BENCHMARKS SPECIAL REPORT

Gulf coast emerges as swing exporter

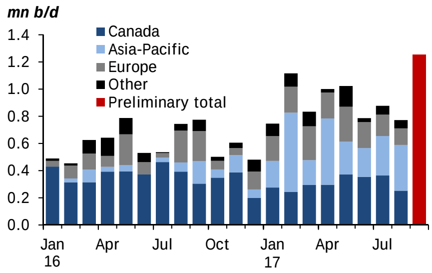
The US Gulf coast is becoming increasingly linked to global crude markets as more supply is exported from the region

US Gulf coast pricing is becoming increasingly relevant to global crude trade, as the region emerges as a major swing exporter of marginal supply.

Rising US crude output, the end to US export restrictions and expanded regional transport infrastructure have redirected crude flows to the Gulf coast and helped it become an important exporting market.

More than 1.25mn b/d of crude was exported from US ports in September, with shipments rising to 2mn b/d towards the end of the month, preliminary US data show (*see graph*). Hurricane Harvey, which disrupted nearly a quarter of US refining capacity at its peak, left a backlog of unsold supply and boosted exports. The September surge helped drive January-September exports to 940,000 b/d, more than 50pc up on a year earlier.

US crude exports

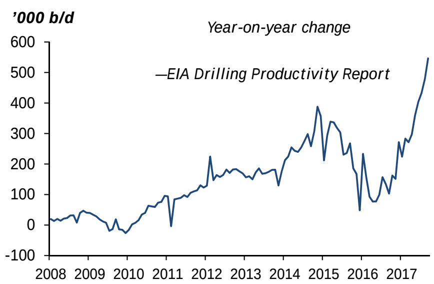


US crude is increasingly moving further afield. Close to 35pc of exports were shipped to Asia-Pacific refiners in January-August, up from just 6pc a year earlier. Chinese buyers have contributed in large part to the increase, taking 170,000 b/d of US crude this year, up from around 10,000 b/d a year earlier. Japanese and South Korean refiners are buying more, while Indian refiners have begun to issue tenders that specify exclusively US supply. More than a fifth of exports were shipped to Europe.

Deliveries have been helped by Opec and non-Opec production cuts that have taken 1.6mn b/d of supply out of the market, tightening mostly medium and heavy sour crude supplies. The shortfall has bolstered demand for US Gulf coast Mars and other similar medium sour crudes.

Mars prices in the Louisiana coast market and WTI prices in Houston — which represent Permian basin crude delivered by pipeline to the hub — are increasingly linked to global fundamentals. Both have risen against WTI Cushing since Hurricane Harvey made landfall. High exports from the region, which offset slower Gulf coast demand because of refinery disruptions in the aftermath of the storm, underpinned the firmer values.

Permian production growth

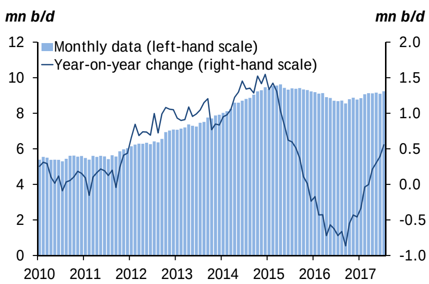


New infrastructure has started up to support shipments following the end to crude export restrictions in December 2015. Shipments were already being redirected to the Gulf coast, home to nearly 50pc of US refining capacity, away from the WTI hub at Cushing, Oklahoma. Enterprise and Enbridge completed the reversal of the Seaway pipeline in 2012, which, alongside TransCanada's Marketlink system, has become a key conduit carrying crude from Cushing to the Texas coast.

Permian flows

The opening in October last year of Occidental Petroleum's 300,000 b/d export dock at Ingleside, near Corpus Christi, has helped bolster Gulf coast exports. Occidental can ship crude from the Permian basin along the 250,000 b/d Cactus pipeline and through the 660,000 b/d Eagle Ford pipeline system to the Corpus Christi terminal, which can handle Suezmax tankers. Midstream operators plan to expand export capacity further to meet expected higher output from the US and its shale regions.

US crude production



Shale oil output growth is helping to drive a recovery in US output this year. Permian crude production rose to a record high of 2.58mn b/d in September, an increase of 550,000 b/d on the year, the EIA says in its *Drilling Productivity Report* (*see graph*). Output is forecast to rise to 2.63mn b/d in October.

US crude production rose to a more than two-year high of 9.5mn b/d in August, preliminary US EIA data show, and remained close to that level at 9.47mn b/d in September, up by 920,000 b/d on the year. Output is expected to climb to a record 9.92mn b/d next year.

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US crude exports drive derivatives, physical trade

Firm US crude shipments are boosting spot trade volumes as open interest in derivatives continues to rise sharply

Surging US crude exports are boosting trade on physical and linked derivative markets as participants seek greater price discovery in the Gulf coast markets.

Combined open interest in WTI Midland swaps contracts on the Ice and CME exchanges is approaching 300mn bl, while on WTI Houston, which represents the physical value of light sweet Permian crude in the Texas coastal market, it is close to 90mn bl (*see graph*). That represents an 80pc and almost sixfold increase in open interest in the two grades, respectively, since the beginning of this year.

"In the US, we are seeing a big upturn in trade on *Argus*-linked grade derivatives — *Argus* Midland, *Argus* Houston, *Argus* LLS. We are starting to see those grades trade really actively," Chicago-based exchange CME's managing director of energy research and product development, Owain Johnson, told the *Argus* European and Global Crude Summit in Geneva. *Argus* competes with Platts and other price reporting agencies to provide price assessments and other information on commodity markets.

Houston is rising in importance as a major spot market hub for US crude, given its increased pipeline connectivity to domestic crude production regions, supported by its access to refining and export facilities.

The WTI Houston price assessment reflects transactions at Magellan's East Houston crude terminal, which receives crude from west Texas through the 400,000 b/d BridgeTex and 275,000 b/d Longhorn pipelines. More WTI will have access to the Houston area after the start of Enterprise's 450,000 b/d Midland-to-Sealy pipeline. Partial service is planned in the fourth quarter, with flows rising to capacity next year. Enterprise's Sealy storage facility west of Houston is linked by pipeline to its Echo terminal on the Houston Ship Channel.

Prices for Gulf coast crudes, such as WTI at the end of pipelines from the Permian basin to Houston, and Mars, which is delivered to Louisiana, are increasingly tied to global fundamentals as more cargoes are exported east and west.

Preliminary figures for September put US crude exports at 1.25mn b/d, with shipments rising to a record 2mn b/d by the end of the month. Close to 35pc of exports in January-August were shipped to Asia-Pacific and around 22pc to Europe.

The swing nature of the Gulf coast market was highlighted by Hurricane Harvey, which disrupted nearly 5mn b/d of Texas and Louisiana refining capacity at its peak. The drop-off in demand failed to pressure WTI at Houston, which has risen to more than two-year high premiums of \$4.50/bl against WTI Cushing (*see graph*). Mars has also risen to its highest premium against WTI in more than two years. Both grades have benefited from an open arbitrage to Europe and Asia-Pacific amid a backlog of crude on the Gulf coast.

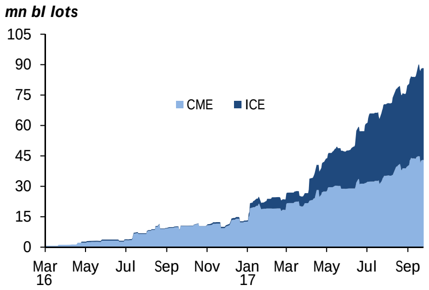
Trading spaces

Monthly reported WTI Houston spot trade volumes hit a record of close to 253,000 b/d during the September trade month, surpassing LLS volumes of just under 250,000 b/d for the first time (*see graph*). The number of participants trading WTI Houston has more than tripled since February 2015 to 23 during the most recent October trade month.

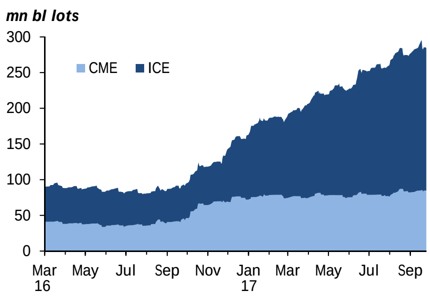
Rising exports are helping to drive increased activity on the WTI futures contract and draw new financial participants to the market, at a time of concern over the future of the North Sea Dated benchmark. And there has been 15mn bl of physical delivery WTI trade through the exchange this year.

Johnson highlights the growing role in liquidity played by the Asian market in WTI trading. Some 18pc of all trading activity on WTI in the third quarter was done during Asian hours, rising above this number on a monthly basis, he says.

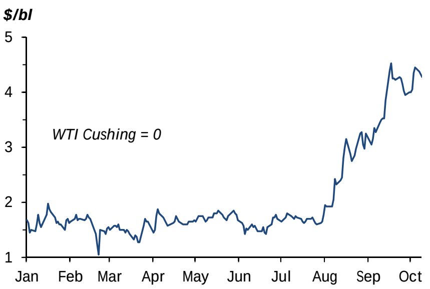
WTI Houston open interest



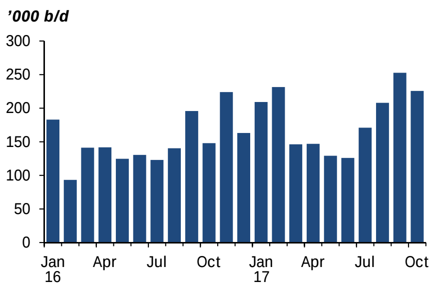
WTI Midland open interest



WTI Houston vs WTI Cushing



WTI Houston spot trade volumes



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The prolific Permian basin has spurred midstream firms to develop new ways of taking the region's crude to the Texas market

Permian basin takeaway pipelines

Pipeline	Destination	Cap. '000 b/d
Existing capacity		
Basin	Cushing, Oklahoma	450
West Texas Gulf	Longview, Texas	300
BridgeTex	Houston	400
Cactus	Gardendale, Texas	250
Longhorn	Houston	275
Permian Express 2	Nederland, Texas	200
Permian Express 1	Nederland, Texas	150
Wink	El Paso, Texas	145
Centurion	Cushing, Oklahoma	140
WA Line	Borger, Texas	104
Line 80	Borger, Texas	28
Total		**2,442**
Capacity under construction		
Midland to Sealy	Sealy, Texas	450
Cactus expansion	Gardendale, Texas	140
BridgeTex expansion	Houston	100
Total		**690**
Potential new capacity		
Cactus 2	Corpus Christi	500
Epic	Corpus Christi	440
South Texas Gateway	Corpus Christi	400
Sunrise expansion	Cushing, Oklahoma	120
Permian Express 3	Nederland, Texas	100
BridgeTex expansion 2	Houston	75
Total		**1,635**

New capacity underpins export rise

New and expanding US Gulf coast infrastructure is helping to drive an increase in the country's crude exports.

Shipments from the US were bolstered by the opening in October last year of Occidental Petroleum's 300,000 b/d crude export docks at Ingleside, near Corpus Christi. Occidental can transport crude from the Permian basin along the 250,000 b/d Cactus pipeline and the 660,000 b/d Eagle Ford midstream system to Corpus Christi.

Midstream interest in the Permian basin has surged as its production has risen. At least four midstream companies plan to develop pipelines to move crude to the Texas coast. Plains All American plans to increase the Cactus line to 390,000 b/d and is considering developing a Cactus 2 pipeline with an additional 500,000 b/d of capacity from 2019. Magellan has looked into building a crude and condensate pipeline from the Permian basin to Corpus Christi, or it could expand its 400,000 b/d BridgeTex pipeline from Colorado City to the Houston market. And Energy Transfer Partners could boost its Permian Express system to southeast Texas by 100,000 b/d.

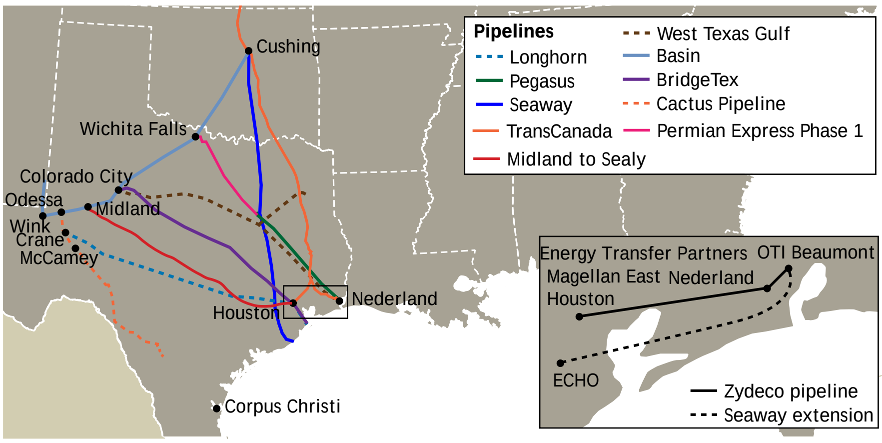
Enterprise, the main crude exporter from Houston, is banking on its own direct connection from the Permian basin to Houston through a 450,000 b/d pipeline, which will begin shipping crude from Midland by the end of this year.

Buckeye Partners has proposed building the South Texas Gateway pipeline with a capacity of up to 400,000 b/d from the Permian basin to its Corpus Christi terminal. Buckeye, which operates a 50,000 b/d condensate splitter in Corpus Christi, is looking to connect lighter production from the Permian to its own facilities and nearby refineries, in addition to its docks.

Moving crude from the field to the tanker as efficiently as possible while preserving its quality has become the goal for many new infrastructure projects, with foreign refiners attracted to relatively pure grades with a consistent quality. WTI produced in the Permian basin and crudes that can easily replace medium sour grades lost to Opec production cuts, such as deepwater Mars, are good fits for their requirements.

Texas' first major oil port, Beaumont-Port Arthur, is also poised to increase oil exports. Energy Transfer's 1,872-mile (3,000km), 525,000 b/d Dakota Access Pipeline began deliveries to Patoka, Illinois, in June. The Energy Transfer Crude Oil Pipeline then provides a direct route to Nederland, near Beaumont-Port Arthur. The line is drawing more light crude to the Gulf coast.

US Gulf coast crude pipelines



BENCHMARKS SPECIAL REPORT

Iraqi benchmark plan highlights discontent

The absence of a credible regional benchmark in the Asia-Pacific crude market continues to be a source of frustration

Iraq's decision to delay a plan to change the basis of its crude pricing for sales to Asia-Pacific highlights discontent with existing benchmarks.

Iraqi marketer Somo proposed in August to move away from benchmark values published by price reporting agency Platts to futures contract prices published by Dubai-based exchange DME. The decision to switch pricing was postponed less than a month later.

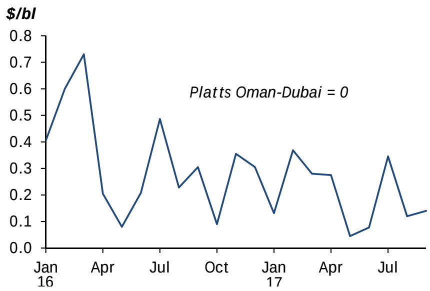
Saudi Arabia, Iran, Iraq and Kuwait use a monthly average of the Dubai and Oman benchmarks published by Platts to set official formula prices for exports to Asia-Pacific. The benchmarks are used to price more than 12mn b/d of Mideast Gulf crude flows to Asia-Pacific. Platts launched its Dubai price assessment in 1984, adding the Oman assessment in 2002.

The Platts Oman benchmark suffers from persistent low liquidity and may have been an important reason why Somo proposed the switch to DME. But Somo's plan faltered when it became clear that the switch to DME pricing would not be compatible with Somo's current export scheduling, leaving term lifters without the ability to hedge their exposure in the two weeks before Somo's programme release when the underlying DME price will already be known.

Somo effectively shelved the idea in September, saying more time was needed to finalise studies and discuss with customers the best way of adopting a representative benchmark. The decision occurred around the same time as Falah al-Amri was removed from his position as director-general of Somo, although it is unclear if this was connected.

The proposed move to DME pricing may have been a response by Somo to the growing fiscal needs of the state. Baghdad is focusing on maximising oil revenues to meet budgetary needs that have grown amid the fight against Islamist group Isis and post-war reconstruction. The DME price tends to settle higher than Platts Dubai because it is pegged to better quality Oman crude (*see graph*).

Platts Oman-Dubai vs DME average



Unreliable direction

The issue highlights the fact that in the absence of a robust crude benchmark in Asia-Pacific, regional refiners have little choice but to purchase the bulk of their crude priced against North Sea and Mideast Gulf markers. Yet the North Sea Dated benchmark is often subject to local dynamics, while Platts Dubai has been diluted by the addition of other medium and light sour grades to offset declining Dubai production. Chinese independent refiners largely avoid the Dubai contract, and index almost all of their crude purchases to Ice Brent.

"If Asia does not develop its own index and its own liquidity, then we will see a continuation of what Asia has been doing for the last 10 years, which is using western benchmarks," Shell vice-president of crude trading and supply Mike Muller said at an industry event in Singapore last month. "But the problem of that is it also sets the price two months too early in markets that are affected by things that have nothing to do with Asia." Shell is a major participant in the Dubai market and was a frequent buyer of Dubai partials contracts in the Dubai trading window in June-September.

China's bid to launch a delivered crude contract through Shanghai-based exchange INE is the most high-profile attempt to create a benchmark rooted in Asia-Pacific. INE will offer participants the ability to trade 1,000 bl contracts based on a basket of mainly Mideast Gulf grades but also local heavy sour Shengli, which will collectively have a gravity of 32°API, with a sulphur content of 1.5pc. But the launch of the contracts, originally scheduled for 2012, has been repeatedly delayed and may not happen until 2018.