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Net-Zero Targets Closer Than We Think: Is the Energy Sector on the Right Track?

Webinar White Paper

The Al-Attiyah Foundation

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The Abdullah bin Hamad Al-Attiyah International 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.

Since 2020, the Foundation has hosted a webinar series, in partnership with Refinitiv, to explore key trends and insights as the coronavirus pandemic, supply chain constraints, war in Ukraine and the climate emergency impact the energy industry.

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.

With little time left to halt the continuous increase in greenhouse gas (GHG) emissions into the atmosphere (i.e., achieving net-zero), the next few years will be critical for our planet.

Already, the earth is about 1.1°C warmer than it was in the late 1800s. To limit global warming to around 1.5°C, as called for in the Paris Agreement, GHG emissions must peak by 2025 and fall by 43% before 2030, according to the latest report by the UN's Intergovernmental Panel on Climate Change.

At the same time, carbon dioxide (CO_2) emissions must reach net-zero globally in the early 2050s. As of November 2022, around 140 countries had announced or were considering net-zero targets.

Yet despite the pledges and efforts by governments and businesses to deal with the causes of global warming, CO^2 emissions from energy and industry have increased by 60% since the UN Framework Convention on Climate Change (UNFCCC) was signed in 1992.

Quite simply, not enough is being done. If implemented, the current national climate plans – for all 193 signatories to the Paris Agreement – would still lead to global GHG emissions rising 13.7% by 2030 compared to 2010 levels.

As the biggest single GHG emitter, responsible for around three-quarters of GHG emissions, the energy sector has a decisive role to play in transitioning to net-zero.

WEBINAR SPEAKERS

Moderator:

Alex Threlfall, Editor-at-Large, Reuters.

Speaker

Patrick Allman, Ward, Chief Executive Officer, Dana Gas Group.

Speaker

Ibukun Adebayo, Group Director, Head of Strategic Initiatives, Sustainable Finance and Investment, London Stock Exchange Group.

Speaker

Juan Vázquez, Office Lead, the Boston Consulting Group Qatar.

Speaker

Dr. Massamba Thioye, Project Executive of the UN Climate Change Global Innovation Hub, UNFCC.

The first webinar of our 2023 series welcomed a panel of international experts from industry and academia to discuss the energy sector's net-zero ambitions, including current targets and future scenarios, and the extent to which these goals are achievable.

The energy industry is committed to reducing its emissions and transitioning towards net-zero but achieving these targets will require a more realistic approach from policymakers to support the sector's efforts, panellists said.

Put simply, more money is needed. To get on track to achieve net-zero, $4.8 trillion must be invested annually to 2030 in electricity generation, fuel production, infrastructure, industry, transport and buildings.

Yet according to Refinitiv research, there was a $229 billion shortfall in financing for renewable energy projects last year, for example, with $344 billion in financing provided and a capital need of $573 billion.

These trends are primarily due to the pandemic-related global economic slowdown, said Ibukun Adebayo, Group Director and Head of Strategic Initiatives, Sustainable Finance and Investment at London Stock Exchange Group.

"Uncertainties like the Ukraine war have made investments in that space much riskier. Higher metal prices and input prices, China's struggles to return to normality have driven up costs as well," said Mr Adebayo. "There needs to be a number of different financing options to alleviate the gaps and issues."

Worryingly, sustainability and green bond financing fell by around one-fifth in 2022 versus a year earlier, Refinitiv data shows, although the longer-term trend remains positive.

Historically, the oil and gas industry has delivered a 15-20 percent annual rate of return, while renewables generate around 5-6 percent. Such statistics make renewables a tough sell to many investors.

"The challenges financing-wise are significant and the multilaterals have got to take a role in order to facilitate further private investment in the (renewables) sector," said Patrick Allman-Ward, Chief Executive Officer, Dana Gas Group.

When asked whether the energy sector was on the correct path to achieving net-zero, Mr Allman-Ward said: "We're not anywhere near where we need to be ... but I don't believe in an either-or world. I believe in an "and-and" world."

To achieve the 1.5 degrees Celsius target by ceasing consumption of oil and gas would require cutting gas demand to the lows of the pandemic every year for the next two decades, explained Mr Allman-Ward.

"What we need to talk about is decarbonisation, not the elimination of fossil fuels because we're simply not going to get there with the elimination of fossil fuels," he said.

"People have shown very clearly that they don't like not having affordable power, and they want their power 24/7, and not 35 percent of the time, which is what renewables can deliver."

In a first poll, audience members said an energy sector based largely in renewables was the pathway that would make the most substantial contribution towards achieving net-zero emissions by 2050. The least likely pathway was achieving a huge decline in fossil fuel use, echoing Mr Allman-Ward's views.

The United Nations Framework Convention on Climate Change (UNFCCC) is overseeing a so-called global stocktake to assess the progress on implementing the commitments that signatories to the Paris Agreement have made. This will include an analysis of the climate performance of the energy sector.

"Where entities have underperformed…what is the driver of their underperformance - is it an access gap?" said Dr. Massamba Thioye, Project Executive of the UN Climate Change Global Innovation Hub, UNFCCC. "Is it that they do not have access to the means of implementation? Is it an ambition gap or is it an availability gap? Is it that the solutions that they need to be successfully aligned with the net-zero pathway are not yet available?"

International and state-owned oil companies have made considerable investments to reduce their carbon emissions, according to Juan Vázquez, Office Lead at the Boston Consulting Group Qatar.

"We need to be realistic," he said. "Getting to net-zero right now is technically impossible, which is where offsetting and other measure come in. To get to net-zero requires a combination of technologies. Renewables are just one angle. There are multiple other technologies to consider."

International policies set at the United Nations' Climate Change conferences provide direction on where countries and corporations should focus, said Mr Thioye, who also highlighted the importance of digital technologies.

"They have the capability to facilitate transformative change, particularly on the consumption side," he said. "The most renewable among all forms of energy is the energy that is not used, so leveraging digital technologies to reduce the use of energy is the very first step."

Mr Thioye also explained the importance of the voluntary carbon market and how it helps companies to reduce their net emissions through offsets, although he stressed that offsets were not a complete solution: real emissions must also fall significantly.

In a second poll, audience members said advanced batteries were the emerging technology that will be easiest to scale up and deploy widely by 2050, followed by hydrogen electrolysers and thirdly direct air capture and storage of CO_2.

"What people are very excited right now is green hydrogen," said Mr Vázquez. "The problem is to make it competitive."

As well as the high cost of making green hydrogen via renewable electricity-powered electrolysers, hydrogen is also difficult to transport and store, panellists noted.

"There's a huge disconnect between the rhetoric around hydrogen's going to be the solution for the future and where we currently are today," said Mr Allman-Ward.

There are around $50 trillion dollars of assets under management associated with some form of ESG (environmental, social and governance) mandate, according to Refinitiv data.

"We are all committed to the target of net-zero 2050 and a decarbonised world, but the difference of opinion is how we get there," said Mr Allman-Ward. "I see huge commitments in the industry towards decarbonizing (its) activities and being transparent about it."

Dana Gas, for example, reduced its CO_2 emissions by 25 percent in 2021 and offset the remainder. Yet only five of the world's top 52 electricity generators fully disclose their emissions, while 15 of the leading 27 companies in the oil and gas sector under report their methane emissions.

"Measurement of emissions, both methane and CO_2, is absolutely essential," said Mr Allman-Ward. "People are committed to it in the industry and there is significant movement in that direction."

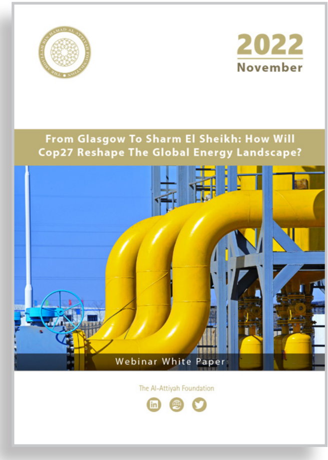
In the final poll, audience members said the projected increase in urbanisation posed the greatest risk to successfully transitioning to net-zero, followed by energy security challenges and global population growth.

The challenges facing the energy industry in becoming sustainable are multiple and interlinked. Resolving them requires a pragmatic approach recognising oil and gas will remain an essential energy source for decades to come no matter what future advances we achieve in developing cheaper and more ubiquitous forms of renewable energy.

Acknowledging this reality isn't to concede defeat in limiting global warming but should instead empower and embolden the private and public sectors to deliver the technology and finance required to make carbon pricing work, fund carbon-neutral electricity production, and accelerate the deployment of carbon and capture and storage.

09 PAST ISSUES

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 publications



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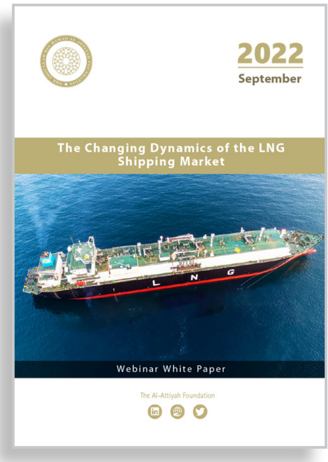

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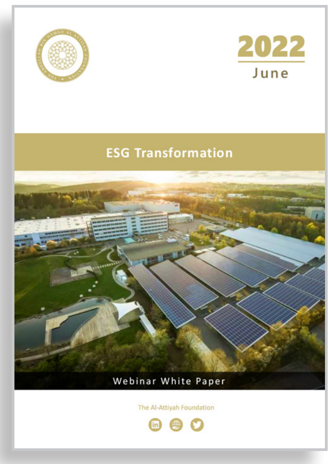

June - 2022

ESG Transformation

Environment, social and corporate governance (ESG) criteria are a set of standards for a company's behaviour used by socially conscious investors to screen potential investments. Environmental criteria consider how a company safeguards the environment, including corporate policies addressing climate change.

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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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