

Energy

Crude oil: Hurricane Harvey wreaks havoc on US energy production

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- Hurricane Harvey has hit hard oil production facilities in the Gulf of Mexico, taking refinery capacity offline in Texas. High winds and flooding have also disrupted shale oil production in Texas.
- Outages of this scale mean greater variability in the weekly US oil inventory, production and demand data, which will likely add temporarily to price volatility.
- Still, we believe that the market remains undersupplied and this event shouldn't prevent oil prices rising to USD 55-60/bbl during 2H17.

Hurricane Harvey, the strongest storm to hit the US since 2004, struck the heart of US energy production over the weekend. The production of about 1.35 million barrels (mbpd) of Gulf of Mexico (GoM) crude output has been shut in since 24 August. Harvey has also forced the shutdown of more than 1mbpd of refining capacity. And port closures have prevented tankers from loading and unloading crude oil and oil products.

GoM production should rebound quickly following security inspections. But there is no historical comparison on how onshore production from shale basins will be impacted by a hurricane. Since 2004, Texas crude production has tripled due to the Permian and the Eagle Ford shale basins. Harvey is expected to linger in Texas for several days delivering high winds and floods, and this will likely hurt production in Eagle Ford, which is in the storm's path. Several producers have already stopped production and/or drilling. First estimates indicate shut-ins of 300-500kbpd.

Over the coming weeks, we are likely to see further price volatility as traders attempt to square the impact of the storm with weekly inventory statistics. As the reporting week for inventories is from Saturday to Friday, the EIA report on 30 August should show limited impact from Harvey. The next report - on 6 September - may show large swings in imports, exports, refinery runs and inventories. That said, Harvey does not derail our positive price outlook for 2H17.

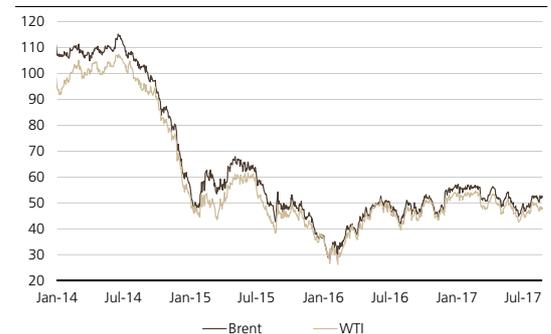
Market data and forecasts (Brent crude oil)

Active futures		52.4
3M futures		51.9
Volatility		29%
3M forecast	Bullish	60.0
12M forecast	Bullish	57.0

Source: Bloomberg Finance LP, UBS

Crude oil prices

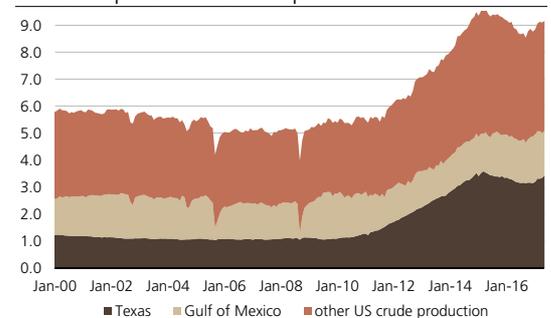
Values are in USD/bbl



Source: Bloomberg Finance LP, UBS

Hurricane Harvey has hit the heart of US energy production

US crude production in mbpd



Source: EIA, UBS

Historical performance

Underlying	Δ 1m	Δ 3m	Δ 12m	Δ ytd
Brent Crude Oil	2.9	1.7	5.5	-6.7
WTI Crude Oil	-0.3	-2.1	1.5	-11.4
Energy Index*	-1.4	-1.8	0.9	-11.7

*Spot indices. Source: Bloomberg Finance LP, UBS

Crude oil

Appendix

Terms and Abbreviations

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
Backwardation	When the spot price trades above the prices of futures	BCF	Billion cubic feet
BCM	Billion cubic meters	Bu	Bushel (1 ton = 36.7bu wheat/soybean; 39.37 bu corn)
CBOT	Chicago Board of Trade	CFTC	Commodity Futures Trading Commission
CIF	Cost, insurance and freight	CME	Chicago Mercantile Exchange
CNIA	China Non-Ferrous Metals Industry Association	COMEX	New York Commodities Exchange
CONAB	Companhia Nacional de Abastecimento (Brazilian government agency)	Contango	When the spot price trades below the prices of futures
COT	Commitment of Traders	CRB Index	Index Commodities Research Bureau Index
Crush margin	Difference between the value of the oil and meal produced from the soybeans	CTA	Commodity Trading adviser
ETC	Exchange Traded Commodity	ETF	Exchange Traded Fund
Excess Return (ER)	Excess return = spot return + roll yield return (rolling of futures contracts)	FAO	Food and Agriculture Organisation
FOB	Free on Board	HH Natural Gas	Henry Hub Natural Gas
I.E.A	International Energy Agency	IAI	International Aluminium Institute
ICCO	International Cocoa Organisation	ICE	Intercontinental Exchange
ICO	International Coffee Organisation	ICSG	International Copper Study Group
ILZSG	International Lead and Zinc Study Group	IMF	International Monetary Fund
INSG	International Nickel Study Group	JM	Johnson Matthey
JODI	Joint Oil Data Initiative	KCBT	Kansas City Board of Trade
LME	London Metal Exchange	LNG	Liquefied Natural Gas
mbpd	Million barrels per day	Mtoe	Million tons oil equivalent
NOAA	National Oceanic and Atmospheric Administration	NYBOT	New York Board of Trade
NYMEX	New York Mercantile Exchange	OECD	Organisation for Economic Co-operation & Development
OPEC	Organization of Petroleum Exporting Countries	PGM	Platinum Group Metals
RICI	Rogers International Commodity Index	S&P GSCI	Standard and Poor's-Goldman Sachs Commodity Index
SHFE	Shanghai Futures Exchange	SI	Silver Institute
TC/RC	Treatment/Refining Charges	TCF	Trillion cubic feet
Thomson Reuters GFMS	Research consultancy specializing in precious metals, base metals and steel market research	TOCOM	Tokyo Commodity Exchange
Total Return (TR)	Total return = excess return + return from the cash collateral	U.S.D.A	US Department of Agriculture
UBS CMCI	UBS Constant Maturity Commodity Index	UNICA	Sugar and Alcohol Millers Association of São Paulo state
USD/BBL	USD per barrel	USD/bu	US Dollar /bushel
USD/GL	USD per gallon	USD/lb	USD per pound
USD/MMBtu	USD per 1 million British thermal unit	USD/MT	USD per metric ton
USD/oz	USD per oz, (1 oz = 31.10 grams)	USGS	U.S. Geological Survey
WBMS	World Bureau of Metal Statistics	WGC	World Gold Council
WTI Crude Oil	West Texas Intermediate Crude Oil	WTO	World Trade Organisation

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