

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

ENERGY TRANSITION DIALOGUES

INTELLIGENCE BRIEFING

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SCROLL DOWN!

ULTIMATE BOTTOM LINE? **MIDDLE EAST'S STATUS?** **SURVEY: DANGEROUS MIX?**

HYDROGEN

How to Drive Down Fuel Cell Costs? Go Big!

Dr. Naveed Akhtar, CEO, Hy-Hybrid Energy

Why are there no mass deployments of hydrogen fuel cell cars? Cost, cost, and cost! A fuel cell system is much more costly than an internal combustion engine (ICE). Furthermore, you need to have hydrogen storage tanks onboard, which are very expensive. And the lack of infrastructure can be a problem, such as the need to fund and install hydrogen refueling stations. Cutting costs must be the main goal to stimulate market growth and get greener vehicles on the road. A common method used in the industry to assess this is the 'PLACE' method: P for Power, L for Lifetime, A for Availability, C for Cost, and E for Efficiency. Within this method, many issues are being resolved, apart from C – cost. This is why we only have four manufacturers worldwide: two in Japan, one in South Korea, and another in Germany. The best route to better price points? Going bigger! This means diverting the focus from cars to trucks, aircrafts, and ships. We must increase the rate of utilization of hydrogen per manufactured unit. With the recent net zero pledges from industry leaders in transport – i.e., Airbus promises the world's first zero-emission commercial aircraft by 2035 – we will have to see efforts scaling up and costs coming down in the next few years.

\$42MN

is the projected value of the
hydrogen fuel cell vehicle market
in 2019-2026 – growing at a
CAGR of 66.9%.*



FULL INTERVIEW HERE!

*Source: Allied Market Research

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TWO MINUTE WARNING

The Ultimate Bottom Line?

People, Planet & Profit!

Matthew Harwood

Senior Vice President – Strategy, Risk and Sustainability

McDermott



FULL INTERVIEW HERE!

Why is there great optimism that corporates will stick to their climate commitments?

For one, employees are very alert to these pledges when they are looking at which firm to invest their career in – especially new talent in the younger generations. Any backtracking on these commitments would create a problem with all three stakeholders – employees, employers, and new talent. Plus, the expectation has been very clearly set by different stakeholder groups: by governments via the Paris Agreement and by shareholders via their rising interest in low carbon markets. The pandemic has made us realize the fragility of our planet's systems. The good news is that, despite the very depressed investment environment, sustainability initiatives have remained strong.

Don't throw out the kitchen sink

Legacy infrastructure is about evolution, not revolution. If something has been built with a certain lifeline, we should seek ways to use it as sustainably as we can until the end of its natural life. There is a lot that we could do to bolster sustainability, including using digital tools to increase electrification and bolstering carbon capture and storage (CCS) projects. Coming up with a 'one size fits all' solution is hard, but there are a lot of incentives to try. This is especially true given the massive investments that have already been made.

33% of the current value of big oil and gas companies would evaporate if governments more aggressively attempted to restrict the rise in temperatures to 1.5C above pre-industrial levels for the rest of this century, according to Lex.

2050 will see less than a quarter of the current demand for fossil fuels, according to the International Renewable Energy Agency (IRENA).

TOP 5 NEWS STORIES

[Clean Tech Investment Bubble?](#)

[India's Path to Net Zero by 2050?](#)

[IRENA: RE Growth Must Speed Up](#)

[HSBC to Drop Coal Financing by 2040](#)

[VW's \\$30bn Tech Reboot](#)

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THIS WEEK GREEN RECOVERY: MIDDLE EAST'S STATE OF PLAY?

Ambitious and headline-grabbing plans – that is how many would describe the push by the historical epicenter of fossil fuels over the last year. Intentions from the Arab Gulf especially, as well as Jordan and Egypt, to propel their green narrative are undeniable. For one, solar PV is expected to generate \$182bn investment in the renewables market in the Middle East by 2025, according to Frost & Sullivan. This also represents a staggering 18-fold growth in current capacity. And in the short-term, the International Energy Agency (IEA) suggests the Middle East and North Africa will add 4.12GW of renewables capacity this year, after only 1.86GW in 2020 – more than doubling in just twelve months. And most recently, Saudi Arabia, the world's biggest oil exporter, launched a landmark energy partnership with Germany to explore green hydrogen opportunities. And the UAE, OPEC's third biggest producer, has partnered with South Korea's GS Energy on blue hydrogen and carrier fuel exports, such as blue ammonia. Despite a late start – the Middle East has long had the right ingredients for a blossoming renewables market – national and private energy entities are fast catching up. They know that failing to embrace decarbonization efforts means inevitably slipping off the world's energy leadership board of influence. The Middle East currently enjoys a top ranking thanks to decades of black gold dominance – and it is not willing to surrender it. So, expect more low carbon projects and associated funding in 2021, even if net zero targets remain elusive.

\$657BN has been allocated to green projects over the next seven years in the EU – its biggest green recovery pledge.*

* European Commission

\$300BN per year of investments are needed for climate adaptation worldwide by 2030.*

* UN



Cornelius Matthes, CEO
Dii Desert Energy

FULL INTERVIEW HERE!

We are in a disruptive decade – one which calls for immediate action.

Last year triggered a massive paradigm shift in public perception as people realized that climate change is a much bigger threat than the Covid-19 pandemic. We saw an unprecedented wave of countries and companies making net zero pledges. Now, the next ten years must focus on achieving those goals. There are enough studies to prove that a 100% renewable energy system is possible by 2030. We must be very aggressive and ambitious to make things happen in the short-term. There is very little time to act.

“A GREEN RECOVERY OFFERS THE OPPORTUNITY TO CREATE NEW JOBS AND PROVIDE PEOPLE WHO ARE EMPLOYED IN THE OIL AND GAS SECTOR A NEW PERSPECTIVE.”

Greenwashing? A no-go

A couple of years ago, we would not have expected such bold climate strategies from nations and corporates worldwide. Now, there is positive peer pressure internationally and no one can afford to engage in greenwashing anymore. A green recovery is the only way forward. Apart from the obvious environmental benefits, the economic benefits are massive, such as in the Middle East. A green recovery offers the opportunity to create new jobs and provide people who are employed in the oil and gas sector a new perspective. We must look at the socio-economic impacts of the energy transition, giving people a sustainable and stable future.

\$131TRN is required in funding for clean energy worldwide by 2050.*

*IRENA

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PODCAST



Anita Nouri, CEO
Green Energy Solutions & Sustainability

Despite oil prices recovering, signs that the Middle East is moving ahead with its climate agenda are still emerging.

Take Saudi Arabia as an example – an economy that very much relies on oil. The Kingdom should be celebrating the recovery in oil prices. But does that mean they will step away from their pledges towards a sustainable and renewable energy future? No. Now, they go hand-in-hand. Fossil fuels will be with us for decades to come. The region cannot afford to go too deep into the black and risk falling behind in the global race to a decarbonized energy system.

Don't look back!

In the Middle East, there must be legislation in place to make it easier for the renewables market to grow, encouraging a steady move away from the dependence on fossil fuel. We should not use the economic losses driven by the pandemic as an excuse

to go back to business as usual. The 'normal' that we knew no longer works, especially considering the magnitude of the climate challenge.

Closing the loop?

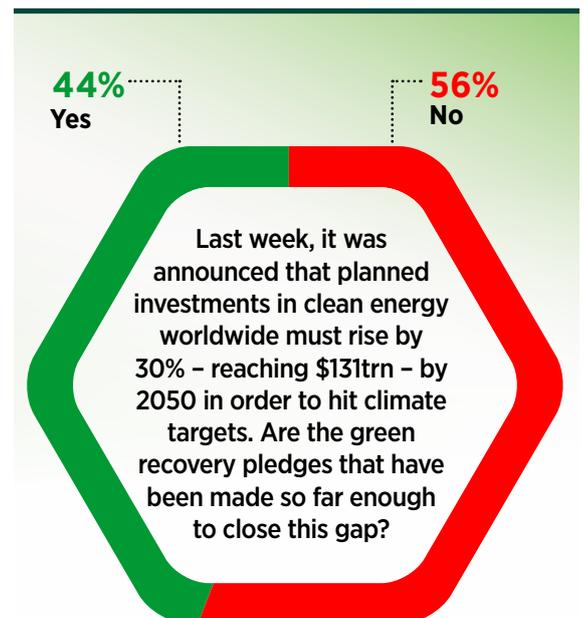
There are many technologies that can work together to support the growth of a circular and green economy. For example, many landfills emit methane, which can be reused to help produce green hydrogen. It is an expensive process. But if you have a landfill, you can not only reduce your environmental impact, but also obtain a new source of power that could boost the hydrogen industry. This is just one way to close the loop and start moving more proactively towards a circular economy.

FULL INTERVIEW HERE!

SURVEY ANALYSIS A DANGEROUSLY MIXED BAG?

Should this answer raise eyebrows? One year ago, we would say no. But now, after a plethora of net zero pledges and sustainability strategies launched by the world's biggest economies and corporates, we would expect more optimism.

But therein lies the crunch – mitigating the worst impact of climate change is a behemoth of a challenge never seen before. Yes, the economic scales are tipping in favor of more major investments in clean energy. On average, every \$1 invested into the energy transition generates \$1.50; a 50% return on investment that is especially attractive amid today's norm of lower oil prices. And headline-grabbing announcements about clean energy investments – i.e., Saudi Arabia's \$5bn world-scale green hydrogen-based ammonia production facility powered by renewable energy – are helping propel momentum. But perhaps the 56% of respondents who answered no feel the overbearing weight of the broader economic picture? For one, the global financial system is emerging from what the International Monetary Fund (IMF) called the worst economic depression in nearly a century, largely due to Covid-19. And while oil prices are hovering around \$60/bl, this is still low and sustained enough to hit many energy firms' balance sheets. Plus, let us not forget that many countries and mega corporates have yet to announce net zero targets and associated funding packages – the Middle East being one.



Survey source - ETD

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World Water Day:

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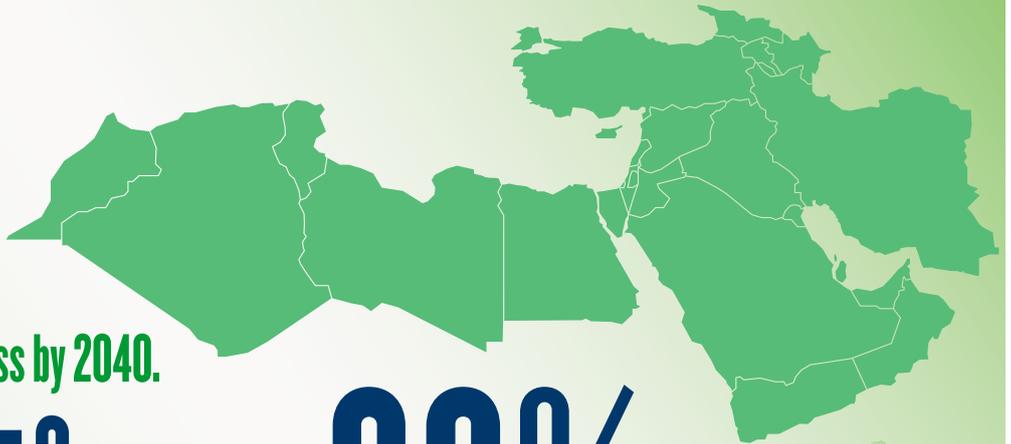
Blue Gold Needs Attention!

MENA OUTLOOK: WATER STRESS

90%

of countries in the MENA region will face high to extremely high water stress by 2040.

Source: IEP



1,200M³

is the overall average amount of water available each year in the MENA region.

Source: World Bank

80%

of the water in the MENA region is not used efficiently, according to the World Bank.

Source: World Bank

HOW MUCH WATER IS PRODUCED FROM OIL & GAS PRODUCTION?

5 BARRELS OF WATER

are produced per every barrel of oil, which means water is the number one fluid produced by the oil industry.

Source: IFP Énergies Nouvelles



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Mark Lambrides
Global Director
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Sustainable Development
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Guy Reavley
Vice President
Strategy & Operations
Solar Water



Amjad Khashman
Energy Specialist

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CLICK HERE for our last event dedicated to Water Security.
Watch out for the next one in May!

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