

Oil Market Report: February 2021

Ask most people about the oil industry and they will talk about the black stuff that comes out of the ground. When analysts are asked to talk about pricing, they invariably talk about the crude price. But what about the refining sector and refined petroleum prices? As everyone should know, crude is actually a useless product in its raw state because it cannot be utilised for anything. Its value is only realized when it is turned into a refined product such as gasoline, diesel, bitumen, lubricants etc, etc...etc! Furthermore, the fascination of refined oil is that every single individual product has its own traded market, which can quite often be out of kilter with the underlying crude price.

Last month we detailed the recent problems that have beset crude producers and it's fair to say that the upstream / exploration industry did indeed experience an annus horribilis in 2020. In many ways however, refinery operators had an even worse time. Superficially, one would think that with plummeting crude costs, refiners would have been pleased (because input costs dramatically fell). Then again, what is the point of buying cheap crude, if the products you turn it into have zero demand and next to no value? "Gasoline anyone?" "No thanks, nobody was driving much in 2020" (demand in Q2 2020 actually dropped by 80%!)." "How about some nice jet fuel sir?" "Urm...most planes were grounded in 2020 and whole parts of the world remain virtually flight-free". "OK then, what about some premium base oils?" "Well, as you know Mr Refiner, base oils keep the machines of heavy manufacturing going and to be frank, we still aren't making very much at the moment." And so on - you get the picture.

To try and simplify the economics of refining, analysts consider the "crack spread". This is the difference between the buying costs (ie, the price of crude oil) and the selling price (ie, the price that refined products are sold into the market). To get to one overall sale price, all the values of the different refined grades are pooled to produce one average "basket" price. This difference between the buying price and the sale price is (obviously) the refinery's gross margin. In 2018 and 2019, the average crack spread (gross margin) was around \$12 per barrel (ie, crude might be bought at \$50 per barrel and refined products were on average sold at \$62 per barrel). If you consider that the cost of manufacturing sits around the \$5 per barrel mark (obviously this varies around the world according to wage levels, energy costs etc), this meant that in the 2 years before 2020, refineries were making very healthy profits indeed. Fast forward to 2020 and the average crack spread sat at \$4 / barrel, meaning that for every barrel produced, some refineries were losing around \$1 / per barrel (after manufacturing costs). Want that in real values? The average daily production of a European Refinery is about 200,000 barrels per day, so that's a loss of circa \$200,000 per day. And do remember that whilst refineries are able to reduce volume throughputs, they never (ever) fully stop production. Over 365 days, you end up with a potential loss for one refinery in excess of \$70m. Yes, you read that correctly!

Good times, bad times, prices up, prices down. We know the drill by now. Most refineries will have saved enough in the good times of 2018 - 19 to see them through this current tough period of trading. However, even if we account for deep pockets (and significantly increased maintenance levels during the "dead" periods of 2020), refineries are still facing a very challenging underlying market structure. Historically, crude prices always recover more rapidly than refined prices, as traders react quickly to shifting market dynamics, in a way that refiners cannot match (relying as they do, on the vagaries of consumer demand). In 2021 so far, we have seen this trend very clearly. As we predicted last month, crude prices have rallied strongly because of supply constraints, meaning that the base (buying) costs of refining are going up. On the other side of this equation however, product demand remains extremely sluggish, meaning that the crack spread is stubbornly sticking at the \$5 per barrel level.

Should this situation continue throughout the year, it will pose big risks to a refining sector still licking its wounds from the commercial brutality of 2020. With the ongoing impacts of covid still completely unknown, it does not feel a bold claim at all to say that this year could easily be marked by several permanent refinery closures. Newly built "super-refineries" in the Middle East and Asia will probably be immune to this, but the ageing infrastructure of European and US refineries face a very different outlook. Already battered by huge environmental and consumer pressures, survival may only be possible by ruthless process efficiency and / or a reinvention along the lines of biofuels production, renewable energy or the manufacture of hydrogen.

These are remarkable times both in terms of short-term economic volatility and the longer-term energy transition to a low carbon world. Oil refiners find themselves at the exposed face of both of these grand global trends and we predict that only the fittest and most innovative will have a comfortable 2021.