



# Downstream 4.0 SUMMIT

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Excerpts from an interview with

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## **What was, is and will be the potential impact of Covid-19 on the refining activities?**

The impact on the refining sector has been profound, as refinery utilisation and profitability collapsed before starting a slow recovery. The utilisation collapse resulted from the fall in demand from mobility restrictions, with the OPEC+ group's supply restrictions eroding crude differentials as it sought to rebalance the global crude market. This accelerated the emergence of the global surplus of refining capacity and prompted site closures across Europe, North America and Asia. The slow recovery of jet fuel demand has shifted the pricing relationship between gasoline and diesel/gas oil, as jet supplies have been diverted into the diesel pool. The pandemic has also provided a glimpse of the future, as petrochemical demand was less impacted than transport fuels and heavily integrated refinery/petrochemical sites remained commercially viable – this is consistent with our view of the future impact of the energy transition, but this will be a far more gradual process. As evidence, the new Hengli facility in China, a 400 kbd second generation integrated site (as over 40wt% of the site yield is petrochemicals), earned over US\$2 billion during 2020 whilst the majority of fuels refiners in Asia and elsewhere were incurring losses.

## **What are the signs of the inevitable refining revolution? Which major changes can we expect?**

There are signs that the revolution in refining is already underway – there are several examples of the conversion of existing competitively weak refining assets into biofuel sites, typically producing hydrogenated vegetable oil from low carbon feedstocks for use by US and European consumers. There are also many small investments being made to start the decarbonisation of operations or become part of the circular economy – these include a switch to green hydrogen production along with the chemical recycling of plastic waste. Perhaps the biggest signal is from the European oil majors, such as Shell. Shell has already declared its strategy is to restructure its

Downstream portfolio to focus on those assets it considers sustainable in the energy transition. It has selected highly competitive integrated refining and petrochemical sites, at which Shell will focus its downstream decarbonisation efforts. The key changes that we expect to see (aside from the business as usual characteristics of a sustained focus on cost reduction, operational efficiency improvement and improved asset optimisation) are a focus on petrochemical integration, particularly for new sites in conjunction with increased biofuels processing and chemical recycling activities. The pace and direction of regulatory change along with the associated electrification/ decarbonisation of sectors that currently provide the demand for fossil fuels will determine the operating environment for the global refining industry. Even in an accelerated energy transition, we envisage highly competitive, integrated refinery/petrochemical sites that have low carbon intensity operations and are part of the circular economy will remain commercially viable. In such a scenario, “refining as a conversion industry” remains, but crude oil will only be one of many feedstocks.

### **What was the biggest focus of the company/organisation you represent recently?**

Recently Wood Mackenzie oils and refining research has had two key focus areas – firstly, it is to integrate our detailed understanding of refining assets with the high frequency monitoring data now available to us through our acquisition of Genscape in 2019. We now monitor in a live manner the operational status of many of the world’s refineries, along with crude and product inventories at key locations, all of which enhances the transparency of the global hydrocarbon supply chain. The second is to develop a scenario capability to support our clients in their assessment of the medium/long term global energy developments for the oil and refining industry, as the planning environment for capital investments is particularly uncertain. Our global oil demand, oil supply and refinery supply models enable clients to make their own assumptions and assess their impact on global oil demand, oil supply/price and impact on the refining industry (refinery utilisation, crude and product trade and refining margins).