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Energy Transition Dialogues

Consultancy Intelligence Publishing

INTELLIGENCE BRIEFING

ISSUE 37, WEDNESDAY, FEBRUARY 16th

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WEEKLY SURVEY VIEWS YOU CAN USE INSIGHTS INTO INDIA THIS WEEK'S EVENTS

"In the energy sector, we are not scaling up the available technologies for all the wrong reasons – we are extremely risk averse."

Jean-Paul Sacy, Vice President, Lummus Digital Middle East

Scaling Up Technologies Ahead of COP27 To Achieve the 2050 Net-Zero Targets. To achieve the ambitious goals we have set for ourselves for the next 30 to 40 years regarding the 2050 net-zero targets, roughly 80 percent of the technology we need already exists – 20 percent is at early or advanced R&D stages. So, fundamentally, we are confronted with deployment, implementation, funding, and capability development challenges. In the energy sector, we are not scaling up the available technologies for all the wrong reasons – we are extremely risk averse. Over the last decades, we have failed to adopt digital technologies, such as AI or the cloud, at the pace other sectors have, like the media and telecommunications sectors.

There are easy steps oil and gas operators, and petrochemical refineries can take in the Middle East ahead of COP27. While certain operators are waiting for top-down regulations to be refined before taking any actions, we have discussed with slightly bolder operators starting to address the early detection and avoidance of leaks – namely methane leaks. These leaks, which have a significant carbon footprint, can be eliminated with existing technologies and fairly minimal investments.

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The Need for Funding

Fatih Birol, IEA Director, recently said that the oil and gas industry is investing around $1 trillion in clean energy, but this needs to go up to $3 trillion. With the current oil and gas prices, there is a lot of capital flowing to the industry, which can be used, at least partially, to fuel innovation. 2021 was one of the most profitable years for most petrochemical players in the region – they hit record profits that they have not seen for the last two decades. In 2022, players in the industry will be investing in technology.

The Importance of Partnerships and Adopting Technologies in the Energy Sector

We are increasingly looking into co-developing smart solutions and leveraging different technology elements, such as AI and data sources. An innovative partnership approach is the co-development of solutions. Some operators in the region have started setting up separate joint ventures (JVs) that are targeted to accelerate the digitization of their operations. For example, we can look at AIQ in Abu Dhabi, a JV between G42 and ADNOC.

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"The lack of a global carbon pricing system certainly impacts investments in clean technologies."

Dr. Morgan Eldred, Chairman, Digital Energy

Digitalization and the Reduction of GHG Emissions

For the last ten years, we have seen what digitalization can do, and the energy industry has been slow in adopting existing technologies. The actual challenge for digital technology is that most of the significant changes will come by 2030. to improve the energy consumption of renewable energy sources in individual households, for example. While a smaller investment compared to grid-scale projects, it is still significant. Entrepreneurs' desire to be involved, plus the support of the local authorities, is astonishing.

Commitments are focused on three areas:

1. **Replace:** moving towards renewables, wind, or solar energy.
2. **Carbon Capture:** focusing on developing these technologies as they are low hanging fruits.
3. **Reduce:** using digital technology to make a significant difference

ESG reporting is really important. However, in the oil and gas industry, we look at GHG emissions and the challenges related to scopes 1, 2, and 3. With digital technology, everybody is focused on optimizing scopes 1 and 2. Additionally, an individual's scope 1 might be somebody else's scope 3. So, transparency will be essential as new sets of barriers are coming our way.

Big organizations in industrial supply chains or energy producers need to have an integrated strategy on reporting what they are doing in ESG and clearly state the technologies being used. These actors need to be transparent with their numbers. In addition, 88% of institutional investors care about ESG. If organizations have a more integrated approach on reporting, then investors will start to tap into the funds.

Carbon Pricing and Offsets Strategies

The lack of a global carbon pricing system certainly impacts investments in clean technologies. However, I have my own personal view on this matter as a comparison. When cigarette taxes were implemented, big companies in the tobacco industry did not stop losing money. Governments earned money, and consumers paid more. The real change only came when individuals were not allowed to smoke in public places, and there was a health scare around the consumption of cigarettes. I have a feeling that the current way we approach carbon offsets will be similar to what happened with the tobacco industry. In my view, we can create an impact by implementing a carbon offset per piece of product. Each product that comes from the supply chain would have a carbon offset to it. For example, if you want to use a specific fertilizer it will cost you to do so.

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"If we use these technologies at scale, we can automate, optimize, and innovate continuously. That can help us reach the net-zero targets, maybe even before their set date."

Dr. Satyam Priyadarshy
Technology Fellow & Chief Data Scientist, Halliburton

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Scale Up Technologies Ahead of COP27 To Address Climate Change

The 'operational' technologies – i.e., the energy-producing technologies in solar, oil or gas – and 'optimizing' technologies – e.g., AI, data-driven innovation, augmented or virtual reality to reduce the carbon footprint – must be put at scale to be beneficial ahead of COP27. If we use these technologies at scale, we can automate, optimize, and innovate continuously. That can help us reach the net-zero targets, maybe even before their set date.

At Halliburton, we have always been good players in the ESG spectrum and very conscious of our carbon footprint. We support all the operators we work with and therefore must optimize ourselves well ahead of everybody else. For the last seven years, we have been focused on leveraging the data that we collect to further improve our operations and equipment. In 2020, we announced the creation of Halliburton Labs, which is looking at other energy sources. For example, we have been a big player in supporting geothermal activities.

Different Strategies in Developed Versus Developing Countries

The complexity of the energy transition entails that the challenges are not going to be the same for developing versus developed countries. In that sense, each countries' consumption and production are different. Each country will work according to its goals and challenges. Yet, our shared goal is to look at the data globally and create a balancing act. The only way to achieve this is by conducting integrated data analysis. Right now, everybody is talking about figures from different places, and it is hard to compare and contrast.

India's Government Policies on Moving Forward to Achieve the Net-Zero Targets

The question of criticizing India for not pushing far enough from a government policy point of view to achieve the net-zero targets was valid 24 hours ago. However, the government just released the budget, and there is a huge emphasis on achieving the net-zero targets and the importance of Public-Private Partnerships. The Prime Minister and Finance Minister went in-depth to discuss how they will reach their targets and the incentives they are giving private companies to help the nation achieve those targets. This is valid from the technology, finance, and infrastructure point of view.

WEEK IN REVIEW

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"We have been working on what we call the 'circular carbon economy,' about how to achieve net zero. We want to reduce our emissions by a good number. We can become more efficient, by installing insulation for buildings, by having more efficient standards for industry, and so on."

H.R.H. Abdulaziz bin Salman Al Saud
Minister of Energy
Kingdom of Saudi Arabia

Source: Interview with The Time

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SOUNDINGS

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"The pioneering efforts of the UAE in the field of environment reflect the country's national and ethical commitment as outlined in its vision on sustainable development and the need to lessen the impact of climate change through a joint action to confront its repercussions."

H.H. Sheikh Khalifa bin Zayed Al Nahyan
President of the UAE

Source: UAE National Environment Day 2022

WEEK IN REVIEW

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Dr Jonathan Woetzel
Senior Partner at McKinsey & Director of the McKinsey Global Institute

The transition to net-zero will be:

1. **Universal**
2. **Significant**
3. **Front-Loaded**
4. **Uneven**
5. **Exposed to Risk**
6. **Rich in Opportunity**

Source: McKinsey

"The market is already driving us to a new energy system, and it will be dominated by renewables. So, the direction of travel is clear."

Francisco La Camera
Director General
IRENA

Source: IRENA

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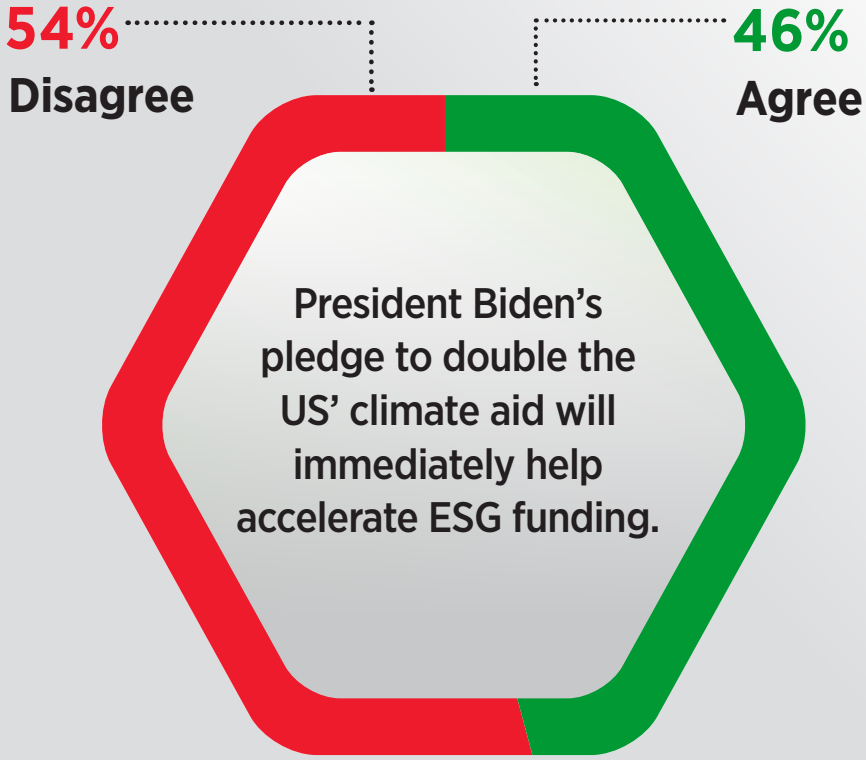
"I am proposing that investment in both existing and new energy be continued until the latter is developed enough to realistically and significantly be able to meet rising global energy consumption."

Amin Nasser
President & CEO
Saudi Aramco

SURVEY



Source: Energy Transition Dialogues Podcast

INSIGHTS INTO INDIA

IT'S OFF TO INDIA....AND (AGAIN) HERE'S WHY...

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

No country has more people more exposed to the disruptions of climate change and energy transition, a situation no one on the planet should ignore.

Regular readers of this newsletter — and a hearty thanks to all! — know the focus is on India for now. I want to return to the original reasoning for this, as our attention is going to move from global to granular in the coming weeks.

We're taking this adventure to India.
We'll explore the country's climate and energy challenges on the ground, looking at everything from the rapid growth of renewables to rising seas, intensifying storms and climbing temperatures. We'll meet Indians who are working on all of these fronts, pushing the country's energy transition forward and trying to adapt and build up their resilience in the face of the realities of climate change. We'll assess what they're up against — and they're up against a lot.

I'm already in India getting started.
But before zooming down to the ground level, I want, as I say, to return again to why India is the right starting point for a global climate and energy journey.

It's not immediately obvious. India isn't the country hardest hit by climate change. Several island nations are already being altogether swallowed by the sea. India didn't cause global warming; the largest historical accumulation of greenhouse gases in the atmosphere by far comes from the U.S. India isn't spewing the most planet-warming gases right now; China far and away gets that distinction.

India is, however, the country where more people will be more exposed to more disruptions in the coming decades than any other, from both climate change and the energy transition itself. At the same time, India has the potential not just to successfully navigate these challenges but also see the means by which it does reverberate around the globe, from the developed to the developing world.

That makes India critical for us all. I would argue, the single most important country over the entire multi-decade span of the climate change and energy transition era we're now amidst. A recent climate and energy deep-dive by the consulting giant McKinsey & Co. underscores India's importance neatly in a graphic.

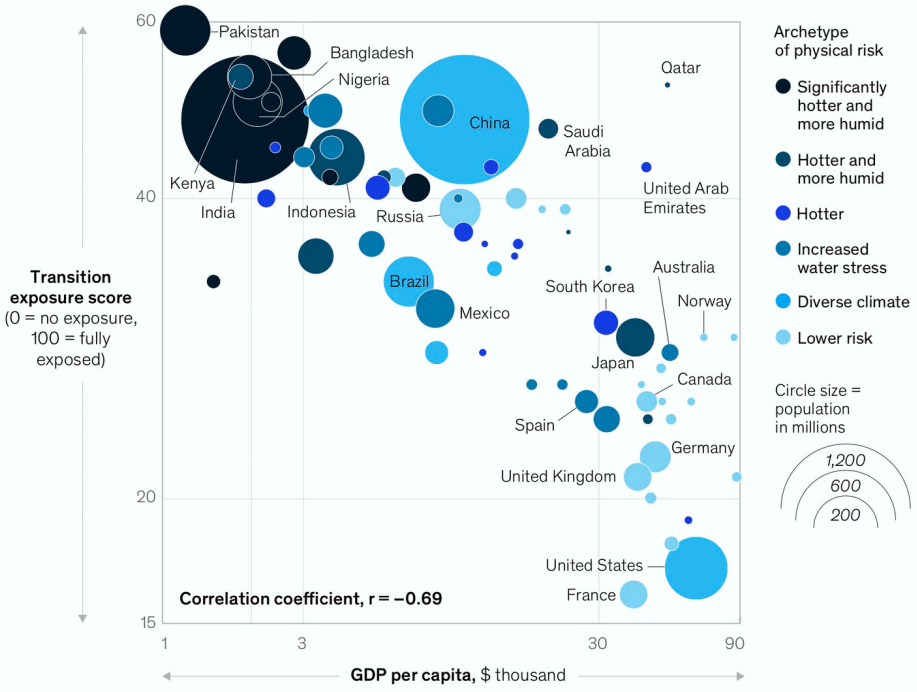
It's complex enough to benefit from some explanation

FULL ARTICLE HERE

Exhibit E11

Countries with lower GDP per capita and fossil fuel resource producers have higher transition exposures.

Archetype of physical risk[1] through transition exposure vs GDP per capita by country[2] (logarithmic scale)



THIS WEEK EVENTS

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COP27: What's next for climate finance?

Patrick Horend
CIO & Partner
Climate Endowment

Anish De
Global Head of Power & Utilities
KPMG in India

Thomas Engelmann
Head of Energy Transition
KGAL Investment Management

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TOP 10 STORIES THIS WEEK

1. The Climate Fight Presents Massive Opportunity for Businesses and Investors
2. Banks and Investors Have Given Trillions to Coal, Despite Signing Onto Net Zero Pledges
3. Scale of Investment Needed for Energy Transition Makes No Single Mode Inevitable
4. How to Fix the Failures of Climate Finance?
5. Financing the Preservation of Diverse Life on Earth in a Capitalist System
6. What Are Nature-Based Solutions and How Can We Finance Them?
7. Investing Sustainably Amid Rising Rates
8. Goldman Sachs – Clean H2 Transformational for Net Zero
9. The Doubling of Joint UN Fund Will Boost Sustainable Development
10. The Criticality of Climate Finance for Africa

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