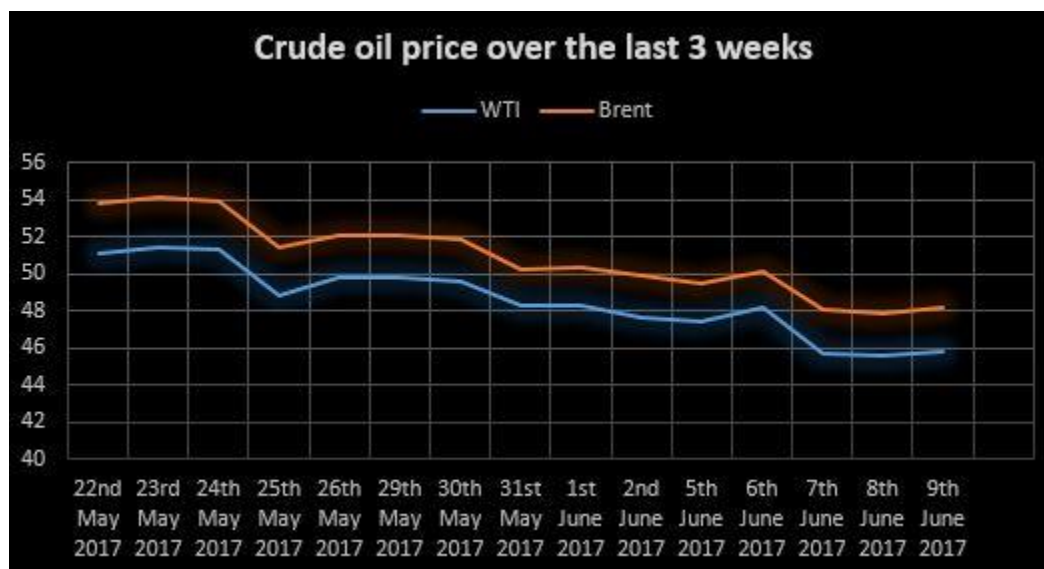
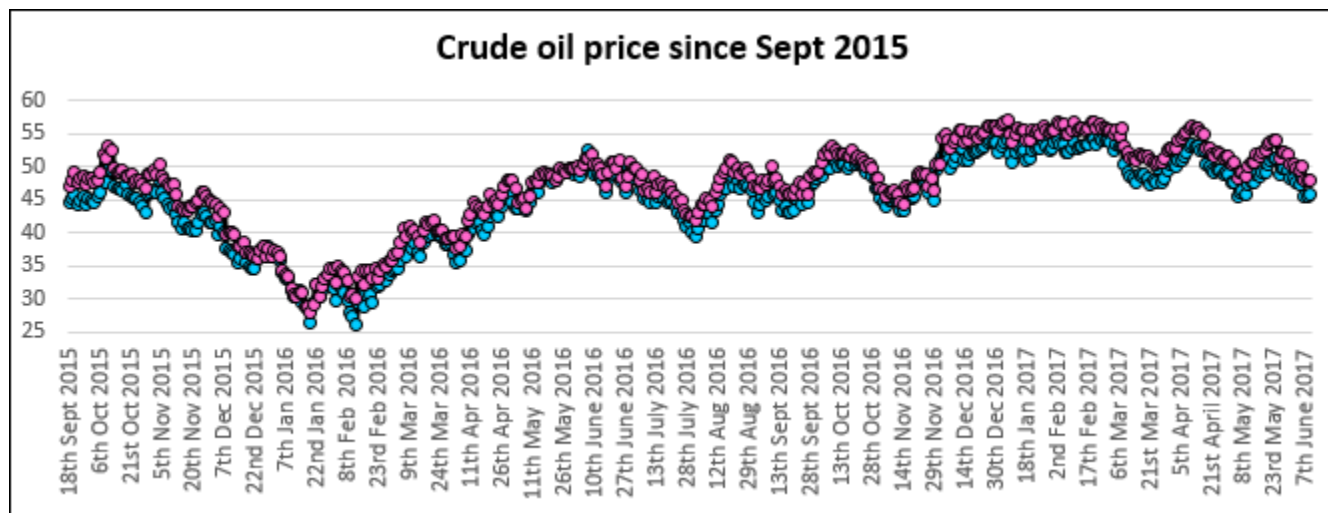


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Some of the news items for this week are as follows:



- The crude oil price fluctuated following different international developments this week, such as fallout of President Trump’s quitting the Paris climate accord, the developments in the Middle East and the EIA revising its estimates for 2017 and 2018.
- President Trump’s decision to quit from the Paris climate accord, aimed at cutting greenhouse gas emissions, would help the oil, coal and natural gas producers in the US. As per the deal, the US requires to reduce polluting emissions from oil and gas production by more than a quarter, below the 2005 levels by 2025. The decision has affected renewable energy companies (wind, solar and electric vehicles) as the Paris accord aims at helping transition away from fossil fuels which are greenhouse gas emitters. However, ExxonMobil Corp and ConocoPhillips have

expressed support for the accord, saying that US would be better off having a seat at the table and influencing international efforts at reducing emissions from oil and gas fuels.

- Per the EIA, the crude oil production will average more than 10 mb/d for the first time in 2018, which will top the 9.6 mb/d record set in 1970. This number is higher than 9.96 mb/d that was projected by EIA last month. Also, for 2017, the EIA has estimated the production to rise to 9.33 mb/d, which is up from the May estimate of 9.3 mb/d.
- Trouble seems to be brewing in the Middle East with Saudi Arabia, UAE, Bahrain and Egypt cutting off diplomatic ties with Qatar, for its ties with the Iran, and support to Islamist groups in the region. Qatar is one of the world's richest countries in the Middle East and the biggest producer of LNG. Its wealth of \$335 billion has found investment in many US companies, and the country hosts the US military central command in the Middle East. The UAE has banned all international flights serving Doha from flying in its airspace. Saudi Arabia, UAE and Bahrain have given 14 days to Qatari citizens to depart and have banned their citizens from travelling to Qatar. Saudi Arabia and Bahrain have closed their berths to all ships travelling in and out of Qatari ports. UAE and Egypt have also banned Qatari ships from its ports. There are more bans coming in place in the banking sector, sugar exports, media access, etc. President Trump though first supported Saudi Arabia's action, has now offered to mediate.
- Trouble seems to be brewing in Norway as well, as the oil workers will hold talks with their employers on Friday to hold off a strike that could potentially cut 10% of crude oil production from western Europe. The strike by 150 employees could shut down production at 5 offshore platforms if the talks fail and the strike starts Sunday.
- Some of the Wall Street banks including Goldman Sachs Group, Morgan Stanley, and J. P. Morgan Chase and Co. think that the renewed effort by OPEC/Russia to maintain production cuts for longer may not be enough to make the world surplus oil production go away. The US shale drivers have been boosting production fast at the present crude price between \$45 and \$50. Besides, the demand growth has been fading. Both these factors will contribute to OPEC/Russia rethinking of continuing for production cuts beyond the present period of 9 months. The Russian Rosneft Oil Co., CEO, Igor Sechin has said that the OPEC/non-OPEC agreement could largely be balanced by the US shale oil production by the middle of 2018. According to him shale oil output will increase by about 1.5 mb/d in 2018, which is close to the production cuts effected by OPEC/non-OPEC.
- Libya's biggest oil field, Sharara was closed on Wednesday this week, following a protest by workers. The workers were protesting at the death of a colleague at the field. With this closure, the pumping of 270,000 b/d of crude oil comes to a halt. The recent increase in Libya's production to 850,000 b/d, as well as higher production from Nigeria have been posing a problem for OPEC's efforts at reducing the world oil surplus.

- Equatorial Guinea is OPEC's newest member and has called on African oil producers to group together and protect the value of their oil resources. The country is the biggest oil producer after Nigeria and Angola.

So much for the industry news this week.

For the lighter side this week

I couldn't think of a good topic to write on under this column this week as I had been busy. Instead, I have two items to talk about that I came across, under the 'Did you know' category, and found them interesting.

Have you ever wondered how whales breathe?

After all they live in water and can go on their underwater dives for 45 minutes at a time. Do they breathe like us humans, or have some other breathing mechanism? Let's clarify this!

First, whales have lungs and breathe like us. But there are differences. For us humans, we inhale air and the oxygen in there gets absorbed by the lungs, and then we exhale the residual. Whales also breathe in a similar way, except that compared with their body size, they have smaller lungs. For humans, the lungs take up 7% of our internal body cavity, whereas for whales it is about 3%. So, then the question pops up, how are they able to store oxygen in their body that can keep them going for 45 minutes and more under water. There is another difference. Oxygen is stored and transported in our bodies in the red blood cells in a protein called haemoglobin, which forms 30% fraction in our blood. Whales have twice the quantity of haemoglobin in their blood, i.e. forms 60% of their blood fraction. Thus, they can store twice the amount of oxygen in their blood. Besides this, whales can do a few other things, and an important one is that they can control their heart rate, i.e. slow it down by almost half. This reduces the flow of blood to organs where it is not essential all the time, but maintains a constant flow to their brain.

Once they have completed their dive, they need to come to the surface to first exhale the stale air in their lungs, and then take in fresh air (again contrary to humans as we first inhale and then exhale). You may have seen it on TV, how whales force air out of their bodies, and blow up a spray of water droplets in the air. I got the opportunity to see some of their features when we first arrived in Canada, and went out for whale watching with our relatives who were visiting us while we were in Victoria.

Do you know about the bird that migrates or flies the maximum distance during its lifetime?

It is a tiny bird called the Arctic tern, weighs about 100g, and has an average life span of about 30 years. The breeding grounds for these birds are islands, tundra and the rocky beaches. The adult terns are gray to white in colour with red beaks and legs, and have a black patch covering their head and forehead. Most of the terns are seen at their breeding grounds, and one of those areas is Farne Islands in the UK, where they feed on sand eels in the sea. But terns are migratory birds and leave their native

places in search of food and better seasons. These birds have been found to migrate along zig-zag routes between Greenland and the Antarctica each year. Scientists have tagged these birds with tracking devices, which are very light (1.4 g) in the form of a band around their legs. The zig-zag paths are due to the wind patterns that they encounter, as they avoid flying into the wind. Such paths are from the Arctic along the Atlantic getting close to Africa, and even deviating to South America, and reaching Antarctica, covering about 25,000 miles. A similar path is followed on their return journey.

Interestingly, the terns fly continuously over water, except that they dip down to sea surface to catch fish or other food. But are constantly on the move, flapping their wings all the time, and so are seemingly very energetic. I found this quite interesting.

My next post may be a bit late as I am preparing to leave for Paris to attend the 2017 EAGE Conference tomorrow morning.

I hope you find these interesting.

So much for this week! Till the next post, stay safe and happy!