

BUSINESS

Harvey Ripples Through U.S., Global Energy Markets

Record flooding in Texas is straining superhighway of energy trade



Rainwater from Hurricane Harvey surrounds oil refinery storage tanks in Texas City, Texas. PHOTO: LUKE SHARRETT/BLOOMBERG NEWS

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Tropical Storm Harvey's crippling of Gulf Coast refineries, ports and pipelines is being felt across the country and even globally, a result of a U.S. energy boom that has made the country and the world increasingly reliant on Texas.

Harvey shut down a third Gulf Coast refining center Wednesday, and is knocking on the door of a fourth. More than a dozen refineries are affected—including the country's two biggest, Saudi Arabian Oil Co.'s Motiva facility in Port Arthur and Exxon Mobil Corp. [XOM 0.96% ▲](#)'s Baytown facility—cumulatively representing more than 30% of U.S. refining capacity, according to IHS Markit.

More than 3 million barrels a day of refining capacity in Texas remained shut Wednesday morning, according to analysts, more than Brazil's daily national consumption of petroleum products. Three shuttered refineries said on Wednesday they were either starting up or planning to start up again.

Port closures are compounding the refineries' woes. Port Houston has warned shippers it is likely to be closed to large vessels at least through Saturday. U.S. Coast Guard officials say it could be weeks before large container ships and oil tankers can safely navigate the Houston Ship Channel leading into the port, the second busiest in the U.S. by tonnage, and a U.S. Customs and Border Protection official said Tuesday that Houston's port will likely be closed to large ships "for the foreseeable future."

The flood's fallout also broadened to include the risk of an explosion at an industrial chemical manufacturer, Arkema, [ARKAY 0.92% ▲](#) 25 miles northeast of Houston. After evacuating the site Tuesday and urging residents within a mile-and-a-half radius of the plant to leave the area, the company said Wednesday that it has "no way to prevent" a potentially large explosion and fire, after flooding led to a refrigeration failure for material that could explode if not kept cold.

Harvey could do some \$10 billion in damage to infrastructure in the Houston area, a significant portion of it tied to energy, according to Adam Kamins, an economist for Moody's Analytics. Businesses, including energy companies, could also lose as much as \$10 billion in economic output, he said.

The halting of refinery operations is leading gasoline and other fuel prices to rise sharply, especially in the Gulf Coast region, and as shortfalls ripple into the markets that get fuel from the Gulf, the impact is likely to radiate throughout the country. Shortages were projected to show up from Austin to Atlanta to Chicago, analysts said.

While some gas stations around Texas are already reporting shortages and some bouts of panic-buying, fuel prices rose across the country anywhere from 5 to 30 cents a gallon, depending on the city, according to several analysts.

Record flooding has also strained the pipelines, fuel racks and trucking routes that comprise the logistical network that gets fuel from refineries to corner filling stations. Colonial Pipeline Co. expects to shut down its 5,500 mile pipeline from Houston to New Jersey by Thursday, and fuel wholesaler Mansfield Oil Co. said supplies will likely be tight as far away as Maryland.

"Basically a third of the country more or less is going to be affected," said Mark Anderle, director of supply and trading at TAC Energy, a fuel marketer.

The shutdowns in Texas could also impact global markets, because of the much bigger role the U.S. now plays.

For years, hurricanes in the Gulf have disrupted U.S. supplies of crude oil and refined products, frequently driving up the price of domestic gasoline and crude. But the shale revolution has

transformed the U.S. into the world's largest exporter of refined products.

“Harvey is demonstrating how much more important and different both the risks and resilience of the Gulf are to the global energy system in the age of shale,” said Jason Bordoff, director of the Center on Global Energy Policy at Columbia University.

The U.S. Gulf Coast has become an international fuel factory, exporting gasoline to Mexico and Brazil and diesel to Europe. While other countries, such as the U.K., can ship tankers full of gasoline to the U.S., now other countries that used to count on U.S. refineries will be bidding those cargo prices higher.

When hurricane Katrina struck in 2005, the U.S. was the largest importer of gasoline and other refined products. It is now the world's largest exporter of refined products. The U.S. is still a net importer of crude oil, but due to shale drilling, is expected to be the world's largest exporter of light-sweet crude into the next decade, potentially equal to Libya and Nigeria combined on a good day, according to Ed Morse, Citigroup's global head of commodities research.

As the U.S. begins exporting more liquefied natural gas in coming years, hurricanes could have an even more profound impact on global energy supplies, Mr. Morse said. A glut of natural gas unlocked by shale drilling created a previously nonexistent LNG export trade in the U.S. The U.S. could export more than 12 billion cubic feet of LNG a day by 2030, according to the Energy Information Administration, up from 500 million cubic feet last year.

“The U.S. becoming a major supplier was supposed to reduce volatility,” Mr. Morse said. “It actually adds volatility to the market.”

Houston's port is believed to have sustained little damage from the storm itself. But vessels need the all-clear from the U.S. Coast Guard to access the Houston Ship Channel, which provides entry to the port and nearby energy complexes.

That could be days or even weeks away, as the Coast Guard must sweep the channel for debris and verify it is deep enough to handle big ships. And even if the port is able to receive ships, flooded roads and railroads could prevent dockworkers, trucks and trains from unloading them.

The port's closure is affecting a host of industries. Restaurants and retailers could lose a week or more of sales, with some national chains shuttering dozens of locations in the Houston area. Some may struggle to keep items in stock if they can't bring in supplies through Houston's port and many roads and railroads are underwater.

Houston's port is one of the nation's busiest for container cargo, such as auto parts and furniture. Corpus Christi's port, which handles the majority of U.S. oil exports as well as other energy shipments, is also closed to most vessels.

—Brian Baskin, Christopher Alessi and Lynn Cook contributed to this article.

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