsidiary DMCC was founded to produce cleaner, low-sulfur marine fuels. Today, it owns and operates two crude oil refineries that produce around 5 million tons of IMO2020 and ECA-compliant marine fuel oil annually.

Since 2021, Uniper also produces biofuel blends for shipbuilding to support its decarbonization strategy.

Uniper currently serves approximately 50% of the local bunker market, with ULSFO, VLSFO, and biofuels produced at the Uniper Energy DMCC refinery.

Uniper sells more than 30 million barrels of low-sulfur fuel oil to the shipping industry.

News from February 16, 2023:

Amid the energy crisis in Europe, German energy company Uniper, to comply with EU state aid legislation, has signed an agreement to sell 100% of its oil refining and marine fuel trading business (Uniper Energy DMCC) located in the United Arab Emirates to a consortium consisting of Montfort Group and local authorities-private office of Sheikh Ahmed Dalmuk Al Maktoum. The sale of Uniper Energy DMCC is one of several post-nationalization conditions that Uniper must meet in exchange for EU state aid approval.

Contacts:

<https://www.uniper.energy/united-arab-emirates>

Al Fujairah Refinery Ecomar

Energy Solutions was created in 2013, and the refinery was launched in April 2020.

ECOMAR Energy Solutions is a fully equipped high-capacity modular refinery with a



400,000 m³ tank terminal, designed for efficient processing of all types of crude oil, recovered oil, and condensates.

Throughput 20,000 barrels per day. Ecomar plans to further increase capacity to 60,000 bpd by early 2022, when low-sulfur fuel oil may be added to the product list.

**Products**

The refinery currently produces gasoline, naphtha, kerosene, gasoil, and straight-run fuel oil.

The refinery has a floating storage facility for petroleum products off Fujairah. Internal storage capacity of 130,000 m³ (1.09 million barrels).

Contacts: <https://www.ecomar.ae/>

The Fujairah V Refinery



Brooge Petroleum and Gas Investment will manage the Fujairah V refinery under construction, which is expected to be built in Al Fujairah, UAE. The non-integrated refinery will be owned by Al Brooge International Advisory and Brooge Energy and is expected to begin operations in 2023.

Technological installations of refineries:

Crude oil distillation unit (mb/d): 25

Vacuum distillation (mb/d): 12

Reforming (mb/d): 5

Hydrotreating unit (mb/d): 14

Subsequent expansion of the Fujairah V refinery will increase its refining capacity by 180 million bpd. The Fujairah V refinery is expected to have a capital investment of \$1,311.84 million between 2021 and 2025.

EORC mini Oil Refinery in Sharjah

Eagle Oil Refining Company LLC (EORC) is an independent refining, production, and trading company whose founders came from London, India, and the UAE. EORC's headquarters and refinery are located in the Emirate of Sharjah.

In 2006 EORC decided to commission a mini refinery with vacuum distillation technology, which is located in the emirate of Sharjah in the Hamriyah Free Zone on 10 000 sq. ft. with a total primary refining capacity of 0.3 million tons of crude oil per year.

Refining capacity is up to 180 tons per day, which corresponds to about 5,000 tons per month.

The refinery can handle many types of feedstock, including:

1. crude oil/ Crude Oil Slops
2. Condensate Oils
3. Mixed Hydrocarbon Oils
4. Fuel oils / Fuel oils
5. Aromatic and Non-Aromatic Oils
6. Pyrolysis Gasoline Oils

The current refinery load ranges from 50 to 60% and is split between processing our products and processing by third-party producers.

Refined products

Heating oil, gasoil, kerosene, oils, and fuel are sold to buyers in the Middle East and Asia.

There is a storage facility for 3000 metric tons, 9 tanks of different sizes. The storage facility has a special circulation system that allows for the mixing of composite oils.

EORC owns and operates a fleet of modern tank trucks and can deliver products throughout the UAE. We have connections with shipping lines and agents for both FOB and CIF deliveries to buyers anywhere in the world.

Contacts:

http://www.eorc.ae/oil_refining.html

Gulf Petrochem Group refinery in Sharjah



Gulf Petrochem Group is a company operating in the downstream oil and energy sectors with six divisions in oil trading and bunkering, refining, lubricants, oil terminals, bitumen production, as well as shipping and logistics. In 1998 they obtained the rights to commission a refinery in the Hamriyah Free Zone in Sharjah.

Processing capacity: 380,000 tons per year.

Refined products: naphtha, fuel oil, mto, gas oil

Contacts:

<http://www.gpglobal.com/portfolio/refining/>

UAE oil sector outlook

- The UAE plans to increase its crude oil production capacity from 3.5 million bpd to 5.0 million bpd by 2025, but with limited prospects for major discoveries, the UAE's production increase will come almost exclusively from enhanced oil recovery. Recent exploration in the UAE has uncovered several crude oil fields with reserves of 1 billion barrels of oil. EOR techniques have helped the UAE nearly double its proven reserves in Abu Dhabi over the past decade.
- The Fujairah/Fujairah export terminal, which is already the second-largest bunkering port in the world, will significantly expand its storage capacity in the coming years. Plans for the terminal's expansion include several new private tank storage facilities, with an estimated capacity of 42 million barrels by 2023.
- In February 2019, ADNOC Refining contracted with John Wood Group for the preliminary design of a new refinery in Ruwais. The planned refining capacity is 30 million tons per year. In May 2019, ADNOC Refining entered into a refinery design contract with McDermott International Inc.

News March 2023.

Fujairah, the world's third-largest bunkering hub, expects energy companies to set up more refineries in the emirate to produce low-sulfur marine fuel. Demand for low-sulfur fuel oil has been growing since the International Maritime Organization banned ships from using fuel with more than 0.5% sulfur in 2020. Statistics show that Fujairah had a record year for oil cargo volumes in 2022, with some 12,500 ships calling at its coastal anchorage area, so volumes at the port increased by about 10%.

Fujairah's landings averaged 11.47 million barrels (1.81 million tons) per week in 2022, up from 10.26 million barrels (1.62 million tons) in 2021, according to the Fujairah Oil Industry Zone.

Oman

Oman has 5,306,000,000 barrels of proven oil reserves as of 2016, ranking 21st in the world and accounting for about 0.3% of total world oil reserves. Oman produces the equivalent of 7.0% of its total proven reserves annually (as of 2016).

As of 2016, Oman consumes 183,000 barrels per day (b/d) of oil and ranks 57th in the world for oil consumption, accounting for about 0.2% of total world consumption.

Oman produces 1,015,511.57 barrels of oil per day (as of 2016), ranking 21st in the world.

The country exports 87% of its oil production (887,500 barrels per day in 2016). More than 65% of the GDP depends on oil production.



As of 2020, there are two refineries in the Sultanate of Oman: Mina Al Fahal in Muscat and Sohar Refinery, both owned by Oman Oil Refineries and Petroleum Industries Company (now OQ)-an energy investment company headquartered in Muscat, Oman, a wholly owned subsidiary of the Omani government through the Oman Investment Authority. OQ is an abbreviation for "Oman" and "Quality."

OQ's energy activities mainly include exploration and production focused on operating assets, a joint venture in which OQ has acquired interests ranging from 20% to 45% in major oil and gas companies in Oman and beyond, and finally, OQ Gas Network, which owns and operates all Oman Gas Transportation, which includes 4000 km of gas pipelines and transports 37.11 billion cubic meters of gas in Oman. OQ operates in sectors such as energy infrastructure and transportation, refining, petrochemical production, petroleum marketing, and power generation. OQ operates in 17 different countries.

As of June 2022, OQ is producing more than 218,000 barrels of oil per day.

Blocks operated by OQ account for 17% of OQ's total upstream reserves, while the remainder comes from OQ's joint venture with local operating partners, including Shell, Eni, Total in its unexploited assets, Medco, Petrogas, Occidental, and BP(the partnership with BP in Block 61 is the primary supplier of gas to the Sultanate with over 1.5 billion cubic feet of gas per day). In addition, the OQ joint venture has an interest in an international operating partner in the Dunga field in Kazakhstan.

Contacts: <https://oq.com/en>



Suhar/ Sohar I Refinery

The refinery is located in the northern province of Al-Batinah, Oman. It is an integrated refinery that started operating in 2006. Sohar Refinery was established in 2003 to build, commission, and operate a new refinery in Sohar Wilayat, Oman (250 km northwest of the capital Muscat).

The company is 20% owned by the Oman Oil Company and 80% by the Omani government.



Operator: Oman Oil Refineries & Petroleum Industries Co. (Orpic) Company.

The Sohar refinery was designed to refine a blended feedstock consisting of Omani crude oil and atmospheric residues from Oman Refining Company.

The refining capacity is 197,000 barrels per day.

Processing Facilities

Crude oil distillation unit (mbd): 198

Vacuum distillation (mbd): 97

Catalytic Cracking Unit (mbd): 75

Hydrocracking unit (mbd): 66

Hydrotreating unit (mbd): 27

Refined products LPG, regular and premium gasoline, kerosene, jet fuel, diesel, bunker fuel oil, and low-sulfur gasoil. The refinery operates at maximum olefin production to supply 340,000 tons per year of propylene to the polypropylene plant in Oman. About 10% of the petroleum products are sold locally, and the remainder is exported.



The refinery is also used to treat (desulfurize) fuel oil produced at Mina Al Fahal, the crude oil export terminal in Muscat. A 266-kilometer pipeline was also built to transport fuel and crude oil from the Mina Al Fahal facility to the refinery, at an estimated cost of \$175 million.

Integrated petrochemical plants

A number of other production facilities have been built at the refinery site to use feedstock from the refinery. The Oman Polypropylene Plant (OPP), a joint venture of Oman Oil Company, LG Engineering, and ABB Lummus, cost \$200 million and was built in parallel with the Sohar refinery. It can produce 327,000 tons of propylene per year.

Mina Al Fahal Refinery



The refinery is located in Mina Al Fahal near Muscat.

Refining capacity: 106,000 barrels per day

Operator: Oman Oil Refineries & Petroleum Industries Co. (Orpic) Company



The Mina Al - Fahal refinery began operations in 1982 and is connected to the Sohar refinery by a 266-kilometer pipeline.

Refined products:

Liquefied petroleum gas, regular and premium gasoline, kerosene, jet fuel, diesel fuel, bunker fuel oil, and low-sulfur gas oil.

The refineries take feedstocks, chief among which is Omani crude oil, and refine them to create several imported fuels and petrochemical products.

Crude oil and refined products are loaded onto tankers at the port of Mina Al Fahal through subsea pipelines and SBM (Single Buoy Mooring) systems. Two SBMs are owned by PDO for crude exports and the third is owned by SOM.

Current projects in the Sultanate of Oman



Duqm Refinery / Duqm Refinery

In 2017, a joint venture between Kuwait Petroleum International and OQ was announced to develop Duqm Refinery & Petrochemical Complex.

As of November 2022, Kuwait Petroleum International announced that the project is 95% complete and the Duqm refinery is expected to start commercial operation by the end of 2023, while the refinery has postponed completion of the coke processing unit and construction of the petrochemical complex.

The Duqm refinery will operate as a commercial refinery. As such, it will be designed to process a range of available Middle Eastern blended crudes with light to heavy API gravity, as well as more acidic crude blends with high SCC. The refinery will consist of various process units, including hydrocracking, hydro treatment, delayed coking, sulfur regeneration, hydrogen production, and a merox treatment unit. The petrochemical complex will include a steam cracker as well as production facilities for hydrogen, synthesis gas, methanol, and other petrochemical products.



The facility will use a total of eight crude oil storage tanks with a capacity of 550,000 barrels each at Ras Markaz. An 80.7 km long, 28-inch diameter underground pipeline will be constructed to export blended crude oil from the Ras Markaz crude storage tanks to the Duqm refinery.

The project also includes the construction of an export terminal at the northern end of the Duqm port. The export terminal will include storage tanks, sheds, and petroleum product handling equipment.



Production capacity: 230,000 barrels per day

Production Products: Diesel fuel, jet fuel, naphtha, sulfur, petroleum coke, and liquefied petroleum gas.

Operator:

Duqm Refinery and Petrochemical Industries Company (DRPIC) will be the refinery operator. DRPIC is a joint venture on an equal footing between OQ, a company wholly owned by the Omani government, and Kuwait Petroleum International (KPI), a subsidiary of Kuwait Petroleum Corporation. The refinery is located in an economic zone in Duqm, on a 9 square kilometer plot on the Arabian Sea coast in Al Wusta Province in Oman, about 600 kilometers south of the capital Muscat.

The feedstock supplied to the Oman refinery will consist of 65% Kuwaiti oil and 35% Omani oil, as it is planned to be stored in a storage facility that Oman is currently building as part of the Ras Markaz project for crude oil (construction of the Ras Markaz oil storage facility began in 2018 by Oman Tank Company (OTCO) and is expected to be officially operational soon, the Sultanate of Oman aims to make Ras Markaz the largest oil storage facility in the Middle East).

Contacts: <https://www.q8.com/>

Saudi Arabia

Saudi Arabia's proven crude oil reserves in 2021 were 267.192 million barrels. The country added six additional rigs, bringing the total number of active rigs in 2021 to 65. Saudi Arabia's total production rose 11.7% in 2021 to 9.125 million bpd from 8.166 million in 2010.

The kingdom is producing significantly more, with production averaging 10.45 million bpd in April, according to a Platts survey of OPEC+ producers in June. The country increased production in line with OPEC+ supply expansion guidelines. Nevertheless, the expanded volume is still below the quota of 10.549 million bpd.

The largest fields at the end of 2018 are Ghawar (58.3 billion barrels), Saffania (34 billion barrels), Zuluf (31.3 billion barrels), Khurais (21.4 billion barrels), Shaiba (14.9 billion barrels), and Abkayk, Berri, Manifa, Abu Safa, Fereydoon Marjan, Katif.

Саудовская Аравия потребляет 3, 302 млн баррелей в день нефти по состоянию на 2016 год, занимая 6-е место в мире по потреблению нефти, на ее долю приходится около 3,4%.

Saudi Arabia is the world's largest oil exporter, exporting about 60 percent of its oil production, as well as OPEC's largest oil producer and second only to the United States globally.

Oil&Gas data shows that Saudi Arabia's oil production in 2022 will be about 10.6 million bpd, up from 10.716 million bpd in 2021.

Thanks to the surge in oil prices since last year, Saudi Arabia has made large profits from crude oil sales: oil revenues in 2021 were about \$205.97 billion, up from \$119.3 billion in 2020.



Aramco is Saudi Arabia's national oil company. One of the largest oil companies in the world in terms of oil production and the size of oil reserves, it accounts for about 12% of the world's oil reserves, 10% of its production, and 14% of its exports. It is the source of up to 80% of Saudi Arabian budget revenues.

Its headquarters is located in Dhahran. In the Forbes Global 2000 list of the world's largest companies for 2021, it ranked 5th (12th by revenue, 3rd by net income, 84th by assets, and 3rd by market capitalization). Aramco's refining operations are carried out in the Kingdom and abroad at its own, and subsidiary refineries. Aramco's refineries in the Kingdom, both wholly owned and affiliated, obtain crude oil from Aramco production.

Aramco's current refining capacity is 5.4 million barrels per day (860,000 m³ / day) (International Joint Ventures and Equity: 2,500 million barrels per day (400,000,000 m³ / day), domestic joint ventures: 1,900 million barrels per day and wholly owned domestic operations: 1,000 million barrels per day (160,000,000 m³ / day) (2017 data).

The company controls oil and natural gas production in the country and owns modern oil and gas refineries. The company has branches, joint ventures, and subsidiaries in China, Japan, the Philippines, the Republic of Korea, Singapore, the United Arab Emirates, the USA, and the UK. The company owns a fleet of modern supertankers.

Aramco has five wholly-owned refineries in the Kingdom, three of which were built specifically to supply the domestic market with transportation and municipal fuels. Total refining capacity is 4 million barrels per day and the company has refineries in Saudi Arabia (64% of total volume), the US, Argentina, Brazil, Canada, Mexico, Austria, Belgium, the UK, Germany, Italy, Spain, the Netherlands, Turkey, Bahrain, India, Malaysia, Singapore, Thailand, the PRC, Japan, and South Korea.

The company owns a network of pipelines in Saudi Arabia connecting oil production sites with ports on both the east and west coasts of the country, with a capacity of 9.6 billion cubic feet (272 million cubic meters) per day. It also owns a 15% interest in the Sumed pipeline, which connects Persian Gulf fields to the Mediterranean Sea via Egypt.

Aramco ships products to more than 17,000 stations worldwide, of which 5,300 are in the United States, more than 5,200 in China and South Korea, 6,500 in Japan, and 270 in Saudi Arabia.

List of domestic refineries:

- **Jazan Refinery and Terminal Projects (JRTP)**
- Jeddah Refinery (78,000 barrels per day (12,400 m³/d)) Jeddah converted to a storage terminal in November 2017
- Ras Tanura Oil Refinery.
- Saudi Aramco Jubail Refinery Co. (SASREF), Jubail
- Riyadh refinery
- Yanbu Refinery

List of domestic oil refineries:

- Saudi Aramco Mobile Refinery Co. Ltd. (SAMREF), Yanbu
- Petro Rabig, Rabig.
- Saudi Aramco Base Oil Co.

- Saudi Aramco Total Refining and Petrochemical Co. (SATORP), Jubail
- Yanbu Aramco Sinopec (YASREF), Yanbu Refinery

Main refining products:

LPG, naphtha, gasoline, jet fuel/kerosene, diesel fuel, fuel oil, and asphalt.

Jazan Refinery Complex

Construction of the refinery and terminal began in 2014. Aramco Jazan is a fully integrated refining and petrochemical complex located 80 km from the city of Jazan, in the far southwest of the Kingdom. It covers an area of 12 square kilometers. The Jazan refinery and terminal are part of a project launched by Saudi Aramco to create the largest gas-fired power plant in the world, which will use gasification technology and be powered mainly by vacuum distillation residues from the refinery and high-sulfur fuel oil. The complex will meet the refinery's power needs, and a significant amount of energy will be exported to the national grid.

The refining capacity is up to 400,000 barrels per day.

Refines Arabian Heavy and Arabian Medium crudes.

Available: The North Tank Farm and loading facilities, the South tank farm consisting of Tanks 1-7, and auxiliary facilities for crude oil storage.

In mid-December 2021, Saudi Aramco announced the start of operation of the Jazan Refinery at half of its capacity (50%).

This full-conversion refinery, when fully operational, is planned to have a broad portfolio including gasoline and ultra-light sulfur diesel (ULSD) as well as benzene and paraxylene. It is expected to serve as feedstock for the Integrated Gasification Combined Cycle Plant (IGCC), which generates electricity and technical gases. IGCC is the largest plant of its kind in the world and is capable of producing up to 3.8 GW.



Construction of the Dzhazan refinery took about 8 years, and it is expected to produce about 75,000 bpd of gasoline, 250,000 bpd of low-sulfur gasoline, and 90,000 bpd of vacuum distillation waste once it reaches its design capacity.

Ras Tanura Oil Refinery

The Ras Tanura refinery began operations in 1945.

Refining capacity: 550,000 barrels per day.

Products: LPG, naphtha, gasoline, jet fuel (kerosene), diesel fuel, fuel oil, and asphalt.

Processing units: The refinery includes a crude distillation unit, a gas condensate unit, a hydrocracking unit, and a catalytic reforming unit.



The Ras Tanur plant supplies large volumes of bunker fuel, which is used by tankers that ply the world's shipping lanes and "drop off" crude oil and petroleum products at Aramco docks in Saudi Arabia.



Saudi Aramco Jubail Refinery Company (SASREF)



Saudi Aramco Jubail Refinery Company (SASREF) is a Saudi company wholly owned by Saudi Aramco. The refinery is located in the industrial city of Jubail. The refinery processes crude oil into petroleum products for both local and international markets.

The refinery has a **production capacity** of 305,000 barrels per day.

The main products are liquefied petroleum gas (LPG), naphtha, kerosene, diesel fuel, fuel oil, and sulfur. **Contacts:**

<https://www.sasref.com.sa/about.html>

Riyadh Refinery

The refinery is focused on processing Saudi heavy crude oil delivered through the East-West pipeline.

Refining capacity: 126,000 barrels per day.



Range of products: gasoline, diesel fuel, asphalt, sulfur.

The Refinery has **technological units:**

- vacuum distillation with 40th. barrels per day capacity,
- hydrocracking with 30,000 barrels per day capacity
- catalytic reforming with 30,000 barrels per day capacity, etc.

Saudi Aramco Yanbu Refinery



Yanbu Refinery is Saudi Aramco's privately owned refinery operating in the fuel and petrochemicals sector. Saudi Arabian Oil operates the Yanbu I Refinery located in Medina, Saudi Arabia. It is a non-integrated refinery that began operations in 1983.

Refining capacity: 250,000 barrels per day.

Distillation unit:

Crude oil (mb/d): 250

Hydrocracking unit (mb/d): 40

Reforming unit (mb/d): 90

Hydrotreating unit (mb/d): 35

Saudi Aramco Mobile Refinery Co. OOO (SAMREF) Company, Yanbu

Refining capacity: 400,000 barrels per day



The storage capacity is 13.2 million barrels, which is relatively small because of the extensive use of inline blending of products on ships.

Refinery yield percentages are as follows: 3% LPG and Other, 15% Jet Fuel, 17% Marine and Other Fuel Oil, 30% Heating Oil and Diesel, 35% Gasoline

Refinery plants:

- Crude Unit
- Vacuum UnitVisbreaker
- Isomerization Unit

- Fluid Catalytic Cracking
- Naphtha Hydrotreater
- Continuous Reformer
- Catalytic Hydrodesulfurisation
- Amine, Sulfur Recovery, and Prilling Unit
- Alkylation Unit
- Saturated and Unsaturated Gas Plants
- MTBE Unit
- Hydrisom Unit

Contacts: <https://www.samref.com.sa/>

Rabigh Refining & Petrochemical Company (Petro Rabigh)

A Saudi Arabian company engaged in the production and sale of refined hydrocarbons and petrochemicals. It was founded in 2005 as a joint venture between Saudi Aramco and Sumitomo Chemical of Japan and is a refining and petrochemical complex.



The refinery initially produced 18.4 million tons per year of petroleum products and 2.4 million tons of ethylene and propylene-based derivatives used in such end products as plastics, detergents, lubricants, resins, coolants, antifreeze, paint, carpet, rope, clothing, shampoo, automotive interiors, epoxy, insulation, film, fiber, household appliances, packaging, candles, pipes and many more.

Petro Rabigh II is a \$9 billion expansion project that reached full capacity by Q4 2017 and provided a wide range of new value-added products. It is considered the first producer of many petrochemical products and the only producer of propylene oxide in the Middle East.

Refining capacity: 400,000 barrels per day

Petro Rabigh now produces 140 million barrels of petroleum products and 5 million tons of petrochemicals per year, with ethane gas processing capacity recently increased to 1.6 million tons per year.

The refinery produces a variety of refining and petrochemical products such as heavy and light oil, naphtha, and kerosene.

Contacts: <http://www.petrorabigh.com/>

Saudi Aramco Base Oil Co. (Luberef)

Saudi Aramco Base Oil Co. (Luberef) is the oil refining division of Saudi Aramco, a Saudi state-owned company.



Luberef is the operator of two refineries on the west coast of Saudi Arabia that produce a wide range of petroleum products.

Founded in 1976 in Jeddah, Luberef was originally established as a joint venture between Petromin and Mobil as a pioneer in the base oils sector.

1997: The Yanbu plant was commissioned with an initial production capacity of about 300,000 tons of Group I base oils, increasing the total capacity to 560,000 tons.

2017: The expansion of the Yanbu plant enabled Luberef to produce Group II base oils for the first time in Saudi Arabia.

2021: The total production capacity of both facilities reached 1.3 million tons of Group I and Group II base oils.

Today, Saudi Aramco Base Oil Company (Luberef) converted to a public company listed on the Main Market of the Saudi Exchange.

Luberef is one of the world's leading suppliers of high-quality base oils and the only virgin base oil producer in the Kingdom of Saudi Arabia.

From two facilities, strategically located on the maritime Silk Road in Yanbu and Jeddah, have a combined capacity to produce 1.3 million metric tonnes per annum of base oils.

From light vehicles such as passenger cars to more heavy goods vehicles such as buses and earthmovers, base oils are used in a wide range of applications and help power functions such as gear oils and transmission fluids.

Base oils are crucial in many industries where hydraulic, turbine, and transmission fluids are required for production equipment, e.g. in the steel, food, textile, and clothing industries.

Products: Three categories of base oils: aramcoDURA (group I base oils), aramcoPRIMA (group II), and aramcoULTRA (group III), various by-products.

Contacts: <https://www.luberef.com>

Yanbu Aramco Sinopec (YASREF) Refinery, Yanbu

Saudi Aramco, an international oil company based in Saudi Arabia and China's Sinopec in western Saudi Arabia on the Red Sea coast in Yanbu, built a 400,000 bpd full conversion refinery in 2016. Yanbu is an important port on the Red Sea in Saudi Arabia's al-Madinah province.



The refinery is valued at \$12 billion and has an area of 5.2 million square meters. It was opened in January 2016 and is Saudi Aramco's second refinery in Yanbu.

The Yanbu refinery produces high-quality, ultra-low-sulfur products that meet U.S. and European specifications.

The product range includes:

gasoline, diesel, petroleum coke, benzene, butane, propane, and sulfur.

The refinery is designed to refine Arab Heavy crude oil produced at the Manifa field.

Yanbu Refinery produces 105,000 bpd of gasoline, 287,000 bpd of ultra-low sulfur diesel, 6,200 tons of petroleum coke per day, 1,200 tons of granulated sulfur per day, 3,000 bpd of benzene, 6,000 bpd of propane, 16 bpd of butane.

Contacts:

<https://www.yasref.com/en-us/Pages/About.aspx>

Saudi Aramco Total Refining and Petrochemical Co. (SATORP), Jubail

In June 2014, Saudi Aramco built another refinery in Jubail in partnership with Total (Saudi Aramco (62.5%) and TotalEnergies). The Jubail refinery is environmentally friendly and produces most of its light products from heavy crude oil. The refinery is one of the most advanced refineries in the world.

The Jubail refinery processes crude oil from the Manifa offshore field. The field was commissioned in June 2014.

Refining capacity: 440,000 barrels per day.



The facility is capable of refining heavy crude oil with high sulfur content, which is particularly difficult to refine, into high-value-added products. The refinery uses a full range of **process units** for this purpose, including:

- Two distillate hydrocracking units to convert heavy oil fractions into lighter products with ultra-low sulfur content.
- Fluidized bed catalytic cracking unit, which produces a wide range of products, including very light hydrocarbons such as propylene and liquefied petroleum gas (LPG).
- Coking unit ("coking" is a thermal process used to convert heavy fractions into light petroleum products and coke)

Since 2018, annual production has been about 22 million tons of petroleum products, including 700,000 tons of paraxylene, 150,000 tons of benzene, and 200,000 tons of high-purity propylene.

Contacts:

<https://www.satorp.com/>

Prospects for the Development of Saudi Arabian refining capacity

According to OPEC's latest annual statistical bulletin, Saudi Arabia's refining capacity grew 13.7% in 2021, one of the largest increases among comparable countries, as the world's largest crude oil exporter continues to expand its refining capacity. Saudi Arabia's refining capacity is scheduled to reach 8 million to 10 million bpd by 2030.

Aramco is interested in China's refining sector because it hopes to lock in demand for its oil in Asia's largest economy.

On March 10, Saudi Aramco decided on a 300,000 bpd refining and petrochemical project in northeast China.

The company also plans to build a \$44 billion integrated refining complex with Abu Dhabi National Oil Company in Ratnagiri on India's west coast.

According to the OPEC Statistical Bulletin, Saudi Arabia also posted the highest growth in petroleum products production, rising 17% to 2.548 million bpd in 2021 from 2.177 million bpd in 2020. The product growth comes amid intensified efforts to capture the growing product and feedstock market in Asia.

Contacts:

<https://www.aramco.com>