

US oil price plummets: What does it mean?

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U.S. oil prices plummeted below zero at the close of market Monday, a historic first for the commodity. As dwindling demand caused by COVID-19 shutdowns pushed storage facilities to their brink, the price per a barrel dropped to negative \$37.63 for May's future contracts.

"That is, producers have to pay \$30 per barrel of oil to get someone to take it off their hands," said Daniel Scheitrum, an assistant professor in the University of Arizona's Department of Agricultural and Resource Economics in the College of Agriculture and Life Sciences. "This time last year, the price was positive \$65 per barrel."

Scheitrum, whose research focuses on the economic, trade and financial impacts of agricultural and [energy policy](#), broke down the situation and explained what this might spell for American consumers and oil producers.

Q: What's behind this historic U.S. oil price skid?

A: Due to COVID-19 shutdowns and travel restrictions, demand for [crude oil](#) has been dramatically reduced around the world with little advance notice. Crude oil supply is sticky. It is not easy to halt production and resume at a later time. Oftentimes, permanent damage to the production site can occur as a result.

While we are observing a huge demand reduction around the world, the U.S. has filled its storage capacity and more. Ships that would normally transport oil are now docked and operating as ad hoc storage facilities. In other words, there is simply not enough capacity to transport oil away from the U.S. to other markets, which may either still want to consume the oil or at least have extra storage capacity to offer.

Since oil is a hazardous material, producers cannot simply dispose of it by dumping it on the ground like they could with any other nontoxic product. As such, producers are receiving negative [prices](#) for their product because they have to persuade someone to take this hazardous material off their hands and find a place for it. Rather than enjoying a profit from their product, they are effectively paying a disposal fee.

Q: In market reports, oil prices are referred to in terms of "futures contracts." What does that mean?

A: There are two ways of trading commodities—the spot [market](#) and the futures market. When you go to the coffee shop and hand over cash in exchange for a coffee "on-the-spot," that is a spot market transaction. Immediate delivery.

All the prices we are seeing surrounding U.S. oil prices are futures prices. That is, every commodity that trades on the futures markets can be traded in multiple delivery months, and each delivery date has its own price. The May WTI (West Texas Intermediate) contract, which closes today, is the contract which establishes the price of oil for delivery by the first week of May. The June delivery month determines the price today for delivery during the first week of June. Additionally, traders today can buy and sell December 2030 crude oil. That is, they can agree on a price today for crude oil that won't be delivered until December 10 years from now.

Q: Is Europe and the rest of the world in the same boat?

A: West Texas Intermediate is the benchmark crude oil price for the U.S. and Brent Crude is the benchmark crude oil price for Europe and much of the rest of the world. They are essentially the same product—think Pepsi and Coke—and typically fetch roughly the same price. Something that is curious is that the price of oil in Europe is positive roughly \$30 per barrel, something that shouldn't be happening if markets are functioning properly.

There are a couple things that explain why the negative prices are occurring in the WTI price but not the Brent price. The first is delivery

months. This negative price is occurring in the May contract, largely because the trading in that delivery month stops on April 21 and will provide for demand during a period when consumption of petroleum products is way down due to efforts to flatten the curve. It seems that future delivery months for June and July are down, but not to the same extent as May. Possibly, traders are anticipating supply will adjust by then or demand might increase in later months.

The other main factor is delivery conditions. The WTI contract stipulates that the delivery point for that commodity is into a pipeline or storage facility in Cushing, Oklahoma. For Brent Crude, the price is determined at the Sullom Voe oil terminal in the North Sea and it is priced as it is loaded onto an ocean-going vessel. That makes Brent Crude much more connected with the global oil market, as it can more easily be taken anywhere in the world with coastal access. WTI is essentially landlocked and more heavily influenced by local storage and transportation conditions in the middle of the North American continent.

Q: Has the price disparity between West Texas Intermediate and Brent Crude happened before?

A: In 2011, there was a large separation between WTI and Brent, though neither price went negative. In a [2018 article for the journal *Energy Economics*](#), I explain how the shapes of the WTI and Brent futures curves reflect supply and demand fundamentals in the U.S. and world market, respectively.

The price divergence at that time can be explained by three things: sudden changes in supply and demand; the U.S. filling its storage capacity with no potential to add additional oil into storage and having to sell it to the market immediately; and export limitations—at the time, there was a ban on the export of oil from the United States.

In 2011, WTI, which historically had been a couple dollars more expensive per barrel than Brent, was trading for \$20 less than Brent. Why not simply take the product from the U.S. where it was cheap and sell it in the European market or other markets where it was more expensive? The export ban prevented U.S. producers from exporting the product. Additionally, producers could contribute their product into storage with the hopes that they could withdraw the product at a later date when prices were more attractive. However, once all the storage facilities were full, this outlet for excess production was exhausted and we observed the WTI price falling well below the Brent price.

The situation was eventually resolved when a major pipeline in the U.S. reversed its flow to take oil away from Cushing, Oklahoma, and the U.S. government lifted the oil export ban. Then it became possible to more easily distribute oil and get it to communities with higher demand.

Q: How is this situation similar, and what might it take get U.S. oil prices back in the black?

A: This scenario in 2020 is similar in many regards. We have a sudden reduction in demand around the world. Storage facilities are filling up across the U.S. Brent producers have seen a drop in their oil price, but since that price is determined as it is loaded onto a ship, Brent crude has many more markets and storage facilities available.

Resolving the current situation will likely require either demand recovering in the coming months, a reduction of U.S. oil production, or a combination of the two. The U.S. has agreed to participate in OPEC+ production cuts, so there is some reason to believe that negative prices are less likely when the June contract expires. Additionally, the U.S. government could decide to fill the Strategic Petroleum Reserve, which would make available a large quantity of [storage capacity](#). If the

administration wants to fill the SPR, it is probably best to do so when oil prices are low or even negative.

Q: What does this spell for the U.S. oil market's future?

A: It's often said that the prescription for low prices is low prices. If prices are so low that oil producers are not profitable, some will invariably reduce output or exit the market entirely. Eventually, supply will contract until it meets our much-reduced demand. This will bring real pain in the short-term for the oil industry as a whole, and long-term for those oil producers exiting the industry. This can have a particular impact on towns and cities across America that are reliant on oil production income.

Q: When people hear oil prices have dropped, they naturally wonder: Will this translate to lower prices at the pump?

A: Gasoline and diesel prices may come down slightly, but I wouldn't expect a huge reduction in fuel prices as a result of this phenomenon. Refiners still incur costs to transform crude oil into vehicle fuel, as well as costs to transport products to retail stations. Additionally, fuel taxes will remain unchanged.

Provided by University of Arizona

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