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ENERGY TRANSITION DIALOGUES

INTELLIGENCE BRIEFING

ISSUE 25, MONDAY, OCTOBER 4th

GI Consultancy Intelligence Publishing

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BIG OIL'S M&A ACTIVITY | GREEN TECH PUSH | CCUS INITIATIVES | CLIMATE MANTRA?

OIL MAJORS' LOW CARBON INVESTMENTS LESS THAN 5% OF THEIR CAPEX BUDGET

Dr. Leila Benali, Chief Economist, International Energy Forum (IEF)

The pandemic is the third crisis that the oil and gas industry has lived through over the last decade. As a result, we see fundamental changes in the industry.

The industry has inherited four strategic fundamentals. Firstly, when measuring success in an oil, gas, or energy company, along with evaluating competitiveness cost-wise, the carbon content of your asset base matters. The second strategic fundamental is how integrated you are as an oil and gas company and how efficient your business model is. This looks at a firm's diversification strategy and whether it is expanding a downstream portfolio, acquiring a utility, buying a renewables business, or becoming a major petrochemical player. The third strategic fundamental is your ability to access capital. What will make the difference for companies is their relationship with their shareholders. This includes private or government shareholders and their access to traditional capital, patient capital, or even ESG. The last fundamental is whether they have invested in technology. Today, digitalized trade and access to consumer data is critical.

CONTINUED ON PAGE 2

70% rise in M&A deal counts in the US between May – September 2020[1]

100 M&A deals with a total value of $141bn were recorded by the oil and gas sector from May 2020-2021.[2]

Sources: PWC

"TODAY, DIGITALIZED TRADE AND ACCESS TO CONSUMER DATA IS CRITICAL TO UNDERSTANDING BEHAVIORS AND MANAGING DEMAND UNCERTAINTY. WE NEED THIS GOING FORWARD – WHETHER WE BELIEVE IN PEAK DEMAND OR NOT."

Dr. Leila Benali, Chief Economist, International Energy Forum (IEF)

M&A: Energy transition driving activity?

The oil and gas industry has not been as successful in providing returns to shareholders over the last ten years when compared to other sectors, like IT and real estate. With the crisis over the last eighteen months, coupled with the fact that the industry has been undervalued, we see capital moving back towards the oil and gas industry. The average number of merger and acquisition (M&A) deals over the last decade have doubled. The average yield today is $350mn per deal, versus under $200mn in 2000-2010. This is significant – with energy transition being a key driver. Looking ahead, we will see a concentration of the value chain in low-cost, low-carbon assets. If you have access to these assets, you will be in business over the next ten years – regardless of volatility in prices and margins.

The case for hydrogen

Alternative fuels like methanol, ammonia, and hydrogen are all energy carriers that are relatively versatile. It is high time to investigate the different trajectories of these versatile energy carriers as the world pushes to use them in many applications, including bunkering and transportation Grey hydrogen still makes up more than 90% of the global hydrogen market. It is mostly produced, processed, and used in industrial processes and typically, in clusters. But if we want to expand the market, we must think about new business models and new contractual frameworks.

FULL INTERVIEW HERE

TOP TAKEAWAYS

- **Oil majors' low carbon investments are currently less than 5% of their total CAPEX budget.**
- **Pressure to cap methane emissions is mounting in the run up to COP26 - accurate reporting is a vital solution that needs addressing.**
- **Today's offtake contracts for hydrogen are still not enough to reach the scale the world requires. Long-term capital needs must be derisked.**

TOP 5 NEWS STORIES

S&P Global Platts Launches Crude Carbon Intensity Calculations
Uniper Looks to Middle East for Hydrogen Supplies
IEA: Green Policies Not to Blame for Energy Price Surge
Sipchem Begins Hydrogen Supply to Aramco Firm
HSBC, Temasek to Catalyze Sustainable Infrastructure Projects

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PODCAST THIS WEEK

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BIG OIL'S GREEN TECH PUSH

Suhail Shatila

Senior Energy Specialist – Strategy, Energy Economics & Sustainability, APICORP

FULL PODCAST HERE

From a strategic perspective, the energy markets are driven by three main forces that will govern the energy transition: digitalization, decarbonization, and decentralization.

We are increasingly witnessing national and international oil companies diversify their portfolios and use digitalization in the form of monitoring carbon emissions for ESG reporting. As more and more companies adopt and integrate ESG in their practices, the analytics will need to be addressed. It is not only enough to announce the establishment of an energy policy framework, as it also needs to be implemented. This is where digitalization becomes imperative.

The case for hydrogen

Energy security is very critical, especially with the energy crises that we are witnessing in the EU, UK, and China. The overhype on the energy transition is not realistic and it disincentivizes the oil and gas industry in many places. This leads to a green paradox, where the oil and gas companies accelerate the monetization of their fossil fuel assets in fear of having them stranded later. Ultimately, this will backfire on climate change efforts. Energy security must be discussed in tandem with energy transition at the upcoming COP26.

FULL PODCAST HERE

Saumitra Saxena

Research Scientist, King Abdullah University of Science and Technology (KAUST)

The oil and gas industry has taken the right steps in the right direction. There is a lot of emphasis on a green shift and reducing carbon emissions by all the major oil companies, which is very promising. However, the scale and the investment needed to bring the industry to a point where it can practically capture and decrease emissions to the levels needed is a long way off.

Saudi Arabia has one of the largest green hydrogen projects, which was launched in NEOM. Even at that scale, we are only looking at generating about up to 500,000 tons of hydrogen per year. Studies conducted at KAUST show that if we want to decarbonize the power industry, which uses gas turbines, we will need about 10mn tons of hydrogen by 2030 to eliminate about 150mn tons of CO2. There is a huge gap between 500,000 tons and 10mn tons that we need to work on.

Purple Haze

The scale and cost of green technologies currently available are quite high. And in most cases, we are not sure about their readiness levels, the investments required, and the aftereffects. There is a lot of effort from all the oil companies and we must commend that. However, the scale needs to be a lot more than what we have today. A lot of demonstrations and a lot of investments are needed to make a real change.

Dr. Jan Braun

Research Fellow in the Climate and Environment, KAPSARC

FULL PODCAST HERE

When we talk about decentralization in the energy transition, we will increasingly need major oil and gas companies because they have the skills, the know-how, and the infrastructure.

Looking ahead, oil majors will not only have to compete on costs, but they must also compete on decarbonization. These are the key long-term variables when it comes to being a competitive player in the market. The deployment of carbon capture, utilization, and storage (CCUS) would allow oil-exporting countries to optimize and monetize their national resources and their geological storage capacities in a much more sustainable way.

Scaling up CCUS

Increased cooperation on CCUS is critical for the Gulf region, as the technology has the potential to play a key role in the reduction of emissions from the hard-to-abate industries like energy, cement, steel, and chemicals. Economy-wide, it is an enabler for the region's quest for a low carbon hydrogen economy. One of the issues that hinder the large-scale deployment of this solution is the need for more financial incentives, like tax credits. We also need more government support for CCUS research and development (R&D) programs and initiatives. We also need initial infrastructure development for transport and storage. Lastly, we need more regulatory incentives, like the so-called emission performance standards obligations with CCS certificates. These issues must be fleshed out rapidly to really scale CCUS up to the level required.

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SURVEYS

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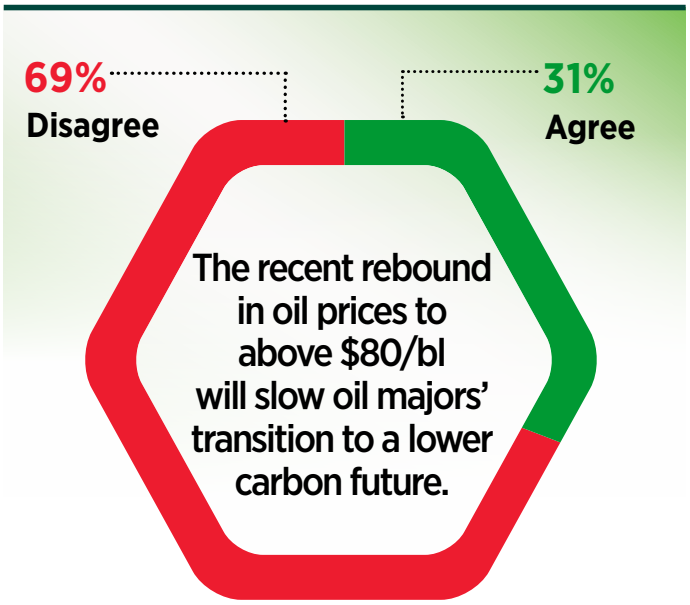

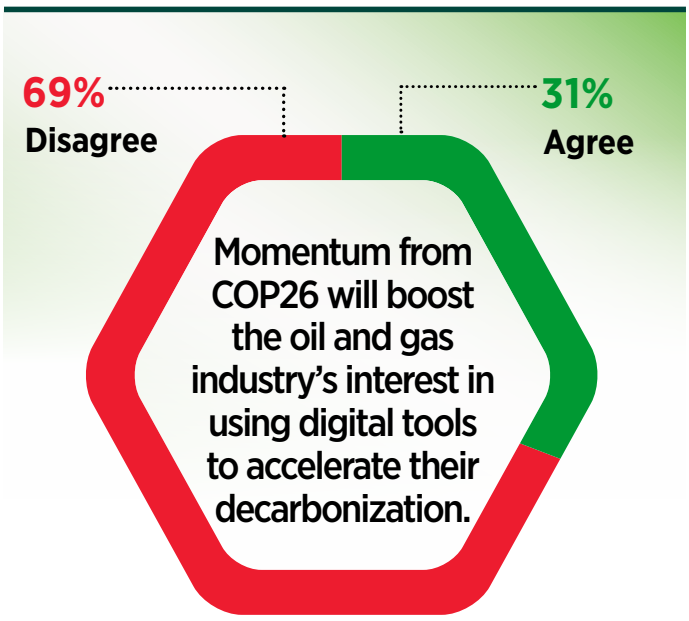

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INSIGHTS

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A Mantra for the Climate Era

The energy transition won't be smooth and simple. But more sooner will pay off...

Bill Spindle
Council on Foreign Relations, International Affairs Fellow, India

With the Glasgow climate conference, a little over a month away, U.S. climate envoy John Kerry and conference President Alok Sharma are criss-crossing the globe trying to squeeze last, best offers from the world's biggest carbon emitters to build momentum for a landmark meeting to rival the Paris Conference of 2015.

There's been some progress, with China recently promising to stop building coal-fired power plants beyond its borders and the U.S. upping its commitment to provide energy transition and climate adaptation funds to the developing world, a critical issue for countries such as India to offer more themselves. Both announcements come with big caveats: China said nothing about coal plants in China itself, and the upped U.S. funding goal remains a meagre $11bn, a fraction of the $100bn annually the developed world promised more than a decade ago and has yet to deliver on, and ludicrously small compared to what's really needed. But the bigger challenge is the conference will launch right into the teeth of one of the worst energy crises to grip the world in decades, particularly in Europe and Asia.

Much of the turmoil in energy markets has little or nothing to do with renewable energy, but just enough of does that politician and the public are fixating on those concerns. Indeed, the whole mess can just as easily be seen as evidence for why fossil fuels aren't a foundation of stability and we'll be better off when we don't depend on them. Energy security, as well as energy transition, undoubtedly will be on the agenda, as both should be. But these imperatives don't contradict each other. They're complementary.

Nobody said the transition would be easy, just worth it. So....

Brace yourself and embrace the change. That's your basic survival kit to get through the era of accelerating climate disruption we are now in. And let's not kid ourselves, survival on an earth resembling the one we inhabit today is what's at stake here over the long haul.

Disruption is coming, in ever greater helpings. Not only is this unavoidable, it's already happening. How we fare depends on this rule of thumb: the more embracing of change we manage now, the less bracing against fallout will be needed later.

But both will now be required — are currently required if you live in an American West or Australia battered by drought and wildfires, in the swath of destruction Hurricane Ida cut between New Orleans and New Jersey or the German towns or Chinese cities inundated by hundred-year rains earlier this summer. We've put off cutting

greenhouse gas emissions for so long that the climate impact over the coming decades will be fierce and expensive. Yet with enough change embracing from here forward, we can avoid much higher costs later and come out the other side better off.

Think 'resilience' and 'transition,' like a mantra.

Resilience means fortifying ourselves against the ravages of climate change. It's the new levee structures built in New Orleans after Hurricane Katrina, which cost almost $15 billion but helped the city weather Ida. Resilience is utilizing rooftop gardens to cool urban dwellings and setting up early warning systems to alert populations of impending temperature spikes. It's building sluices and leaving open space to rapidly drain runoff from deluges of rain. It's planting hardier crops able to withstand greater variations in weather. It's reinforcing military infrastructure and shoring up the global financial system against not only the damage of climate change but the inevitable financial re-valuation of fossil fuel reserves. It means building a web of mutually reinforcing actions and infrastructure against the onslaught of challenges a changing climate is serving up. It's the brace yourself part — and it requires staying ahead of the crises, preparing for their impacts, not simply responding afterwards.

But it's not enough. Resilience doesn't cure the disease.

Transition cures the disease. Climate change is caused by the emission of carbon, methane and other greenhouse gases into the atmosphere in the course of human activities. We drive gasoline-powered cars and trucks, light and heat our homes with natural gas, build our buildings with steel and cement produced with coal, eat beef and drink milk produced by cows that belch out a remarkable amount of methane. Climate change doesn't cease until these emissions cease. Embrace the change.

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