

North American Downstream Market Advisory

*Subscription service for research, intelligence, analytics, and insights on
North American downstream oil markets and supply chain*

June 2020



ADI Analytics
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Outline







- ▶ **Executive Summary**
- ▶ Downstream Market Review
- ▶ In-Depth Insight: Refining Capex Outlook Post-COVID
- ▶ Prospectus: North American Downstream Market Advisory

Crude oil prices, crack spreads, fuel demand, and downstream capital spending outlook continue to remain weak for 2020

Highlights

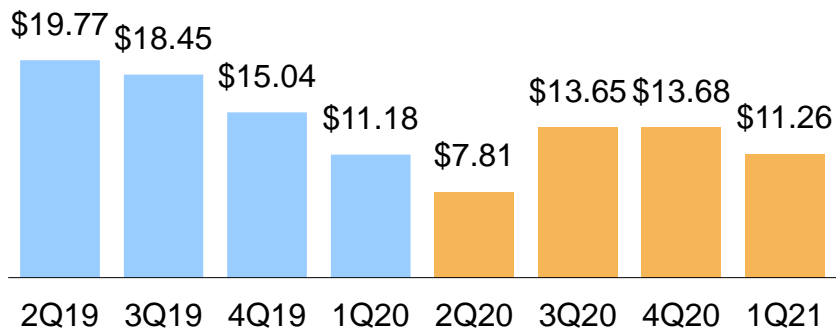
- U.S. Gulf Coast crack spread began to pick up at the end of 2Q 2020 but slow fuel demand recovery will keep it below pre-COVID levels
- U.S. and global crude oil production curtailments are supporting oil prices but slow oil demand growth will likely keep oil prices below \$40
- U.S. gasoline consumption and exports began to pick up with easing lockdowns
- Slowing U.S. distillate consumption and falling U.S. distillate exports contributed to higher distillate inventory in 2Q 2020
- U.S. distillates stocks grew at a faster pace than that for gasoline over the past month
- U.S. refinery runs and utilization picked up recently with some uptick in gasoline demand
- U.S. downstream companies are cutting their capex and deferring most of the non-essential growth projects

Near-Term Outlook for NA Refining

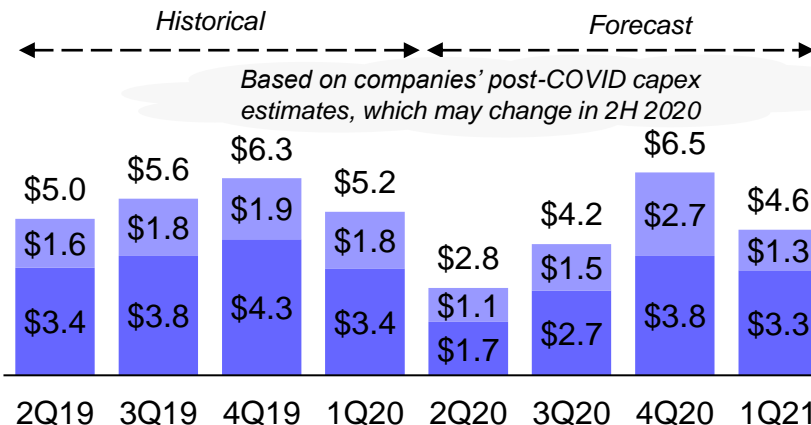
Crack spreads	
Crude oil prices	
Fuel demand	
Utilization	
Turnarounds	
Capital spending	

Refinery crack spreads, outages, utilization, and capex will likely pick up in the next quarter as fuel demand recovers

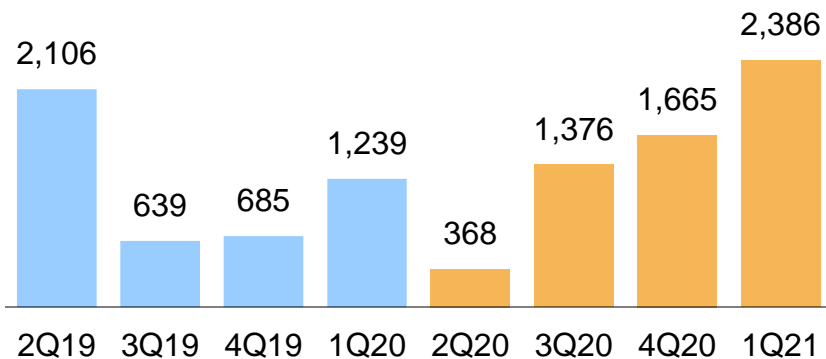
U.S. Gulf Coast Crack Spread
(USD Per Barrel)



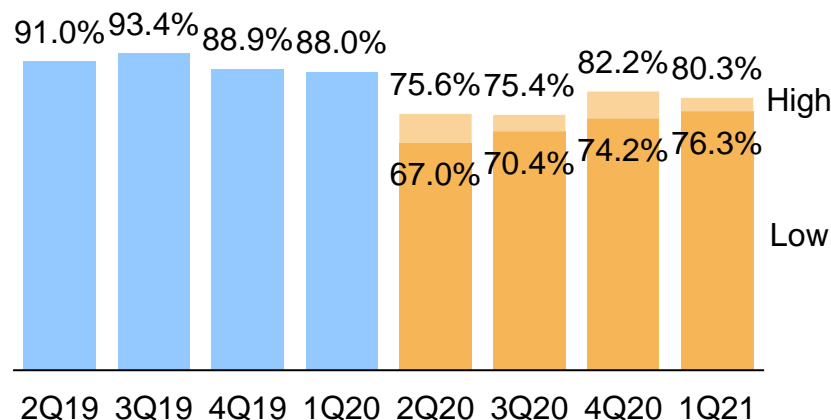
North American Downstream Capex
(USD Billion)



Announced / Planned Refinery Outages
(Thousand Barrels Per Day)



U.S. Refining Capacity Utilization Rate
(Percentage)



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Downstream news: Many players are diversifying out of fuels and refining

1

Motiva has restarted its FCC unit at its 607,000-bpd Port Arthur, TX refinery after it was shut down due to a leak in the unit's fractionator

2

A fire at Petrobras' 239,000-bpd Duque de Caixas refinery has reduced its operations to half but will not affect the company's upcoming deliveries due to sufficient fuel inventory

3

Pilipinas Shell Petroleum has resumed construction of an integrated hydrogen manufacturing facility at its 110,000-bpd Tabangao refinery in the Philippines

4

Saudi Aramco has completed its acquisition of a 70% stake in SABIC for \$69 billion. The deal will support Aramco's long-term strategy to expand its downstream and petrochemical businesses

5

Hilco Redevelopment Partners will buy the 1,300-acre south Philadelphia refinery this month for \$252 million with plans to transform it into a mixed-use industrial park

6

Japan's biggest oil refiner JXTG Holdings will spend \$14 billion over the next three years to strengthen its business in renewable energy, electronic materials, and petrochemicals

7

Croatia's oil and gas company INA aims to build a \$282.4 million-biorefinery in Sisak to help reduce its carbon footprint and fit into the Green Plan and European Energy Strategy

8

Repsol will invest \$90 million to build synthetic fuel plants based on green hydrogen generated with renewable energy and carbon dioxide captured at the Petronor refinery in Spain

9

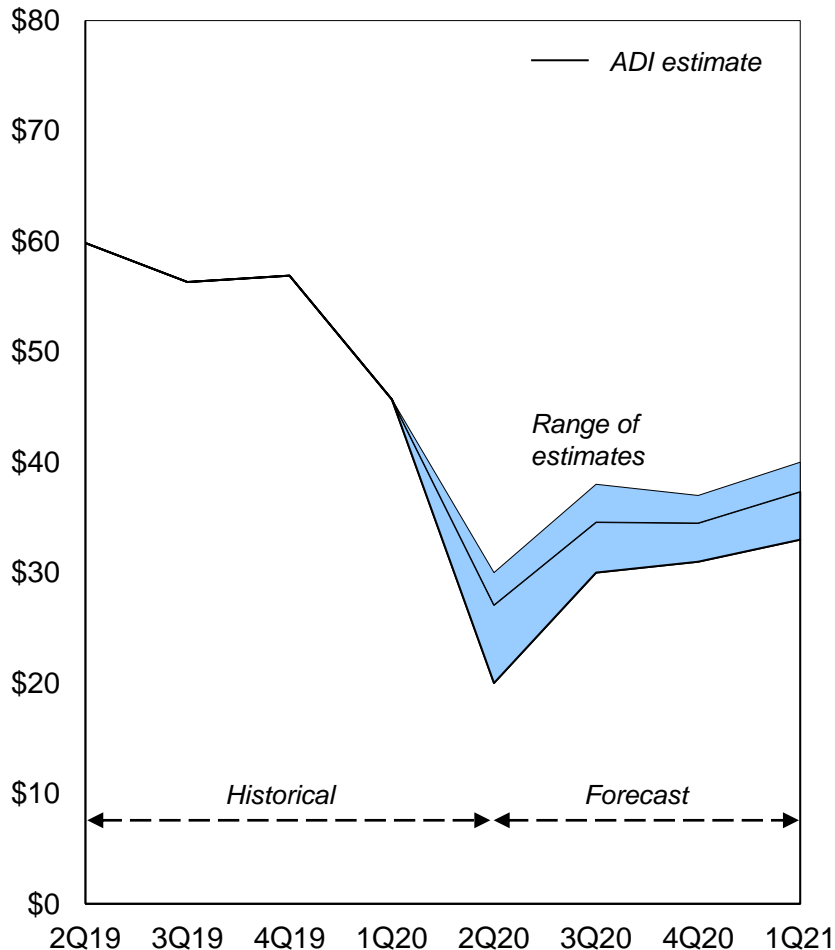
Indonesia, the world's largest producer of palm oil, is pushing its target to produce palm oil based green diesel by 3 years to 2023 which is expected to reduce the country's fuel imports

10

India's Hindustan Petroleum has delayed the completion of a \$2.8 billion expansion at its 300,000-bpd Vizag refinery to the end of 2020 amid labor shortage and the onset of monsoon

U.S. and global crude oil supply cuts are supporting oil prices but slow oil demand growth will likely keep prices below \$40

WTI Spot & Forecast Prices (USD Per Barrel)

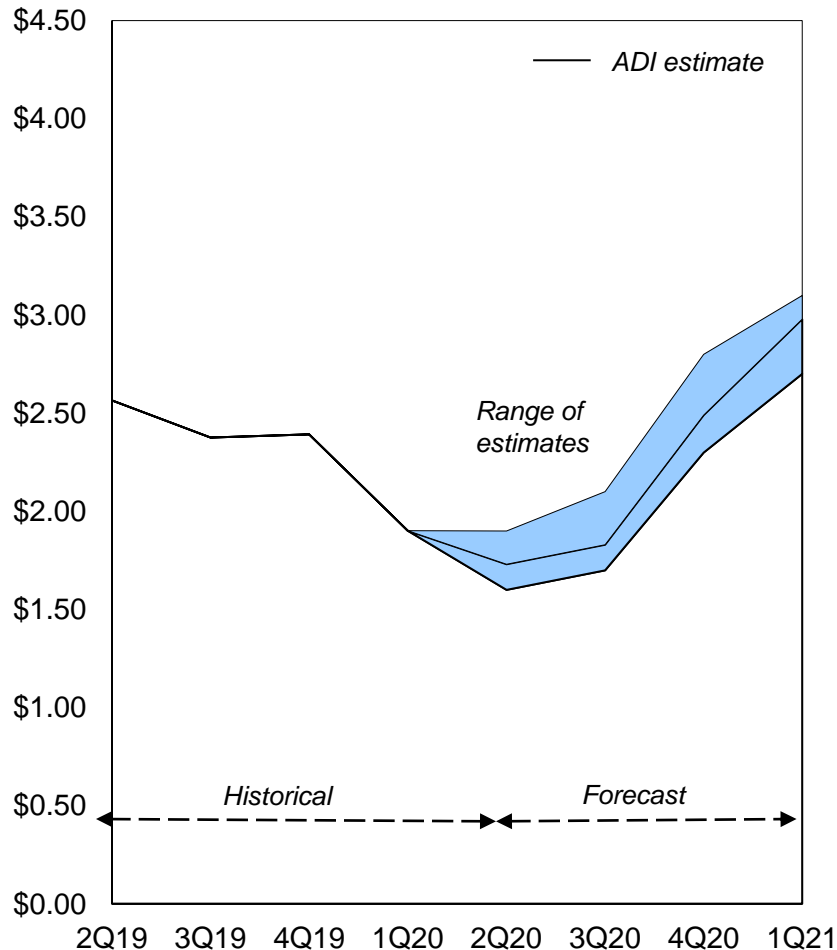


Discussion

- **Crude oil price outlook**
 - WTI crude oil prices began to rise in May 2020 and ...
 - ... ADI continues to forecast a \$20 to \$40 range for the rest of 2020
- **Crude oil demand outlook**
 - Lifting of lockdowns and re-opening of businesses across major economies have improved crude oil demand recently
 - However, transportation fuels demand will continue to face challenges amid a risk of infections resurging
- **Crude oil supply outlook**
 - U.S. crude oil production fell a record low in Q2 2020 with the fewest active drilling wells since 1987 in response to lower prices
 - U.S. crude oil production is expected to average 11.6 million barrels per day in 2020

Slowing oil and, therefore, associated gas production through 2020 and in 2021 will support natural gas prices going forward

Henry Hub Spot & Forecast Prices (USD Per Million Btu)

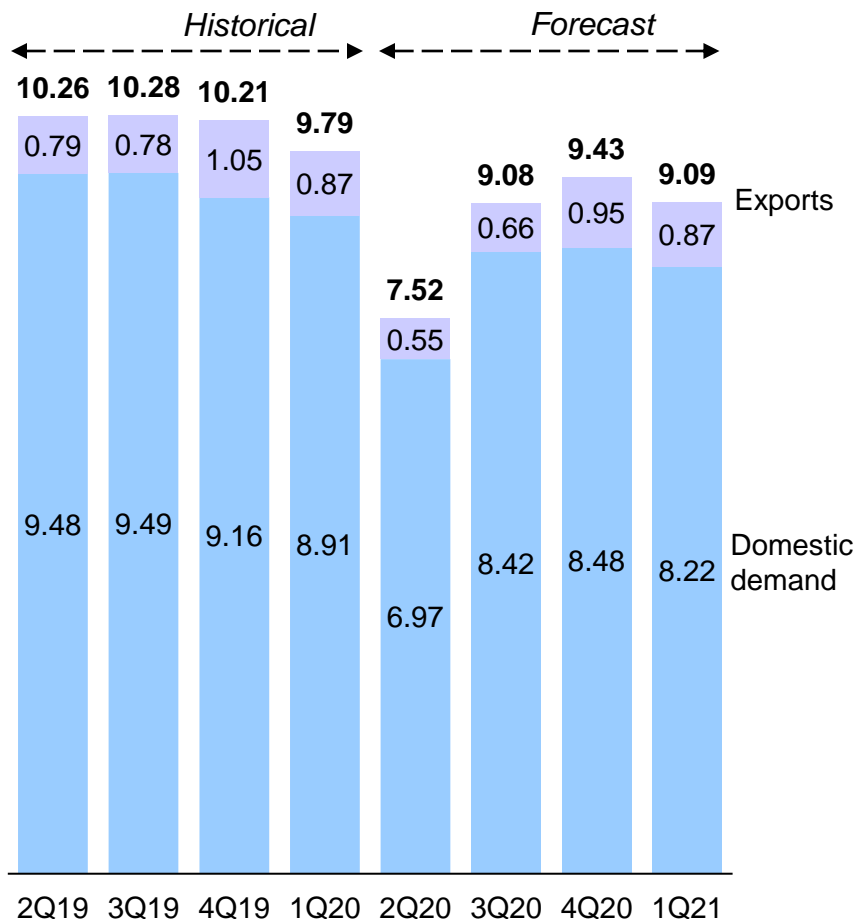


Discussion

- **Natural gas price outlook**
 - Natural gas spot prices started to stabilize in 2Q 2020 and...
 - ... ADI expects Henry Hub spot prices to stay below \$3.00 per MMBtu in 2020
- **Natural gas demand outlook**
 - Natural gas consumption picked up year-over-year recently for residential and electric power sector but fell for industrial
 - U.S. natural gas consumption is expected to average 81.9 Bcf per day in 2020 down 3.6% from 2019
- **Natural gas supply outlook**
 - U.S. natural gas production will continue to fall through the rest of 2020 and 2021 amid low oil prices
 - U.S. dry natural gas production will average 89.7 Bcf per day in 2020, 3.0% lower than 2019 production levels

U.S. gasoline consumption and exports began to pick up slowly with easing in lockdowns

U.S. Motor Gasoline Demand (Million Barrels Per Day)

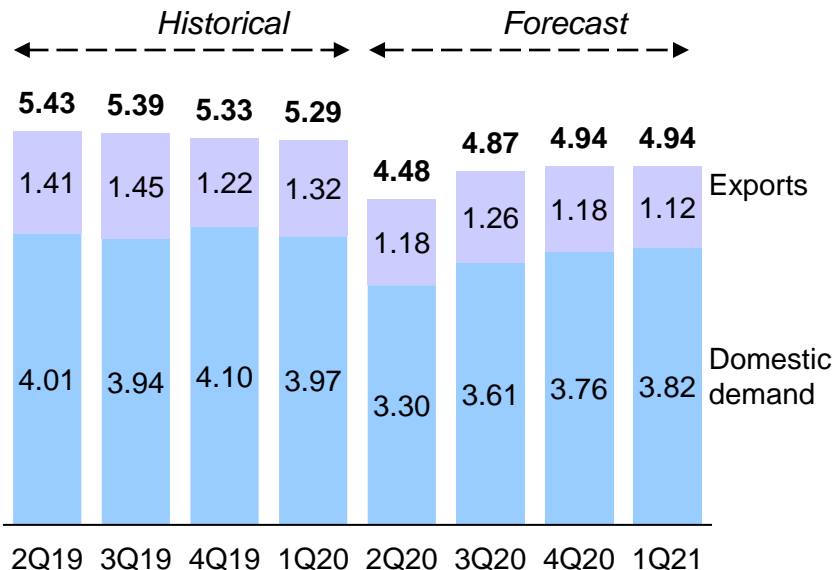


Discussion

- **U.S. gasoline demand outlook**
 - U.S. gasoline consumption averaged 6.97 million bpd in mid 2Q 2020 which was 26% lower year-over-year
 - Gasoline consumption picked up recently with increased personal travel as lockdowns were eased in several U.S. states
- **U.S. gasoline supply outlook**
 - U.S. total gasoline stocks including gasoline blending components in 2Q 2020 were ~258 million barrels, 24 million barrels higher than the five-year average
 - Further, U.S. gasoline production began to rise with the recent uptick in refinery utilization
- **U.S. gasoline exports outlook**
 - U.S. gasoline exports in 2Q 2020 were also 30% lower year-over-year at 0.55 MMbpd but have started to pick up in June 2020 as economies start re-opening across the globe

Slowing U.S. distillate consumption and falling U.S. distillate exports contributed to a higher distillate inventory in 2Q 2020

U.S. Distillates Demand (Million Barrels Per Day)



Discussion

U.S. distillate demand outlook

- U.S. distillates consumption averaged 3.30 million bpd in mid 2Q 2020, 0.71 million bpd (18% yoy) lower than 2Q 2019 levels
- However, an uptick in long-haul trucking with a slowly recovering economy will support U.S. distillates demand going forward

U.S. distillate supply outlook

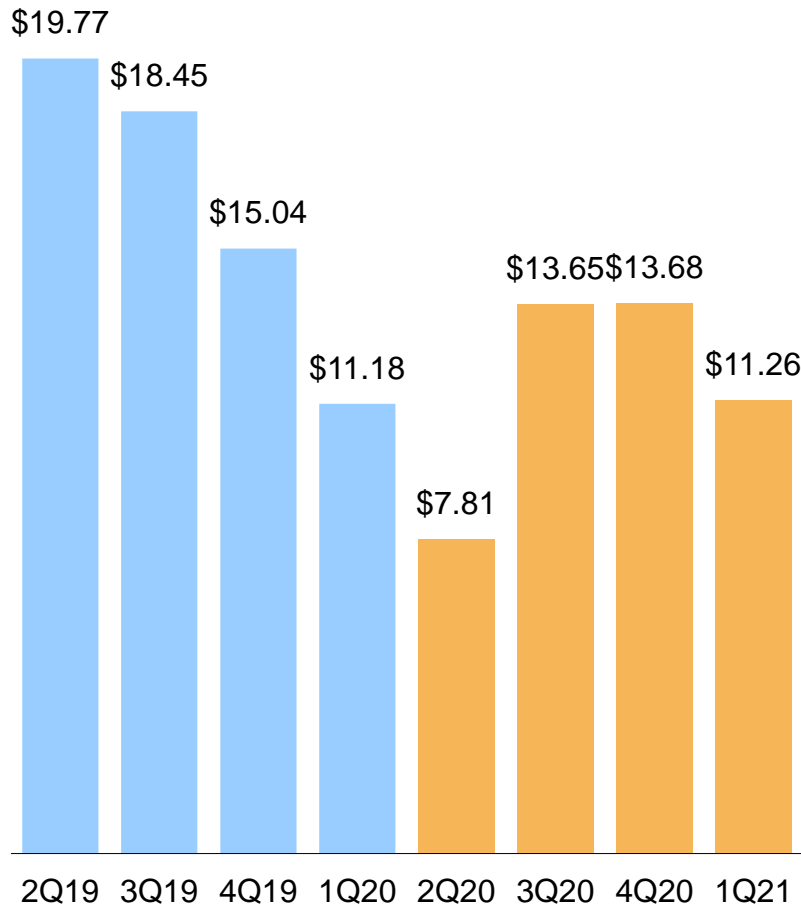
- U.S. distillates stocks in mid 2Q 2020 were ~156 million barrels, 29 million barrels higher than the five-year average ...
- ... Due to rising distillate yield at refineries coupled with slow growth in diesel demand

U.S. diesel export outlook

- U.S. distillates exports averaged 1.18 million bpd in mid 2Q 2020, 0.23 million bpd (16% yoy) lower than in 2Q 2019 ...
- ... adding to the increase in distillates stocks

USGC crack spread began to pick up at the end of 2Q 2020 but slow fuel demand recovery will keep it below pre-COVID levels

U.S. Gulf Coast 3-2-1 Crack Spreads (USD Per Barrel)

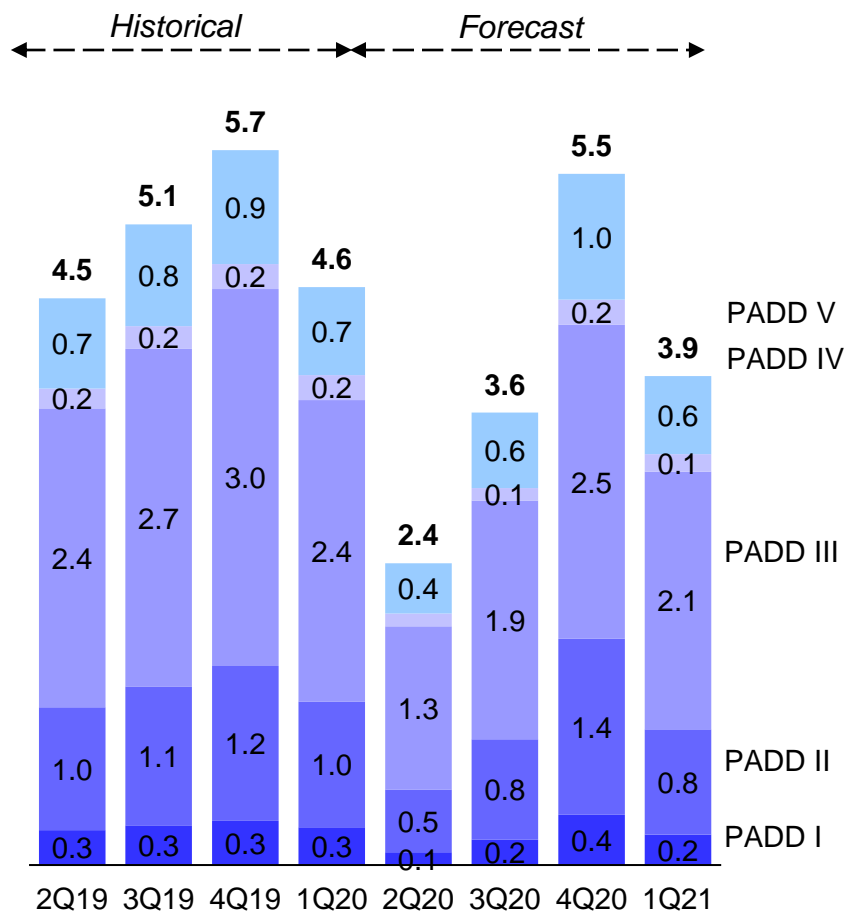


Discussion

- U.S. Gulf Coast 3-2-1 crack spread in 2Q 2020 remained 60% lower than 2Q 2019 due to continued wide-scale reductions in travel and business activities
- However, U.S. Gulf Coast crack spreads started to pick up at the end of 2Q 2020 as gasoline demand picked up with improved personal travel activities recently
- U.S. gasoline and distillates prices began to pick up consistently at the end of 2Q 2020 while crude prices remained low supporting U.S. Gulf Coast crack spreads over the past month
- Lower crude oil prices will also support crack spreads in the near term but slow recovery in fuel demand due to macroeconomic issues will likely keep U.S. Gulf Coast below pre-COVID level throughout 2020 and 2021

U.S. downstream companies will continue revising their capex and defer most of the non-essential growth projects

U.S. Downstream Capex By PADD
(USD Billion)



Discussion

- U.S. downstream companies have deferred majority of its growth as well as sustaining capex for 2Q 2020 to maintain social distancing amid COVID-related mitigation efforts
- Refiners will continue to carefully evaluate non-essential projects and adjust their operating rates according to the available market opportunity
- Refinery turnaround activities will likely pick up by the upcoming quarter and will only keep it to the essential maintenance activities
- Capex cuts across U.S. downstream companies will deepen in 2020 with almost 20-25% cuts with respect to pre-COVID guidance
- Turnaround activity will drive some of the refiners' capex in the third and fourth quarter of 2020

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- ▶ Executive Summary
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Executive summary

1

Many refiners have cut runs and utilization rates globally amounting to ~15% of global refining capacity impacting revenue and margins.

2

As a result, refiners have cut capital spending with cuts averaging ~24% in the U.S. amid losses acknowledged due to COVID related fuel demand destruction.

3

Refiners in other regions have cut their 2020 capital plans as well by as much as ~21% of initial guidance for 2020.

5

Global refining capital expenditure outlook will likely not recover to the pre-COVID levels in the next five years.

6

Refiners are deferring large capital projects but moving forward with small and other in-flight projects ...

7

... Deferring turnarounds and other maintenance but moving forward with renewable fuels and energy transition projects.

**For the complete in-depth insight on
global refining capex outlook post-
COVID,
please subscribe to
[ADI Downstream Market Advisory](#) or
purchase this report at the [ADI Store](#).**

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ADI's new advisory will provide a comprehensive, strategic, and insightful view of the downstream oil and gas industry

Research Goals

1

Downstream industry performance and profitability assessment and forecast

2

Downstream capital spending, investment outlook, and industry projects by key players

3

Issues and outlook for the downstream supply chain

4

Profiles and analyses of industry players, trends, projects, and news

Select Insights

- Crude oil pricing, supply, and forecast
- Fuel and product demand and outlook
- Refinery crack spreads and margins
- Plant utilization rates and turnarounds
- Industry outlook with risks and drivers
- Industry investment drivers and analyses
- Capital spending and forecast by region
- Breakdown of capital spending by key segments across the supply chain
- Key industry projects by player
- Trends and opportunities in supply chain
- Outlook for key parts of the value chain
- Winners and losers across key scenarios
- Supplier profiles and business models
- Profiles of industry players and projects
- Summaries and analyses of industry news
- Signposts and milestones for key trends
- Strategic insights and future scenarios

Frequent and regular updates will cover a wide range of metrics and issues in the North American downstream market

1

Industry Performance and Market Analytics

Capacity utilization rates	Product supply and demand analyses	Capital and operating costs	Commodity price scenarios in near- and mid-term
Regulatory landscape	Maintenance and turnaround plans	Regional supply and demand analyses	Players strategies and global competition

2

Strategic Insights

Corporate strategy review and analysis	Asset / competitive strategy review and analysis	Investment strategy review and analysis	Geopolitical strategy review and analysis
Industry-wide supply and demand analyses	Risk management strategy review and analysis	Operations / technology strategy review and analysis	Processing needs and costs

3

Stakeholder Analyses

Operator profiles and analyses	Supplier and supply chain assessments	Industry news summaries and analyses	Stakeholder outlook
Competitive landscape	Stakeholder outlook in key scenarios	Technology and industry / supply chain impacts	Supply chain outlook

In addition, ADI will review every month a topic in depth covering the entire downstream value and supply chains

Refined product storage, exports, and outlook

Light-heavy crude differentials

North American refining operating costs and outlook

Diesel demand and outlook

Petrochemical capex outlook

Ethanol, E15 and beyond

Refining and midstream nexus for growth

CAFE standards and fuel demand

Global fuel demand and growth

Global catalyst market review

Ethylene cracker projects review

Electric vehicle and fuel demand

Our research service will offer several deliverables to provide rich, data-driven insights into the downstream market

	Deliverable	Format	Frequency
1	Monthly market snapshot	Report	Monthly
2	Market data and analytics	Spreadsheet	Monthly
3	Industry insights	Report	Monthly
4	Quarterly conference call	Interactive conference call	Quarterly
5	Analyst access	Live	On-demand
6	Complimentary admission to ADI Forum	Conference	Annual

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Traders

Catalyst vendors

Investors

Industrial gas players

Financial institutions

Equipment manufacturers

Government agencies

Service providers

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