



**2024**  
**December**

## Energy Market Trends to Watch in 2025 and Beyond



Webinar White Paper

The Al-Attiyah Foundation



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The webinar "Energy Market Trends to Watch in 2025 and Beyond," held on December 5, explored the critical factors shaping the global energy landscape amid economic and geopolitical uncertainties, shifting oil and gas supply dynamics, and the rapid expansion of renewables.

Co-hosted by the Foundation and the London Stock Exchange Group (LSEG), this lively session brought together industry experts to reflect on 2024's trends and forecast what lies ahead for the energy sector.

## 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 is a crucial networking and learning opportunity in the calendar of industry CEOs members and Foundation partners.



From heightened economic and geopolitical uncertainties to changing oil and gas supply dynamics and the accelerating expansion of renewable power generation, there are various pivotal factors shaping the global energy system.

Oil prices will likely remain subdued in 2025 due to increased output. The Organization of the Petroleum Exporting Countries' (OPEC) plans to raise production next year, the first annual expansion since 2022, while some non-OPEC members such as the United States and Brazil will also boost output.

Consequently, the average price of oil could drop to \$60/bbl by the end of 2025, from about \$80/bbl in the fourth quarter of 2024, according to JP Morgan. That would be despite global oil demand likely to expand by 1 million barrels per day (mpbd) in 2025 to 103.8 mpbd, according to the International Energy Agency (IEA).

However, several dynamics could alter the oil price trajectory. Geopolitical tensions, particularly the conflicts in the Middle East and Ukraine, have revealed vulnerabilities in the global energy system.

The LNG market, while facing similar geopolitical issues, has remained largely unaffected by conflicts, with supply disruption risks remaining modest.

The sustained decline in the cost of solar and wind power has made them increasingly competitive with fossil fuels in many regions. Renewable electricity sources are projected to expand

significantly, with their share of global electricity supply forecast to rise from 30% in 2023 to 35% in 2025, surpassing coal use globally for the first time. In transport, industry and buildings, the pace of renewables growth is set to double over the next five years compared with 2017-2023.

It is under this context that the Foundation and the London Stock Exchange Group (LSEG) hosted its fourth energy webinar of the year. In the lively discussion, an esteemed panel of experts reflected on the most important energy trends of 2024 and postulated on what might be significant for the industry in 2025 and beyond.



Renewables account for nearly nine-tenths of new electricity production capacity, but gas will remain essential to the energy transition, with annual demand for the fossil fuel set to hit an all-time high in 2025.

World energy markets are in an interim period while we await the next wave of major liquefied natural gas (LNG) projects to start production, said Dr James Henderson, a Distinguished Research Fellow at The Oxford Institute for Energy Studies.

"Weather is going to be important," said Dr Henderson. "If it's cold, demand will be higher in Europe and potentially in northeast Asia (also)."

A cold start to Europe's late autumn and early winter period is reflected in gas storage levels in the European Union, he explained. The European Commission has mandated that the bloc's gas storage facilities be at least 90 percent full ahead of winter.

This target was comfortably surpassed, hitting 98 percent, but up to 9 billion cubic metres more of these reserves have been consumed this year than at the same stage of 2023, Dr Henderson warned.

"If the cold weather continues it's very likely that we'll end the winter with much lower stocks than in the past couple of winters," he said. Storage levels will need to be restored to 90 percent over the summer of 2025.

## WEBINAR SPEAKERS

### Moderator:



**Axel Threlfall,**  
Editor at Large, Reuters

### Speaker



**Adrian Del Maestro,**  
Vice President, Global Energy Advisory, GBL Environment, AECOM

### Speaker



**Dr James Henderson,**  
Distinguished Research Fellow, Oxford Institute for Energy Studies

### Speaker



**Kevin Selleslags,** Chief Executive Officer, Hygen Energy

### Speaker



**Dr Roland Roesch,** Director, Innovation and Technology Centre, International Renewable Energy Agency (IRENA)

### Speaker



**Bruce Alway,** Director, Metals Research, LSEG

That comes at a time when two or three sizeable LNG projects in the United States have been delayed, while Russian gas flows through Ukraine will probably soon cease, Dr Henderson said.

Gas has become clearly established as the primary complementary fuel for intermittent renewables; when wind turbines or solar panels lie idle due to a lack of wind or sun, gas-fired electricity plants resume operation to meet the shortfall.

As such, "we'll go into a storage refill period in summer 2025 ... with rising demand in Asia", said Dr Henderson.

With gas demand likely to hit an all-time annual high in 2025 according to the International Energy Agency, a poll asked the webinar audience what the key driver of this increase would be; 67 percent said economic growth in Asia and 33 percent said rising European demand as industries increase their gas usage.

Dr Henderson said that although renewables are displacing gas as an energy source, the fossil fuel will remain vitally important back-up source.

"Gas demand will reach a record high in 2025 because it is critical across so many parts of the economy," he said, predicting gas prices will begin to fall from 2026 as increased supply becomes operational.

Yet coal has proved surprisingly resilient despite the damage it causes to the environment and its contribution to global warming, said Adrian Del Maestro, Vice

President of Global Energy Advisory at infrastructure consultancy AECOM. This is because coal is relatively cheap and provides a means for countries to guarantee their energy security during a prolonged period of heightened geopolitical uncertainty, he explained.

Another poll asked audience members which factors would be most influential in shaping energy prices over the next 12 to 18 months. Half of respondents said supply disruptions and half said the weather, while none selected either geopolitics or gas storage levels.





Mr Del Maestro highlighted just how uncertain the near-term geopolitical outlook remains despite the audience's correct assessment that geopolitics is having little effect on energy prices.

As he explained, when crude prices hit an all-time peak of \$147 per barrel in July 2008 the geopolitical premium within this price was about \$15. Unusually, there seems to be no such premium in current prices, which is in part due to expectations that substantial additional supply will enter the market, he said.

He also cautioned against a common belief held by some of his company's clients that the transition to clean energy would "rid ourselves of the bane of geopolitics that haunted the oil and gas sector".

Rather, geopolitics will remain a pivotal factor in the energy sector, he predicts. This is due to the concentrated nature of

clean energy supply chains; China is a key source of both the critical minerals needed for components in batteries and other technologies as well as a hugely important processor of these same minerals.

As the energy transition evolves, "it's going to be a very bumpy ride", said Mr Del Maestro.

China has a 75-80 percent global market share of clean energy technologies, said Dr Roland Roesch, Director of the Innovation and Technology Center at the International Renewable Energy Agency (IRENA).

Bruce Alway, a Director at LSEG (London Stock Exchange Group), highlighted that although there is an understandable focus on critical metals and minerals required for EV batteries, copper is key because it enables the transmission of electricity.

Geopolitics is important when it comes to the supply of metals, said Mr Alway.

"There's a lot of concentrated geology," he explained, noting that about 70 percent of all lithium reserves are found in a zone spanning parts of Chile, Bolivia and Argentina. The per-tonne price of lithium has fallen to about \$9,000 currently from \$85,000 in 2022, which is below the break-even point for developing new lithium mines, said Mr. Alway. Similarly, nickel is in an oversupply situation.

Over the past decade the cost of solar photovoltaic (PV) and concentrated solar power has fallen by 90 and 70 percent respectively, while the cost of onshore wind has dropped 63 percent, according to Dr Roland Roesch from the International Renewable Energy Agency (IRENA).

Last year these three forms of renewable energy, as well as geothermal and hydropower, were cheaper from a levelised cost of electricity (LCOE) perspective than fossil fuel-fired power stations. LCOE calculates the lifetime cost of a power plant including capital and operating expenses.

Of the new electricity production capacity added last year, nearly 90 percent was from renewables, Dr Roesch explained. This reflects commitments made by nearly 120 countries at last year's COP28 summit in Dubai to triple the collective renewables capacity by 2030, he said.

In a further audience poll, 50 percent of respondents said that within the renewable energy sector electric vehicle charging would achieve the greatest growth in 2025, while 33 percent voted for energy storage and 17 percent chose wind energy.

Industrial applications for green hydrogen such as replacing fossil fuels as feedstocks in steelmaking and as the energy source for large road vehicles like heavy trucks and buses are likely to be the main source of demand, rather than as a rival to battery-powered passenger cars.

"There are a lot of concerns and doubts about the future, but (many) commodity markets have evolved the same way," said Kevin Selleslags, Chief Executive Officer of Hygen Energy, when asked about the prospects for green hydrogen. "We are now at a stage where the hype seems to be over and we're reverting to what I call reality."

He acknowledged that while the cost of electrolyzers remains high, prices have fallen significantly and will decline further as more and more green hydrogen plants are built.





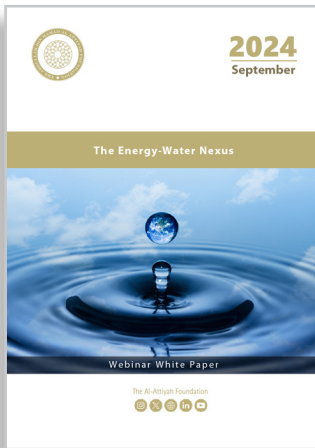
As 2024 draws to a close, the energy sector stands at a crossroads. While significant progress has been made in expanding renewable energy capacity and reducing dependence on fossil fuels, challenges remain in ensuring energy security.

The resilience of coal, the growing role of natural gas as a backup for intermittent renewables, and the complexities of geopolitics in critical mineral supply chains underscore the need for strategic planning and collaboration.

To meet decarbonisation targets and maintain stable energy supplies, countries must invest in renewable infrastructure and energy storage solutions. Additionally, addressing vulnerabilities in global supply chains and enhancing international cooperation will be vital to navigate the uncertainties of 2025 and beyond.



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



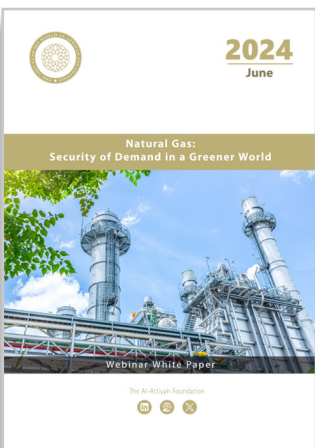
September – 2024

## The Energy-Water Nexus

The Abdullah bin Hamad Al-Attiyah Foundation for Energy and Sustainable Development provides robust and practical knowledge and insights on global energy and sustainable development topics, communicating these for the benefit of the Foundation's members and community.



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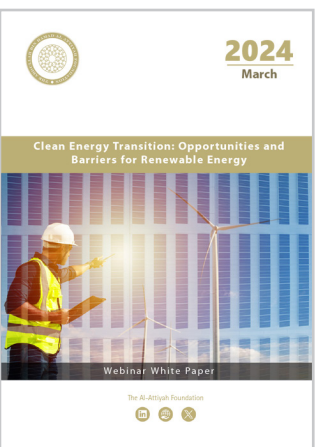
June – 2024

## Natural Gas: Security of Demand in a Greener World

Since 2020, the Foundation has staged a series of webinars, in partnership with London Stock Exchange Group – Data & Analytics, to explore key trends and insights during a period of unprecedented global uncertainty due to the Covid-19 pandemic, supply chain constraints, the Ukraine conflict, extreme price volatility and the climate emergency as they impact the energy industry.



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March – 2024

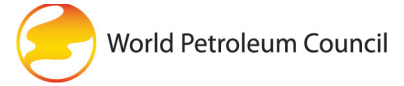
## Clean Energy Transition: Opportunities and Barriers for Renewable Energy

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.





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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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