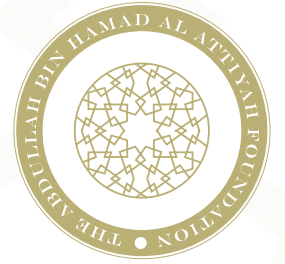


06 March - 2024

CEO Roundtable

Impediments and
Opportunities for the
Energy Transition



The Al-Attiyah Foundation is proudly supported by:



AGENDA



Wednesday, 6th March 2024

- 10:00 AM Coffee and Networking
- 10:30 AM Special Speakers
- 10:40 AM Moderated Discussion
- 12:15 PM Closing Comments
- 12:35 PM Lunch

CEO Roundtable Series

His Excellency Abdullah Bin Hamad Al-Attiyah, Chairman of the Al-Attiyah Foundation, launched the CEO Roundtable Series and Dialogues to provide a platform for knowledge exchange and support for the global community in the quest towards a sustainable energy future. All guests have the opportunity to share their opinions and insights in what is always a lively and thought-provoking discussion.

**The meeting takes place under the Chatham House Rule whereby participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.*



EVENT OUTLINE

The Al-Attiyah Foundation's inaugural CEO Roundtable of 2024 will explore the myriad opportunities and constraints stemming from the ongoing energy transition. Anticipated discussions at the Roundtable will be centered on the ramifications of decisions and declarations, both made and deferred, at COP28. The focus will be on discerning how these outcomes will shape the trajectory of the global energy transition.

It is important, from the onset, to consider what the "energy transition" entails. In the context of this Roundtable, the energy transition refers to a global shift from traditional, fossil fuel-based energy systems to cleaner, more sustainable, and low-carbon energy sources. The primary goal of the energy transition is to mitigate the environmental impact of energy consumption, reduce greenhouse gas emissions, and address climate change concerns. The various mechanisms through which to achieve this goal include:

- Increasing the share of renewable energy sources such as solar, wind, hydroelectric, geothermal, and biomass to replace or complement conventional fossil fuels.
- Improving energy efficiency in various sectors, including industry, transportation, and buildings, to reduce overall energy consumption.
- Shifting from centralised energy systems (e.g., large power plants) to more decentralised and distributed energy generation, allowing for a more resilient and adaptive energy infrastructure.
- Expanding the use of electricity as a cleaner energy carrier and promoting the electrification of sectors such as transportation and heating.
- Developing and implementing advanced energy storage technologies to address the intermittent nature of some renewable energy sources and ensure a stable and reliable energy supply.
- Implementing smart grid technologies to enhance the efficiency, reliability, and flexibility of the electricity grid, facilitating the integration of renewable energy sources.
- Enacting supportive policies, regulations, and incentives to encourage the adoption of clean energy technologies and discourage the use of high-emission energy sources.



THE ENERGY PACKAGE IN COP28 DECISION



The "UAE Consensus", as the COP28 outcome is called, provides a comprehensive framework that covers several aspects of energy transition. It can be summarised as the transitioning away from all fossil fuels in a just, orderly, and equitable manner to reach net zero by 2050; tripling of global renewable energy capacity; doubling energy efficiency by 2030; recognising the role of transitional fuels in facilitating the energy transition while ensuring energy security; and accelerating the development of low-emissions technologies including low-carbon hydrogen and carbon capture and storage.

Transitioning away from all fossil fuels

– The GST decision calls for parties to contribute to "transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net-zero by 2050 in keeping with the science." The call for countries to transition away from fossil

fuels is seen as a groundbreaking language in the history of the UNFCCC process. COP28 President, Sultan Al Jaber, when closing the conference said: "We have language on fossil fuel for the first time ever." Some observers are of the view that since the words 'fossil fuels' has finally made it into a COP outcome for the first time in three decades of climate negotiations, the elephant in the room has finally been named and the call against dirty energy will only grow louder.

Tripling of global renewable energy capacity by 2030

– Accelerating renewable energy deployment is key to the global effort to advance the transition to clean energy. The call in the GST decision requires countries to triple the world's green energy capacity to 11,000 GW in the next six years.

Doubling energy efficiency globally by

2030 – Energy efficiency is recognised as one of the key solutions in realising the push to clean energy transition.

The call to double energy efficiency translates to increasing the global average annual rate of energy efficiency improvements from around 2% to over 4% every year until 2030.

Recognising the role of transitional fuels in facilitating the energy transition while ensuring energy security – The “UAE Consensus” recognises that transitional

fuels can play a role in facilitating the energy transition while ensuring energy security. There is a general opinion that this is an opaque reference to the role of gas. Observers are of the view that this inclusion in the decision is a recognition that it is practically impossible to just flip the switch to renewable energy, and that it is pragmatic to recognise the necessity of a half switch in the meantime.

Accelerating the development of low-emissions technologies – The energy

package in the COP28 outcome also included a call for accelerating the implementation of technologies like carbon capture, utilisation, and storage, particularly in hard-to-abate sectors. The list also includes accelerating efforts towards the phase-down of unabated coal power and phasing out inefficient fossil fuel subsidies.



THE OVERARCHING ENERGY TRILEMA



The "Trilemma for Energy" – Affordability, Sustainability, Security – is the overlying consideration in energy transition. It is important to note that the world cannot simply change overnight without consideration of the ramifications the transition entails.

Affordability – Notwithstanding recent volatility in the market, oil and gas prices have generally risen sharply in recent times. Price action is not always caused by oligopolistic advantages of producer companies as consumer companies and consumer governments have also taken their share of profits. This has given rise to "windfall taxes" in some consumer countries which in turn has affected the investment outlook.

Energy Sustainability – The Energy Institute's Statistical Review of World Energy provides a reliable snapshot of energy consumption in 2022. According to the report, primary energy consumption has risen by 1.4% per annum for the last decade but from 2021 to 2022, consumption rose by only 1.1%. The fuel types consumed also changed slightly. During 2022, oil consumption increased its market share, whilst gas, coal and nuclear dropped somewhat. Hydropower's share was unchanged, and renewables increased sharply, but from a low base. During 2023 and 2024, it is expected that this trend for market share will continue its slow trend toward less fossil fuel consumption. However, it is noted that there are a considerable number of projects in the pipeline to influence the energy transition, but price volatility will continue to affect the economics of such projects.



Energy Security – The war in Ukraine has undoubtedly had a major effect on the European outlook, particularly the loss of the Nord Stream pipelines from Russia to Germany. However, European consumers moved quickly with the installation of LNG import facilities. Norway became the main gas supplier to Northern Europe. Southern European supplies were also improved with new pipelines and enhanced interconnectors. Nevertheless, increased LNG imports into Europe affected prices and removed the potential arbitrage windows both ways between Europe and Asia. The result is that gas prices also become more volatile.

One of the major effects of political tension around the world has been supply chain disruption.

As less efficient supply chains are used, both general supply chain inflation and more substantial inflation in project engineering supplies occur. Central banks have combatted this by raising interest rates, which has had further impact on project economics. Rising commodity prices, continued supply-chain disruptions from the war in Ukraine and, in some parts of the world, the still-strong US dollar are expected to keep annual inflation well above 2019 levels.

As the energy transition progresses, it is apparent that a transition to electricity usage via green generation and batteries, is increasingly dependent on certain metals and rare earth metals. It is uncertain how copper and rare earth suppliers and processors will respond to increased demands. However, China dominated supplies are a cause of concern for other developed nations.

OVERALL OBJECTIVES

- To identify the principal impediments to the energy transition.
- To debate which of these impediments are important and to understand how they are being tackled now.
- To understand what future actions are required to remove such impediments in a timely fashion.
- To consider the key decisions at COP28 and their implications for the global effort to transition to clean energy.
- To identify opportunities that might arise from the energy transition.
- To discuss how current business opportunities are being exploited.



DISCUSSION POINTS



- 01) How can we identify the true pace of the transition and distinguish it from price competition or merely the increasing demand for energy?
- 02) What is the impact of the USA IRA act on the energy transition? Will it incentivise the development of renewable energy through tax incentives, subsidies, or other support mechanisms? Will it encourage increased investment and development in clean energy technologies?
- 03) What has been the impact of the various EU legislation, and Renewable Energy Targets. What has been the impact of the European Green Deal?
- 04) Are the various Emissions Trading Schemes having an impact on the energy transition?
- 05) Apart from the EU and the USA, what is the rest of the world doing to hasten the energy transition?
- 06) Are the views on Energy Trilemma different between the "rich" and the "poor" countries? Is climate change only a "rich man's game"?
- 07) What exactly do the words 'Just Transition' mean in the COP28 final statement?
- 08) How is the balance between abatement and mitigation being resolved and how will either strategy be financed in the poorer countries?

MODERATOR & SPEAKERS

- 09)** Is "greenwashing" becoming more prevalent amongst the major fossil fuel producers and how is this impacting the future energy landscape?
- 10)** Will hydrogen become a significant fuel source in the coming years? If so, will it be blue, or green and what technological advances will be needed to make it economical?
- 11)** Is there a danger of "stranded assets" both above and below the ground in the fossil producing countries?
- 12)** Will carbon capture and storage ever be economic or become a viable business opportunity without a carbon tax?
- 13)** What is needed to achieve the targets set in COP28 decision for renewable energy and energy efficiency? How should the energy landscape change to meet these targets?

Moderator:



Nawied Jabarkhyl,
Broadcaster and Director
– Head of International
Media Relations at APCO
Worldwide

Speaker



Dr. Patrick Allman-Ward,
Dana Gas Group CEO

Speaker



Jonathan Shopley,
Managing Director
Climate Impact Partners

Speaker



Frank Wouters,
Senior Vice President / Head
of International Business
Development New Energy at
Reliance Industries Limited

Speaker



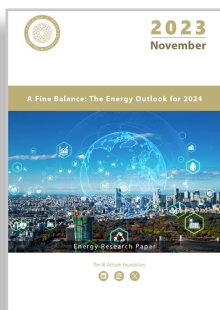
Roland Roesch,
Director, Innovation and
Technology Center, IRENA

KEY QUESTIONS

- 1) What exactly is the transition process?
Can it be distinguished from a "natural" organic growth in energy demand?
- 2) Can the energy transition be distinguished from energy sources merely moving to the cheaper sources of energy?
- 3) Will the energy transition be driven by legislation, (the European view perhaps), or tax incentives (the IRA)?
- 4) Will there ever be a premium for a "green" or "blue" fuel and if so, will this present an opportunity for premium fuel producers?
- 5) Will hydrogen be a major energy carrier or a niche player in "hard to transition industries?"
- 6) What exactly has to be done to electricity grids to adapt to the energy transition?

FURTHER BACKGROUND READING AND VIDEO MATERIALS

ENERGY RESEARCH PAPER



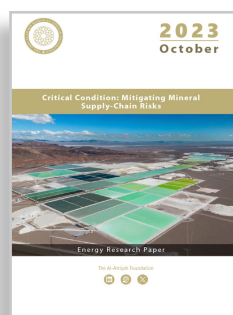
November – 2023

A Fine Balance: The Energy Outlook for 2024

Energy has witnessed four very volatile years since the start of the decade. Global markets are still striving to find a sustainable balance between supply and demand, while a decelerating macroeconomic framework and geopolitical events add headwinds to slowing demand growth.



(QRCO.DE)



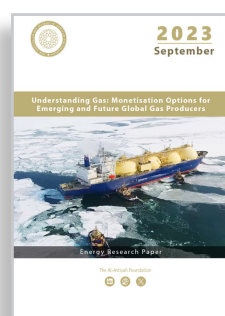
October – 2023

Critical Condition: Mitigating Mineral Supply-Chain Risks

New energy systems use a wide variety of critical minerals, including lithium, rare earths, cobalt and others. However, concerns are growing over the economic, political, and environmental risks to reliable supplies of such minerals. What are these risks? Which are real and which exaggerated? What are strategies to mitigate supply-chain risks in extraction and processing, for companies who use them as inputs, and for governments?



(QRCO.DE)



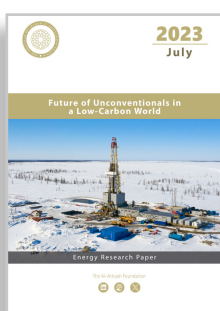
September – 2023

Understanding Gas: Monetisation Options for Emerging and Future Global Gas Producers

Developing and bringing challenging gas resources to market has historically been a formidable endeavour. Commercial and technical advances have notably facilitated this process over the past two decades, and the loss of legacy supply creates the opportunity for new sales. Nevertheless, those in possession of substantial undeveloped gas resources face new and emerging challenges – political and environmental – in accessing markets.



(QRCO.DE)



July – 2023

Future of Unconventionals in a Low-Carbon World

Over the past 20 years, unconventional resources have become a significant part of the global energy mix, accounting for onethird of the world's total oil & gas supplies. However, to achieve net-zero goals by 2050–2070 and the Paris Agreement's target of keeping global temperature increases below 1.5°C, a significant transition is required in the next 30 years.



(QRCO.DE)

ABOUT THE FOUNDATION

The Abdullah Bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development is a non-profit think tank inaugurated by His Highness the Father Emir, Sheikh Hamad Bin Khalifa Al Thani in 2015. The Foundation works closely with its members, academia, and a wide network of international experts, to provide independent insights, in-depth-research and informed debate on critical energy and sustainable development topics.

Mission: To provide robust and practical knowledge and insights on global energy and sustainable development topics and communicate these for the benefit of the Foundation's members and the community.

Vision: To be an internationally respected independent think tank that is a thought leader focused on global energy and sustainable development topics.

Research Reports & Publications

- Daily News Flash
- Weekly Energy Market Review
- Monthly Energy Research Paper
- Monthly Sustainability Research Paper
- Monthly News Articles
- Special Industry Reports
- Webinar Whitepapers
- CEO Roundtable Whitepapers
- Annual Sustainable Development Book




Podcasts, Webinars & Videos

- Bi-monthly Podcast Interviews
- Monthly Energy Educational Video
- Monthly Sustainability Educational Video
- Monthly Webinars
- Annual High-Profile Webinar

Events & Activities

- The Al-Attiyah International Energy Awards
- Quarterly Energy Dialogues
- Qatar Sustainability Week
- The ICP Bosphorus Summit

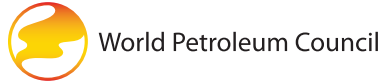
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OUR PARTNERS

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





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