

# Oil Market Report: July 2018

World Cup frenzy aside, nothing discombobulated the Portland office more than the news that beer supplies might be curtailed over the summer, because of a lack of Carbon Dioxide (CO<sub>2</sub>). What's that?! Are you telling us there is a shortage of the one thing that everyone says there is too much of in the world? Make up your mind! Plus why does it affect beer and fizzy pop?!

The fact that there is actually a Carbon Dioxide industry is surely news to most people. But in fact, manufactured CO<sub>2</sub> not only goes into drinks (to make them fizzy), but also fire extinguishers, surgical equipment, fruit packaging (a protective CO<sub>2</sub> "atmosphere" extends shelf-lives), food production (including the serious business of crumpet manufacturing), refrigeration, coffee decaffeination and most important of all, to support vampire-goth bands of the 1980's through the copious use of dry-ice.

The CO<sub>2</sub> used for all of the above is a manufactured product, rather than the "naturally" produced CO<sub>2</sub> which is a result of burning fossil fuels. However, it is not a product that is manufactured directly, but is instead a bi-product of other industrial processes. The majority of CO<sub>2</sub> produced in Europe (North America is different because natural reservoirs of CO<sub>2</sub> exist), comes from the petro-chemical process of manufacturing ammonia (the main ingredient for fertilisers) and as with all things petro-chemical, the oil and gas industry looms large. This is because it is hydrogen from Natural Gas, LPG or Petroleum Naphtha, that is bonded with atmospheric nitrogen to make NH<sub>3</sub> - the compound commonly known as ammonia. Furthermore, the fastest growing alternative source of CO<sub>2</sub> production comes from the manufacture of bio-ethanol (for petrol blending) - another product inextricably linked to the fuel industry.

This year's commercial CO<sub>2</sub> shortage was caused by both planned and unplanned shut-downs of several ammonia plants across Europe. Whilst frustrating to buyers, the slightly chaotic nature of the shortages at least should convince people that there are no cartels existing in the CO<sub>2</sub> market. This is largely a function of how CO<sub>2</sub> is produced (a bi-product of something else), its low relative value (global CO<sub>2</sub> sales are circa \$2bn per annum versus \$50bn for ammonia) and how it is sold (contracted sales, rather than a spot market). This means that despite the product shortage, prices of CO<sub>2</sub> did not rise and no CO<sub>2</sub> "speculators" were able to capitalise on the situation.

But the shortages experienced this year could be the start of a trend for several years to come. CO<sub>2</sub> demand in Europe remains constant, whilst production via ammonia manufacturing is moving East, because of sky-rocketing fertiliser demand for food production in India, China and South-East Asia. This leaves the European CO<sub>2</sub> industry in a rather precarious spot and whilst increased production of bioethanol may help, the reluctance of EU governments to increase ethanol blending limits to 10% (ie, E10 Petrol) means that this part of the industry is unlikely to come to the rescue any time soon.

Yet the thought of a CO<sub>2</sub> "shortage" seems utterly absurd when from a climate perspective, the world has a surfeit of the stuff. Surely this would be an opportunity to do something clever by taking waste (ie, emitted) CO<sub>2</sub> and using it for commercial purposes? There are already ideas out there, including one project that is testing whether CO<sub>2</sub> from power generation can be bubbled through water to stimulate algae for biodiesel production. Another is considering micro-sequestration of CO<sub>2</sub> on a vehicle by vehicle basis. But the reality is that these small-scale pilot schemes are going to take a long time to come to fruition and the CO<sub>2</sub> industry is not material enough to justify major investment. Maybe the most likely solution will come from increasing taxes on CO<sub>2</sub> emissions, thus giving emitters a hard incentive to find uses for their waste product.

But in the meantime, school is out for summer and Portland advises its readers to take no chances when it comes to having cool, fizzy drinks to hand over the next few weeks. Take Portland's lead and stock that fridge up ready for the summer holidays. Have a good one!