



**2024**  
**March**

## Clean Energy Transition: Opportunities and Barriers for Renewable Energy



Webinar White Paper

The Al-Attiyah Foundation



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Renewable energy is poised to become even more prevalent in 2024 as decarbonisation accelerates and more investment is made into the sector.

Falling costs have been the biggest factor in the growth of solar and wind capacity, with renewables now the cheapest form of power. This has helped renewables garner more investment than fossil fuels.

It is under this context that the Al-Attiyah Foundation held its first webinar of 2024 on March 7th. The webinar convened a distinguished panel of energy experts and policy consultants to explore the latest opportunities and barriers to the energy transition. With a special focus on renewable energy, our panelists discussed the most anticipated trends for this year and the main concerns disincentivising investment.

## WEBINAR WHITE PAPER

H.E. Abdullah bin Hamad Al-Attiyah founded the Foundation as a platform for knowledge exchange and support for the global community in the quest towards a sustainable energy future.

The Webinar Series, which began two years ago, is a crucial networking and learning opportunity in the calendar of industry CEOs members and Foundation partners.



By 2028, global renewables capacity will expand to 7,300 GW – nearly double the current capacity of about 4,000 GW. Such growth is crucial for the energy transition; last year's COP28 set a target to increase renewables capacity to 11,000 GW by 2030.

Experts foresee several trends that will reshape the renewables landscape in 2024. For instance, bifacial solar panels can capture sunlight on both sides, providing a higher energy yield. In wind energy, developers' focus is on larger, offshore turbines with gigawatt capacities that will reduce per-megawatt project costs.

Green hydrogen also holds significant promise for a carbon-free future because it can enable decarbonisation of hard-to-abate industries such as steelmaking. With major advancements expected in electrolyser technology, these will reduce the cost of green hydrogen production significantly, helping boost the fuel's viability across various sectors.

However, while the world is on the cusp of a massive energy transition, many hurdles threaten to slow down this progress. For example, funding clean energy projects is much more expensive in developing countries due to perceived macroeconomic risks, which increases the premiums that lenders charge and lead to higher project capital costs.

Globally, long lead and approval times, supply-chain bottlenecks, rising financing costs due to historically high interest rates, and trade-offs between infrastructure and biodiversity all deter adoption of renewables.

To profit from the energy transition, companies must position their operations to capitalise on policies and regulations, while establishing cross-industry partnerships and remaining agile in fluctuating market conditions.



Policymakers and the private sector must overcome major hurdles to accelerate the transition to renewable energy and the phasing out of fossil fuels. These include unfair competition from subsidised hydrocarbons, competing economic and societal development needs and a cumbersome project approval process, expert panellists said.

Yet even with these challenges, global renewable energy capacity nonetheless increased by nearly 510 gigawatts (GW) last year, the International Energy Agency (IEA) estimates.

"For the time being there isn't a world without fossil fuels," said Luma Saqqaf, Chief Executive Officer of Ajyal Sustainability Consulting. "It is doable, but it requires quite a bit of transition."

She cited the United Arab Emirates as a great example of how to plan to achieve such a daunting long-term goal, noting its Nationally Determined Contribution, or climate action plan, dovetails with the country's broader strategy to expand its economy massively despite its status as a major oil exporter.

The webinar's first poll framed much of the subsequent discussion. This asked audience members what they thought was the main constraint on renewable energy development; 40 percent of respondents said high capital costs, while a further 40 percent said long permitting and regulatory processes. Supply chain bottlenecks and high operating costs attracted 20 and 0 percent of votes respectively.

Ms Saqqaf said challenges surrounding funding the construction of renewable energy plants were also related to political considerations, with many governments in the Middle East and North Africa facing what they would consider to be other, more pressing priorities such as food and water security.

## WEBINAR SPEAKERS

### Moderator:



**Nawied Jabarkhyl,**  
Broadcaster and  
Director, Head of  
International media  
at APCO Worldwide

### Speaker



**Luma Saqqaf,** Chief  
Executive Officer,  
Ajyal Sustainability  
Consulting

### Speaker



**Gareth Lewis,**  
Partner and Global  
Lead, Development  
Services, ERM

### Speaker



**Rory McCarthy,** Chief  
Operating Officer,  
Yellow Door Energy

This is especially acute for the less wealthy countries in the region, she explained.

Geopolitical concerns are pressuring costs and the supply chain for renewables projects, explained Gareth Lewis, Partner and Global Lead, Development Services at ERM.

"There are a lot of countries with great resources and it's being able to tap into that resource and get the policies in place to do that," said Mr Lewis.

"In offshore (wind), we're seeing a slowing up during the early stages because they're not setting the policies correctly or dithering in terms of getting things moving."

That causes extensive delays, he explained. Nevertheless, developers possess "the appetite to get these projects on the ground up until (the) permitting phase, but there's a huge backlog of projects that are waiting to go and really need that policy starter-gun to fire and to speed up those permitting regulatory processes."

Such processes can take years before a renewables project can begin producing electricity, said Rory McCarthy, Chief Operating Officer at Dubai's Yellow Door Energy, while Mr Lewis noted that COP28 indicated policymakers were cognisant of the need to resolve these challenges.





Electricity grid constraints are another problem, said Ms Saqqaf. She highlighted the case of Jordan, which obtains about 30 percent of its electricity from renewables but is struggling to increase its overall capacity due to a lack of investment in its grid.

In Saudi Arabia, much of its industrial base is off grid and instead relies on gas and diesel generators, the fuel for which is heavily subsidised, noted Mr McCarthy. As such, corporations have little financial incentive to switch to on-site renewable electricity production.

"It's those subsidies that are falsifying the real cost of energy and preventing the world from moving forward as quickly as it needs to," said Mr McCarthy.

Beyond off-grid fuel subsidies, other energy subsidies are also disincentivising the expansion of renewables capacity, he said.

"If the real cost of coal is 8 cents and you subsidise it to 5 cents per kilowatt hour, you're slowing down the transition to clean energy," said Mr McCarthy, noting the pledges at COP28 to phase out unabated coal consumption and to transition from fossil fuels were of huge importance.

Mr McCarthy said distributed energy generation and microgrids that serve their immediate surrounding area can help poorer countries decarbonise and overcome shortcomings in their existing electricity infrastructure.

Such projects reduce the need to build long-distance transmission networks, improve energy security, and so will become even more critical as electric vehicle adoption increases.

Mr McCarthy highlighted the huge strains a societal shift to electric vehicles will place on countries' electricity infrastructure.

"It's another reason why we're big believers in distributed energy being the way forward - localised energy, localised management, localised generation," he explained.

## GREEN HYDROGEN

Panellists debated the merits and potential for green hydrogen, which is made by splitting water into its constituent elements via renewable electricity-powered electrolyzers. This process is hugely water- and energy-intensive, Mr McCarthy said, estimating it requires around 10,000 litres of water to produce one kilogram of green hydrogen. Other challenges include hydrogen's flammability as well as storage and transportation difficulties.

"That's why I'm not a believer in hydrogen as a magic bullet, although I do see the value of it in certain industries," he said.

The debate moved onto a second poll in which 44 percent of respondents said the biggest hurdle on the path to clean energy was geopolitical concerns and monopolies on many rare-earth minerals, while 33 percent said grid constraints. Technological limitations and environmental challenges each gained 11 percent of votes.







In terms of extracting the minerals integral to much renewable energy technology, the communities from where these materials are sourced must also benefit, said Mr Lewis, explaining this will maximise "the potential for a nature positive energy transition" in which sustainable development occurs simultaneously.

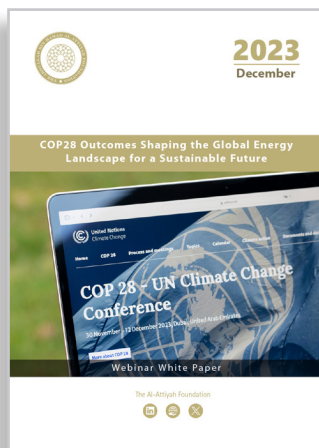
"We need to make sure ... it's not just the rich nations benefiting," said Mr Lewis.

In a final poll, respondents were asked which sector should be the priority for energy transition investments. Half of respondents chose "all", namely: renewable energy, nuclear energy, energy storage, electrified transport, electrified heat, hydrogen, sustainable materials, and carbon capture and storage.

Renewable energy, energy storage, and carbon capture and storage each separately attracted 17 percent of votes.

Such results demonstrate the scale – yet also the opportunity – of eventually ceasing to use fossil fuels as a source of energy. Oil and gas will remain pivotal especially in hard-to-abate industries such as aviation and steelmaking for years to come, but with the collective will of national and international policymakers and popular concern intensifying over the clear, tangible effects of climate change, the private and public sector can pool their expertise and resources to accelerate the complete transition to renewable energy.

Have you missed a previous issue? All past issues of the Al-Attiyah Foundation's Research Series, both Energy and Sustainability Development, and Whitepapers can be found on the Foundation's website at [www.abhafoundation.org/publications](http://www.abhafoundation.org/publications) publications



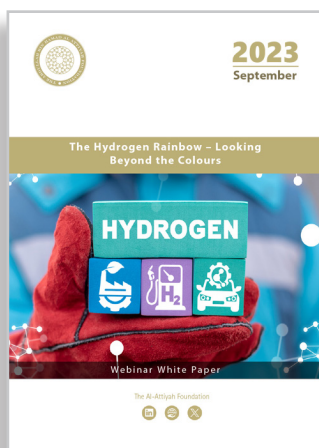
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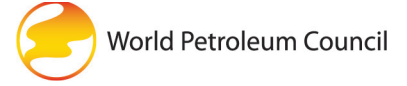
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Our partners collaborate with The Al-Attiyah Foundation on various projects and research within the themes of energy and sustainable development.





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