

April 26, 2020

Commodities Mentioned:

- See Individual Reports

Companies Mentioned:

- See Individual Reports

Sunday Chemical Recap

Openings – Global Economies and C-MACC Interns

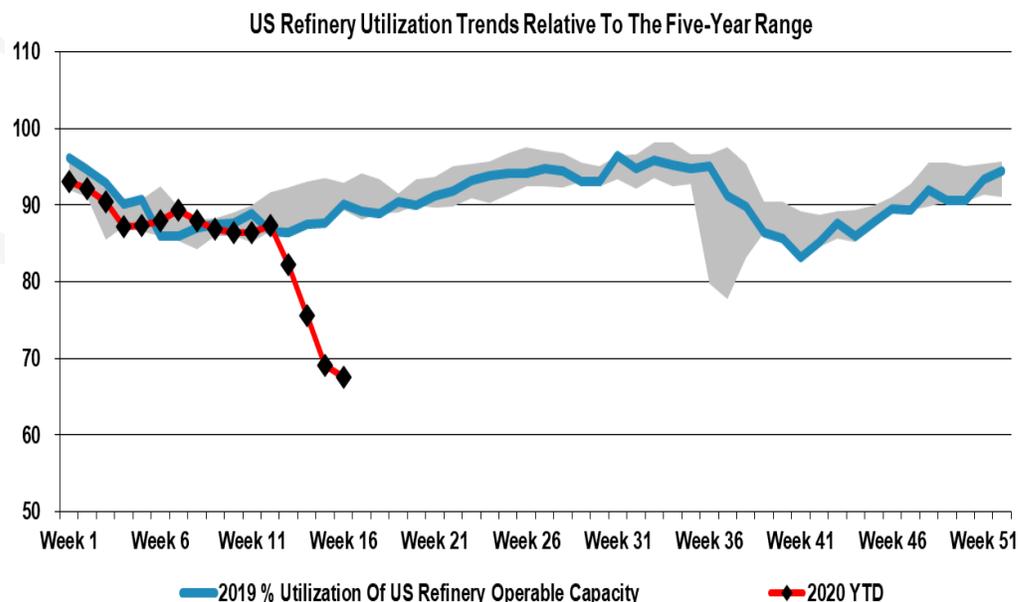
• Two important housekeeping items:

- ***This is the last Sunday Recap that we will distribute broadly – going forward it will be sent only to clients and to prospective clients on an agreed trial of C-MACC work. Please contact us if you would like to become a client or if you would like to be placed on a trial of our full service for May.***
- ***We are launching our summer internship program today please see the linked PDF for details. If you have a suitable candidate or know of one, please pass the document along. The program is detailed at the end of this note or in the [PDF here](#)***

Key Points from the last week – how quickly can we really recover?

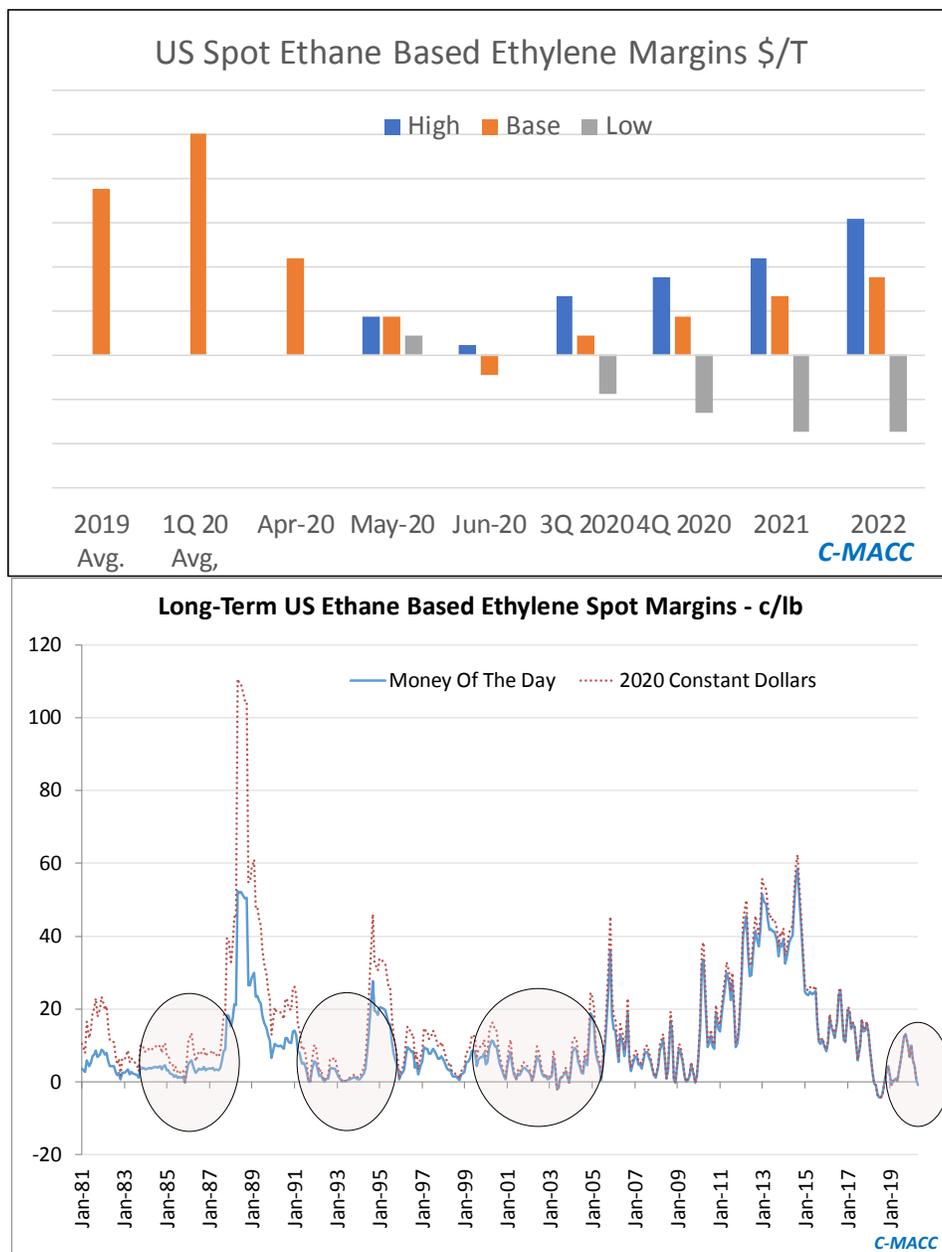
- We went off on a bit of a [rant on Friday](#) around the practical and realistic factors that might govern the rate of economic recovery around the world, and the likely repercussions for the chemical industry. In part we were influenced by the moves in the energy markets last week and the chart of the week (below).
- We struggle to find any scenario that can return the operating rates below – or the expected low operating rates in the chemical (likely to trough late this quarter and in Q3) back to pre-COVID-19 levels before a vaccine is widely available. Worse, it is easier to come up with downside scenarios than upside right now, especially given recent medical opinions around reinfection and a possible second wave.

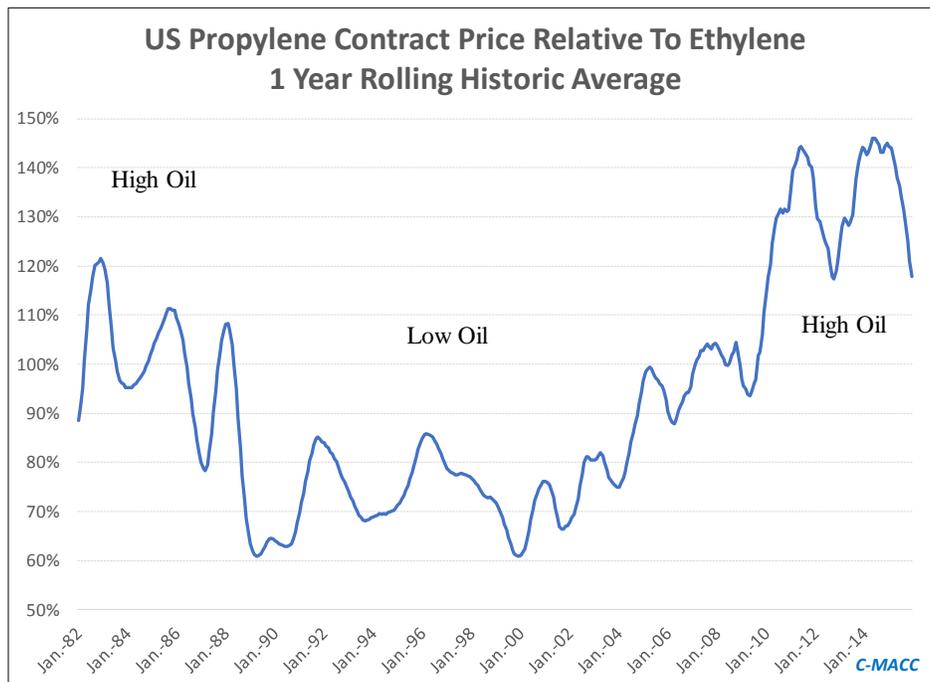
Chart of the week: US refinery operating rates remain under pressure as demand for products has weakened. The reduction in operating rate is working to help support associated chemical production and lifting recognition among refiners and, in our view, spurring support among Oil & Gas majors that their long-term chemical ambitions are a likely viable/profitable derivative path relative to fuels.



Source: Bloomberg, C-MACC, March 2020

- As we work towards our first price forecast (due for publication on the 30th) we have a draft initial chart that looks like the one below. However, we have two problems with it today, that we need to be comfortable with by Thursday.
 - First – we don't think we are negative enough in the base case. If you look at the second chart below it is noteworthy that in prior troughs we did not have a flat global cost curve – the US always had an advantage, but margins fell to zero to allow for derivative exports. With a flat or inverted (from a US perspective) cost curve, should margins go lower? Probably yes.
 - Second – we don't understand the propylene dynamic this time around and it is unclear that anyone does. The chart of the week is an aggregate US refining operating rate. If you break it down, you find that FCC units are shut down completely in many cases, because crack spreads are negative. This materially impacts the availability of propylene, especially in the US. In prior work we have shown the third chart below which suggests that propylene values fall relative to ethylene as oil falls (supporting US ethane-based margins on a relative basis). If weak demand for gasoline curtails FCC operations, this relationship will not hold this time, hurting the relative position of US ethane-based producers, even if propylene demand is weak





Sources: Bloomberg, Corporate Reports and C-MACC Analysis

- Two wild cards in the logic increase the range of possible outcomes: whether we reach a steady state for gasoline that allows some FCC units to run and if so, how many; and what would happen if refiners opted for higher severity catalysts in their FCC units to exploit the higher propylene pricing – this could flood the propylene market for a while, crashing prices and making the FCCs unprofitable again.
 - Propylene dynamics could lead to some very volatile relative ethylene economics for the rest of the year and we plan to cover the range of possibilities on Thursday.
- This week we published a [Perspectives piece](#) on the “permanent destruction of margin” focusing on how the specialty and intermediates chemical producers could get badly squeezed as their customers try to attract market share in a slow recovery. We also published a [Second Derivatives piece](#) looking at how hard it is to come up with a recovery story that helps the chemical industry medium term and sets up the downside scenario that we will cover on Thursday

If you are a C-MACC client and have not logged on to our website and/or have lost the instructions – let us know and we will fix it – you should be able to fix any log in problems directly on the website as your name and email are already in the system. Alternatively, email us with any PDF requests.

The Week of April 20 – the link to each piece is on the day/date line & available by clicking on the title

Monday – Weekly Margin and Pricing Analysis

[Global Chemical Update – US Cracker Advantage Passes Gas, Left With An Oily Mess](#)

- The global cracker cost curve shows naphtha as the lowest cost feedstock – profit headwinds mount for USGC commodity producers as demand falls.
- Spot propylene, ethylene and PVC market trends stand out to us WoW.

Tuesday

[Oil Panic, Polymer Prices Pop & Corporate Guidance Stops – The Land of Opportunity](#)

- We provide read-throughs from the oil market to the chemicals sector.
- We discuss the PVC market (also see our chart of the day) and other general polymer market trends considering the Asia ethylene marketing hitting a record low price point early this week.
- We highlight takeaways from five corporate releases since the start of the week: PolyOne, Stepan, Hexcel, Sika and DuPont.
- Other items of note today range from crude oil comments, to European methanol trends, to the COVID-19 impact on maritime shipping.

Wednesday

[Cheap Butadiene, Imbalanced Chlor-Alkali; Four Corporate Releases of Note; & Other Items](#)

- Butadiene prices are declining relative to the other major ethylene cracker co-products MTD – we frame our view of this market.
- We discuss the PVC and caustic soda markets as multiple industry reports emerge overnight – we view the industry overall as in a tough spot currently.
- We highlight takeaways from four corporate releases since the start of the week: Silgan, AkzoNobel, Orocobre & Graphic Packaging.
- Other items of note today range from crude oil comments, to multi-year lows in ethylene and benzene, to automotive market commentary.

Thursday

[Economics Trump Rhetoric and Opinion – Production Cuts In Focus; US Propylene Support; Other Items](#)

- Thoughts on the landscape for petrochemical supply/demand ahead of 1Q20 earnings reports next week.
- Propylene price support and comment to a couple of relevant corporate items targeting Air Products, Kinder Morgan and EQT.
- Other items of note today range from oil-and-gas commentary, to shifts in global chemical values, to thoughts on sector leadership through the crisis.

Friday

[Vinyl Prices to Sink Lower, Remain Under Pressure; Multiple Industry Reports & Other Items](#)

- We frame the case for PVC price declines into May which suggests profit headwinds for both USGC integrated and non-integrated producers.
- We highlight a few corporate releases that include Air Liquide, Eni (Versalis Chemicals), Olin, Sasol and Covestro.
- Other items of note today range from oil-and-gas commentary, to shifts in SE Asia methanol and China PTA, to India chemical import tariff proposals.

April 21 Perspectives 11

The Permanent Destruction of Margin

- While we have seen some product shortages, related to medical supplies and food over the last two months, it is hard to imagine any shape of recovery that leaves the world short of anything – from gasoline to washing machines.
- As manufacturers operate below capacity – with the incremental margin destruction that it brings – the inevitable two questions will arise; “if we could make and sell the product for less, would we see more demand?” and “how do we make it for less”. If you can sell more \$18,000 Camrys than \$24,000 Camrys – how do you make one for \$18,000?

April 24 Second Derivative

The 7th Second Derivative: the 3rd Derivative – The Rate of The Rate of Recovery – Not Enough

Over the next month or two we are going to get two sets of data that will determine the shape of the rest of the year and possibly 2021 as well.

- The adherence to attempts to re-start the economies in the West by easing restrictions and encouraging businesses to reopen
- And whether relaxing social distancing guidelines leads to a step back up in COVID-19 cases, as we have seen in some countries in Asia.

All data for this publication sourced from Corporate Reports, Bloomberg, Government Publications.

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C-MACC Summer Intern Program 2020

C-MACC is offering two summer intern positions for 2020. We are looking for motivated college students currently studying Business Administration, Engineering, Mathematics or Statistics. While the C-MACC internships will be virtual, they will be learning-intensive and designed to provide insight into business strategy, valuation models, predictive forecasting, interpreting corporate reporting and both corporate and macro economics.

To apply, e-mail your résumé and a brief statement detailing your interest in the position to:

graham.copley@c-macc.com

About C-MACC

C-MACC is a new company with an old (and some would say, lost) mandate — to provide the chemical industry and sector investors with value-added analysis, advice and consulting services on a consistent basis. The beauty of the chemical industry lies with its complexity and every-changing environment. Recognizing this, C-MACC utilizes a proprietary process that melds decades of global chemical industry experience, detailed fundamental analysis, extensive field research and innovative analytics to provide our clients research products and services, and strategic consulting offerings.

The uniqueness of the current environment allows us to offer meaningful opportunities for the right applicants, with a real chance to learn and develop new skills, while also helping the growth of C-MACC

C-MACC was founded in January of this year by Cooley May and Graham Copley, both highly experienced research analysts in the Chemical, Energy (and Industrials) segments. Graham has additional history in consulting within the Chemical industry and business development, management and M&A.

About the Opportunity – Not Just Chemicals

The opportunity is as unique as the times we are in and is all about mapping what an economic recovery might look like over the next 18 months using real-time data at a granular level. C-MACC has built its product base and reputation around knowing more about what is going on in the global Chemical industry on a day to day basis than most and then interpreting that information into actionable conclusions around product pricing and public company exposure.

Each summer intern will be given an industry to study – one that matters because it is a significant end-market for the chemical industry. These include: packaging and the consumer staples industry; the automotive industry; aerospace; housing and other construction; infrastructure, etc. It is a long list and we will match sectors to applicant's interests. As you can see, we could use more than two interns.

The job is to quickly become knowledgeable in each sector from a production, operating rate and sales perspective – how quickly each of these sectors recover, will not only impact demand for chemicals, but will indicate how the world economy is improving. We will teach each intern how to find information, on a daily basis and then how to judge whether the information is relevant and why – hopefully each intern will not only learn about how an industry works, but also how sophisticated investors think about the industry and the companies within the industry. [This link](#) will take you to one of C-MACC's daily reports – you should note the headlines and links that we cover in the second half of the report. These headlines are informative for our clients, but they also inform us with respect to what is trending in the industry and point to subjects that we should

research further. The goal of this intern program is to develop the same level of coverage within the industries listed above. Additionally, we have some opportunity to work in marketing and business development for the right candidate.

Applicants should be rising Juniors or rising Seniors, but we will accept applications from those graduating whose job opportunities have fallen through. Ideally, we are looking for a degree with a math or engineering background (or business studies), and an understanding of Word and Excel is important. But we are really looking for engagement and drive. These will be remote internships (because of the current environment) so applicants can be based anywhere. There will be regular dialogue through video chat and regular feedback. Each intern's goal will be to contribute increasing amounts of content to C-MACC reports.

Graham has trained research associates, junior consultants, research analysts and interns over a career spanning 30 years, in both the financial field and in consulting. Past interns have gone on to successful careers in related fields, and past research associates are now successful research analysts. The intern program will be managed by Graham.

Location:

Remote

Compensation:

For the last eight years Graham has offered "unpaid" internships, with a one-time cash payment at the end of the term. This compensation will be granted relative to the company's success and the intern's performance. In one previous case an intern was employed full time before the end of the program.

Timing:

Targeted from May – August 2020 but start and end dates are flexible.

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C-MACC is based in Houston, Texas, but our clients are global

[Link To PDF of Intern Program](#)