



Market Overview

Gulf Oil

Abbas Al-Azawi
Alexis Baeriswyl
Valery Sikorskiy

Haute École de Gestion de Genève
Commodities Trading Concentration Program
2020-2021

1. Presentation of the commodity

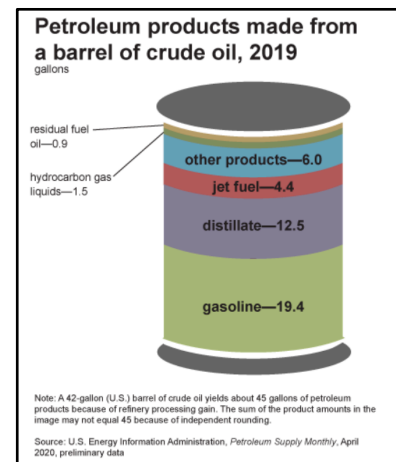
From the historical point of view, the oil consumption exploded in the midst of the 19th century during the Industrial Revolution which took place in Europe and North America. Initially, the increasing energy requirements were mainly met by coal but the interest in oil intensified throughout the world with the first drilling located in Russia, Europe, and North America. In United States, this phenomenon caused a rush for black gold making the country, first oil producer in the world. At the beginning of the 20th century, the demand for oil drastically increased with the development of the automobile, the ship engines, and the aviation boom during WW1. Since then, the demand is constantly growing.

Gulf oil, like any other oil, is one of the most important sources of energy. The different sources can be divided in two basic categories:

- Renewable energies such as solar energy, wind energy and geothermal energy or hydropower energy.
- Non-renewable energies such as natural gas, coal, petroleum or nuclear energy.

These energies are used for different purposes. Having access to energies is strategic and absolutely vital for the proper functioning of various sectors like industry, transports, commerce or residency.

It is necessary to distinguish between crude oil and petroleum products. Crude oil is extracted from the earth. It is composed of mixtures of hydrocarbons, formed by the remains of animal and plants that lived millions of years ago. Over time, these remains were covered by sand, silt and rocks. Under heat and pressure, these remains turned into crude oil. The petroleum products are different parts of crude oil after refining. Among the refined products there is gasoline, diesel, jet fuel, lubricating oils, asphalt, etc. The illustration on the right shows different types of refined products that can be extracted from a barrel of crude oil.



As mentioned before, petroleum products are consumed all over the world, to satisfy high demands of the following main sectors: commerce, industry and the transportation. This is not an exhaustive list, but it brings out the fact that most important and the largest worldwide consumer is the United-States and its biggest petroleum consumption sector is the transportation (68% of the total US consumption in 2019).

For the preparation of this report, we mainly focused on Gulf Oil. This oil is produced in the following countries: Bahrain, Kuwait, Iran, Iraq, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates and Yemen. It will go in the depth of Gulf oil produced by these countries.

2. Market structure

a. Key drivers and Influences

One of the biggest influences in the oil market is OPEC. These letters stand for "Organization of the Petroleum Exporting Countries". OPEC has 14 members including most of the Gulf countries but not countries like the USA or Russia. The organization's mission is to regulate the production and the price of oil. As a result, a quota system has been put in place. According to their respective reserves and the needs of the consumer countries, the quotas are adapted. OPEC's decisions have strong influence on the oil price, but these decisions are not limited to quotas. OPEC can also set up embargoes as they did in 1975. However, as shown in the graphs below, the OPEC's quotas are not always respected. When the dispute between Saudi Arabia and Russia broke out at the end of November 2019, Saudi Arabia took the liberty of increasing its production to put pressure on Russia by lowering the prices on the market.

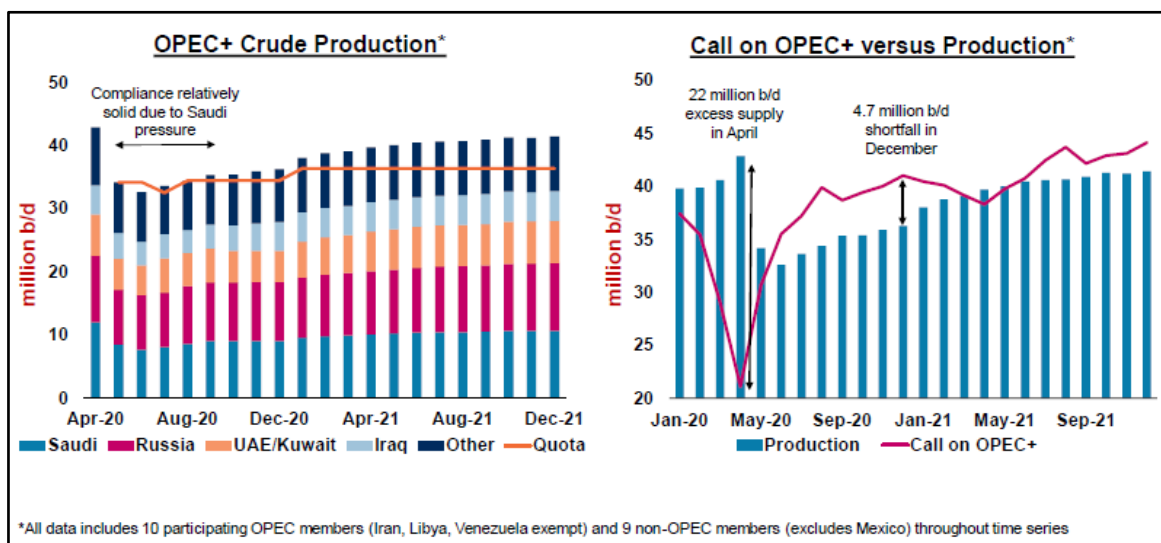


Figure 1: OPEC Monthly Oil Market Report, August 2020

It is important to note that all economic and political events related to producing or consuming countries can have an impact on oil prices. Also, any major economic event also impacts oil prices. Here are two examples to illustrate this point. The first one concerns possible lifting of the oil blockade in Libya in the coming weeks or months. The second one is the Coronavirus crisis that triggered a state of public health emergency on the international level at the end of January 2020.

Since the beginning of 2020, there is an oil production blockade which prevents Libya from producing oil. On the other hand, if the blockade can be lifted, it would increase the oil supply and thus lower the price of oil. We therefore understand that major event such as blockades or embargoes on producing countries can have major impact on oil trade.

In the year 2020, we have seen a major impact on the global economy caused by the coronavirus crisis. Indeed, the global shutdown and the many restrictions have sharply reduced the demand for oil. This has caused a one-third drop in global demand, leading to a strong imbalance between supply and demand. Thus, in May 2020 and for the first time in history, the price for WTI fell below zero. On the graphs below, we can see the negative growth

forecasts, both for the global oil supply (-3.13%) and demand (-8.31). This trend is likely to continue until 2021.

MMB/D	REVISIONS VS LAST MONTH			ANNUAL GROWTH		
	2019	2020	2021	2019	2020	2021
UNITED STATES	0.01	(0.02)	(0.04)	1.65	(1.17)	(1.13)
CANADA	0.00	(0.02)	(0.01)	0.31	(0.27)	0.35
MEXICO	0.00	0.00	0.00	(0.14)	(0.03)	(0.04)
NORTH SEA	0.00	0.05	0.00	(0.10)	0.22	0.00
FSU	0.00	(0.01)	(0.07)	0.08	(1.13)	0.90
CHINA	0.00	0.02	0.03	0.11	0.08	(0.09)
OTHER*	(0.02)	0.04	0.02	0.41	(0.81)	0.61
TOTAL**	(0.01)	0.06	(0.08)	2.33	(3.13)	0.60

* Includes OPEC NGL/Condensate
 ** Gabon, Equatorial Guinea, Congo included and Indonesia, Qatar, and Ecuador excluded from OPEC for all years shown.

Figure 2: OPEC Monthly Oil Market Report, August 2020

MMB/D	REVISIONS VS LAST MONTH			ANNUAL GROWTH		
	2019	2020	2021	2019	2020	2021
UNITED STATES	0.07	(0.08)	(0.15)	0.03	(2.24)	1.94
WESTERN EUROPE	(0.32)	(0.27)	(0.23)	(0.09)	(1.55)	1.00
JAPAN	(0.05)	(0.07)	(0.06)	(0.14)	(0.35)	0.03
OTHER INDUSTRIAL	0.00	(0.03)	0.02	(0.16)	(0.35)	0.15
LESS DEVELOPED	(0.01)	(0.13)	(0.08)	0.27	(3.36)	2.41
FORMER SOVIET UNION	0.16	0.18	0.16	0.12	(0.32)	0.20
EASTERN EUROPE	(0.05)	(0.06)	(0.07)	0.03	(0.12)	0.04
CHINA*	0.01	0.09	(0.01)	0.71	(0.01)	0.47
TOTAL	(0.19)	(0.37)	(0.43)	0.78	(8.31)	6.24

* Demand numbers represent real, end-use demand for all countries.

Figure 3: OPEC Monthly Oil Market Report, August 2020

b. Key players, consumers and logistics

As we can observe on the graphic below, since 1994 the key players have evolved a lot. Currently, the Middle East is the dominant oil producer with approximately 30 million barrels per day. Thus, the Gulf oil is the most produced in the world.

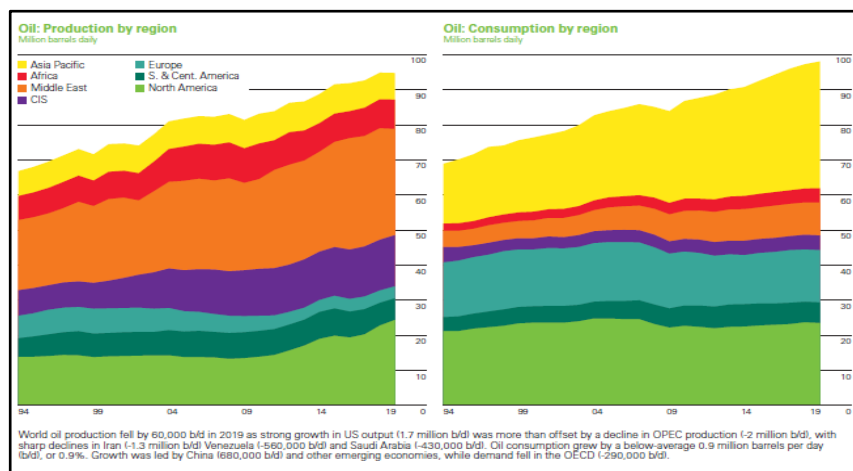


Figure 4: BP Stats Review 2020

There are 2 main reasons that explain how the Gulf countries manage to dominate the world in the oil sector. First of all, the Gulf region has many oil fields, which allows a very high production capacity. As shown in the graph below, almost half of the known oil reserves are located in the Middle East. Indeed, in the last 20 years (from 1999 to 2019), this proportion has hardly changed.

Furthermore, if Middle East countries need additional cashflow, and as there are important oil reserves, they also have the possibility to lower their margins in order to sell more and generate more liquidity.

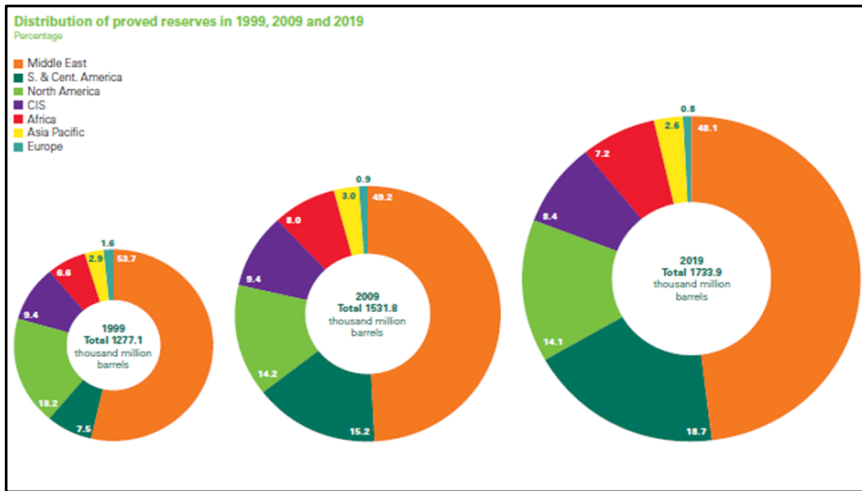


Figure 5: BP Stats Review 2020

The second reason is that the Gulf oil cost of production per barrel is very low in comparison with the rest of the world. Indeed, as shown in the graph below, the UK barrel is about 4 times more expensive than the barrel from Saudi Arabia.

This can be explained by the fact that the oil fields are mostly located near the surface of the earth. This implies lower costs for drilling activities and therefore a positive impact on margins. Thus, Middle East oil companies such as Aramco manage to survive with lower sell prices per barrel in comparison with other producing countries like United Kingdom (which has the highest cost of production per barrel). Aramco is the world's largest oil producer and the world's most profitable company. In fact, it provides 10% of the world's oil supply.

In particular, it is interesting to note that, despite the large difference in production costs per barrel between the different countries, the cost of transport and administration remains similar for all producing countries (see graph below). This clearly indicates that the difference in production costs is mainly due to other activities, such as drilling.

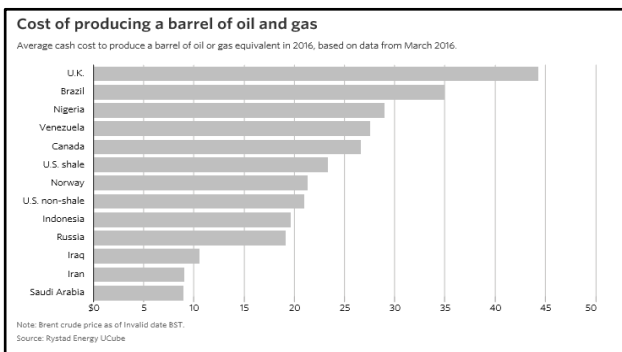


Figure 7: BP Stats Review 2020

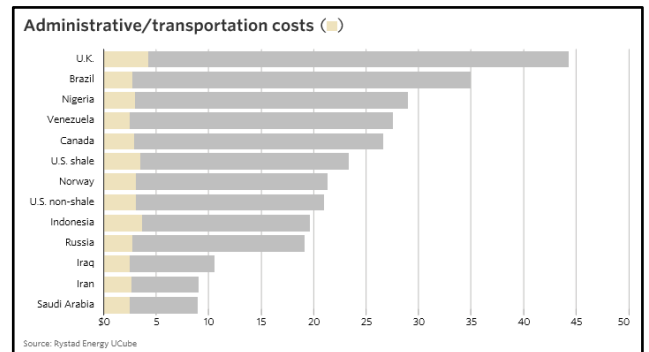


Figure 6: BP Stats Review 2020

- Marine transport: It is the cheapest mode of transport used for international export. The most commonly used vessels are barges and tankers. However, for refined petroleum products, smaller vessels are used.
- Rail: Rail transportation is used if pipelines can no longer be used because of their capacity or because oil must be transported to hard-to-reach locations.
- Truck: It is the most expensive and inefficient mode of transportation. It is used if pipelines or rail networks are not available or for the last few kilometers. Moreover, the capacity of a truck is between 200 and 250 barrels, which is highly insufficient.

4. Price

a. How is it determined and influenced?

Like most commodities, the fundamental driver of oil price is market supply and demand. The supply comes from the companies which extract the crude oil. The demand is driven by the different types of consumers. The needs of the consumers are reflected by traders activities who operate on behalf of their clients. Thus, the activities of traders on the market also influence oil price.

An oil shipment may sometimes change ownership several times before it is delivered, as a trader may seek to make short-term profit. The market in which these physical transactions occur is called "spot market". There is also a special market where investors aim to make profit by speculating on price volatility. Their objective is to resell before the physical delivery take place. From then on, the fundamentals of the oil market can be distorted up or down.

As mentioned before, the prices are also influenced by OPEC (Organization of the Petroleum Exporting Countries). Its decisions impose to the member countries quotas for oil production. In doing so, the objective is to keep barrel prices sufficiently high. The political situation of the producing or consuming countries can also influence the price.

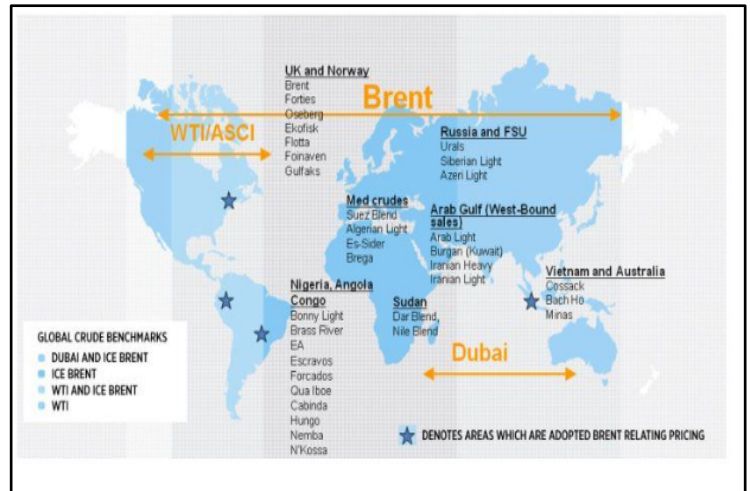
In view of the above, we can affirm that the price of oil is strongly linked to the global economy. If the economy is doing well, incomes increase, people consume more, and the price of oil rise and vice versa.

b. Different prices worldwide

Crude oil prices are determined on a pool-by-pool basis, premium or discounted based on the 3 benchmarks detailed below. There are different ranges of prices and even within one country, there are several different prices. Crude oil can be classified depending on its chemical characteristics, including its density, measured in API degrees, and its sulphur content. For the ease of use and liquidity, oil is often compared to WTI or Brent with their continuous quotation.

Figure 9: OPEC report, septembre 2020

There are 2 main types of oil, used as oil price references worldwide. The first one is the West Texas Intermediate (WTI). It is produced in the United States and it serves as reference for the US. The second one is Brent and it refers to oil produced in the North Sea. In comparison to WTI, Brent is a reference used worldwide. But there are also other oil references, such as Dubai Fateh that refers to the oil produced in the Persian Gulf. The map on the right illustrates the three oil references as well the part of the world where these are used.



On the graph below, we can observe that the 3 price references are very similar as well as their evolution.



Figure 10: Bloomberg

c. Cost curves

As mentioned in the previous section, three benchmarks stand out. It is explained by the fact that they all are linked to same future market.

These three major markets are contango which means that the futures prices are higher than spot price. The trading is done from premium to the spot price. Contango can be explained by the cost of storage, insurance costs, financing etc... Commodities traders can make money with contango even when the market crashes, as it was the case in March 2020. This market crash was due to the oversupply because of the COVID-19 consequences. To make money in the bearing market, the trader must control the infrastructures and the whole deal from the spot price till the delivery. We can consider that traders have an incentive to store oil and sell it in future.

The opposite situation would be when we can observe the backwardation curve. In other terms, it is the situation when futures prices are lower than spot prices. In these circumstances, the traders are looking to sell oil. It is often a bullish sign as traders want to sell

oil directly because prices could decrease in future and that means the economic cycle is turning well and oil is not being stored.

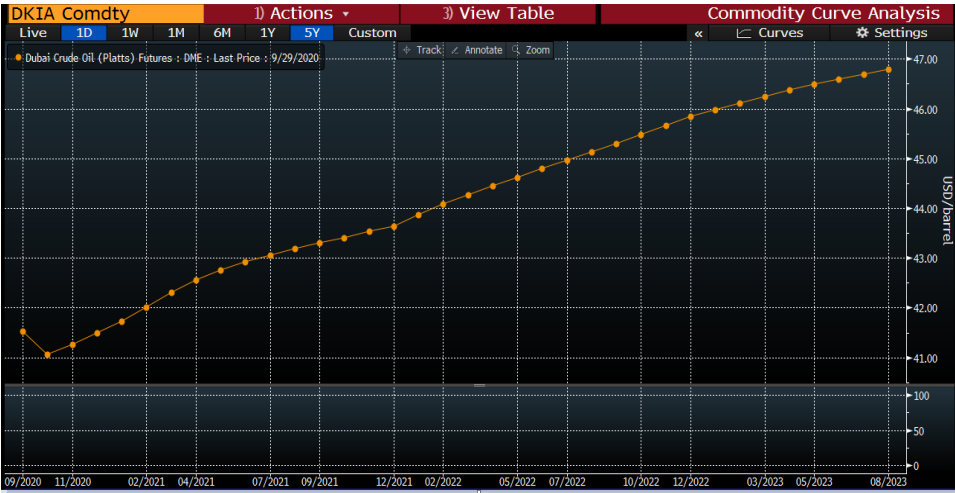


Figure 11: Bloomberg, Dubai Fateh

References

Your guide to understanding energy, Energy Explained, EIA, [no date]. [online]. [Viewed 1 October 2020]. Available from:

https://www.eia.gov/energyexplained/index.php?page=oil_homem

Petroleum - summary of the modern history of oil, Geo History, 2 Mars 2019. [online]. [Viewed 30 September 2020].

Available : https://www.youtube.com/watch?v=xMQUGSrnbP8&ab_channel=GeoHistory

Rasoul Sorkhabi, Ph.D., How Much Oil in the Middle East?, Geoexpo, 2014, [online].

[Viewed 30 September 2020]. Available <https://www.geoexpo.com/articles/2014/02/how-much-oil-in-the-middle-east>

The Biggest Saudi Oil Field Is Fading Faster Than Anyone Guesed, Bloomberg, 3 April 2019. [online]. [Viewed 1 October 2020]. Available

<https://www.bloomberg.com/news/articles/2019-04-02/saudi-aramco-reveals-sharp-output-drop-at-super-giant-oil-field>

The Biggest Oil Producers in the Middle East, Investopedia, 8 November 2019. [online]. [Viewed 1 October 2020]. Available

from: <https://www.investopedia.com/articles/investing/101515/biggest-oil-producers-middle-east.asp>

Oil in Motion: Visibility into Crude Oil Transportation, 1 November 2019. [online]. [Viewed 1 October 2020]. Available from: <https://www.breakthroughfuel.com/blog/oil-in-motion-visibility-into-crude-oil-transportation/>

Statistical Review of World Energy, BP, 2020, 69 edition, [online]. [Viewed 30 September 2020]. Available: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>

« ARAMCO: Saudi Arabia Stock Quote - Saudi Arabian Oil Co - Bloomberg Markets ». Viewed 1 october 2020. <https://www.bloomberg.com/quote/ARAMCO:AB>.

« Barrel Breakdown - WSJ.com ». Consulté le 30 septembre 2020. <http://graphics.wsj.com/oil-barrel-breakdown/>.

« Barrel Breakdown - WSJ.com ». Consulté le 30 septembre 2020. <http://graphics.wsj.com/oil-barrel-breakdown/>.

« Crude Oil Marketwire | S&P Global Platts ». Consulté le 30 septembre 2020. <https://www.spglobal.com/platts/en/products-services/oil/platts-crude-oil-marketwire>.

« Crude Oil Marketwire | S&P Global Platts ». Consulté le 30 septembre 2020. <https://www.spglobal.com/platts/en/products-services/oil/platts-crude-oil-marketwire>.

« DME ». Viewed 1 october 2020. <http://www.dubaimerc.com/>.

« Dubai Crude Oil (Platts) Financial Futures Quotes - CME Group ». Viewed 1 october 2020. https://www.cmegroup.com/trading/energy/crude-oil/dubai-crude-oil-calendar-swap-futures_quotes_globex.html.

« Asia Pacifica forecast – S&P Global Platts.pdf ». Viewed 1 october 2020.
TradingView. « Free Stock Charts, Stock Quotes and Trade Ideas ». Viewed 1 october 2020. <https://www.tradingview.com/>.

« Methodology & Specifications | S&P Global Platts ». Consulté le 30 septembre 2020. <https://www.spglobal.com/platts/en/our-methodology/methodology-specifications/oil>.

« Oil Price Charts | Oilprice.com ». Viewed 1 october 2020. <https://oilprice.com/oil-price-charts/>.

Statista. « OPEC Oil Prices 1960-2020 ». Viewed 1 october 2020. <https://www.statista.com/statistics/262858/change-in-opec-crude-oil-prices-since-1960/>.

« Russia vs Saudi: How much pain can they take in oil price war? | Reuters ». Viewed 1 october 2020. <https://www.reuters.com/article/us-opec-oil-policies/russia-vs-saudi-how-much-pain-can-they-take-in-oil-price-war-idUSKBN20W21S>.

« US Energy Information Administration.pdf ». Viewed 1 october 2020.
« Snapshot ». Viewed 1 october 2020. <https://www.cmegroup.com/education/courses/introduction-to-ferrous-metals/what-is-contango-and-backwardation.html>.

« Snapshot ». Consulté le 30 septembre 2020. <https://www.tradingview.com/>.

« Snapshot ». Consulté le 30 septembre 2020. <https://www.dubaimerc.com/>.

« The Oil Market Is Flirting With Backwardation. It's a Bullish Sign. | Barron's ». Viewed 1 october 2020. <https://www.barrons.com/articles/the-oil-market-contango-backwardation-futures-prices-coronavirus-51590082861>.

« The Oil Market Is Flirting With Backwardation. It's a Bullish Sign. | Barron's ». Viewed 1 october 2020. <https://www.barrons.com/articles/the-oil-market-contango-backwardation-futures-prices-coronavirus-51590082861>.

« What Is Contango and Backwardation - CME Group ». Viewed 1 october 2020. <https://www.cmegroup.com/content/cmegroup/en/education/courses/introduction-to-ferrous-metals/what-is-contango-and-backwardation.html>.

« Where OPEC+ Oil Production Stands Now ». Viewed 1 october 2020. <https://www.bloomberg.com/graphics/opec-production-targets/>.