Tuesday 30 June 2020

Virtual Workshop
Oil Market Forecasting and Outlooks

Summary of Discussion

About the Webinar

The KAPSARC/Paris Energy Club joint webinar brought together a wide array of experts working on and interested in oil outlooks from different organizations, including agencies, energy companies, and other related entities to discuss methodologies, trends, and assumptions used to develop oil and energy outlooks, share best practices and collect feedback from participants.

The webinar kicked off with welcoming remarks by Dr. Fahad Al Turki, Vice President and Head of Research of KAPSARC, followed by Pierre-Franck Chevet, CEO IFPEN, President of the Paris Energy Club. Both greeted the attendees and highlighted the importance of the workshop under the current circumstances of COVID-19 in which uncertainty has made forecasting more difficult (and valuable) than ever.

Session 1: Oil markets - assessing short-term developments

The KAPSARC Oil Market Outlook 'KOMO' model began development in September 2018, and since then has successfully published quarterly reports on the short-term market while developing a long-term version. The first presentation reviewed the KOMO model methodology and different layers used for demand (growth, seasonality, temperature changes to consumption, and use of dummy variables). This was followed with an overview of the supply section and the methods used to handle the three main categories of resources; Static, Capacity Limited and Dynamic. The discussion around supply continued with a description of non-technical factors applied to the technical results, which are driven by KAPSARC's bi-annual risk survey and the behavioral aspects of OPEC and partners. The discussion also covered other items such as bottlenecks and pipeline capacity, the future of new projects, the future of SPRs, shale, and the role of the G20 in managing the market.

The second presentation covered IEA's views on oil market development in the short-term, and how the agency managed to assess oil demand destruction and recovery using global mobility indices produced by Microsoft, Apple, and TomTom for road transport and flight data from OAG. It also highlighted the importance of monitoring real-time activity in forecasting black swan cases such as the COVID pandemic. IEA's analysis also covered supply forecast and implied stock changes.

The first question focused on the separation of GDP (one of the main inputs in forecasts) from the policy implemented on the ground and how such difference could be reflected in a model's methodology. The speaker then responded that policies are different for each region and country, and can be reflected by using dummy variables that represent prior, yet similar, incidences in that country/region. It was also highlighted that it could be done by product category as well.

One participant asked about the way the model handles tight oil and OECD versus non-OECD stocks. Regarding tight oil, it was highlighted that the KOMO model builds a cone of upper and lower limits for each time period based on maximum decline and growth rates, and resolves a solution based on price before moving on to the next period. As far as stocks are concerned, it was highlighted that KOMO only focuses on OECD inventories as there is no available historical data on non-OECD countries. One participant noted that non-OECD data "virtually does not exist", but mentioned that analysts in the IEA use multiple sources such as carbon tracking data and have recently started using satellite services such as those provided by Kayrros. It was also highlighted that storage capacity had become another relevant factor since early 2020. Further discussion concerning OECD and non-OECD differences continued among the webinar participants, with some highlighting that looking at import and export data to calculate stocks can achieve similar estimations. Trucking data for non-OECD has also been highlighted as weak but could help in forecasting.

One participant highlighted that there are service providers with data on inventories; large collections of data on crude floating storage tanks as well as some indications on other storage on water. It was also noted that some service providers have significant data on India and China, but one comment indicated that the demand dip in March and April was surprisingly not well reflected in the satellite data. One participant mentioned that the peak should not have exceeded 10 million barrel per day (MMb/d) in crudes and when including all the products should have not exceeded 18 MMb/d in decline. The discussion carried on to discuss the COVID-19 impact in different sectors on fuels.

The moderator then asked about the possibility of a second wave with a speaker responding that a second dip may not be as impactful as the first. Another responded that the IEA's estimation did not include a second wave in its current forecast, but highlighted that the question should focus on the duration of the 1st wave that seems to be prolonged in some countries such as the United States. The moderator's last question was with regards to lessons learned of the analysis done during the pandemic or if this was a blip. For models developers, such issue is a genuine challenge. However, the situation demonstrated the ability to get more up to date data such as the case with mobility data which was a silver lining. The importance of stock numbers was also put forward during the discussion. Another participant highlighted the importance of creating ranges in estimations as well as the importance of looking into the behavioral aspects such as minor geopolitical tensions as well as the behavior of OPEC and partners.

Session 2: Oil and energy markets - unpacking long-term uncertainties

The moderator highlighted the challenges of long-term forecasting, with the COVID-19 pandemic adding new uncertainties to the already complex factors (new technologies, social sciences and mobility, climate change, etc.).

The session highlighted some best practices in forecasting. The first piece of advice was "to be humble" which means to avoid exacerbating the tendencies that we have and truly understanding the underlying uncertainties by seeking feedback and broadening the scopes through reading while using the latest techniques. It was also highlighted that there shouldn't be a single tool to estimate everything. For example, the relationship between economic growth and energy transition, feedback loops/unintended consequences to climate policy, cost-effective options for power generation, oil versus electric vehicles, oil/gas drilling, etc. The presentation ended by posing discussion questions for the participants concerning the impact of COVID-19 on GDP, durable changes in behavior and the de-globalization of supply chains.

The second presentation started by highlighting the historical facts of fossil fuels in providing energy for human civilization, highlighting the advantage of liquid fuels over batteries. It also highlighted the trend of ever-growing vehicles density and the limitations of electrification for heavier duty vehicles with it showing the highest potential for growth. The presentation then went on to discuss the role of plastics and petrochemicals demand, particularly for developing countries. The speaker also added the need to consume more oil to achieve renewables' targets with regards for infrastructure aspects such as cement, steel, and glass. Vehicle efficiency was also discussed in the presentation pointing out that it does not reduce total oil consumption, but rather displaces its use elsewhere. The speaker expected oil demand to decline 1.4 MMb/d from BAU levels in the long-term.

While Asia continues to be the main hub for petrochemicals, United States is expected to expand its share in the future, thanks to its feedstock capacity from shale and gas going forward.

It was highlighted that all forecasts have a GDP dimension, but should also include policies, personal preferences and technologies as well. One participant noted that another factor to consider when discussing peak oil and if the powers pushing for de-globalization would push for more localized supply chains, home shoring, and a greater focus on domestic energy security as well as a reduction of international trade. A participant underlined the growing pressure on the oil industry starting with NGOs, now from insurance companies and the finance sector. He also reminded the audience of the greener coalitions gaining political grounds in many western countries, and local policies aiming at banning vehicles in cities' centers.

One participant noted that a new institute on green stimulus recently published that only 1% of investments were truly green and all came from Germany last year. He also highlighted that based on the current data available, a transition into greener energy will take some time and indicated a need for continued investment in fossil fuels. He then discussed Saudi Arabia's plan on change its energy mix to 50% renewables by 2030 and the challenges ahead in that it took Denmark over 29 years to do so.

Another participant had an opposing opinion concerning the speed of change for these transitions, giving as example the transitions taking place in California, Germany, India, and other locations. He stated that many new jobs are expected to come from renewables, not from the oil and gas sector, which should help shift policy makers to support the transition.

A presenter agreed with this, but noted there are limitations to scaling up and a continued need for fossil fuels in essential services like the existing fleet of 90,000 merchant vessels, 1.3 billion

LDVs, 25,000 commercial airplanes, 4,000 gas plants, and around 2,500 coal plants with plans for even more in China. He then highlighted other factors such as producing 1.3 billion tons of iron, 1.8 billion tons of steel, over 4 billion tons of cement, nearly 400 billion tons of plastic yearly. In his views, California was an exceptional case noting that over half of all zero emission vehicle sales in the last 6 years in the United States actually came from California, a quite unique example that should not be considered as a basis. The adoption of new technologies can take time; airbags were introduced in the United States in 1984, but took over 20 years to be included in all vehicles.

One participant asked if there were any specific trends due to COVID that can have a great impact on demand, but also if there is a window for new accelerated trends coming from Latin America or Africa. A presenter responded that there was potential, but these geographic locations were weighted downward due to their GDP per capita incomes levels. Access to mobility, timeframe and public health can play an important role, not in a 20 years' period, but rather longer.