

EXCLUSIVE INSIGHTS /// ACTIONABLE INTELLIGENCE /// EXCLUSIVE SURVEY ANALYSIS

# ENERGY TRANSITION DIALOGUES

# INTELLIGENCE BRIEFING

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**GI** Consultancy  
Intelligence  
Publishing

**SCROLL DOWN!**

EYES ON ENERGY SECURITY **HARNESS DIGITAL ALLIES** BIG OIL'S GAMBLE **NEXT WEEK'S EVENTS**

## HYDROGEN

# SCALABILITY IS THE PRIME CHALLENGE

Kilian Crone, Team Lead, Global Alliance Powerfuels

**T**he main challenge right now is getting enough volume as we do not have a shortage of targets, i.e., how can we make hydrogen work price wise for industry? Germany does not have a shortage of funding compared to other countries; capital is not a scarce resource nowadays. We have dedicated €9bn to hydrogen developments, with €2bn of that for international cooperation projects - that should be sufficient to kickstart the market.

Europe currently does not have a large, operating hydrogen system. Yes, we can repurpose natural gas pipelines for hydrogen pipelines, but this requires a significant amount of capital. And the key question is: who will pay for it? This is not a market-driven environment where things organize themselves. We need more policies to make this happen.



**FULL INTERVIEW HERE**

### Expanding the net

We were one of the first countries to explicitly state a hydrogen strategy that includes imports; up to 85% of what we will need over the next ten years will be imported. There are discussions about what type and volume of infrastructure we need, how to transform ports and pipelines, and so on. We are thinking beyond Europe as we consider establishing global supply chains. Currently, there are even some discussions on whether we should establish an import strategy alongside our hydrogen strategy - something I think makes a lot of sense.

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# CURBED OIL INVESTMENTS ARE WORRISOME

Dr. Sara Vakhshouri, Founder and President, SVB Energy International

**E**ncouraging companies to reduce or bring their investments in the oil industry to zero is worrisome advice, especially when we expect demand to grow in the short term. Even when OPEC and OPEC+ members have shared plans to increase their production, oil prices have remained high. We must keep in mind that even in the greenest scenarios [by mid-century], oil will have strong demand - an estimated 70mn b/d worldwide.

## Middle East: Pressure is on

The UAE and Saudi Arabia have shown great enthusiasm for diversifying towards greener energy sources - especially solar and hydrogen. But we have not seen the same level of ambition in other countries in the Middle East. It is especially important for the water scarce region, home to a fast-growing population, to get on board with more aggressive climate commitments. If the UAE announces a net zero target by year-end, it could be a valuable blueprint for others in the region. When we talk about net zero targets, there is much focus on energy production, but not demand management. Without proper demand management strategies, demand growth is unsustainable.



[FULL INTERVIEW HERE](#)

## TOP TAKEAWAYS

- Don't forget about oil; even the greenest scenarios still show strong demand outlooks. Energy security is king.
- Firms trying to be greener are selling their "dirtier" projects, but this does not stop the projects' environmental damage.
- If the UAE announces a net zero target by year end, it could be a valuable blueprint for others in the region.

## TOP 5 NEWS STORIES

[Aramco's Power Utility Joins 1.5GW Solar Project](#)

[Dubai to Raise Share of RE Before Year End](#)

[US-China Solar Rift Threatens Biden's Green Goals](#)

[UK Plans Subsidy-Driven Hydrogen Boost](#)

[Miners Falling Short of Carbon Cuts Needed for UN Goal](#)

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# PODCAST



## THIS WEEK DECARBONIZATION AND DIGITAL: WHAT'S NEXT?



**Morgan Eldred, Managing Director**  
Digital Energy

**FULL PODCAST HERE**

Almost 30% of global CO<sub>2</sub> emissions come from the oil and gas industry and its supply chain. But the good news is that any company – including oil and gas – can optimize and improve operations and emissions by 10%-30% by adopting the right digital technologies that are a part of the 4th Industrial Revolution (4IR). Clearly, there is huge potential for the industry to reduce its CO<sub>2</sub> emissions.

**Tread smartly**

It is also important to be aware of greenwashing. There is a lot of hype around the 4IR that everyone wants to get on board with – but not everyone gets it right. Remember that digitalization is not about technology, but data. When you take that data and merge it with technology to create new ways of generating greater insights...that is what moves the needle.

**The disconnect**

The challenge is not a lack of talent, but delivery in terms of experience and being fit for purpose. The oil and gas industry is the biggest commercial user of supercomputers in the world, so it already has incredible technology at hand. Where are we failing? Proper use of these tools to solve even some basic issues.

**FULL PODCAST HERE**

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

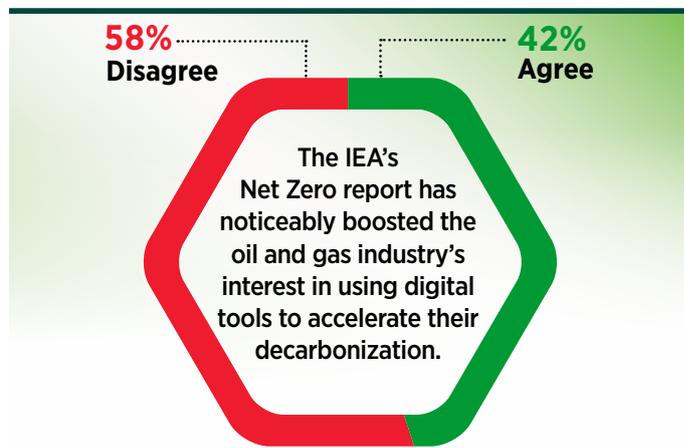
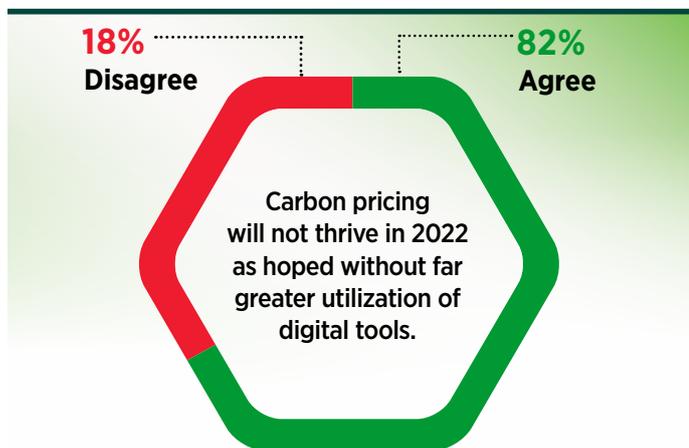


The oil and gas industry is a pioneer when it comes to adopting digital technologies – something most people do not know. The concept of a digital oilfield is not a new one, but the industry has not done a great job in communicating its accomplishments and innovations. Looking ahead, the industry must mature so it can leverage a combination of emerging technologies to create exceptional value – and help achieve net zero goals.

**Start low, build up**

We really must move fast if we want to see change. A large portion of the intended change that is often discussed could be achieved with very minimal investments and low risk. This low hanging fruit, like optimization and automation, can be explored before moving to more sophisticated technologies that can come later. For example, when it comes to unstructured data mining, what are we doing? Not much. Same goes to deploying AI solutions – still very much in its infancy. The challenges faced by the energy industry do not allow the liberty to overlook such opportunities.

# SURVEYS



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# SNAPSHOT HYDROGEN'S TRUE DAWN

Hydrogen is one of our Top 5 Themes of the Energy Transition that we keep abreast of every day. As part of GI's Energy Transition Dialogues, we also host weekly events with top level speakers from around the world, delving into what is next for a market earmarked as a pivotal ally in achieving decarbonization.

**T**he new oil of the 21<sup>st</sup> century – this is the rallying cry propelling the hydrogen market in the Middle East and worldwide. The most abundant chemical substance in the universe increasingly looks set to transform energy economics as it is hailed as an urgently needed and clean alternative to fossil fuels.

Hydrogen has long been used in industrial spheres, but talk of scaling up blue and green hydrogen production has long been just that – talk. Now it looks like the future has arrived. Rapidly declining renewable energy costs and technological advances mean hydrogen can be scaled up to help countries and corporates worldwide hit their decarbonization targets.

### Hype to reality

But there is still much work to do to move from the hype of hydrogen to an actual hydrogen economy. Governments and corporates must develop enabling and supportive policies that attract investments, launch more scalable pilot projects, global import-export alliances, and transport options. They also need to craft more robust national strategies and commitments to give investors goalposts. All these factors – and more – are vital to scaling up an industry that can play a pivotal role in revolutionizing energy. This is especially true for the “hard-to-abate” industry sectors like industrial processing and transport – which account for 40% of global GHG emissions – as electrification in these sectors will not be enough.



### Middle East's gameplan?

Growing appetite for an increasingly diversified energy mix in the Gulf Cooperation Council (GCC) nations and the wider Middle East is opening a coveted window of opportunity to expand on the region's potential role as a leader in hydrogen markets. There are already many springboards from which to further progress; the region benefits from well-established energy value chains, geographical advantages, plus rising local and export energy demand. There is mounting evidence of the region's appetite for hydrogen. For one, Saudi Arabia's planned zero-carbon city Neom formed a joint venture with Air Products and ACWA Power to create a \$5bn green hydrogen project, the world's largest. The project, spurred by the world's biggest oil exporter, is expected to produce 650 tons a year of green hydrogen and 1.2mn mt/y of ammonia by 2025. And among many other developments, ADNOC has attracted Fertigllobe, a joint venture with OCI, to invest in the national oil company's 1mn mt/y blue ammonia project.

## KEY INSIGHTS Views shared on our exclusive weekly events platform

**“The cost of electrolysis will drop by 50% in a decade. But we must be mindful of other costs associated with producing green hydrogen.”** Dr. Axel Wietfeld, CEO, Uniper Hydrogen

**“Multiple hydrogen hubs reduce competition amongst jurisdictions. It allows greater opportunities for collaborations and positions Australia as a serious exporter.”**

**Dr. Fiona Simon, CEO, Australian Hydrogen Council**

**7x**

increase in hydrogen use overall is expected by 2050, according to the International Energy Agency (IEA).

**\$11trn**

of potential value in the global transition to green hydrogen in infrastructure investment opportunities alone over the next 30 years, forecast the Bank of America

**25GW**

of renewable solar and wind energy to generate millions of tons of green hydrogen is planned by Oman's OQ and its partners.

**90%+**

fall in solar power prices over the last decade, according to Bloomberg Green. This opens door for even greater potential for green hydrogen.

**50%**

fall in the cost of hydrogen to \$2-\$2.5/kg by 2030 is needed to make hydrogen a viable alternative to conventional fuels, according to S&P Global Ratings.

**WE ASK**

**HOW TO SCALE UP AFFORDABLE AND SUSTAINABLE GREEN AND BLUE HYDROGEN ECONOMIES IN THE 2020S?**

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# INSIGHTS INTO INDIA

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## What Humans Do, They Can Undo. If we act fast....



**Bill Spindle**

Council on Foreign Relations, International Affairs Fellow, India

**T**he past year has seen a dramatic divergence in investors' views of sustainable energy sources versus oil and gas. India, which has already attracted a formidable array of the world's biggest institutional investors, could require another \$500bn in renewable electricity infrastructure alone over the next few decades to reach its ambitious goal of 450 MW of renewable energy by 2030, according to an analysis by IEEFA.

Way more than talk will be needed; more even than what once would have been cheered as ambitious action. This will be the measure of November's so-called COP26 gathering, the Conference of Parties under the 1992 United Nations Framework Convention on Climate Change (UNFCCC). That makes the months leading up to the Glasgow conference essential to understanding what is politically, financially, and technologically possible.



## IPCC: Frightening findings

The world's premier climate assessment body, the United Nations Intergovernmental Panel on Climate Change (IPCC), has issued its latest comprehensive report yesterday, and the news is not good. A vast undertaking — the report distils some 14,000 papers by thousands of researchers — the panel's work provides the scientific and factual underpinning for the upcoming global climate summit in Glasgow. Findings include:

- Atmospheric carbon dioxide levels are at a two-million year peak. Repeat: levels of carbon dioxide have not been this high since dinosaurs were roaming around.
- This means global warming of at least 2.7 degrees Fahrenheit (1.5 degrees Celsius) is already pretty much baked into our future — a daunting prospect

given the disruptions this will cause, indeed is already causing. And while the temperature increase, though still gaining steam, can eventually be halted and then reversed with enough cuts in greenhouse gas (GHG) emissions, the impacts we do experience will not be so easily undone. Once melted, glaciers will not quickly

refreeze. We will be stuck with wherever sea levels settle — which could be multiple feet higher or more — for many generations. But even that will not matter if we do not arrest the temperature increase before it threatens life as we know it.

- Yet there is good news of a sort. For the first time, the panel concluded with zero

wiggle room that these changes are being caused by human influence (the panel called this conclusion “unequivocal” for the first time). Well, what humans have caused, humans can repair — if we dramatically pick up the pace of current efforts to decarbonize the world's energy system.

**FULL ARTICLE HERE**

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# IPCC, SPECIAL REPORT

## GLOBAL WARMING OF 1.5 °C

**“CODE RED FOR HUMANITY.”**  
UN SECRETARY-GENERAL, ANTONIO GUTERRES



# 2050

EVEN WITH RAPID EMISSIONS CUTS,  
TEMPERATURES WOULD CONTINUE  
TO RISE UNTIL AT LEAST 2050.

# 90% CERTAINTY

HUMAN INFLUENCE IS THE MAIN DRIVER OF THE GLOBAL RETREAT OF  
GLACIERS SINCE THE 1990S AND THE DECREASE IN ARCTIC SEA-ICE.



# SINCE 1970,

GLOBAL SURFACE TEMPERATURES HAVE  
RISEN FASTER THAN IN ANY OTHER  
50-YEAR PERIOD OVER THE PAST 2,000 YEARS.

# 234 SCIENTISTS

WORRYING FINDINGS SIGNED OFF BY 234  
SCIENTISTS FROM MORE THAN 60 COUNTRIES.



Sources: IPCC, UN, Financial Times, BBC News

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# THIS WEEK'S EVENTS

## ENERGY TRANSITION DIALOGUES Consultancy Intelligence Publishing

### TWO MINUTE WARNING INTERVIEW SERIES

Tuesday /// Aug. 24<sup>th</sup> /// 12:00 (UAE)

**Mark Vester**  
Global Leader - Circular Economy  
SABIC



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## ENERGY TRANSITION DIALOGUES Consultancy Intelligence Publishing

### HYDROGEN FULL COURT PRESS

**Mrugank Inamdar**  
Head of Development – Asia  
Hyzon Motors

Wednesday /// Aug. 25<sup>th</sup> /// 11:00 (UAE)

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## ENERGY TRANSITION DIALOGUES Consultancy Intelligence Publishing

PODCAST WEDNESDAY /// AUG 25<sup>th</sup> /// 13:00 (UAE)



**Nathan Wrench**  
Head of Sustainability Innovation  
Cambridge Consultants



**Riad Bestani**  
Founder/GM  
ECO2(square)



**Leonidas Theodorou**  
Energy Advisory Specialist  
Hatch Advisory



**Michelle Meineke**  
Associate Director - Editorial  
Gulf Intelligence

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