

## Weekly Briefing

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### Harvey Aftermath

- Our thoughts are with the people of Texas as they struggle to recover from the ravages of Hurricane Harvey. The recovery has begun, the road ahead is long and arduous.
- The concentration of energy assets in the area hit by the hurricane adds to the challenges, though many have displayed remarkable resilience.

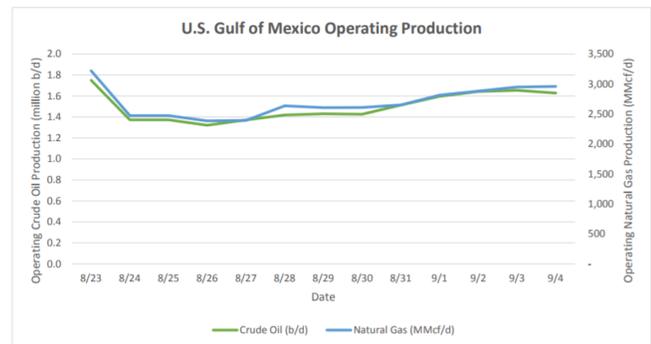
Hurricane Harvey, now referred to by the Department of Energy (DOE) as Post-Tropical Cyclone Harvey, has left a wake of unprecedented damage. The human toll and devastation of homes and businesses is just beginning to be assessed. Some estimates indicate that it will take many years to repair and recover from the damage.

DOE is reporting that as of Monday, September 4th (see [here](#)), eight refineries remained shut down, representing 2.1 million barrels per day (MMBD) or 11.4% of total U.S. refining capacity. An additional eight refineries are reported to be restarting. These refineries represent an estimated 1.8 MMBD of capacity. It is unknown how much damage these refineries sustained and how long it will take to ramp up to optimal operating rates.

Due to petroleum refinery shutdowns, the impact on gasoline prices is becoming evident at the pump. The top chart shows gasoline futures prices (RBOB front month contract). These prices exclude taxes and refiners' margins, which add about 80 cents to this wholesale price. As Hurricane Harvey hit the Gulf region, RBOB futures spiked by 30 cents, from \$1.47 per gallon to a peak of \$1.77 per gallon. It has since receded to a September 5 quote of \$1.69 per gallon as news of refineries restarting was reported over the weekend.

In contrast, the devastation caused by Harvey did not impact crude oil prices in the same way (see second chart). Light crude oil prices fell as the storm reached shore, but have increased from \$46 per barrel on August 30th to nearly \$48 per barrel this morning. Some of this gain could be due to the expectation of demand pull from restarting refineries, but note that prices remain below the levels seen in prior months. Both crude oil and natural gas facilities in the Gulf of Mexico have already nearly regained operating production levels achieved prior to the hurricane (see third chart). Crude oil production in the region is down 200,000 BPD as compared to pre-Harvey run rates (green line).

After 19 days of reports prepared by the DOE since the landfall of Harvey, it is remarkable that the large concentration of energy assets and infrastructure in the region is resilient. Even though ports, pipelines, refineries, oil wells and rigs remain compromised, the bulk of the energy complex retained some functionality. Still, much is still unknown regarding the degree of damage at sites which remain shuttered.



#### Electricity Outages

- *Nearly 2% of all Texas customers were without power in the initial aftermath of Hurricane Harvey's landfall.*
- *As of the latest assessment by the DOE, less than 1% of customers are without power.*
- *Even so, that means that 186,969 customers have no power since August 25th.*