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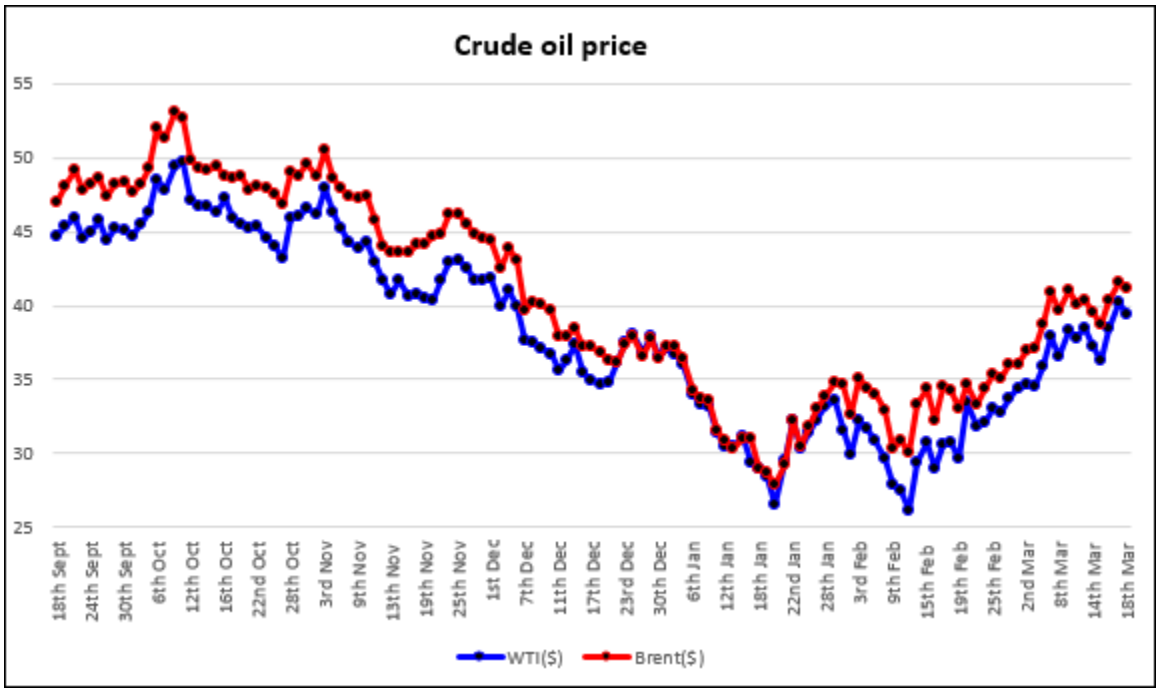
Some of the news items for this week are as follows:



1. Crude oil prices this week have fluctuated in the $36 and $41 range. A number of factors have contributed to the rally in oil prices. Many central banks in the US to Norway have indicated that they would continue to provide economic stimulus to support the demand; there is speculation that the global oil glut will ease out; shale oil production in the US has fallen; a meeting between OPEC and some other oil producers is expected soon.
2. A meeting by OPEC members and some other major oil producers is being scheduled for next month (April 17th) at Doha, to discuss the proposed freeze in the oil output levels. A sense of urgency is being felt by many OPEC member countries and other major oil producers as well, as the low oil prices over the last year or so have been hurting their economies. Some of these countries are financially stricken. This meeting would seek commitments from countries within and outside OPEC, a move that will help reduce the world oil surplus.
3. As far as any oil freeze is concerned, Iran would like to be left alone, according to its Oil Minister, Bjan Zanganeh. The country would like to increase its output by 1 mb/d this year, after international sanctions were lifted in January.
4. As per the International Energy Agency (IEA), the production outside OPEC will decline by 750,000 b/d this year. There are reports of production losses in Iraq (pipeline disruptions) and Nigeria. The agency said, 'there are signs that prices might have bottomed out'. This is encouraging news. Some indications are, first, the world oil consumption could increase by 1.2 mb/d, which could reduce the oil surplus. Second, the inventories in developed countries shrunk somewhat last

month after many months. And third, the US oil production is likely to reduce by 530,000 b/d this year.

5. Some analysts believe that the price should stay somewhat low to discourage the shale oil producers from borrowing capital and again adding to production. If the oil prices stay low for some time, the rising demand will wipe out the surplus.
6. The oil companies have tried to become efficient and have maintained production over the last year, but the oil price at even $50 is not sustainable, as most of the companied have lost money last year. However, some shale oil producers have said recently, that they can start producing if the price of the barrel goes up in the $40 range.
7. There are many shale wells from south Texas to the Rocky Mountains that have been suspended due to low oil price. These can be completed very soon as the prices go up. This reserve is known as 'fraclog'.
8. Many companies operating in Texas have announced that they would be laying off people in view of the low oil prices. C & J Energy Services will lay off 87 employees in Robstown, Texas. Earlier, the company had laid off 78 employees at its Pleasanton office in Texas. Transocean Offshore Deepwater Drilling will lay off 80 employees on one of its drilling ships in the Gulf of Mexico. The company had laid off 200 workers in February. National Oilwell Varco also announced that it would be closing its facility in Baytown, Texas resulting in the layoff of 107 employees. Finally, Calfrac Well Services will lay off 87 employees from their office in San Antonio, Texas.

So much for the industry news this week.

For the lighter side this week

After waiting for years, recently, I finally decided to buy myself a pair of transition glasses that automatically become dark when exposed to sunlight, and again become clear in the shade or indoors. When I was back in India, I remember such glasses were called photochromatic. Here in North America, they are referred to as photochromic or transition glasses. Transition brand technology popularized such lenses in the 1990s, which still continues. So, the obvious question that came to my mind was how do such lenses work?

Photochromic lenses are optical lenses made of glass or plastic material that darken when exposed to light of sufficient intensity, being sensitive to ultraviolet (UV) radiation. In low intensity light, the lenses become clear again. Depending on the technique used to fabricate such lenses, their quality may vary somewhat, but essentially molecules of silver chloride or organic photochromic molecules are embedded on a glass substrate or on the surface of a plastic lens. Such molecules are sensitive to UV light, and undergo a reversible chemical process that causes them to absorb light and darken. As the lenses are moved in the shade, they come back to their transparent state. The darkening of the lenses happens in less than a minute, but the fading back to their clear state takes place by a thermal process. Thus in cold weather conditions, the lenses take a little longer to become transparent.

Needless to mention, the ordinary dark glasses act as light filters, restricting the light passing through them; photochromic glasses provide the convenience of automatically restricting the amount of light entering the eye, as one is moving from shade to sunlight or otherwise.

Photochromic glass was invented by William Armistead and Stanley Stookey of Corning Glass Works, who patented their technology in 1962. The original photochromic technology has undergone some advancements since then.

Interestingly, as photochromic lenses are sensitive to UV light, they function well in the sunlight. While driving however, one may notice that they function less effectively as the windshields block most of the UV light. But some recent brands offer more sensitivity of the lenses which function well both inside and outside the car.

This brings me to stating another important piece of information, and that is, places situated at higher latitudes or elevations receive more solar radiation and along with it the UV rays. This is on account of the fact that they travel through less of the atmosphere (containing substances such as ozone, Sulphur dioxide and aerosols), which is a good absorber of UV radiation.

Temperature also has a role in the performance of the photochromic lenses in terms of the reaction time of the silver halide or the organic chemical molecules. In colder temperatures, the molecules move slowly, and consequently as stated above, it could take longer for the lenses to go from dark to cold. In warmer temperatures they will clear up faster.

The word 'photochromic' comes from two Greek words, namely 'photos' meaning light and 'chroma' which means colour.

It is a good habit to wear dark glasses or photochromic glasses for the age-related health of the eyes. Optometrists advise people to wear such gear to prevent ageing of the eyes and also avoid risk of cataract.

Did you know?

If you cry in space, the tears just stick to your face. Check it out at
https://www.youtube.com/watch?v=P36xhtpw0Lg

I hope you find these interesting.

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