

SUMMARY SLIDE DECK

OILFIELD MINERALS & MARKETS **FORUM** 2021

Wed 26 May 2021

ONLINE



Supply and demand trends for minerals used in oilfield applications



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Omya International AG
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ST Equipment Technology LLC
Terra Nova Minerals
USGS

It was extremely interesting, the market is evolving, even though it has suffered badly in 2020, and we are now looking forward to an upturn in our industry. At least with the conference we were able to keep a track of new applications and new markets to look into. Thank you for arranging such a high quality meeting and it's always a pleasure to see new and old faces.

Valentin Cardon, Head of Communication & Marketing, Poittemill, France

The very efficient and effective way you both organized the program and timing of the presentations was perfect. The agenda was certainly sufficient to cover the important themes and aspects of the oilfield market outlook.

Michael Redman, Director, KGCS Trading, Spain

Great forum today. I know it's tough running everything virtual versus getting everyone together and I thought it was well put together in the way it accommodated everyone in all time zones.

Calvin Loa, Managing Director, Mekong Minerals, USA

Really enjoyed, and great slate of speakers.

Joe Gocke, Consultant, USA

PROGRAMME*

All times shown are BST (corresponding time zones shown)
* All timings approximate; subject to change

USE LINK 1

BST	CEST+1	CDT-6	SGT+7	
12:30	13:30	06:30	19:30	Welcome & Introduction Ismene Clarke & Mike O’Driscoll, Directors, INFORMED, UK
13:00	14:00	07:00	20:00	The global barite market: review and outlook John Newcaster, Principal, IMPACT Minerals LLC, USA
13:30	14:30	07:30	20:30	Bulk buying barite: an independent perspective Joe Gocke, Consultant, USA
14:00	15:00	08:00	21:00	COFFEE BREAK

PROGRAMME*

All times shown are BST (corresponding time zones shown)
* All timings approximate; subject to change

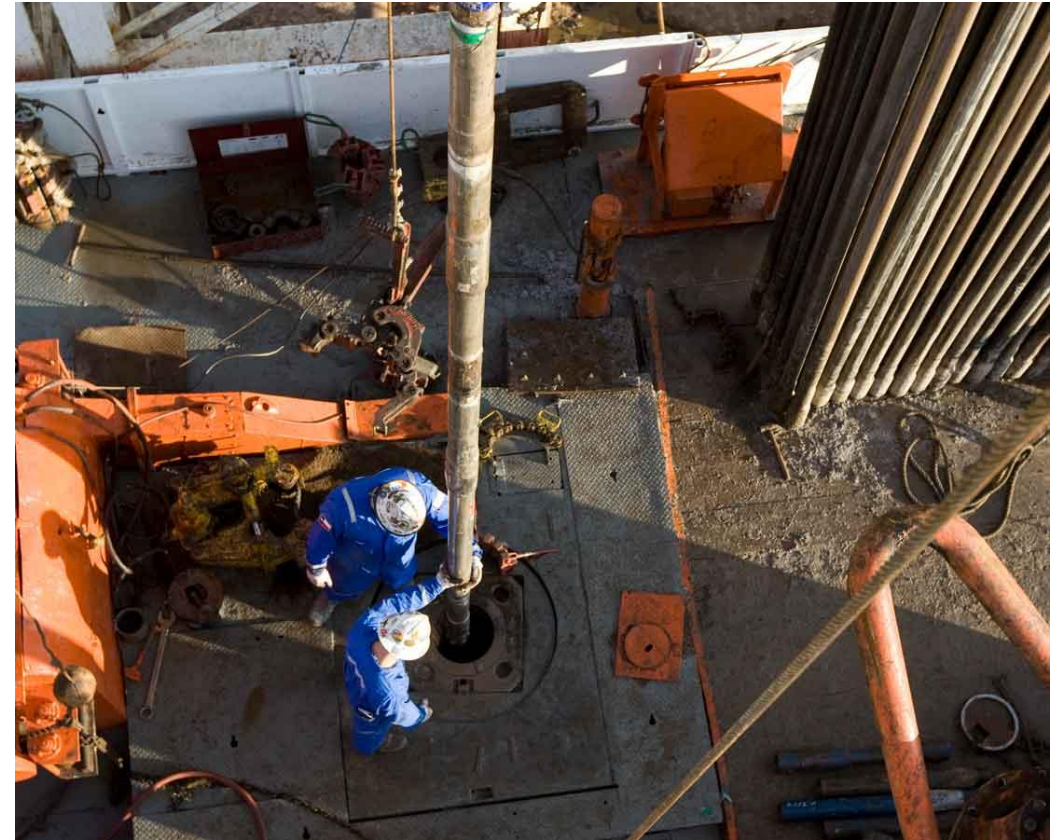
USE LINK 1	14:15	15:15	08:15	21:15	Laos barite supply & future projects Calvin Loa, Managing Director, Mekong Minerals Co. Ltd, USA
	14:45	15:45	08:45	21:45	Barite processing: Extending life of assets through equipment wear reduction Santiago Carassale, Category Manager Mined Products, Halliburton, USA
	15:15	16:15	09:15	22:15	Bentonite from a supplier’s perspective: overview & bringing a source on-stream for the oilfield market Michael Barr, Mineral Resource Coordinator, Bentonite Performance Minerals-Halliburton, USA
	15:45	16:45	09:45	22:45	COFFEE BREAK

PROGRAMME*

All times shown are BST (corresponding time zones shown)
* All timings approximate; subject to change

USE LINK 1	16:00	17:00	10:00	23:00	Pollucite and cesium formate fluids in oilfield drilling: supply, processing & demand Siv Howard, R&D Manager, Sinomine Specialty Fluids, USA
	16:30	17:30	10:30	23:30	Gilsonite used in oilfield applications Craig Mueller, Chief Commercial Officer, American Gilsonite Co., USA
	17:00	18:00	11:00	00:00	Oilfield market outlook: where's it heading? Uday Turaga, CEO, ADI Analytics LLC, USA
USE LINK 2	17:30	18:30	11:30	00:30	ROUNDTABLE NETWORKING BREAKOUT <i>Informal networking session Audio+Video Private Messaging</i> 1. Oilfield Outlook + Other Minerals <i>host Uday Turaga, ADI Analytics</i> 2. Barite Trends & Developments <i>host John Newcaster, IMPACT Minerals</i>

Industrial minerals & the oilfield market





Industrial minerals supply the oilfield market



Mining →



Processing →



Logistics →



Oilfield Market Application

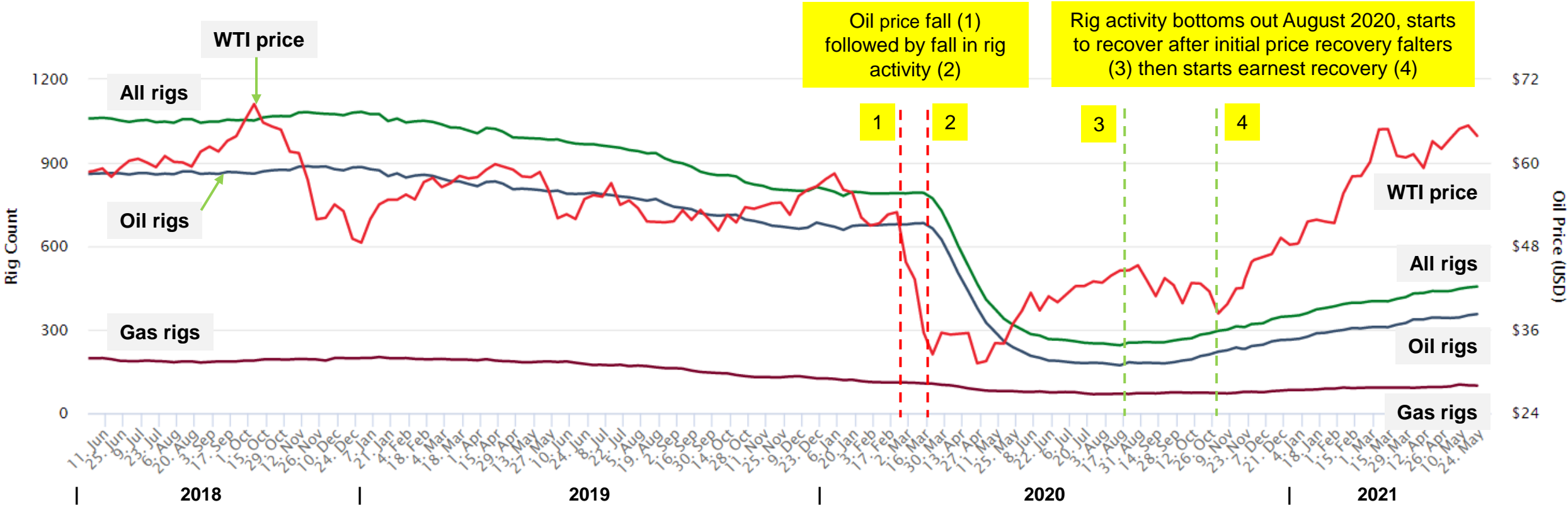
Attapulgite
Barite
Bauxite
Bentonite
Borates
Calcium carbonate
Calcium chloride
Diatomite
Garnet
Gilsonite
Graphite
Gypsum
Haematite
Hectorite
Ilmenite
Iron oxide
Kaolin
Leonardite

Lignite
Lime
Magnesia
Magnesium silicate
Magnesium chloride
Manganese oxide
Mica
Perlite
Pollucite
Potash
Salt
Sepiolite
Silica sand
Soda ash
Sodium silicate
Vermiculite
Zinc oxide
Zirconia

Oilfield market performance

US rig count vs WTI oil price May 2018 – May 2021

Shows sharp drop in US rig activity from March to June 2020, before slow continuing recovery from October 2020, as oil price recovers more sharply if intermittently

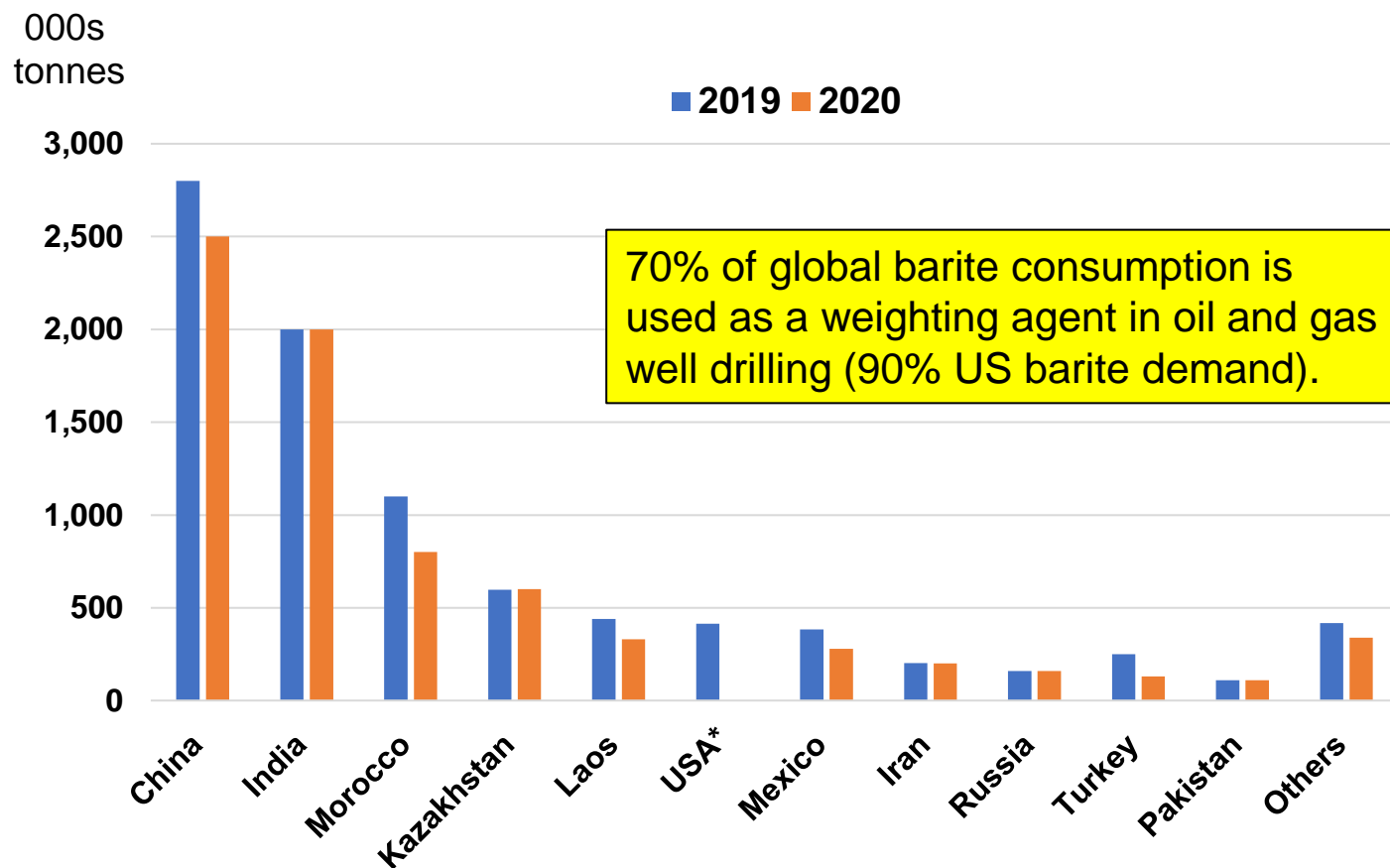


Source: Oilprice.com

Barite developments

World barite production 2019 & 2020

Total: 2019 8.8m tonnes | 2020 7.5m tonnes



Source: USGS

- * US 2020 production severely declined; just one mine operated
- US assets for sale: eg. CIMBAR acquired BH and Tor Minerals process plants
- India: no production decline in 2020
 - leading barite exporter, surpassing China for the first time in 2018 with 2.2m tonnes exports (China 1.2m), and again in 2019 with 1.9m tonnes (China 1.1m)
 - plans to expand Mangampet mine from 3m to 5m tpa
- Alternative sources, especially SE Asia, to play an increasing role in global supply, as India (and Morocco) may continue to take export market share from China.

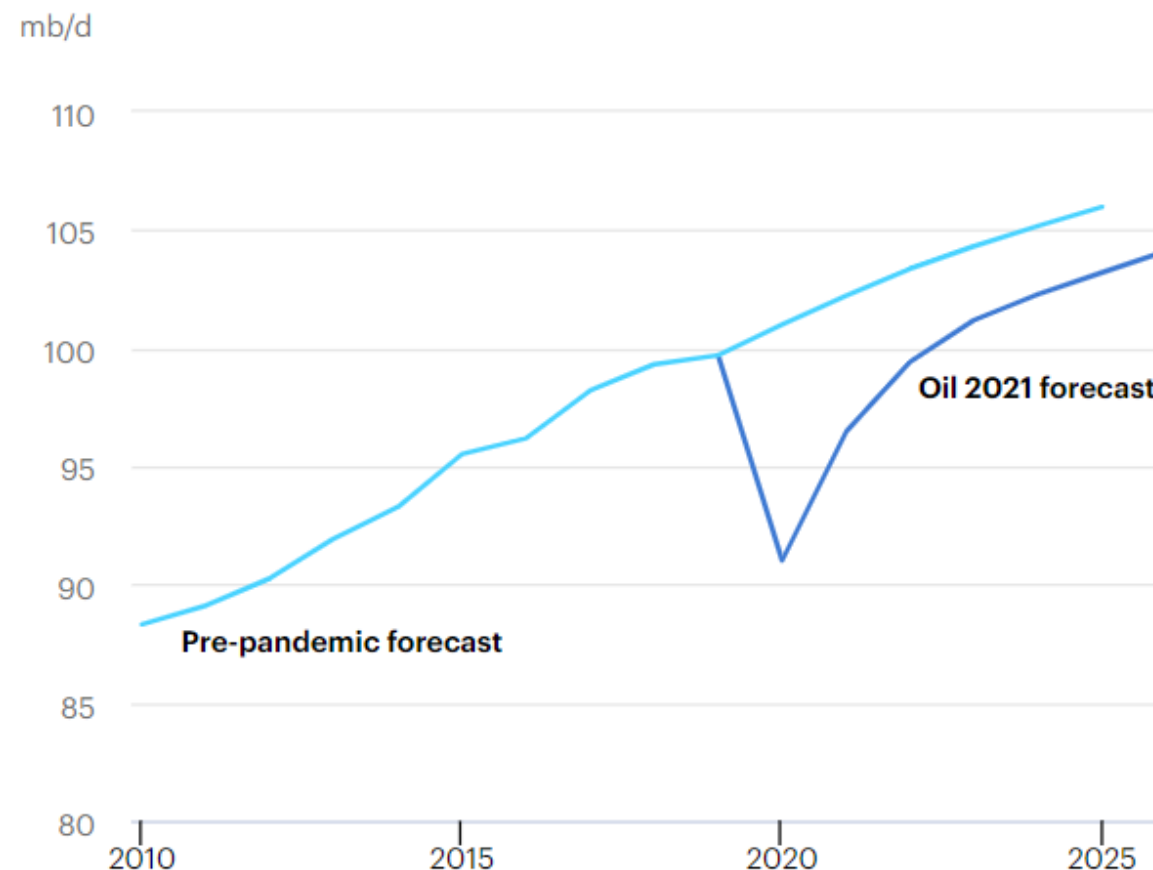




Oilfield market outlook

IEA March 2021

- World oil markets have rebounded from demand shock triggered by Covid-19 – its biggest ever annual decline – but still face high degree of uncertainty
- Gas bouncing back in 2021, but recovery remains fragile



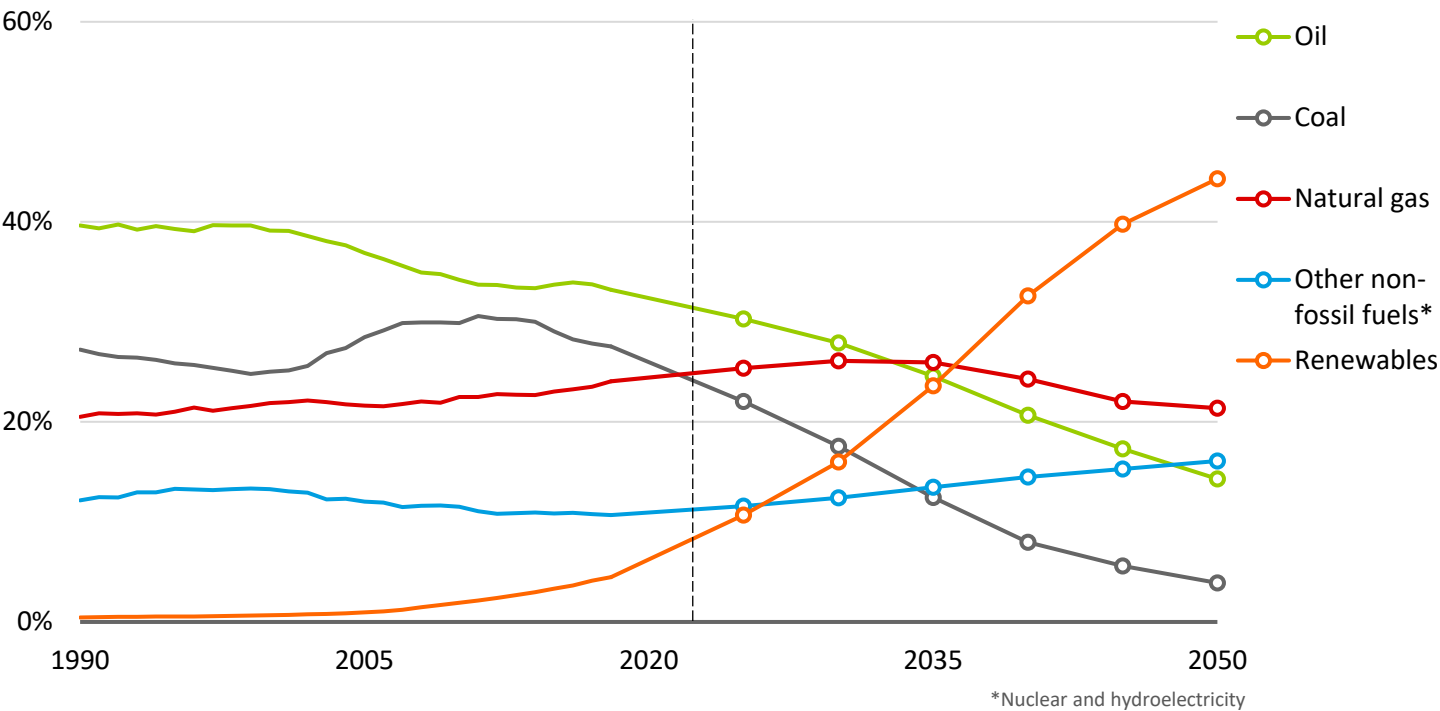
Oilfield market outlook

BP Energy Outlook September 2020

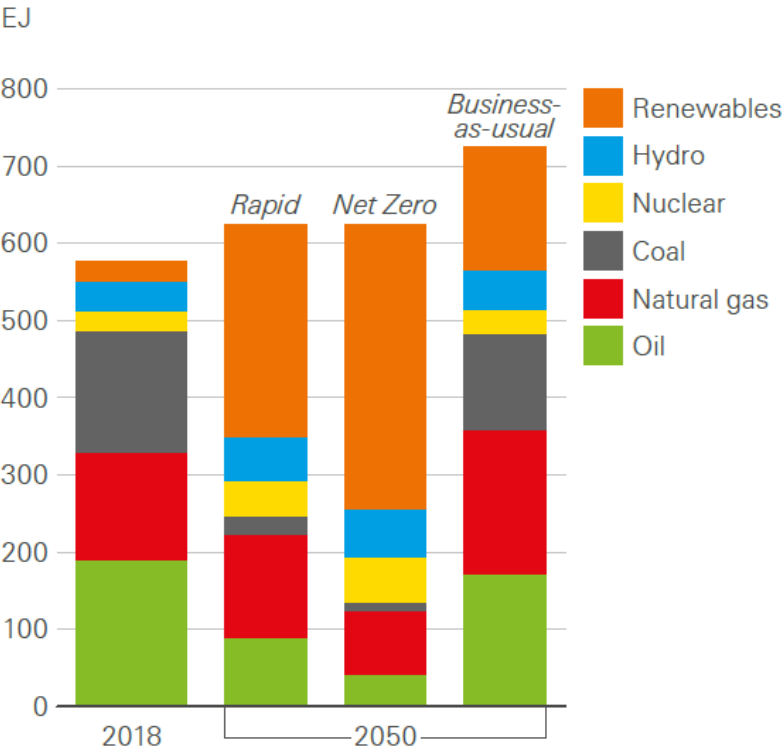
Changing structure of global energy mix



Shares of primary energy in *Rapid* scenario



Primary energy consumption by source



Leading players' outlook



Lorenzo Simonelli, Chairman & CEO, Baker Hughes, 21 April 2021

“As we look ahead to the rest of 2021, we remain cautiously optimistic that the global economy and oil demand will recover from the impact of the global pandemic. We expect spending and activity levels to gain momentum through the year as the macro environment improves, likely setting up the industry for stronger growth in 2022.”



Jeff Miller, Chairman, President and CEO, Halliburton, 21 April 2021

“The first quarter marked an activity inflection for the international markets, while North America continued to stage a healthy recovery. I expect international activity growth to accelerate, and the early positive momentum in North America gives me confidence in the activity cadence for the rest of the year.”



Leading players' outlook



Olivier Le Peuch, CEO, Schlumberger, 24 April 2021

"We are increasingly confident in our full-year activity outlook.

Oil demand recovery will reach 2019 level by or before the end of 2022.

Q2 21

In North America, we see sustained activity growth in US lands, and a seasonal rebound in offshore being partially offset by the Canada breakup.

International markets' activity growth will broaden with the seasonal recovery in Russia and China augmenting the continued growth in Africa and Middle East while Latin America should remain resilient.

H2 21

In North America the pace of growth is expected to moderate on budget exhaustion and seasonal effects, but could surprise to the upside resulting in full-year growth when excluding the impact of divestitures.

In the international markets, our confidence has been strengthening based on the latest international rig count trends, CapEx signals and customer engagements.

Diversification strategy

- Lithium brine processing
- CCS
- Hydrogen
- Geothermal





18 May 2021 IEA:
“We are approaching a decisive moment”

“The world’s first comprehensive study of how to transition to a net zero energy system by 2050 while ensuring stable and affordable energy supplies”

- >400 milestones to meet global net zero by 2050
- No investment in new fossil fuel supply projects:
“Beyond projects already committed as of 2021, there are no new oil and gas fields approved for development in our pathway”
- Energy sector based largely on renewable energy; fossil fuel share slightly over one-fifth by 2050 (down from almost four-fifths total energy supply today)

“IEA’s Net-Zero Plan Leaves Exploration Behind” JPT 19 May 2021

JPT: *“If this plan comes to fruition, the result would be the loss of 5 million jobs in the fossil fuel sector by 2030, with nearly half of those in oil and gas and the balance in coal.”*

- Until 2030s, spending on oil and gas exploration and production to remain low and steady.
- Natural gas demand in 2050 to hold up better than oil; demand for gas is expected to rise as feedstock for hydrogen’s role as a clean fuel
- Geothermal energy, area of interest for petroleum engineers





Reaction to IEA Roadmap

OGUK

“Stopping local exploration would be a major drawback for the energy transition underway – reducing the UK’s resilience and increasing our reliance on imports from countries whose carbon emissions we cannot control and that have lesser environmental regulations.”

Upstream

“IEA roadmap for net zero emissions by 2050 gets chilly response from US industry groups - US oil and gas advocates deem plan wishful thinking with no realistic path forward”

Financial Times

“Member countries push back against IEA’s net zero road map Japan and Australia will continue fossil fuel investment — against watchdog’s emissions advice”





OILFIELD MINERALS & MARKETS **FORUM** HOUSTON 2022

Hilton Houston Post Oak, Hilton, 23-25 May 2022

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Hilton Imperial Dubrovnik, 28-30 March 2022

Secondary raw material sources, supply, processing, and markets

IMFORMED *Rendezvous*

Grand Hotel Huis ter Duin (Noordwijk),
Amsterdam, 24-26 April 2022



MAG**FORUM** 2022

Magnesium Minerals & Markets Conference
Grand Hotel Huis ter Duin (Noordwijk),
Amsterdam — 7-9 June 2022

Field Trip to Nedmag Veendam 10 June

CHINA REFRACTORY MINERALS **FORUM** 2022

InterContinental Dalian
12-14 September 2022



Field Trip to Haimag Haicheng 15 Sept.

FLUORINE **FORUM** 2022

Pan Pacific Hanoi
17-19 October 2022

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- **Extensive experience & reputation**
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 - **Refractory Minerals**
 - **China**
 - **Mineral Recycling**
 - **Fluorine**
 - **India**
 - **Oilfield Minerals**

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