

Upstream Oil & Gas in the “Perfect Storm”

ADI Webinar Series

April 9, 2020



ADI Analytics
OIL & GAS • ENERGY • CHEMICALS
CELEBRATING 10 YEARS

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Agenda



Uday Turaga
ADI Analytics
CEO

▶ **Welcome**

▶ Upstream Insights

▶ Q&A Session

ADI Analytics is a consulting firm serving oil and gas, energy, and chemical companies with passion, expertise, and rigor



Our value proposition—expertise, analytics, and client-centric owner’s mindset—is designed to help clients succeed



Fortune 500 and mid-sized companies, start-ups, investors, and governments have hired us to shape decisions globally



How are we helping clients navigate the oil price crash and COVID-19 impacts?



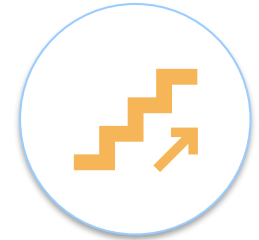
Target the right customers and market segments



Reorient offerings and value props for recovery phase



Benchmark and quickly cut costs to cope with the crisis



Support M&A strategy and due diligence



Reshape go-to-market plans with voice-of-customer research



Refine pricing and sales strategies via market-backed insights



Revisit customer and channel engagement models for recovery



Revisit R&D, innovation, and product devt. portfolios

Oil & gas in a “perfect storm” from price crash and COVID-19

Oil & Gas in the Perfect Storm

Oil & Gas in the Perfect Storm



March 2020

We could have borrowed from Gabriel Garcia Marquez's *Love in the Time of Cholera* to title this piece, "Oil & Gas in the Time of Coronavirus" – but that would only recognize the coronavirus disease of 2019 (COVID-19) and its impact on oil demand and ignore the black swan in the concurrent supply shock posed by Russia's refusal to typennate itself with OPEC again in cutting oil production. Broader uncertainties from an election year in the U.S. and growing investor clamor for shale profitability and energy transition initiatives add further, even if now less urgent, uncertainties.

We at ADI instead see the "perfect storm" as a better metaphor for the collective impact from the Russian-Saudi spat and COVID-19. Metaphors and clever writing aside, how should we think about this perfect storm? We try to address this here with our firm's research and consulting work.

Why are we here?

The oil markets – led by Saudi and OPEC through the majors and the shale operators to the traders and analysts – were blindsided by Russia's refusal to cut oil production with OPEC in an year when oil demand growth was expected to decline independent of the coronavirus.

Saudi announced plans to raise production from 9.7 million bpd in March to 12.3 million bpd starting April 2020.

Russia made some noise about OPEC cheating on its commitments but abandoned its three-year alliance with OPEC primarily to harm U.S. shale supply, which has been, as such, constrained by rising investor disenchantment. Larger geopolitical reasons such as U.S. sanctions on Rosneft and Nord Stream 2 also motivated Russia which is today in a stronger economic position relative to the 2014 oil price crash.

Surveying the damage

Unwilling to lose market share and also force Russia to return to negotiations, Saudi announced plans to raise production from 9.7

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Locking Both the World and Oil Down

Oil & Gas in the Perfect Storm: Part 2 – Locking Both the World and Oil Down



April 2020

Read our first "perfect storm" article to see how oil prices evolve going forward.

A third of the world's population is today living in countries that have enforced moderate to severe lockdowns on virtually all human activity to mitigate the spread of COVID-19. In all, 27 countries have imposed lockdowns with nearly all of them opting for severe measures. Only three countries – Israel, Ireland, and the Czech Republic – have chosen to impose moderate lockdowns. In addition, there are a handful of countries where lockdowns have not been mandated but citizens are being cautious and have voluntarily imposed limits on their activities.

How much oil demand is impacted?

These lockdowns are collectively impacting oil demand in an unprecedented fashion. ADI estimates that the 27 countries that are under moderate to severe lockdown measures consume ~61 million barrels of oil daily. Including other countries such as Brazil where gangs are enforcing lockdowns, almost two-thirds of global oil demand – ~66 million bpd – is under threat of significant impact from COVID-19 (see Exhibit 1).

ADI estimates that the countries under lockdown consume almost two-thirds of global oil demand

Exhibit 1. Global oil demand impacted by COVID-19, million bpd.



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Riches to Rags: Downstream O&G in Perfect Storm

Riches to Rags: Refining in the Oil & Gas "Perfect Storm"



April 2020

Read our first "perfect storm" article to see how oil prices evolve going forward.

The refining panel session at the 2020 ADI Forum – our consulting firm's annual oil & gas conference – in January this year was brimming with justified optimism. After several years of questioning and cross-questioning, IMO 2020 – the International Maritime Organization's rule limiting sulfur in marine fuel oil – was finally here and refiners were getting ready for a strong year with robust diesel margins.

Production planners at many refineries had advanced maintenance into 2019 so they could operate throughout 2020 and take full advantage of the higher margins they were anticipating. Forecasting higher demand for low-sulfur diesel as blendstock for marine fuels, many refiners in the U.S. had also started tweaking their product mix to favor diesel over gasoline.

Coronavirus has interrupted this party in a brutal manner. Forget higher margins, refiners today are struggling to maintain operations, find storage for growing inventories, and service debt as refinery margins have plummeted.

Global fuel demand collapse

As illustrated in a prior note from ADI's on-going research on the oil & gas "perfect storm", nearly two-thirds of oil demand is in countries that are under lockdowns collapsing demand for refined products. In the U.S., the most recent weekly demand for gasoline was ~45% lower than normal demand of ~6.2 million bpd averaged over 2019.

Read our second "perfect storm" article to learn how much oil demand will coronavirus destroy?

Inventories of fuels and oil, therefore, are now building quickly across the world to the point that in some places storage capacity is running out. India's Bharat Petroleum has disclosed storage capacity constraints as fuel demand has fallen dramatically in a lockdown that was recently extended again. Along with crude oil, fuel inventories in the U.S. too jumped and the market is finding creative solutions. Enterprise Products reported that it is storing gasoline and diesel in NGL wells and operating the Seaway pipeline in bidirectional model. Someone has also proposed using pipelines as short-term storage vessels.

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ADI “Perfect Storm” Research Service				Service Deliverables	
1	Oil & gas price updates and outlook	7	Deep dive into fuels and refining	Weekly markets review	
2	COVID-19-related oil demand impact / recovery	8	Deep dive into natural gas and LNG markets	In-depth segment reports	
3	Deep dive into upstream incl. shale, conv., offshore	9	Deep dive into petrochemicals	Market data spreadsheets	
4	Oil supply-demand balance and inventories	10	Oil & gas capital spend (CAPEX) outlook	Monthly workshop calls	
5	Oil price forecasts, scenarios, and outlook	11	Oil & gas operating spend (OPEX) forecast	On-demand analyst time / calls	
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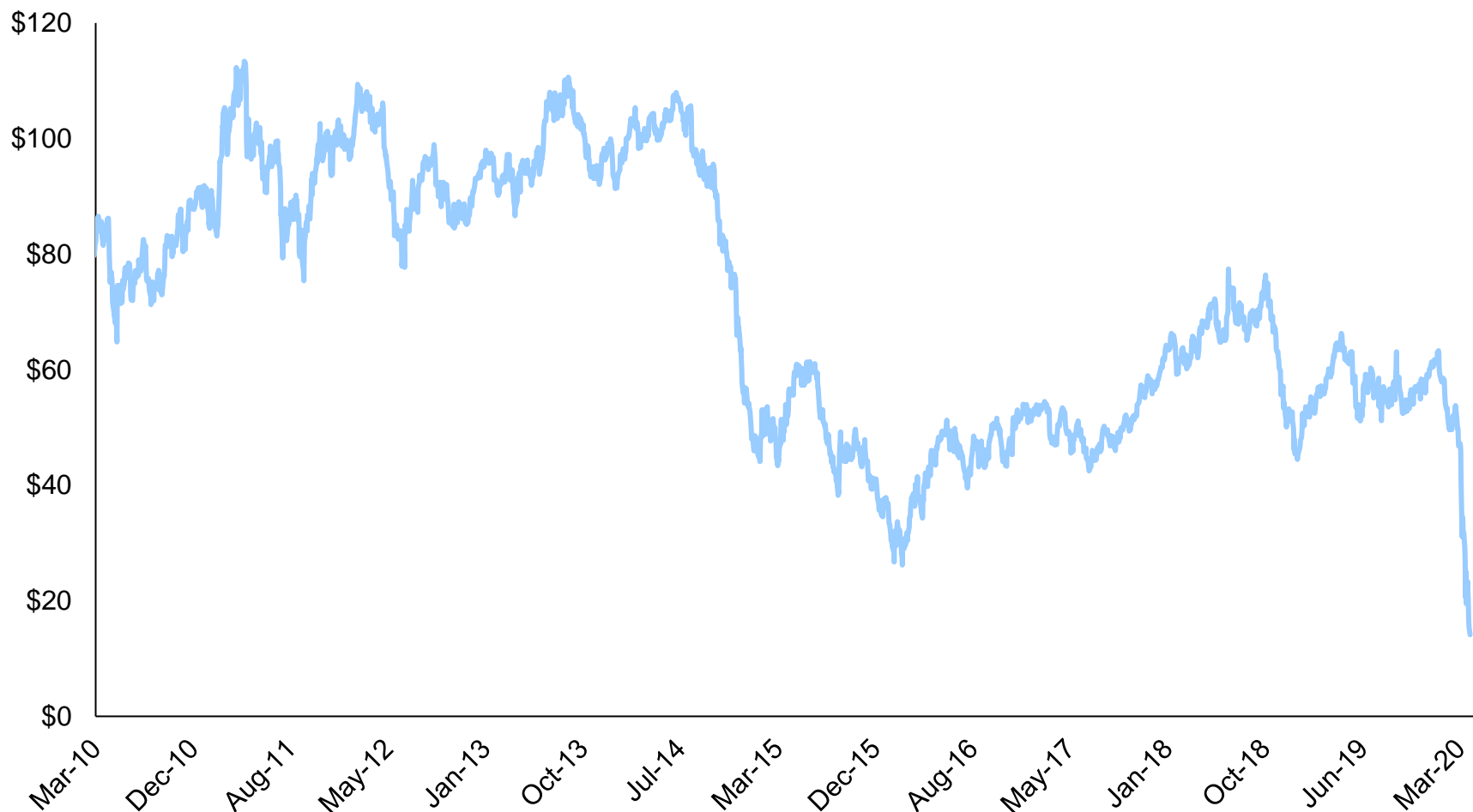
Panuswee Dwivedi
ADI Analytics
Analyst



Utkarsh Gupta
ADI Analytics
Analyst

Oil and gas after the price crash is in uncharted waters and the entire industry is grappling with several key questions

Crude Oil Prices
(WTI, U.S. Dollar Per Barrel)



Why are we here?

OPEC+

- OPEC and Russia joined hands creating OPEC+ and agreed to a supply cut in December 2016
- That deal ended in early March 2020 primarily due to Russia

OPEC led by Saudi

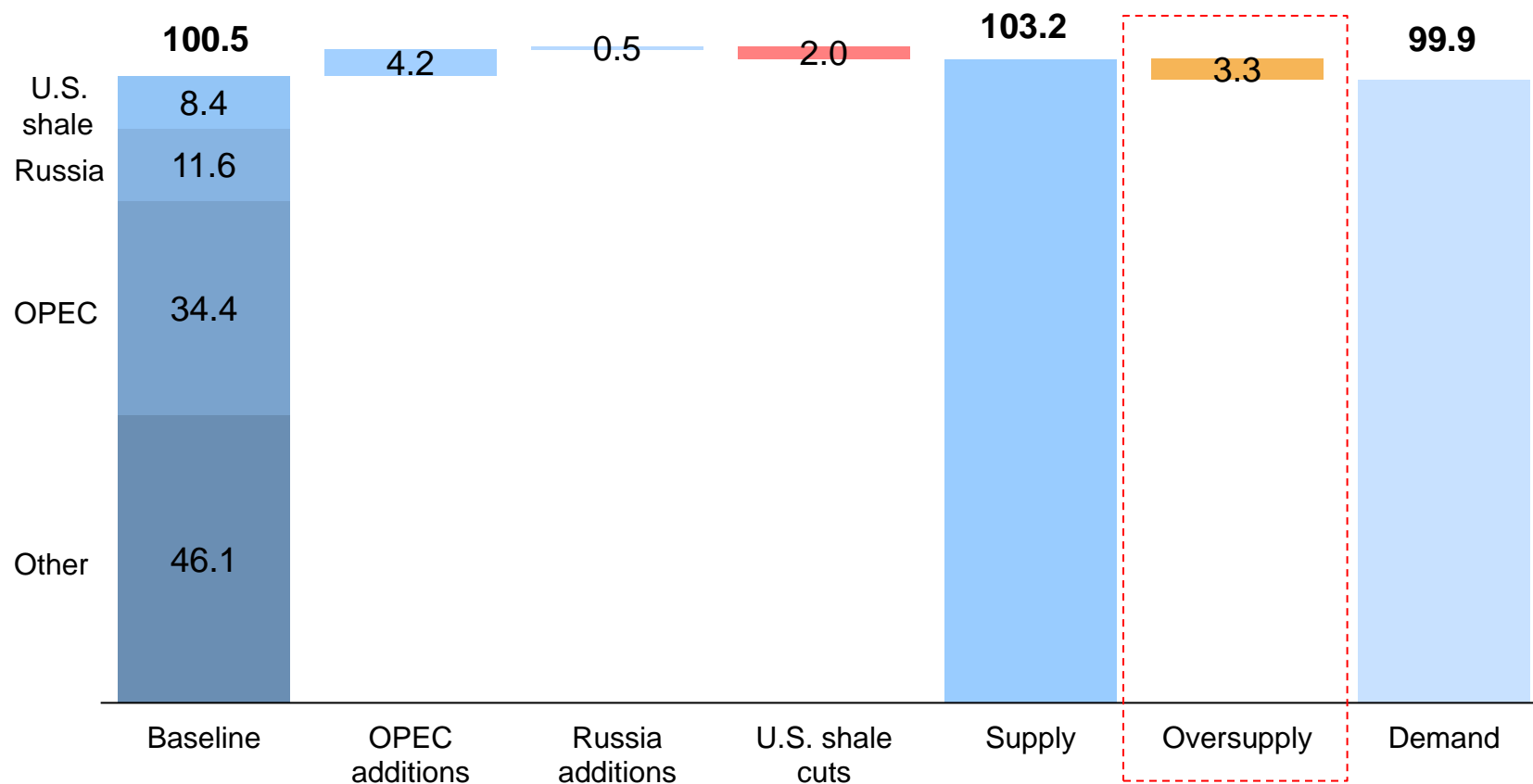
- Current output ~10 million bpd
- Raising supply to ~12+ million bpd
- Want OPEC+ deal to continue

Russia

- Current output ~11 million bpd
- Raising supply to ~12 million bpd
- Want U.S. shale to also cut supply

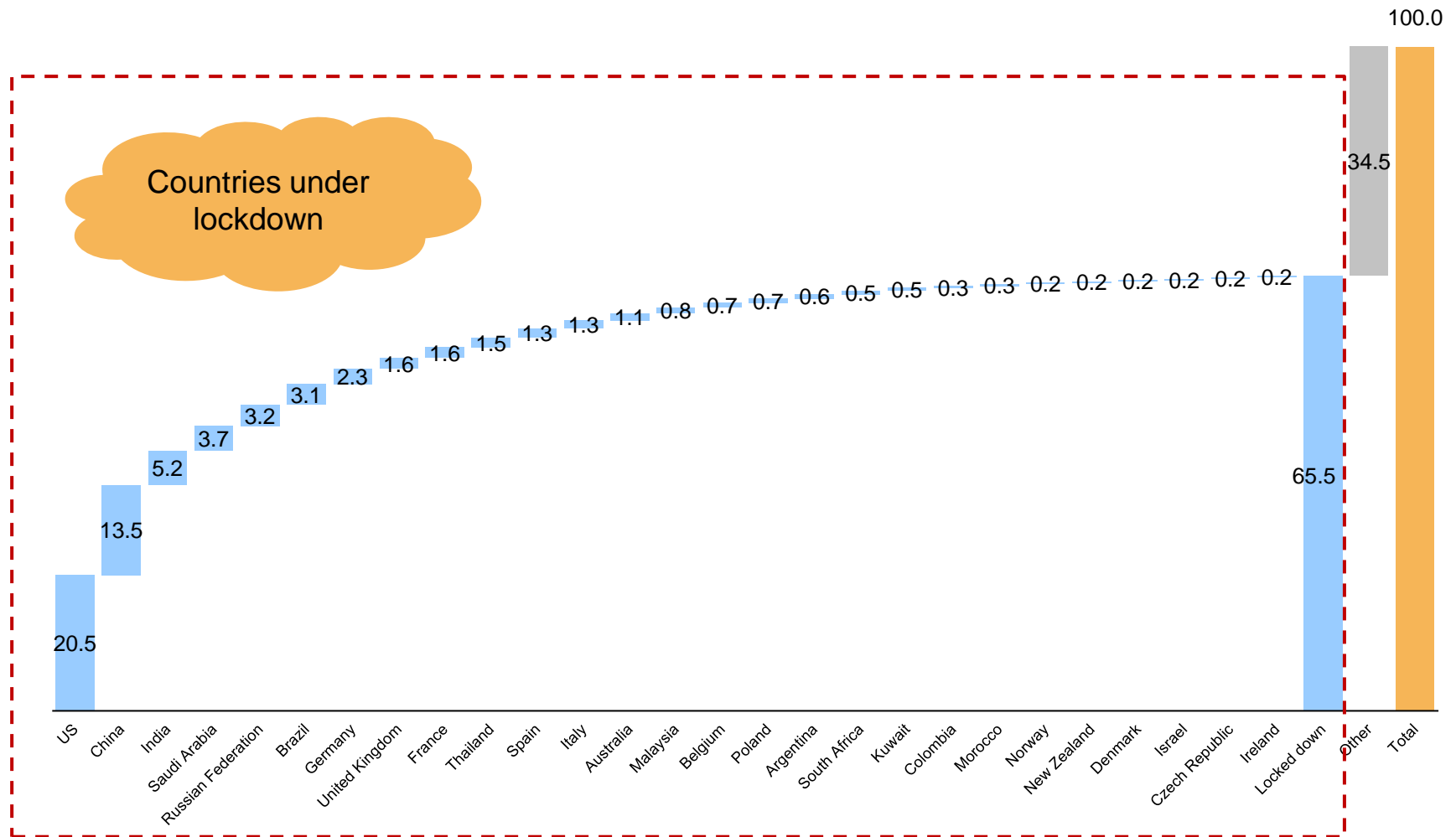
At the same time, ADI anticipates the oil and gas market oversupplied with the extent varying in multiple scenarios

ADI Scenarios for Global Crude Oil Supply and Demand
(Million Barrels Per Day)

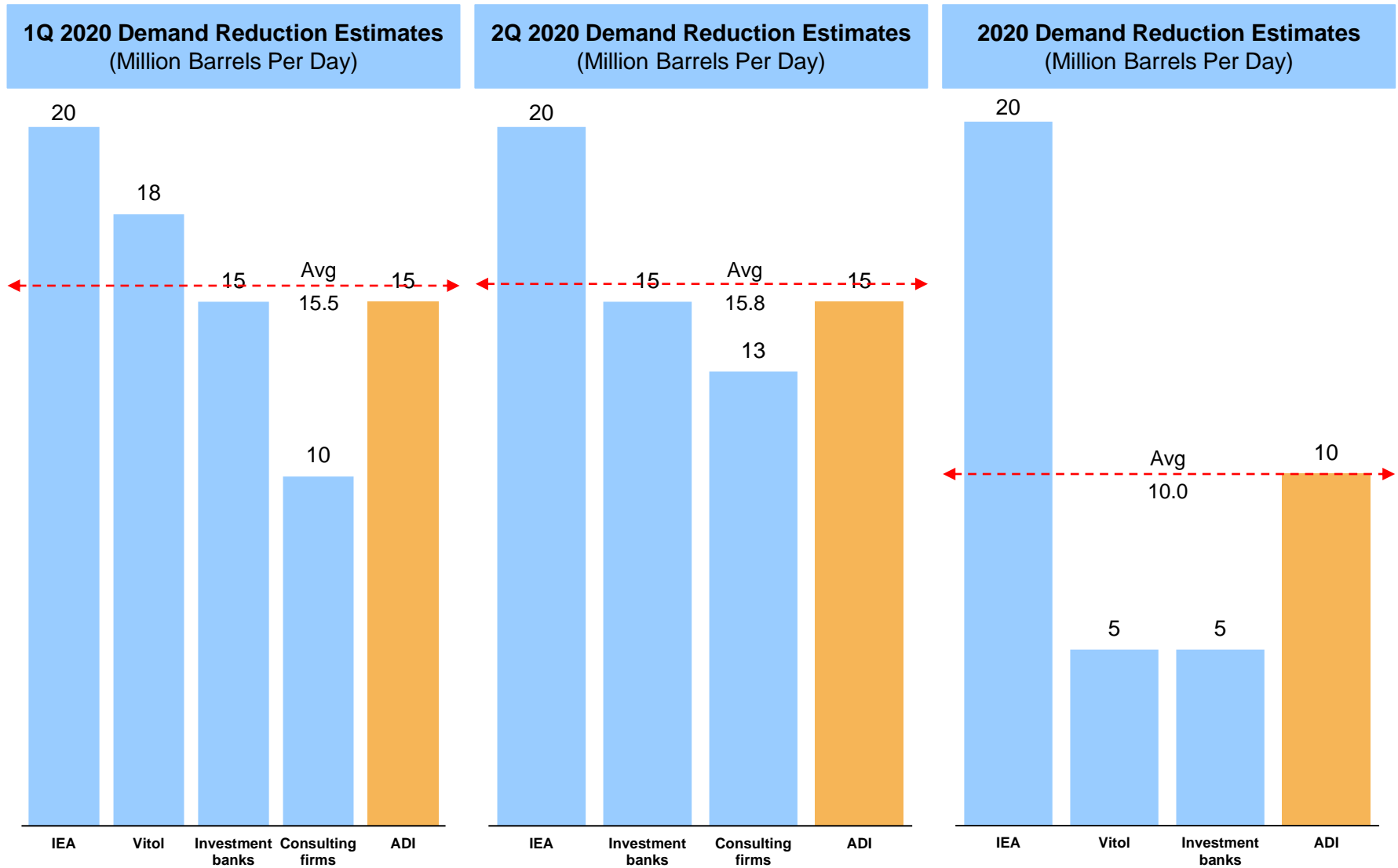


COVID-19 has led to lockdowns in nearly 30 countries collectively impacting two-thirds of oil consumption

Oil Consumption
(Million Barrels Per Day)



Collectively, ADI estimates COVID-19 leading to dramatic oil demand destruction in 1H 2020 and for the entire year as well



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1

U.S. shale cuts capex

2

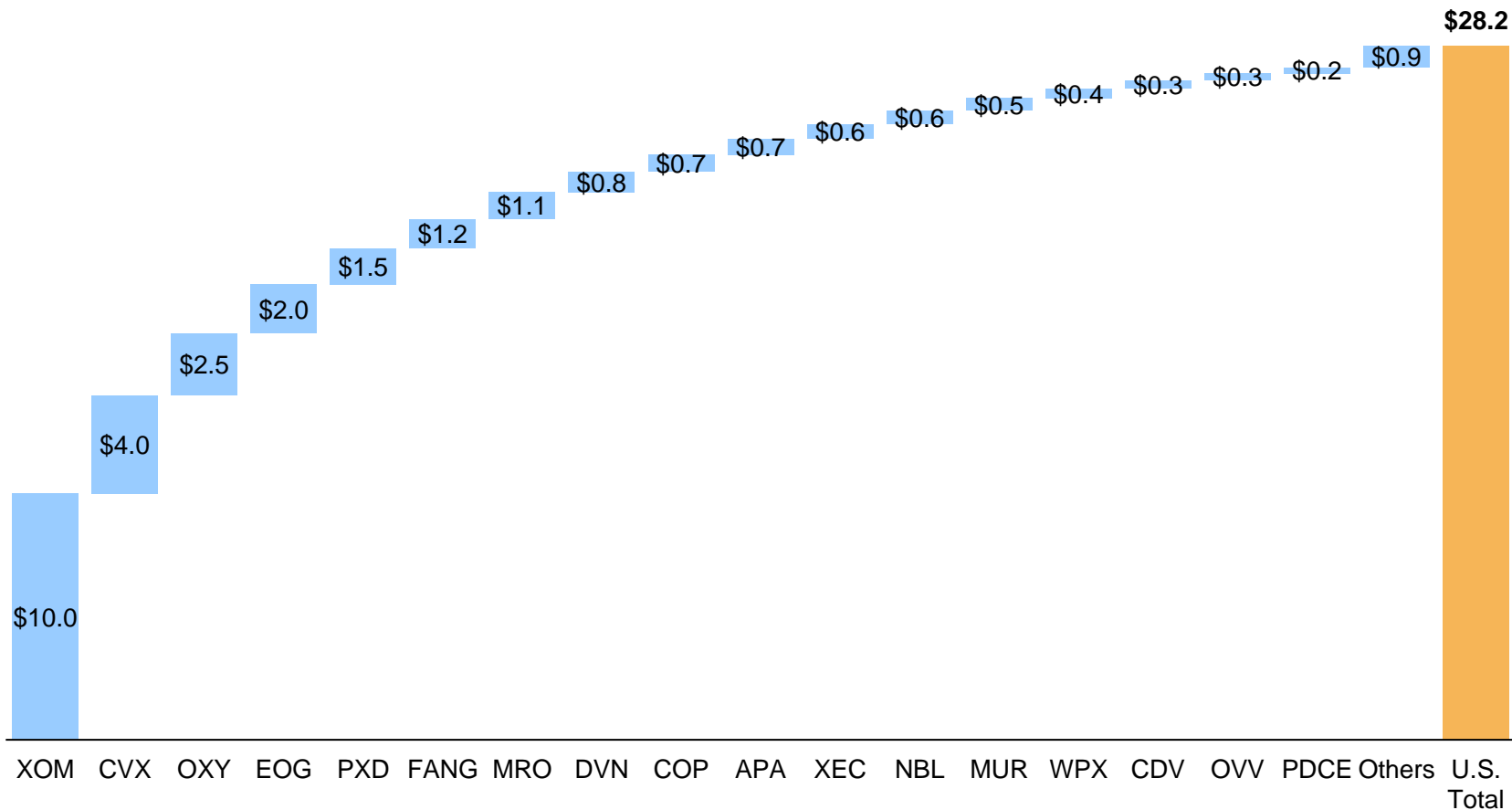
Offshore projects deferred

3

Marginal assets, e.g., stripper wells have started shutting in

Shale producers are responding with capex cuts for 2020 relative to earlier guidance but ADI sees these as insufficient

Capex Reductions Announced by U.S. Oil Producers in 1Q 2020
(USD Billion)



What next?

OPEC+

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- That deal ended in early March 2020 primarily due to Russia

OPEC led by Saudi

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- OPEC, Russia, and G-20 producers (U.S., Norway, and Canada) are meeting today
- News of a new OPEC+ deal
- Haggling over baseline
- Will G-20 producers join?

Can things change quickly?

OPEC+

- Agreement to a supply cut in December 2016...
- ... Ended in March 2020 primarily due to Russia

OPEC led by Saudi

- Raising supply to ~12+ mmbpd

Russia

- Raising supply to ~10+ mmbpd

1

New OPEC+ deal

2

OPEC+ expands to include U.S., Canada, and Norway

3

No deal

ADI roundtable discussion

1

What U.S. supply will likely be cut?

2

Is Gulf of Mexico production at risk?

3

Are there other options to cut U.S. supply?

4

Globally, what other supply is at risk?

5

How low can oil prices go?

Agenda

Please type your
questions / comments
in the chat box

- ▶ Welcome
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ADI webinar series on oil & gas in the “perfect storm”

April 17	Midstream (pipelines, gas processing, NGLs)	May 21	Industrials & OEMs - How to prepare for the downturn?
April 23	Downstream (refining and fuels)	May 28	Capital projects and engineering, procurement, and construction (EPC) in the oil & gas downturn
April 30	Natural gas and LNG	June 04	What will the new "normal" look like in oil and gas?
May 7	Petrochemicals and plastics	June 11	Renewable and low-carbon power markets in a post-COVID world
May 14	Power and utilities	June 18	Oilfield services: Survival outlook in the oil & gas downturn

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