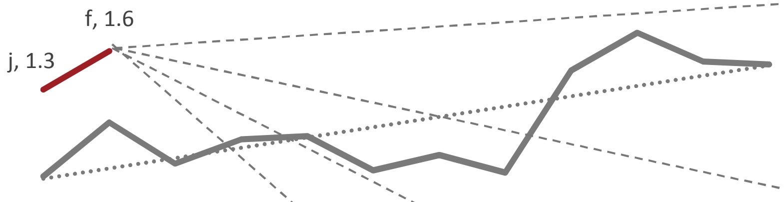
Weber US Crude Oil Trade Report

Q1 2018

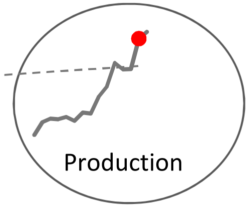
In this quarter's Charles R Weber US crude oil trade report we provide readers with the latest developments in the US crude oil trade, based on trade data up to February 2018. This includes identifying the fastest growing trades by country and import district.

Figures in million bbls

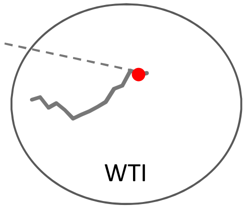


Exports - *source US International Trade Commission (USITC)*

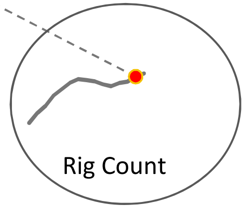
2017 2018 Linear (2017)



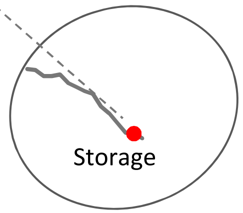
Production fell through 1H16 to reach a low of 8.4Mnbd in Jul'16. Thereafter, it picked up steadily before accelerating to 2015 levels from mid year. In Nov'17 output surpassed the Jun'15 record level of 9.6Mnbd. By early April, output had exceeded 10.5Mnbd.



Oil Prices hit bottom in Feb'16 at just over $30Bbl, but recovered through 2016. Prices struggled once again in 1H17 before embarking on an unexpected period of revival from July. Emerging fears of under supply rather than over supply have sustained oil price gains.



Rig numbers started to fall sharply from Dec'14, which was around 6 months before peak production. The rig count started to recover from May'16, which presaged a recovery in output from Aug'16. After treading water in 2H17, rig numbers have increased by almost 10% in the six months to Apr'18.



Storage (combined crude and product storage) has been trending down since Aug'16. By Mar'18, US stocks had fallen to their lowest level since Feb'15.

Having averaged just under 1Mnbd in the first eight months of 2017, US crude oil exports surged in Sep'17 and have averaged around 1.5Mnbd for the last six months to Feb'18.

In contrast to the strength of exports, US crude imports were down 12% year-on-year in the first two months of 2018. Exports were equivalent to 23% of imports in Feb, up from just 9% at the start of 2017.

The strength of US shale production is the primary factor transforming the US crude trade. The latest EIA STEO report in Apr'18 forecasts that average 2018 US production will increase by 1.4Mnbd year-on-year, and this will reinforce recent import and export trends.

At the start of 2018, China/Hong Kong (26.3% market share) displaced Canada (25.5%) as the largest export destination for US crude. The geographical spread of US exports is remarkable with long-haul trades to Taiwan, South Korea and India featuring strongly.

Meanwhile, the contraction of US imports has hit Saudi Arabia and Venezuela particularly hard in Jan-Feb'18.

If you have questions or comments, please contact Charles R Weber Research
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2040
World oil consumption to grow by 11.1 Mnbd 2016-40, but collectively US, Europe & Japan see demand drop by 10.2 Mnbd. *IEA WEO Nov'17 (new policies scenario)*

2025
China +3.0 Mnbd 2016-25 and India +1.9Mnbd to be the main drivers of world oil demand growth (+6.4Mnbd). *IEA WEO - Nov'17 (new policies scenario)*

2018
With OPEC oil production cut deal intact, under (not over) supply the new market concern. With growing geopolitical risk, and with the US viewed as one of the few sources of new production growth this year.

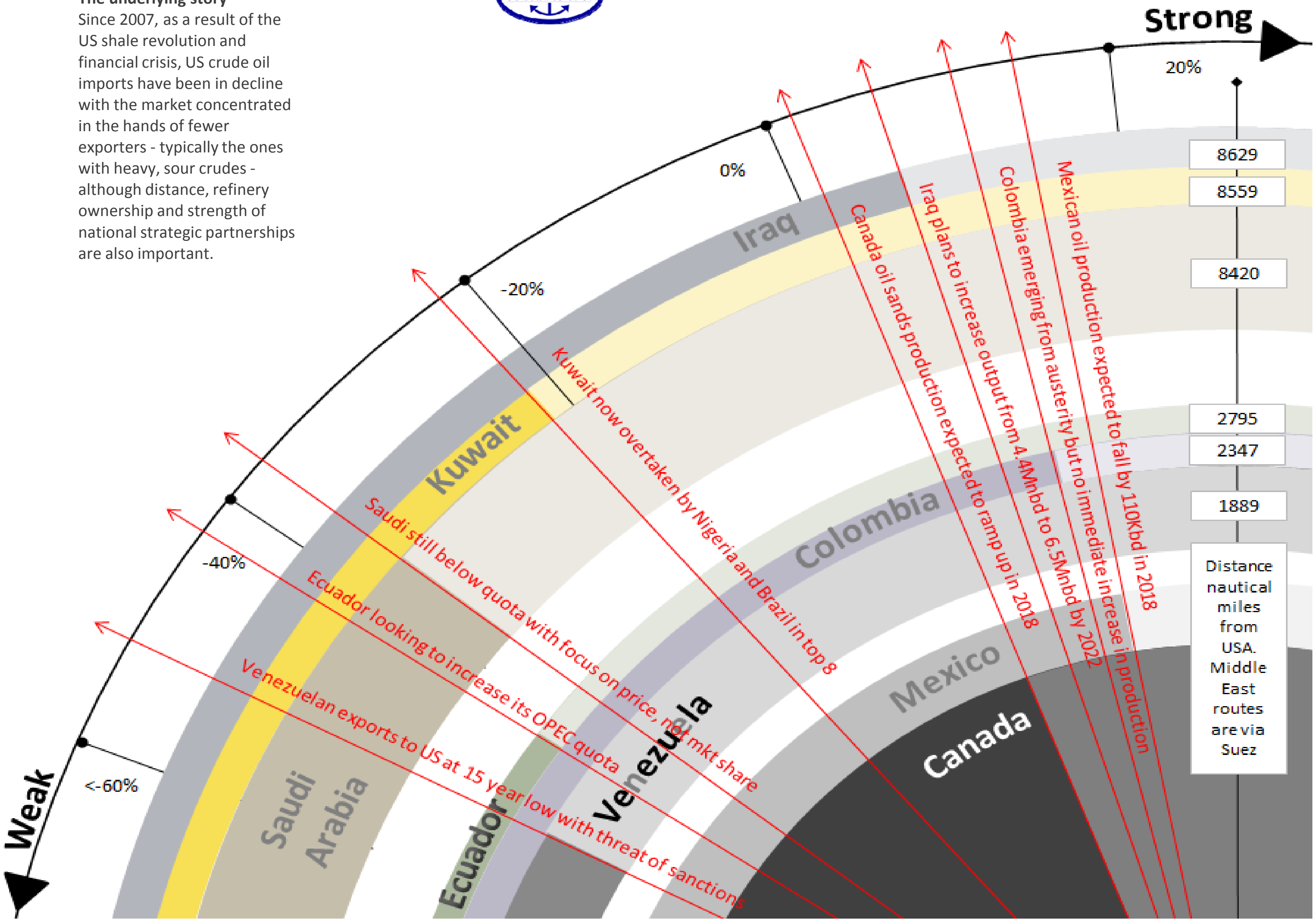
2017
OPEC renews oil production cut deal until the end of 2018. Strategy finally working with significant fall in global stock levels 2H17 and recovering oil prices.

The changing profile of US crude oil imports

Figures '000 tonnes

Exporter	2018Ytd	2017	e2018	C
Canada	28200	165995	169198	2
Saudi Arabia	4911	48005	29466	-3
Venezuela	2704	31190	16225	-4
Iraq	5366	30564	32195	5
Mexico	5608	29087	33650	1
Colombia	3430	18000	20582	1
Nigeria	2690	15763	16139	2
Ecuador	1039	10654	6233	-4
Brazil	1378	9875	8268	-1
Kuwait	1011	7751	6065	-2
Angola	396	6246	2379	-6
Other	3518	22826	21108	[illegible]
Total	60251	395956	361507	[illegible]

The underlying story
Since 2007, as a result of the US shale revolution and financial crisis, US crude oil imports have been in decline with the market concentrated in the hands of fewer exporters - typically the ones with heavy, sour crudes - although distance, refinery ownership and strength of national strategic partnerships are also important.



Infographic elemets
Not just a pretty picture, there are three dimensions of data displayed in this "rev counter".

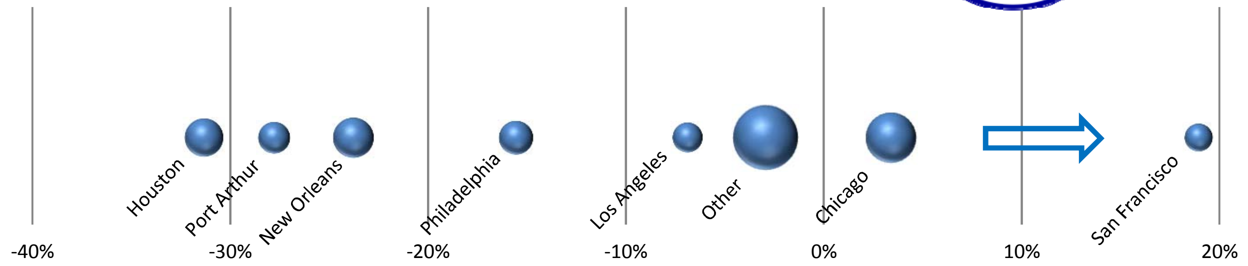
1 Performance 2017 compared with 2018 YTD for each exporter is shown by the distance the coloured band moves around the "rev counter". Also see table.

2 Size of exports to US in 2017 - is shown in the width of each band i.e. Canada is the largest exporter, while Saudi is the second largest.

3 The average haul of each trade is shown by the distance from the centre of the dial.

US crude oil imports by district & country

Q1 2018

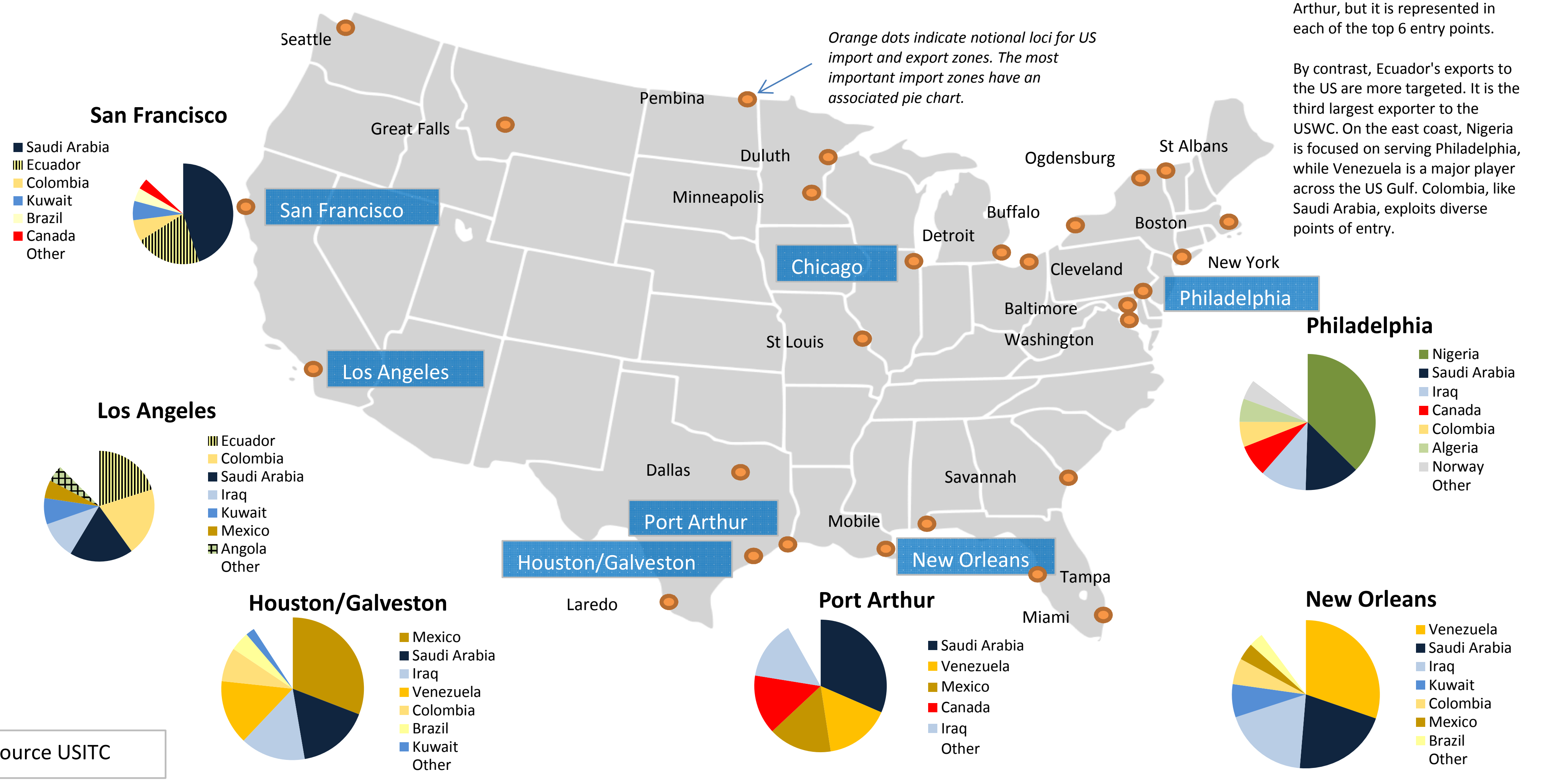


The chart (left) shows the relative size of the main import districts and the best performing Jan-Feb 2017 v Jan-Feb 2018. It shows San Francisco was the best, while Houston was the worst.

This map provides a detailed insight into US crude oil imports by linking countries that export crude oil to the US with their preferred entry districts.

For example: Saudi was the 2nd largest exporter to the US in 2017. Its main entry point is via Port Arthur, but it is represented in each of the top 6 entry points.

By contrast, Ecuador's exports to the US are more targeted. It is the third largest exporter to the USWC. On the east coast, Nigeria is focused on serving Philadelphia, while Venezuela is a major player across the US Gulf. Colombia, like Saudi Arabia, exploits diverse points of entry.



Source USITC

Prospects for US shale revolution

Q1 2018

Infographic - this infographic provides a high level view of the US oil production industry in the context of global supply and demand.

The primary image is a stacked bar chart showing US liquids production (crude oil/other liquids + shale) in 2007, 2016, 2025 (short term forecast), and 2040 (long term forecast).

It shows the sharp growth in US production - although it should be noted that US production is scheduled to peak around 2025-30.

Source data:

IEA World Economic Outlook - Nov 2017.

US Energy Information Agency (EIA) Short Term Energy Outlook Apr 2018 and Annual Energy Outlook 2017.

IEA Oil Market Report, Mar 2018.

2007

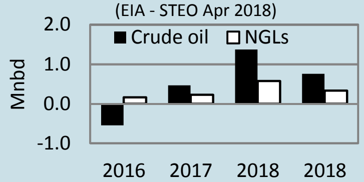
Crude/Other 5.1Mnbd

2016

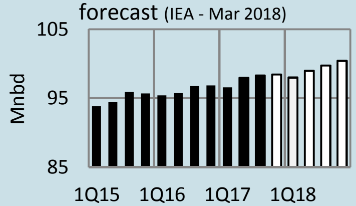
Shale Production 4.1 Mnbd

Crude/Other Production 8.4 Mnbd

Production change
(EIA - STEO Apr 2018)



World crude oil demand forecast (IEA - Mar 2018)



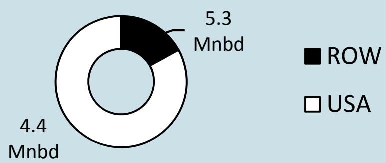
2025

Shale Production 8.3 Mnbd

Forecast for combined US crude oil and NGLs production in 2025 is 16.9Mnbd
IEA WEO Nov'17 news policies scenario p186 up from 14.7Mnbd Nov'16

Crude/Other Production 8.6 Mnbd

US share of world liquids production growth 2016-2025



The pie chart shows how important US production growth is in 2025 in terms of meeting expected demand growth.

2040

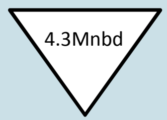
Shale Production 7.0 Mnbd

The IEA anticipate a 2Mnbd drop in US crude/shale production between 2025-2040 from 16.9Mnbd to 14.9Mnbd.

By contrast, the EIA sees US production virtually plateauing over this period, declining by just 0.1Mnbd from 17.6Mnbd in 2025 to 17.5Mnbd in 2040.

Crude/Other Production 7.9 Mnbd

US liquids demand set to fall 4.3Mnbd 2016-2040
IEA WEO Nov'17 news policies scenario p163 up from 4.7Mnbd Nov'16



US crude oil imports by country

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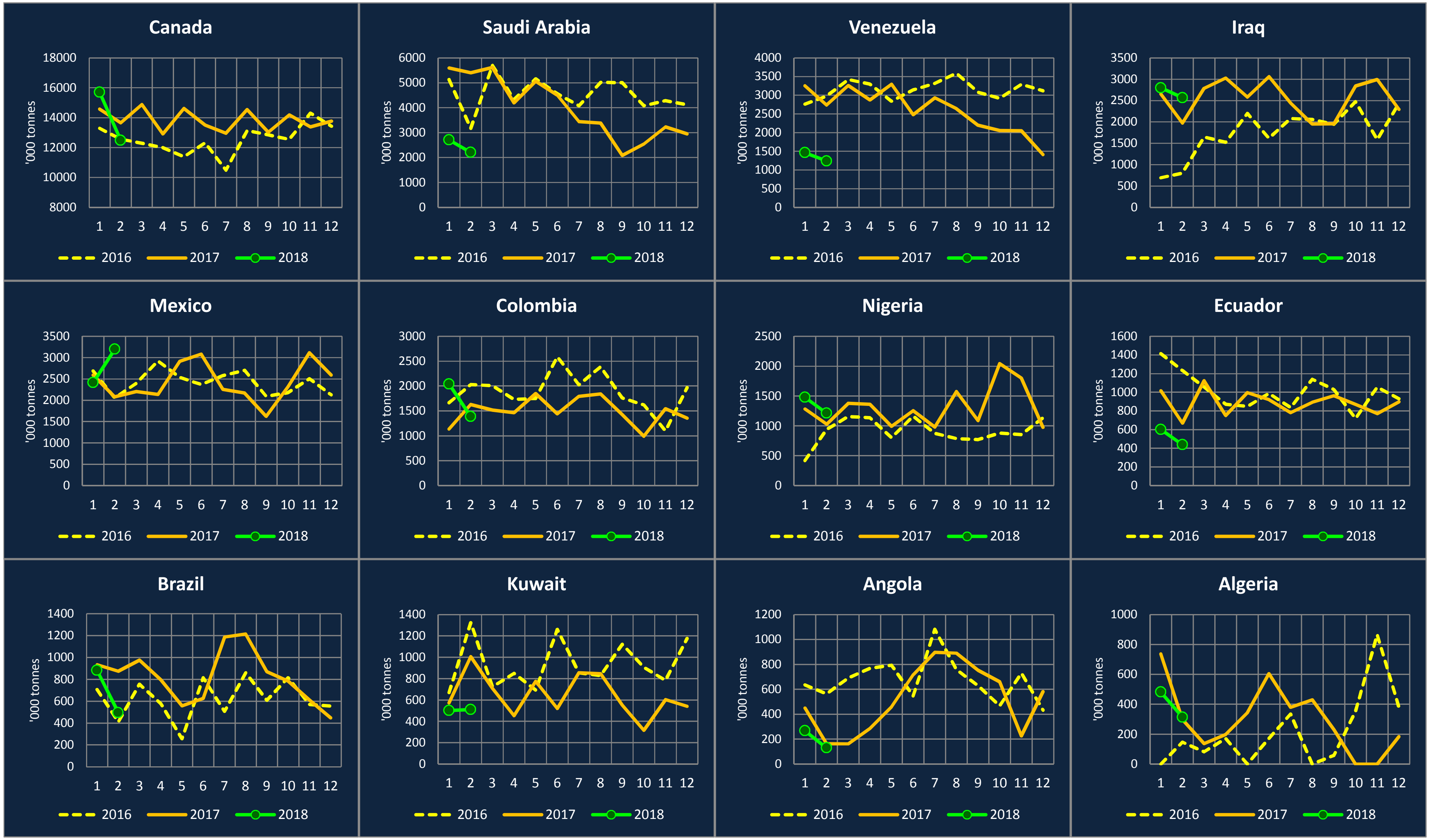

US crude oil imports by country (continued)

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US crude oil exports by country

Q1 2018