THE ABDULLAH BIN HAMAD AL ATTIYAH FOUNDATION

ANNUAL **REPORT** **2021**

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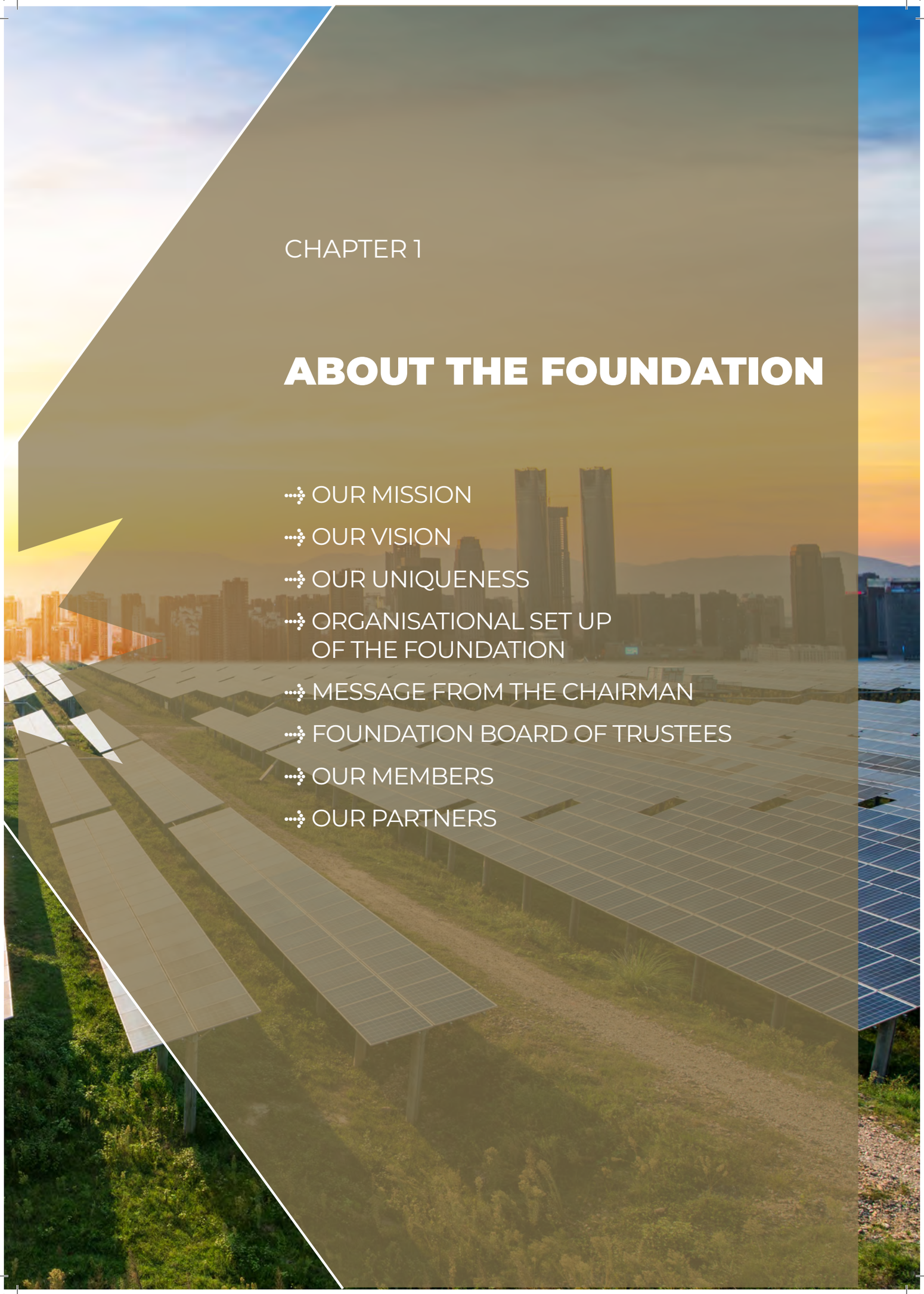

CHAPTER 1

ABOUT THE FOUNDATION

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ABOUT THE FOUNDATION

OUR 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.

OUR VISION

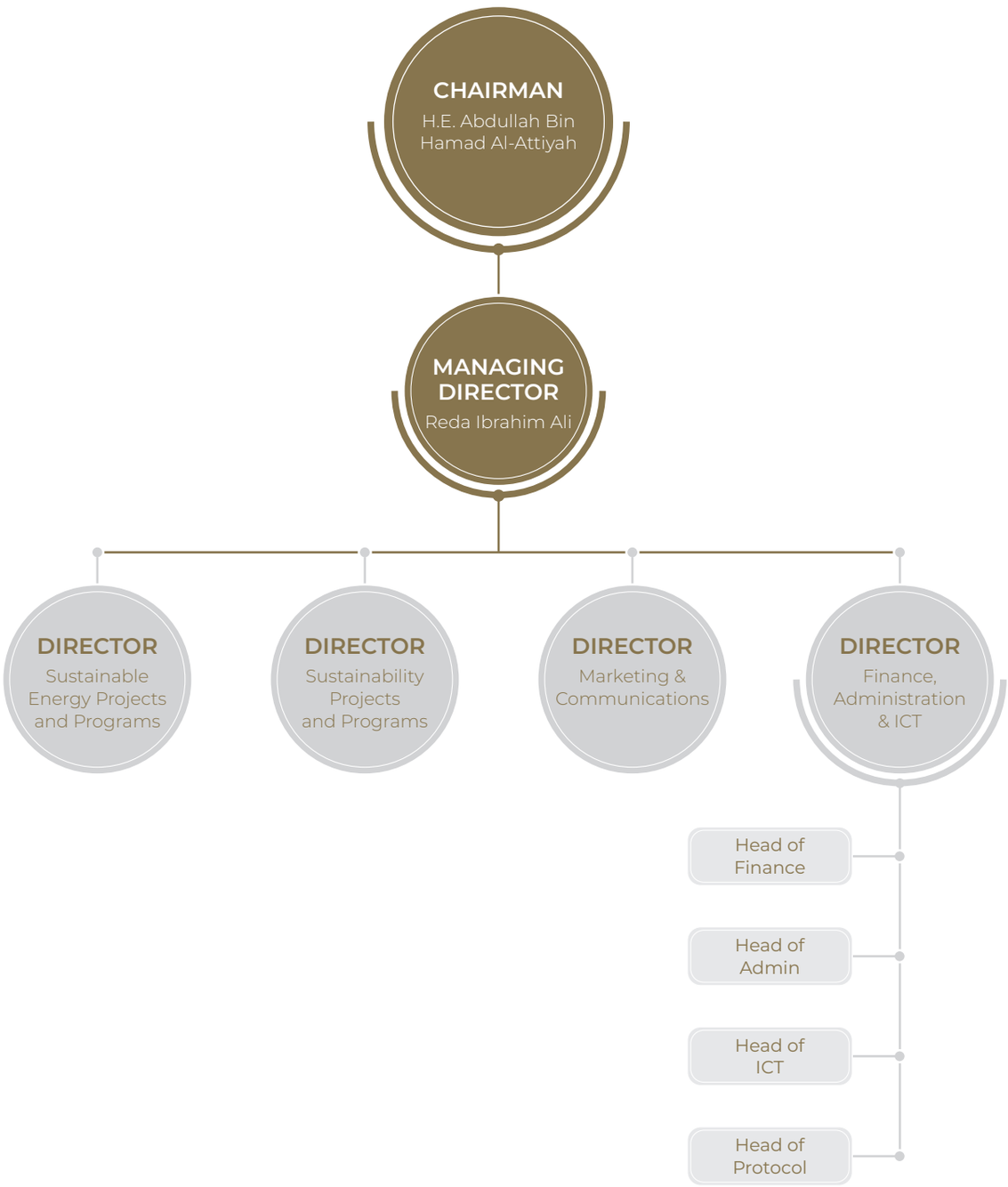
To be an internationally respected independent think tank that is a thought leader focussed on global energy and sustainable development topics.

OUR UNIQUENESS

The Al-Attiyah Foundation is the only independent, non-profit energy and sustainable development think tank in Qatar. Building upon H.E. Abdullah bin Hamad Al-Attiyah's work and forty years of service in the energy industry, the Foundation has quickly become a hub for thought leadership in the fields of energy and sustainable development domestically and internationally. In addition to a variety of publications issued throughout the year, the Foundation engages world-renowned speakers to participate in a high-level dialogue series, conferences and panel discussions, a number of which are hosted in Qatar.

ORGANISATIONAL SET UP OF THE FOUNDATION

(AS PER THE BUSINESS PLAN DOCUMENT 2021)



H.E. ABDULLAH BIN HAMAD AL-ATTIYAH

Chairman of Abdullah Bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development

Former Deputy Prime Minister and Minister of Energy & Industry

MESSAGE FROM THE CHAIRMAN

I am delighted to welcome you to the Al-Attiyah Foundation's 2021 Annual Report. In this report, you will find detailed information on all the Foundation's publications, events and achievements over the past 12 months.

Due to the ongoing pandemic, 2021 was a year of many challenges but I am proud to say the Foundation has emerged stronger than it was before, and I remain very optimistic for its future. The Foundation continued its excellent use of technology, supplemented by positive relationships with leaders within the energy industry, to host more interactive webinars and podcast interviews than the previous year.

Furthermore, the State of Qatar's impressive vaccine rollout allowed the CEO Roundtable to return at the end of the year. I had great pleasure in hosting this flagship industry event after an enforced absence due to coronavirus restrictions. Not only were the level of discussions between the CEOs of the highest quality it gave a chance for the Foundation to show how it has adapted to this 'new normal' and introduce a hybrid format. Expert speakers, who were unable to enter the country, were beamed into the room via a large screen from their various locations across the world and participated in the conversation without delays.

The 2021 United Nations Climate Change Conference (COP26) held in Glasgow in November was one of the key events of the past year. The fact 120 world leaders, 25,000 delegates, and scores of activists, climate experts, celebrities, businesses, and campaigners attended the COP26 to hammer out the specifics of key issues underlines how climate change is now firmly in the public consciousness. Indeed, a number of our publications and output focused on opportunities and challenges the industry faces in the coming years as major urban functions become less reliant on fossil fuels and more on clean energy.

In the lead up to the event, the Foundation also hosted a preview webinar and participated as a strategic partner with the Qatar Foundation at the Qatar Climate Change Conference held in Education City during September. Many of the Foundation's members were present and participated in high-level conversations with other influential people based in Qatar and abroad.

The outcomes from this UN Conference, which were analysed in the December edition of the Sustainable Development Industry Report, will be a major focus of the Foundation sustainability work in 2022.

With regular high-quality content, industry leading events and much more, my vision for the organisation to become the leading think tank in the region and the world is becoming a reality. The Foundation invites and attracts leading global experts to share their thinking, without the burdens and pressures of bureaucracy or politics, and to work in collaboration with like-minded organisations. As we move forward into 2022 and beyond, I am excited to see what else the Foundation can achieve.

In closing, I would like to offer my sincere thanks to the Foundation's members and partners for their continued support. I look forward to meeting with you at our events in the coming year as together we plot and chart the journey to a sustainable future.

FOUNDATION BOARD OF TRUSTEES

The Foundation is led by the Chairman and Founder H.E. Abdullah Bin Hamad Al-Attiyah and the Board of Trustees. The Board of Trustees comprises of individuals who have demonstrable experience and outstanding achievements in the fields of energy, geo-politics, and sustainability.

1. **H.E. Abdullah Bin Hamad Al-Attiyah** — ***Chairman,*** Former Deputy Prime Minister and Minister of Energy and Industry;
2. **H.E. Dr. Ibrahim Ibrahim** — ***Vice Chairman,*** Economic Advisor at Amiri Diwan;
3. **H.E. Ali Al-Naimi** — ***Member,*** Advisor to the Royal Court and former Minister of Petroleum & Minerals, Saudi Arabia;
4. **H.E. Abdulaziz Bin Ahmed Al-Malki** — ***Member,*** Ambassador Plenipotentiary and Extraordinary of the State of Qatar to the European Union;
5. **H.E. Nasser Al Jaidah** — ***Member,*** QatarEnergy Board Member and Former CEO of QP International;
6. **Mr. Hamad Rashid Al-Mohannadi** — ***Member,*** Former CEO of RasGas Company Limited;
7. **Mr. Fahad Bin Hamad Al-Mohannadi** — ***Member,*** Former Managing Director of Qatar Electricity and Water Company (QEWC).
8. **Mr. Reda Ibrahim Ali** — ***Member,*** Managing Director of the Foundation.
9. **Howard Bevan**. — ***Member,*** Secretary to the Board of Trustees.

OUR MEMBERS

The Al-Attiyah Foundation provides its valued members with industry leading reports on energy and sustainability, articles written by award winning scholars on the most pressing issues of the day, podcasts with eminent figures in the field and opportunities for constructive dialogue through its events. With a mutual understanding and shared goals, the Foundation together with its members have been able to contribute significantly to the ongoing energy transition.

PLATINUM MEMBERS

QatarEnergy

QatarEnergy is the state-owned energy company of Qatar and world's largest provider of LNG. It is a fully integrated energy corporation, covering the full spectrum of the oil and gas value chain from exploration to production, from processing and refining to sales and delivery.

QatarGas

QatarGas is the largest LNG producer in the world. It produces and supplies the globe with 77 million metric tonnes of LNG annually from across its seven ventures—Qatargas 1, Qatargas 2, Qatargas 3, Qatargas 4, RL1, RL2 and RL3.

Woqod

WOQOD is the leading fuel distribution and marketing services company in Qatar. WOQOD supplies fuels to commercial, industrial, and government customers throughout the country, including Natural and Liquefied Gas and Jet A1 refueling for aircraft.

QEWC

QEWC is the main supplier of electricity and desalinated water in the State of Qatar. The company has witnessed remarkable growth during the last decade in line with the steady growth of the economy of Qatar and the increase in population and the corresponding increase in demand for electricity and water.

QNB

QNB was established in 1964 as Qatar's first locally owned commercial bank. In the intervening decades, QNB has grown to be the biggest bank in Qatar and the largest financial institution in the Middle East and Africa region.

QIC

Qatar Insurance Company (QIC) is a publicly listed composite insurer with a consistent performance history of over 50 years and a global underwriting footprint. Founded in 1964, QIC was the first domestic insurance company in the State of Qatar. Today, QIC is the market leader in Qatar and a dominant insurer in the GCC and MENA region. QIC is one of the highest rated insurers in the Gulf region with a rating of A/Stable from Standard & Poor's and A(Excellent) from A.M. Best.
www.qatarinsurance.com

GOLD MEMBERS

Qatar Airways

Qatar Airways is the multi-award-winning state-owned flag carrier of Qatar. Since its formation in 1993, Qatar Airways has grown to become one of the world's leading airlines and now flies to more than 140 destinations across all six continents from the state-of-the-art Hamad International Airport in Doha.

Shell

Shell is one of the oil and gas industry's supermajors and by revenues and profits one of the largest companies in the world. Shell is the largest investor in Qatar and works closely with Qatar Energy on a number of projects including Pearl Gas-to-Liquids (GTL) and Qatargas 4.

North Oil Company

Established in 2017, North Oil Company (NOC) is a pioneering new Qatari offshore oil operator that unites the expertise of QatarEnergy and TOTAL. This dynamic joint-venture is set to continue the advancement of Al-Shaheen, Qatar's largest offshore oil field, for the next 25 years.

Dolphin Energy

Dolphin Energy is a gas company formed 1999. Its most important work to date is the Dolphin Energy Project which involves the production and processing of natural gas from Qatar's North Field, and transportation of the gas by offshore pipeline to the United Arab Emirates and Oman.

QAPCO

QAPCO is one of the largest producers of low-density polyethylene (LDPE) in the region. LDPE is the most widely used type of plastic, with applications such as food packaging, agricultural films, toys, cables and wires, coating, lamination and many other products. QAPCO's LDPE complies with all local, EU and U.S. FDA standards related to food and is exported all over the world.

QAFCO

QAFCO is a world-class fertilizer producer that was founded in 1969 as a joint venture between the Government of Qatar and a number of foreign shareholders. Over the past five decades QAFCO has established itself as the world's largest single-site exporter of urea with up to 14% share of the global supply.

Qchem

Qchem is a joint venture between Mesaieed Petrochemical Holding Company, Chevron Phillips Chemical International Qatar Holdings LLC and Qatar Energy. At its complex located in Mesaieed Industrial City, Qchem produces polyethylene, 1-hexene, and normal alpha olefins.

SILVER

ConocoPhillips

ConocoPhillips is an American multinational corporation engaged in hydrocarbon exploration and production across the world. In Qatar, ConocoPhillips holds a 30 percent interest in Qatargas 3, a large-scale liquefied natural gas (LNG) project in Ras Laffan Industrial City.

Marubeni

Marubeni is a major Japanese integrated trading and investment business conglomerate that handles products and provides services in a broad range of businesses across wide-ranging fields. In Qatar, Marubeni is involved in a number oil and gas projects as well as in power plants and infrastructure ventures.

Nakilat

Established in 2004, Nakilat is a Qatari-owned shipping and maritime company providing the critical transportation link in the State of Qatar's LNG supply chain. The company's LNG shipping fleet is the largest in the world, comprising of 69 LNG vessels.

JTA
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BRONZE

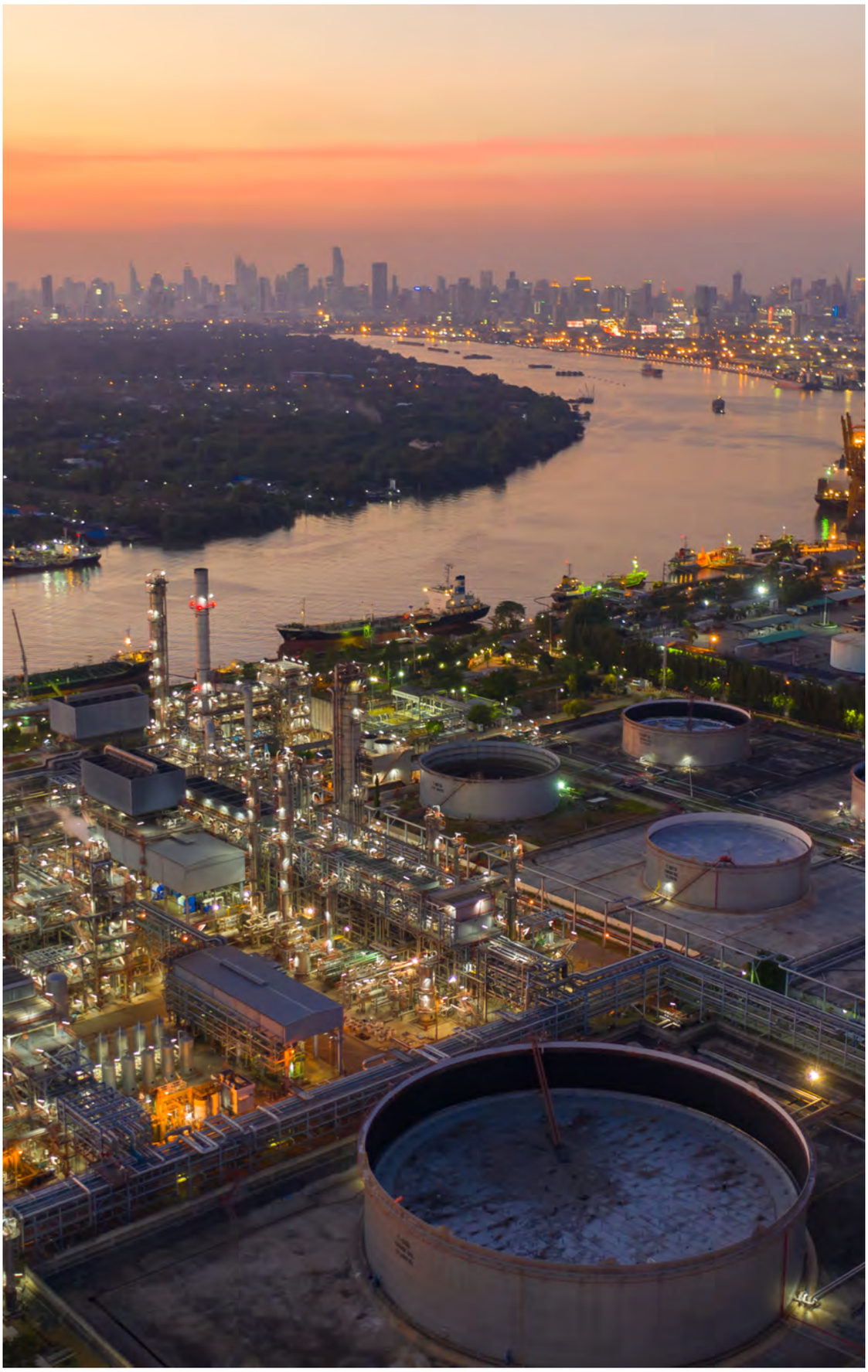
Nebras Power
Nebras Power is a global power development and investment company headquartered in Doha, Qatar. The mission of Nebras Power is to develop and manage a portfolio of strategic investments in the power sector globally.

Sasol
Sasol is an international integrated energy and chemical company with over 33,000 employees based across 37 different countries. Sasol is a joint venture partner with QatarEnergy in ORYX GTL, the world's first commercial-scale GTL plant based in Ras Laffan Industrial City in Qatar. The plant uses Sasol proprietary gas-to–liquids (GTL) technology to convert natural gas into liquid fuel and chemical products.

Gulf Helicopters
Gulf Helicopters is a helicopter services provider formed in 1970 in Doha, Qatar. Although Gulf Helicopters mainly caters for the needs of the oil and gas industry, it also offers emergency medical services, VVIP transportation, aerial photography, and tourism flights. Gulf Helicopters operates approximately 50 helicopters of various types.

Excelerate Energy
Excelerate Energy offers a full range of floating regasification services, from FSRU to infrastructure development to LNG supply. Excelerate Energy owns and operates one of the largest fleets of FSRUs in the industry and has safely delivered over 6,500 Bcf of natural gas. It opened its Doha office in 2018.

Qatarcool
Qatar Cool is the leading commercial provider of district cooling services in Qatar. Qatar Cool currently owns and operates four cooling plants covering the West Bay and the Pearl-Qatar districts in Doha with the combined capacity of 237,000 tons of refrigeration.



OUR PARTNERS

Partners play a key role in the function of the Al-Attiyah Foundation. With these esteemed organisations the Foundation plans and produces content, events and activities for members and the wider public.

Qatar Foundation

The Qatar Foundation is a non-profit organisation made up of more than 50 entities working in education, research, and community development. Qatar Foundation's flagship initiative, Education City, is a campus that hosts branch campuses of some of the world's leading educational institutes, a homegrown university, and other research, scholastic, and community centres.

Hamad Bin Khalifa University

Hamad Bin Khalifa University is a homegrown research and graduate studies University that acts as a catalyst for positive transformation in Qatar and the region while having a global impact. It was founded in 2010 and is a member of the Qatar Foundation.

Qatar University

Qatar University is Qatar's primary institution of higher education and has become a beacon of academic and research excellence in the region. Qatar University offers the widest range of academic programs — 48 Bachelors, 32 Masters, nine Ph.D. programs, four Diplomas, and a Doctor of Pharmacy (PharmD) — in Qatar tailoring them to meet the needs of Qatari society.

KAHRAMAA

Qatar General Electricity and Water Corporation "KAHRAMAA" was established in July 2000 in terms of Law # 10 to regulate and maintain the supply of electricity and water to customers. KAHRAMAA has the privilege of being the sole transmission and distribution system owner and operator (TDSOO) for the electricity and water sector in Qatar.

United Nations Global Compact

United Nations Global Compact is a special initiative of the UN Secretary-General that calls to companies everywhere to align their operations and strategies with Ten Principles in the areas of human rights, labour, environment and anti-corruption. With more than 12,000 companies and 3,000 non-business signatories based in over 160 countries, and 69 Local Networks, the United Nations Global Compact is the world's largest corporate sustainability initiative.

The Gulf Organisation for Research & Development

The Gulf Organisation for Research & Development, a member of Qatari Diar Real Estate Investment Company, is a non-profit organisation spearheading the MENA region's sustainability milieu. Headquartered in Qatar Science and Technology Park, it targets all relevant dimensions of sustainability and Sustainable Development Goals (SDGs) of the United Nations.

Qatar Green Building Council

The Qatar Green Building Council is a non-profit, membership-driven organisation providing leadership and encouraging collaboration in conducting environmentally sustainable practices for green building design and development in Qatar. The council, a member of Qatar Foundation, was formally established in 2009 by a decree signed by H.H. Sheikha Moza Bint Nasser.

World Petroleum Council

The World Petroleum Council is a non-advocacy, non-political organisation with charitable status in the UK and has accreditation as a Non-Governmental Organization (NGO) from the United Nations (UN). The WPC is dedicated to the promotion of sustainable management and use of the world's petroleum resources for the benefit of all.

Istituto di Alti Studi in Geopolitica e Scienze Ausiliarie

Istituto di Alti Studi in Geopolitica e Scienze Ausiliarie is a non-profit social promotion association with a registered office in Rome, Italy. Founded in 2010, the association relies on the collaboration of dozens of researchers. The Institute combines the rigor of a scientific method with practical attention to the issues of international politics of our day.

Mitsui & Co.

Mitsui & Co. is a global trading and investment company with a diversified business portfolio that spans approximately 65 countries and regions in Asia, Europe, North, Central & South America, The Middle East, Africa, and Oceania. Mitsui has built a strong and diverse core business portfolio covering the Mineral and Metal Resources, Energy, Machinery and Infrastructure, and Chemicals industries.

National Council on U.S.-Arab Relations

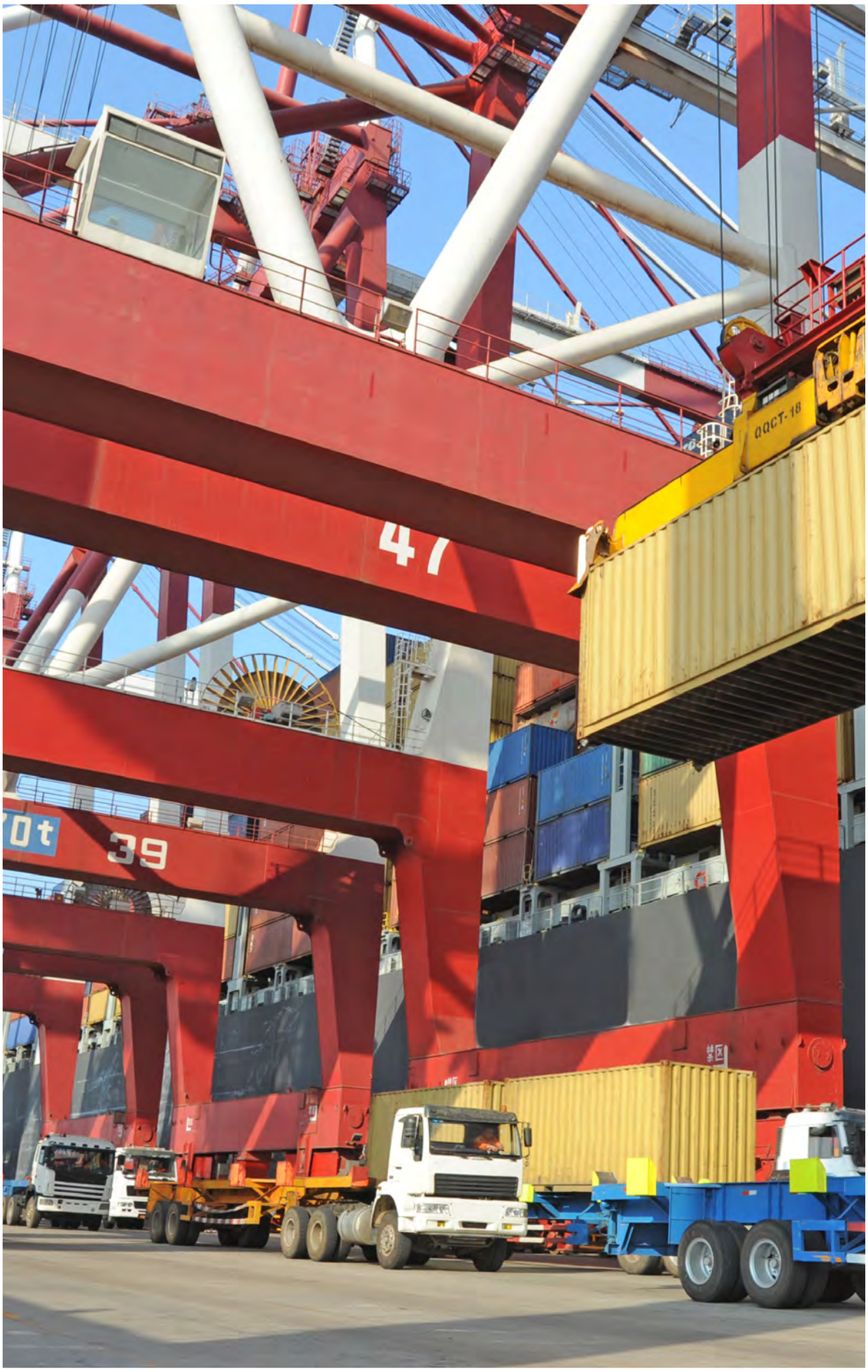
The National Council on U.S.-Arab Relations is an American non-profit, non-governmental, educational organisation dedicated to improving American knowledge and understanding of the Arab world. Its means for doing so encompass but are not limited to programs for leadership development, people-to-people exchanges, lectures, publications, an annual Arab-U.S. policymakers conference, and the participation of American students and faculty in Arab world study experiences.

International Cooperation Platform

The International Cooperation Platform is an independent institution founded with the principle of enhancing proactive multilateral and inter-disciplinary cooperation for sustainable development. It has organised the Bosphorus Summit in Istanbul, Turkey since 2010.

The Gulf Times

The first edition of the Gulf Times was published on December 10, 1978 as a weekly paper. Three years later, on February 22, 1981, the Gulf Times daily was launched. The Gulf Times comprises several sections: editorial, analysis, news, economy, sports, library and archives, technical and local reports.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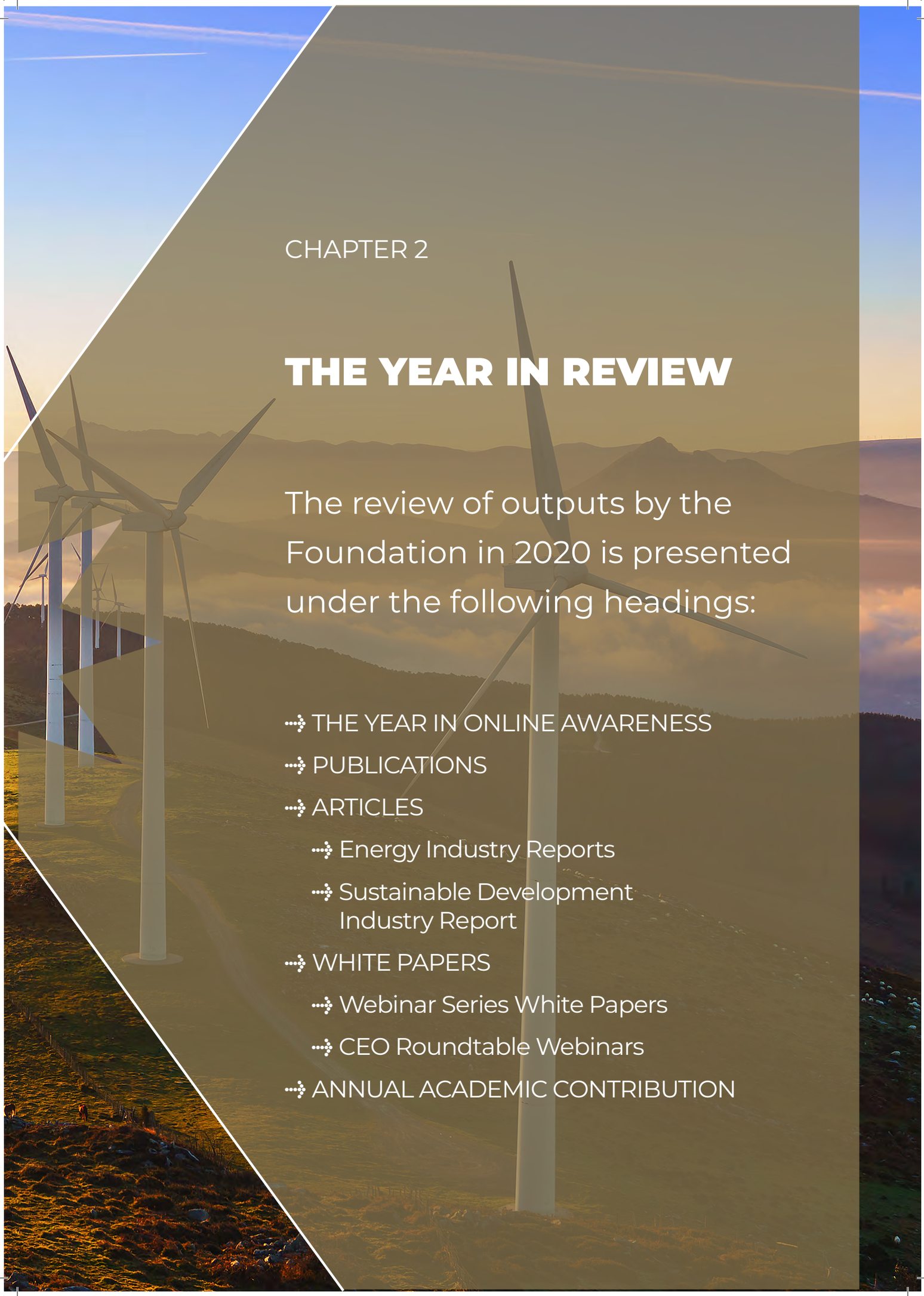


CHAPTER 2

THE YEAR IN REVIEW

The review of outputs by the Foundation in 2020 is presented under the following headings:

- THE YEAR IN ONLINE AWARENESS
- PUBLICATIONS
- ARTICLES
  - Energy Industry Reports
  - Sustainable Development Industry Report
- WHITE PAPERS
  - Webinar Series White Papers
  - CEO Roundtable Webinars
- ANNUAL ACADEMIC CONTRIBUTION

THE YEAR IN REVIEW

In 2021, the Foundation continued to produce industry leading content from in-depth reports, topical articles, podcasts and much more. All of the Foundation's publications were posted on its social channels and sent directly to its members, senior policymakers, and the wider community, in Qatar and globally.

The Foundation's publications during 2021 include the following:

scan to visit publication page

~250 EDITIONS of Daily News Flash (DNF)

>45 EDITIONS of Weekly Energy Market Review (WEMR)

22 EDITIONS of Bi-Weekly Sustainability News Bulletin

28 EDITIONS Articles

12 COPIES of monthly Energy Report

12 COPIES of monthly Sustainable Development Report

25 EDITIONS Podcasts

8 EDITIONS Webinars

5 EDITIONS White Papers

THE YEAR IN ONLINE AWARENESS

All the publications produced by the Foundation in 2020 were circulated through the Foundation's social media accounts. As shown by the figures below, the Foundation continues to grow its followers on each platform it is active on.

SOCIAL MEDIA STATISTICS

	Twitter	LinkedIn	YouTube	CUMULATIVE SOCIAL MEDIA AWARENESS
	Posts to Platform 249	Posts to Platform 249	Posts to Platform 55	Posts to Platform 553
	Total Followers 2386	Total Followers 7621	Total Followers 191	Total Followers 10,198
	New Followers 341	New Followers 1758	New Followers 191	New Followers 2,290
	Impressions 1,854,600	Impressions 1,100,425	Impressions 697,037	Impressions 3,652,062

Social Media Notes:

- Launched YouTube Ad Campaigns.
- Launched database subscription campaigns.
- Launched 60s Shorts on YouTube.
- Developed 180 podcast promotional shorts for Twitter & LinkedIn.
- Developed new templates for all social media platforms, and Mailchimp distributions.

Mailchimp Statistics

The Foundation uses the Mailchimp platform to send its publications to members and partners.

Mailchimp Statistics		
Distributions 82	Subscribers 498	Reads 4,323

PUBLICATIONS

2021 In Detail

Daily News Flash (DNF)
The DNF is a daily report that provides the readers with price updates on major oil and gas benchmarks. The report also highlights the major developments in the oil and gas market from the previous day
Frequency: Daily, Monday to Thursday.

Weekly Energy Market Review (WEMR)
The WEMR is a weekly energy market review report that provides insights into the factors affecting both the markets and the oil and gas prices from the previous week.
Frequency: Weekly, every Sunday.

Energy Industry Report
The monthly Energy Industry Report provides robust, practical knowledge and insights on global energy development topics.
Frequency: Monthly.

Sustainable Development Industry Report
The monthly Sustainable Development Report provides in-depth insights on prevalent sustainable development topics.
Frequency: Monthly.

White Paper
H.E. Al-Attiyah founded the CEO Roundtable Series as a platform for knowledge exchange and support for the global community in the quest towards a sustainable energy future. The quarterly events are a crucial networking and learning opportunity in the calendar of industry CEOs. Following each Roundtable and Energy Webinar, a White Paper is published and distributed to capture the session's essential outcomes.
Frequency: Quarterly.

Academic Contribution
Each year the Foundation produces an educational book on a topical issue within the energy industry. Through this annual publication, the Foundation hopes to educate and provide a reference point on a particular subject for future generations and members.
Frequency: Annually.

ARTICLES

The Foundation published a number of articles in local and international newspapers, magazines and websites. These articles promote the Foundation's events and publications such as the monthly reports, as well as provide in-depth insight on key themes within the Energy Industry.

S.N.	PAPER TITTLE	Publishing Date
1.	The Cyberattack: Colonial Pipeline	16 May 2021
2.	Peak Oil	26 May 2021
3.	Methane – Tackling GHG Emissions	21 June 2021
4.	Global Gas Price Rally	15 July 2021
5.	Carbon Pricing Gains Traction	31 August 2021
6.	Russia zooms in on its Arctic reserves and trade routes to become LNG giant	27 September 2021
7.	Science points the finger at global warming for deadly heat wave	17 October 2021
8.	All aboard! Air travel set for green revolution	27 October 2021
9.	Milestones in the Climate Summit's Journey	01 November 2021
10.	It's already happening: Thousands of people are leaving their homes because of climate change	19 November 2021
11.	Leaving nothing to waste, Qatar public supports reuse of treated industrial water	24 November 2021
12.	Oil, Gas Escape COP26 Unscathed Despite New Alliance Threat	29 November 2021

Hydrogen's role in world energy mix on spotlight at Al-Attiyah Foundation CEO Roundtable

Internationally renowned experts and top decision makers came together to share their insights and perspectives on the current and future role of hydrogen in the world's energy mix at the quarterly CEO Roundtable hosted by the Abdullah bin Hamad al-Attiyah International Foundation for Energy and Sustainable Development.

The roundtable, titled "Hydrogen opportunities for Qatar," featured distinguished guest speakers: Dr Kerry-Ann Adamson, a global strategic advisor on hydrogen at Worley; Dr Jan Frederik Braun an energy transition researcher; Frank Wouters, senior vice president, Energy Transition at Reliance Industries; and Dr Chris Gentle, a senior adviser, Partnerships and New Ventures at the World Energy Council.

At the event, held in Doha yesterday and moderated by broadcast journalist Stephen Cole, the experts discussed the growing global interest in hydrogen and the important role the clean gas can have in the race to net-zero by the mid-century. To Page 3

HE Dr Ibrahim chairing the quarterly CEO Roundtable hosted by Abdullah bin Hamad al-Attiyah International Foundation for Energy and Sustainable Development.

4 | Gulf Times
Sunday, October 17, 2021

BUSINESS

Science points the finger at global warming for deadly heat wave

www.abhafoundation.org

World renowned scientists are convinced that the extreme weather that ravaged the Northern Hemisphere this summer can be attributed to global warming thanks to incredible advances in technology, reports the Al-Attiyah Foundation in its latest Sustainable Development Industry Report.

The United States and Canada incurred hundreds of heat-related deaths as temperatures soared across the Pacific-Northwest at the end of June and into July, including readings of 46.6 degrees Celsius in Portland, Oregon, and a Canadian record of 49.4 in British Columbia.

The high temperatures contributed to crop failures and helped spawn wildfires, one of which destroyed the town of Lytton, British Columbia, where the Canadian heat record had just been set the day before.

Europe's richest countries were also in disarray as rivers burst through their banks, submerging homes and slamming parked cars against trees. Locals were shell-shocked at the intensity of the destruction left by the heavy rain. At least 230 people died across five European countries. Germany, the continent's largest economy, accounted for 184 of the fatalities.

The flooding led to widespread power outages, forced evacuations, and damage to infrastructure and agriculture in the affected areas. The floods are estimated to have cost up to €2.5bn in insured losses, with the total damage costs being much higher.

Establishing a direct link between an individual case of flood, fire or storm and the broader climate is an evolving science and something that is still very difficult to do in practice.

A catalogue of factors can influence a natural disaster, including local weather conditions, the shape of the landscape, human choices and natural variability.

Challenges aside, scientists soon got to work on what caused the scorching temperatures in the United States and Canada.

By conducting rapid attribution analysis, researchers from the World Weather Attribution (WWA) group determined that such a spike in temperatures would be "virtually impossible without climate change."

Scientists used enormous quantities of weather data and cutting-edge climate models to compare what happened in the existing world, which has warmed about 2 degrees Fahrenheit since the rise of industry and its accompanying emissions, to a hypothetical world in which humans had never pumped any greenhouse gases into the atmosphere.

Results from the study showed that the heat wave, even though rare, was far more likely to occur in the current warmed world than in a world without warming.

And if it had occurred in such a hypothetical world, it would not have been as hot.

"What we are seeing is unprecedented. You're not supposed to break records by four or five degrees Celsius," said Friederike Otto, of the Environmental Change Institute at Oxford University, one of the climate scientists involved in the study.

"This is such an exceptional event that we can't rule out the possibility that we're experiencing heat extremes today that we only expected to come at higher levels of global warming."

Climate Change Science, the latest Sustainable Development Industry Report from the Al-Attiyah Foundation, takes an in-depth look at the scientific developments that have allowed us to chart global warming with greater accuracy.

Visit the Al-Attiyah Foundation's website at https://www.abhafoundation.org/ to download the full report.

Thousands of people leaving their homes because of climate change

THE PENINSULA – DOHA

Millions of people around the world may be forced to migrate as human caused climate change wreaks havoc on food supplies, the Al Attiyah Foundation has said in its latest Sustainability Report titled 'Climate Change and Food Security.' An estimated 216 million people could become climate migrants in the next three decades, moving within their own countries and abroad due to water scarcity, decreasing crop productivity and rising sea levels.

In the worst-case scenario, by 2050 Sub-Saharan Africa alone could see as many as 86 million internal climate migrants; East Asia and the Pacific, 49 million; South Asia, 40 million; North Africa, 19 million; Latin America, 17 million and Eastern Europe and Central Asia, 5 million.

A microcosm of this projected situation is already playing out in the Central American nations of El Salvador, Guatemala, Honduras and Nicaragua, a collective known as the "dry corridor." Years of severe drought interspersed with tropical storms, Hurricanes Eta and Iota that struck within a fortnight of each other last year and other heavy precipitation events, have cut crop production or wiped out entire harvests, forcing many to move to other parts of their country or enter the US as undocumented migrants.

A 2018 study by the United Nations World Food Program (WFP) and United States Agency for International Development (USAID) found that 47 percent of the families from the "dry corridor" who had recently migrated to the US were food insecure. Furthermore, some 72 percent of the families interviewed said they were applying "emergency" coping strategies such as selling their land, farm animals and tools to buy food.

Central America is among the regions most vulnerable to climate change, scientists say. And because agriculture employs much of the labor force – about 28 percent in Honduras alone, according to the World Bank – the livelihoods of millions of people are at stake.

"It's becoming so unusual, it's almost certainly climate change," said Dr. Edwin J. Castellanos, one of Central America's leading scientists in the field of climate change and the Dean of the Research Institute at the Universidad del Valle de Guatemala, a university in Guatemala City.

"Small farmers are already living in poverty; they're already at the threshold of not being able to survive," Castellanos said. "So, any changes in the situation may push them to have enough incentives to leave." Although the UN World Food Program plans to provide food assistance to more than 700,000 people across Honduras, Guatemala, El Salvador and Nicaragua, the long-term outlook looks bleak for those who live off the land. A 2020 study published in the journal Environmental Research Letters found that the frequency, length and intensity of droughts in the countries will increase as temperatures continue to warm through the end of the century.

Global natural gas prices continue to soar

THE PENINSULA – DOHA

- As summer 2021 progresses, global LNG demand is looking robust.
- Shell recently estimated that global LNG demand would increase by at least 10 million tonnes to 370 million tonnes this year, a 2.8 percent rise on its 2020 figure, with most of that coming from the Asia.
- The biggest contributor to this demand is China, which saw LNG imports jump 29 percent from a year ago to 39.8 million tonnes in the first six months of 2021, according to Refinitiv data

Liquefied natural gas (LNG) prices are up around the world, driven by demand in China and across Asia, which is helping push benchmark prices in Europe to decade-plus highs as well, noted a report by Al Attiyah Foundation.

US prices have also risen, partly due to hot weather and an LNG export boom – suggesting a fully integrated international market is finally developing, with all prices moving in line, although the US remains far cheaper (excluding delivery costs). Longer term, fundamentals are increasingly pointing to a sustained period of higher prices, although long term deals are still struggling to follow the upward trend in spot prices.

As summer 2021 progresses, global LNG demand is looking robust, buoyed by the global relaxation of COVID-19 restrictions and warm summer temperatures – as well as higher coal and oil prices, and strong economic growth. European buyers are also attempting to replenish stocks that are well below normal levels, while coal to gas switching in Europe has been supported by high carbon prices, and in Asia by policy changes. At the same time, LNG supply to Europe in the first half of 2021 was down (by 18 percent year on year, says HSBC), tightening supply, while wind generation was low, boosting gas demand – which is likely to be an ever-more significant factor in future European gas demand fluctuations, alongside temperature (April was cold and June was the second hottest on record, both scenarios raised power/gas demands). The demand strength has been accompanied by several upstream outages and delays, along with extensive summer maintenance (including pandemic deferred maintenance from 2020) and falls in domestic production.

Shell recently estimated that global LNG demand would increase by at least 10 million tonnes to 370 million tonnes this year, a 2.8 percent rise on its 2020 figure, with most of that coming from the Asia. The biggest contributor to this demand is China, which saw LNG imports jump 29 percent from a year ago to 39.8 million tonnes in the first six months of 2021, according to Refinitiv data, after a big rise last year when they hit 67.4 million tonnes in the complete year – up about 11 percent compared with 2019, despite the pandemic. Gas switching, high temperatures, and strong economic growth are all driving demand. And there is room for more – China's import capacity is to rise by almost 50 percent on late 2020 levels to 107.9 million tonnes per year (mn t/yr) by the end of this year, although LNG imports will have to compete with a planned rise in Russian pipeline supply, and higher domestic output. ➔P12

Peninsula | TUESDAY 31 AUGUST 2021

Carbon pricing gains traction: Al Attiyah Foundation

THE PENINSULA – DOHA

Around the world, climate change policies are tightening, and carbon pricing is playing a big part of that. Once carbon pricing systems are in place, countries can apply pressure to emitters or will representing the stick part of any energy transition policy, alongside the carrot of possible subsidies and guarantees for cleaner options. New carbon markets have recently been introduced in China, the UK and elsewhere, while prices on the well-established European market have surged as credits are reduced and countries toughen climate change commitments. As prices rise, fewer carbon options become more commercially attractive as high emitters incur additional costs.

After testing carbon credit trading at regional level since 2011, China launched a nationwide carbon market for its power sector in February. Initial allocations are free, with prices only expected to be introduced slowly and cautiously to protect investors in the coal sector. The move is part of China's efforts to reach net-zero emissions by 2060 and expected to cover over 4 billion tonnes of greenhouse gas emissions, making it the world's largest. China's power sector is only responsible for about 30 percent of the country's total emissions, and industries such as cement, metals and petrochemicals will be added over time. Verified company level emissions must be disclosed to the public, but unlike Europe, only direct exchanges and no carbon financial derivative products will be allowed initially – which some suggest may hamper liquidity and price discovery.

The obligation to buy carbon credits will favour gas-fired (as well as renewable) generation in China – at least in the short to medium term – because the main competitor is coal, which emits about twice the carbon that gas does. However, China's current priority is to meet surging energy demand - coal supply shortages due to strong post-pandemic economic growth, a ban on Australian imports, and a hot start to summer sent demand and coal prices soaring, which is having far more impact on costs than a modest carbon price. Among generators, a recent survey suggested the carbon tax was welcomed, but only at low levels, with expectations averaging just 71 yuan/tCO2e ($11) in 2030 and 140 yuan/tne by 2050 – well below current European levels.

In Europe, where the Emissions Trading System (ETS) has been in operation for power and industry since 2008, prices have risen sharply in recent months as climate pledges among European member states have toughened. This is now having a significant impact on investment decisions.

EU prices for December 2021 hit an all-time closing high of €66.65/tCO2e in May – although they have dropped back a little following the launch of a new UK post-Brexit market, as UK long positions were transferred across.

Higher carbon prices in Europe may initially accelerate coal to gas switching, expanding the gas market, but in the mid to long-term natural gas will begin to lose out to lower or zero carbon options. This latter stage has already been reached in the UK market, where all coal has now been removed thanks to higher overall carbon prices – and rising wind output is now squeezing the call on gas. Since 2014, the UK has added another £18/tCarbon Price Support (CPS) charge to the EU-ETS carbon price in its power sector.

Rising carbon prices and expanded coverage have implications for trade, as it will add costs to many areas of business, putting them at a disadvantage to competitors that have a lower or no carbon price.

In the UK, gas is now largely confined to the times when renewables are not available, and a high carbon price will provide an added incentive to replace it from ours upward revision to $100/t by 2030 a few months ago. That was the same level as BP's latest internal assumptions, and close to the recommendations put forward by economists Joseph Stiglitz and Nicholas Stern in 2017 of at least $40- 80/t by 2020 and $50- 100/t by 2030 to achieve the Paris Agreement goals. Carbon credits may also become a welcome source of income for governments, shifting the tax burden towards polluters.

Away from Europe and China, there are also carbon prices in Canada and parts of the US, including California, where prices are around $21/t. There had been talk of a nationwide tax under the new US administration, but so far nothing has been agreed. Canadian prices are set to rise quickly up to C$50/t ($40.1) in 2022. South Korea is also introducing a system, and about 70 percent of all global aviation emissions are due to enter a UN emissions-trading program this year. Nevertheless, most of the world remains uncovered. In mid-2020, only 20 percent of global emissions were subject to a pricing scheme or soon to become so, with an average price of about $15/t, according to The Economist.

Many expect significant progress by the conclusion of COP26 in Glasgow this November, with the recent successful international deal at the G7 on corporation tax suggesting a similar approach for carbon taxes may be proposed.

Oil, gas escape COP26 unscathed despite new alliance threat

www.abhafoundation.org

The launch of the Beyond Oil and Gas Alliance at the 2021 United Nations Climate Change Conference (COP26) will lead to further scrutiny on oil and gas producers, adding momentum to their growing focus on measuring and preventing greenhouse gas emissions from production and transportation.

While there was no global agreement to control the use or production of oil and gas, the 2021 United Nations Climate Change Conference (COP26) held in Glasgow in early November increased the pressure on producers to address greenhouse gas emissions. There was no trace of the climate scepticism that went with previous conferences, and there was little disagreement about the end goal of full decarbonisation, or at least carbon neutrality.

In the run up to the event, many more countries added their names to those already signed up to net zero by 2050 or 2060 (2070 for India). There was also progress on methane emissions, sustainable finance, electric vehicles, reduced coal use, marine transport, and transition aid to developing countries. However, it is unlikely that these commitments will avoid a rise in global temperatures of more than 1.5 degrees Celsius, so delegates have agreed to revise their plans annually.

Those pushing for swifter action, mostly from the richer, developed world faced push-back from some developing countries. India and China ensured the final text called for the "phasing down," rather than "phasing out" of unabated coal power. And South Africa and Nigeria, which are heavily dependent on coal and oil, led a group that blocked the dropping of fossil fuel subsidies. The International Energy Agency (IEA) estimates fossil subsidies amounted to $180bn globally in 2020, but these include some worthy cases, such as cut-price LPG in India – which alleviates fuel poverty, biomass pollution and deforestation. The event also saw the official launch of the Beyond Oil and Gas Alliance, led by Denmark and Costa Rica, which aims to phase out oil and gas completely. The initiative was joined by France, Greenland, Ireland, Sweden, Wales, and the Canadian province of Québec, and adds to pressure on producers. California and New Zealand signed on as associate members, committing to taking "concrete steps" to reduce oil and gas production.

Gas gets off lightly: COP26 was fairly easy on gas/LNG, which was seen by many as a key transition fuel and flexible compliment to renewables. It was noted that relatively cheap gas in the US and UK had helps the much of the decarbonisation progress there so far.

However, the sustainable finance deals may mean some gas projects struggle to secure funding, and some countries Nationally Determined Contributions may restrict gas development. In addition, there were some important deals that affect gas more than other fossil fuels. Top among these was the Global Methane Pledge (GMP), which over 100 countries – including the US, China, and the EU – signed. Methane is a powerful greenhouse gas with an impact 84 times that of CO2 in the first 20 years of its life in the atmosphere (it dissipates after 80 years). It is responsible for about 0.4 degrees Celsius of global temperature rise to date, and tackling it is perhaps the most immediate way of limiting global warming. The oil and gas sector is responsible for about 30% of man-made methane emissions and under the GMP will have to cut that by at least 30% by 2030 – although this is still not enough to cap global warming at 1.5 degrees Celsius, which the IEA says requires a cut of at least 45%.

The full list of participants includes Argentina, Canada, Ghana, Indonesia, Iraq, Italy, Nigeria, Pakistan, Mexico, and the UK. Countries that have not signed are mostly big gas producers such as Russia, Turkmenistan, UAE, and Saudi Arabia, but also India.

The US and EU estimate that if all countries cut methane emissions in line with their pledges over the next decade, it could reduce warming by at least 0.2 degrees Celsius by 2050. More significant reductions would take place after 2030. But, as with CO2 abatement, some of the signatories are likely to need support to implement the GMP goals.

There was also pressure on gas from those in the marine transport sector that are keen to skip LNG development and accelerate a switch to even lower or zero carbon fuels such as green hydrogen, ammonia, or methanol. A number of countries adopted the Clydebank Declaration, which will develop green shipping corridors by 2025. And companies including Amazon, Ikea and Unilever committed to using only zero-carbon freight from 2040. The International Maritime Organisation is currently targeting a 50% cut in greenhouse gas emissions from the global fleet by 2050 compared with 2008 levels, following a 40% reduction in carbon intensity by 2030, but there is growing industry and political pressure to raise the 50% goal to 100%.

LNG's greenhouse gas emissions: With gas facing no direct constraints from COP26 and if anything bolstered as a transition fuel, the focus has moved to reducing or offsetting emissions from production, transportation and even combustion – to make carbon-neutral gas and LNG. Only a few tens of LNG cargoes have been declared carbon neutral to date, but the number is expected to grow quickly in the wake of COP26.

Progress is being made in a number of areas. For example, alongside COP26, QatarEnergy, Chevron and Singapore's Pavilion Energy announced the development of a method to calculate GHG emissions for LNG cargoes from wellhead-to-discharge terminal. QatarEnergy plans to reduce the carbon intensity of LNG facilities by 25% by 2030 and reach net zero emissions from routine flaring during production. The three companies say their methodology is expected to enhance transparency and improve the accuracy of emission calculations.

The International Group of Liquefied Natural Gas Importers (GIIGNL) has come up with a similar system that includes emissions from combustion as well. Under its rules a carbon neutral shipment must provide clear, transparent data and attempt to reduce emissions from production and transportation. Any remaining emissions – including scope 3 emissions, when the customer consumes the fuel – have to be offset with carbon credits. However, many environmentalists are sceptical about the use of such credits. At the conference, campaigner Greta Thunberg was particularly dismissive of carbon offsets, describing them as "greenwash".

Voluntary carbon offsets could also become much more expensive. Calls in the months running up to COP26 for greater scrutiny over their quality have already raised prices sharply this year, making it far more costly to implement neutrality pledges – as demand rises, prices are likely to rise further given the limited supply of nature-based and some other types of offsets.

LNG market growth: China and India are key growing markets for LNG, and this may be enhanced following their commitment to "phase down" coal. In India, the central government is now firmly targeting a 15% share for gas in India's overall energy mix by 2030 – although in power generation this is likely to be conditional on competitive prices. In transport, the Indian government has identified 1,000 locations across the country to set up LNG outlets in the next three years.

And while Nigeria has adopted a net-zero-by-2060 target, it has also been stressing the role of gas, and remains concerned about some of the pledges to curb finance to gas projects made at COP26. Nigeria says it will continue to rely heavily on gas for energy stability until at least 2040 without exceeding its allocation of emissions.

While the agreements at COP26 may still not be enough to limit warming to 1.5 degrees Celsius, delegates have agreed to meet annually to try and get closer. This means tighter rules are now a possibility each year, especially if the world continues to experience increasingly frequent extreme weather events.

■ *This article was supplied by the Abdullah bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development.*

ENERGY INDUSTRY REPORTS

The energy topics and the headline messages covered in the 12 Energy Industry Reports delivered in 2021 are listed below:

JANUARY 2021

RESEARCH THEMES

ONE YEAR ON: THE IMPACT OF THE CORONAVIRUS ON ENERGY

Headline Messages

- In 2020, world energy demand and oil prices slumped on the back of the Covid-19 outbreak and the ill-timed Russia-Saudi Arabia price war in March that resulted in potentially the worst oil oversupply in history.
- The pandemic has faced the oil and gas industry with a triple dilemma: coping with viral effects and response, rapidly approaching peak demand, and an even more accelerated energy transition.
- Global energy-related carbon dioxide (CO2) emissions fell by 8% in 2020 to their lowest levels since the financial crisis of 2009, due to dramatic reductions in coal, oil, and natural gas demand.
- The pandemic has had a catalysing effect on the energy transition, forcing companies to shift gears on transformation plans.

Global energy-related carbon dioxide (CO2) emissions fell by 8% in 2020 to their lowest levels since the financial crisis of 2009

One Year On: The Impact Of The Coronavirus On Energy January 2021

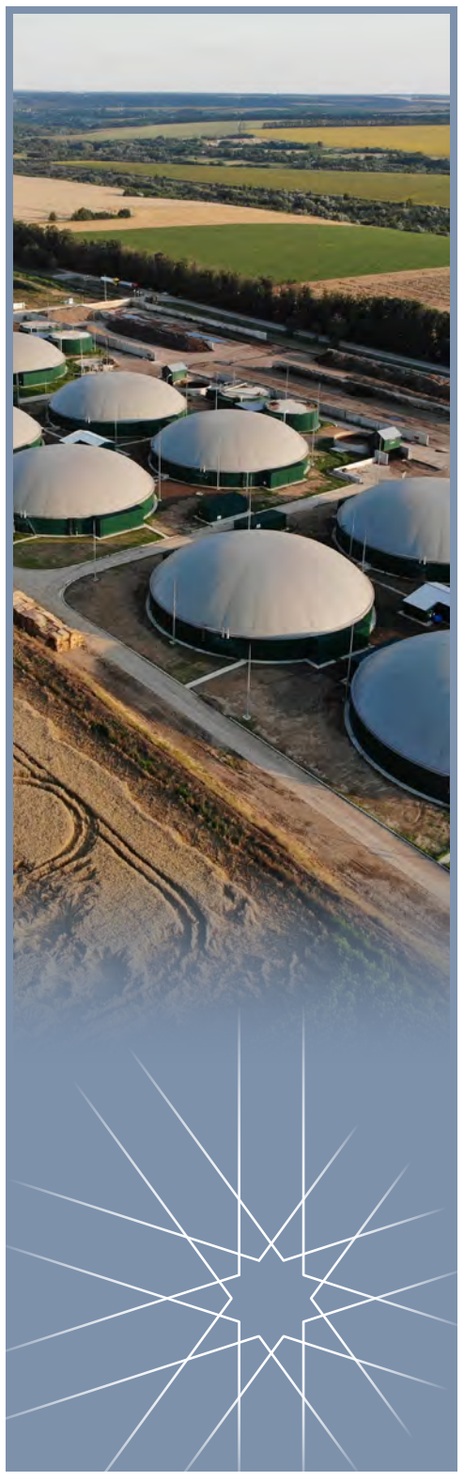
FEBRUARY 2021

RESEARCH THEMES

ARE METHANE EMISSIONS DRIVING US TO A 3°C WORLD?

Headline Messages

- Global methane (CH4) emissions rose by approximately 10% since 2000, with atmospheric concentrations of the gas reaching 1,890 parts per billion (ppb) as of October 2020 from pre-industrial levels of 722 ppb.
- The current anthropogenic methane emissions trajectory is estimated to be between the two warmest IPCC-AR5 scenarios (i.e., RCP8.5 and RCP6.0), corresponding to a temperature rise above 3°C by end of the century.
- Methane is a powerful greenhouse gas (GHG) with a global warming potential (GWP) 28-36 times that of CO2 over 100 years.
- The IEA estimates 72 Mt of methane was emitted into the atmosphere from oil and gas operations in 2020, the largest emitters being Russia, the US, Iran and Turkmenistan.



Global methane (CH4) emissions rose by approximately 10% since 2000, with atmospheric concentrations of the gas reaching 1,890 parts per billion (ppb) as of October 2020

Are Methane Emissions Driving Us To A 3°C World? February 2021

MARCH 2021

RESEARCH THEMES

CARBON CAPTURE, USE AND STORAGE

Headline Messages

- About 40 million tonnes (Mt) of CO2 per year is currently captured; IPCC, IEA and BP scenarios suggest this would have to scale up to 1-15.8 billion tonnes (Gt) annually by 2050, mostly likely around 5-7 Gt.
- The emphasis of CCUS plans has shifted over the past decade from power generation to industry; and from single projects to clusters.
- CCUS is the leading candidate to decarbonise some key industries, such as petrochemicals, iron and steel, cement, 'blue' hydrogen, fertiliser manufacturing and others.
- CCUS costs are reasonable compared to those of other low-carbon options, and the main technologies for capture, transport and storage are technologically mature. Improvements and cost reductions are likely, and significant breakthrough technologies are possible, with work currently underway.

About 40 million tonnes (Mt) of CO2 per year is currently captured; IPCC, IEA and BP scenarios suggest this would have to scale up to 1-15.8 billion tonnes (Gt) annually by 2050, mostly likely around 5-7 Gt

Carbon Capture, Use and Storage
March 2021

APRIL 2021

RESEARCH THEMES

OPEC'S LONG-TERM OUTLOOK

Headline Messages

- Over more than 60 years of its existence, OPEC had several leading aims, that have evolved and changed over time.
- It sometimes behaved as a classic cartel, by restricting supply, with periods of success as well as failures. But its limitation of long-term output growth has been more significant than short-term adjustments.
- Competition from non-OPEC producers has always been a factor, but US shale output has been particularly challenging, and will remain a factor.
- Saudi Arabia, with its GCC allies, has become even more dominant in the organisation because of the declining influence of some other states.

Competition from non-OPEC producers has always been a factor, but US shale output has been particularly challenging, and will remain a factor.

OPEC's Long-term Outlook
April 2021

MAY 2021

RESEARCH THEMES

ASIAN GAS MARKETS

Headline Messages

- The Asia-Pacific region is vital, but complex region for the future gas industry. The COVID-19 pandemic has left an impact on the growth in gas demand. However, it appears that this negative effect will be transitory.

- It is highly probable that the Asia-Pacific region, particularly China and India, in addition to other Asian emerging markets, will be the dominant region for gas demand growth over the next decade.

- The increase in gas demand leading into 2025 will be driven by electricity and industry, jointly accounting for more than 70% of the increase in global demand. This is in contrast to the residential and commercial sectors, which are projected to provide just ~7% of the additional increase, as energy efficiency policies and electrification through renewable energy limit the market.

The increase in gas demand leading into 2025 will be driven by electricity and industry, jointly accounting for more than 70% of the increase in global demand.

Asian Gas Markets
May 2021

JUNE 2021

RESEARCH THEMES

NEW STRATEGIC COMMODITIES

Headline Messages

- A transformation of the global energy system driven by renewables and low carbon energy systems could introduce radical changes across the geopolitical landscape.
- The change in the global political landscape will force states to reposition themselves in the international system as they race to become global low-carbon energy leaders, lead to a relative decline in the influence of fossil fuel exporters, allow fossil fuel importers to improve their energy security, and create opportunities for certain countries to take advantage of their new energy endowment.
- Some of the metals and minerals used in renewable energy technologies, mainly rare earth elements, may be subject to a similar kind of competition, contest, and control as for fossil fuels.

The change in the global political landscape will force states to reposition themselves in the international system
as they race to become global low-carbon energy leaders, lead to a relative decline in the influence of fossil fuel exporters.

New Strategic Commodities
June 2021

JULY 2021

RESEARCH THEMES

ENERGY TRADEWINDS

Headline Messages

- Aviation and shipping account for 17% of global oil consumption and are responsible for 3.6% of greenhouse gas emissions. On a business-as-usual case, primary energy use in aviation and maritime will grow 0.8% annually by 2050, and be one of only two sectors where oil use continues growing (plastics/petrochemicals is the other).

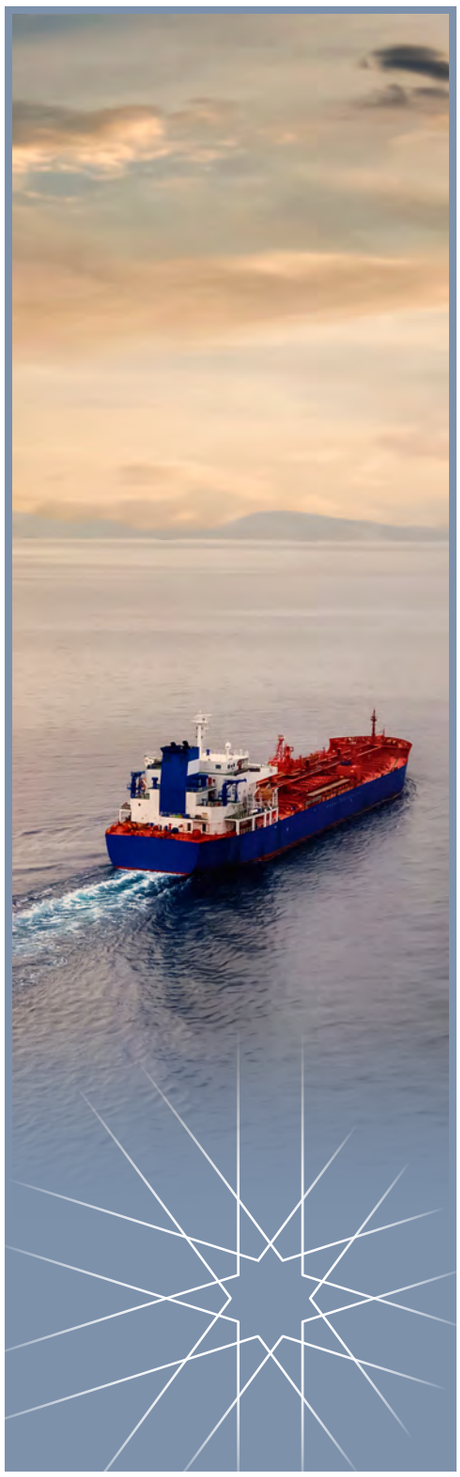
- Maritime and aviation are considered "hard-to-abate" sectors because of their economic importance and the limited technical and commercial maturity of low-carbon alternatives, particularly for long-range transport.

- The International Maritime Organisation's policy on greenhouse gas reductions from shipping follows on its successful mandating of low-sulphur fuels.

- Technical efficiency gains, electrification and hybrid-powered ship engines in short-range roles, and fuel switching to LNG, biofuels, methanol, hydrogen and ammonia, will drive the energy transition in the maritime shipping sector.

Aviation and shipping account for 17% of global oil consumption and are responsible for 3.6% of greenhouse gas emissions.

Energy Tradewinds
July 2021



AUGUST 2021

RESEARCH THEMES

GLOBAL ENERGY SUBSIDIES

Headline Messages

- Energy subsidies are large and varied, with a number of estimates of their magnitude. They affect choices between different energy sources and methods of use, and they affect total production and consumption of energy.

- Current estimates for subsidies are dominated by fossil fuels. Some organisations cover subsidies to renewables and nuclear power too, but these are limited. However, this also needs to be compared to the total amount of energy supplied by each source.

- Energy subsidies arise as a result of deliberate interventions by governments to correct perceived market failures. They are also pursued to provide affordable energy for lower-income members of society, correct markets for unpriced externalities, induce learning to drive down the costs of new technologies, reduce import dependence, enhance energy security, and create employment.

Some organisations cover subsidies to renewables and nuclear power too, but these are limited. However, this also needs to be compared to the total amount of energy supplied by each source.

Global Energy Subsidies
August 2021

SEPTEMBER 2021

RESEARCH THEMES

CONNECTING THE GLOBAL POWER GRID

Headline Messages

- The history of electricity systems is driven by expansion. The main driver of this expansion has been economics, specifically the reduction of overall investment and operational costs of the electricity system.
- New grid technologies, notably ultra-high voltage DC connections, are making long-distance connections more feasible. At the same time, factors including the desire for greater system reliability and the integration of higher shares of intermittent renewable generation, make electricity trade more important.
- Despite these drivers, international electricity trade has grown only very slowly. Commercial and regulatory factors have to be overcome to realise the full economic and environmental benefits of expanded interconnection.
- Connecting an electricity system involves a wide range of considerations, which include cooperation on system planning, grid synchronisation, coordination of system operations, integration of electricity markets, and the consolidation of regulatory plans and policies.

The main driver of this expansion has been economics, specifically the reduction of overall investment and operational costs of the electricity system.

Connecting the Global Power Grid
September 2021

OCTOBER 2021

RESEARCH THEMES

UPSTREAM OIL & GAS EXPLORATION AND PRODUCTION

Headline Messages

- The oil and gas value chain must reconsider its upstream strategy and transform its portfolios through low-cost operations, reduce emissions footprint, and cut overall capital intensity.

- In an uncertain global oil and gas market, investment trends in the upstream segment reflect a preference for low-cost, low-carbon resources through careful resource selection and capital discipline. The balance of investments is shifting from IOCs to NOCs.

- NOCs will lead the way in global oil and gas production, producing large volumes from their low-cost conventional onshore resources, with supermajors and large IOCs preferring core assets that provide small to modest growth, international independents focusing on growth opportunities through high-impact exploration projects, and US-independents focusing on unconventional shale oil and gas resource development and production across the United States.

NOCs will lead the way in global oil and gas production, producing large volumes from their low-cost conventional onshore resources, with supermajors and large IOCs

Upstream Oil & Gas Exploration And Production October 2021

NOVEMBER 2021

RESEARCH THEMES

THE ROLE OF SOVEREIGN WEALTH FUNDS IN ENERGY

Headline Messages

- Sovereign wealth funds (SWFs) are large institutional investors with a fiduciary responsibility to their respective governments. The fiscal rule of SWFs determines their investment behaviour, and typically follows that of some combination of a stabilisation, savings, pension, and / or strategic investment fund.

- Depending on their investment strategy and asset allocation process, energy and utilities investment funds operated by SWFs can be classified by the "Norwegian", "Endowment", "Canadian", or the "Collaborative" model.

- In the long-term, global SWFs will increasingly align with the global asset management industry as they continue to mature. Their increasing assets under management (AUM) will make it harder for them to make contrarian bets. Their alignment towards mainstream investment allocations could also support the ongoing energy transition.

In the long-term, global SWFs will increasingly align with the global asset management industry as they continue to mature.

The Role of Sovereign Wealth Funds in Energy November 2021

DECEMBER 2021

RESEARCH THEMES

CONSENSUS FORECASTS ON LONG-TERM DEMAND FOR FOSSIL FUELS

Headline Messages

- Most reference and evolutionary scenarios forecast global primary energy demand to peak by 2050, whereas energy transition scenarios project demand to peak earlier, by 2030. As per most scenarios, fossil fuel consumption in 2040 is similar to, and in some scenarios higher than 2019 levels. In contrast, energy transition scenarios estimate demand for fossil fuels to have declined dramatically by 2040, with the exception of gas.

- Long-term oil demand will continue to be driven by the transport sector. However, regulatory policies and technological advancements that accelerate electrification will pose a significant and increasing risk to global oil consumption.

- Reference scenarios estimate a peak in oil demand of 99 Mbbl/d – 100 Mbbl/d by 2040, mainly led by road, shipping and aviation, due to the slow electrification of these segments and gradual uptake of alternative liquids.

As per most scenarios, fossil fuel consumption in 2040 is similar to, and in some scenarios higher than 2019 levels. In contrast, energy transition scenarios estimate demand for fossil fuels to have declined dramatically by 2040, with the exception of gas.

Consensus Forecasts on Long-Term Demand for Fossil Fuels December 2021

SUSTAINABLE DEVELOPMENT INDUSTRY REPORTS

The sustainability topics and the headline messages covered in the 12 Sustainable Development Industry Reports delivered in 2021 are listed below:

JANUARY 2021

RESEARCH THEMES

CARBON NEUTRALITY & THE 75TH UN GENERAL ASSEMBLY

Headline Messages

- Six major economies have recently announced goals to reach net-zero carbon dioxide emissions: China (by 2060), the EU, UK, Japan, South Korea, and the new Biden administration in the US (all by 2050).
- This represents eight of the world's top ten economies, including the EU countries Germany, France, and Italy, while Canada, in 9th place, is drafting carbon neutrality legislation; India is the exception in the top ten.
- Including Canada, countries with committed carbon neutral dates account for slightly more than 60% of global CO2 emissions from fossil fuel combustion.
- For all countries, achieving carbon neutrality requires prioritising and accelerating investments in green and digital technologies combined with progressive increases in carbon prices to incentivise switching to low-emissions technologies and generate revenues for supporting the transition to climate-friendly investments.

Carbon Neutrality & The 75th UN General Assembly January 2021

FEBRUARY 2021

RESEARCH THEMES

GREENING THE LNG INDUSTRY

Headline Messages

- Under most conditions, LNG offers substantial savings in GHG emissions versus coal and oil while being roughly comparable to long-distance gas pipeline supply.

- However, gas, especially LNG, has come under environmentalist pressure due to its GHG footprint, notably methane leakage, a potent greenhouse gas. This challenges LNG's expected role as an essential transition fuel.

- Planned EU emissions standards will exclude high-GHG footprint gas from the bloc and are likely to become a de facto standard for other jurisdictions and the LNG industry. GHG emissions come from throughout the LNG value chain, with liquefaction the single largest component. Emissions can be reduced through: portfolio choices about LNG developments; energy efficiency, design choices, and methane leakage reduction in the upstream, liquefaction, and transport sectors; carbon capture, use and storage (CCUS) in the upstream, processing, liquefaction, and end-use stages.

Planned EU emissions standards will exclude high-GHG footprint gas from the bloc and are likely to become a de facto standard for other jurisdictions and the LNG industry.

Greening The LNG Industry
February 2021

MARCH 2021

RESEARCH THEMES

NET-ZERO CARBON ECONOMY BY 2050

Headline Messages

- The Paris Agreement's aim of limiting global warming to no more than 1.5°c by 2100 implies that global carbon dioxide emissions would have to reach net-zero around 2050, with any continuing emissions being offset by withdrawals.
- Accordingly, net-zero carbon aspirations are increasingly common for countries, subnational regions and companies, with about 70% of the global economy now covered by firm or indicative net-zero targets.
- However, some major emitters such as Brazil, Russia and Australia, have set weak or no net-zero goals.
- The adoption of net-zero goals by influential countries and companies will encourage or even compel others to follow, to avoid losing market access.

Net-zero carbon aspirations are increasingly common for countries, subnational regions and companies, with about 70% of the global economy now covered by firm or indicative net-zero targets.

Net-Zero Carbon Economy By 2050 March 2021

APRIL 2021

RESEARCH THEMES

SUSTAINABLE DEVELOPMENT ROADMAP FROM THE 75TH UN GENERAL ASSEMBLY

Headline Messages

- In 2020, the unprecedented impact of the coronavirus pandemic deepened existing inequalities in access to a sustainable future, causing loss of lives, businesses, and the global economy.
- Carbon emissions, which fell by a remarkable 8% from 2019 levels in 2020, are now quickly returning to pre-crisis levels, and risk undoing all the efforts made on combating climate change.
- The year of the adoption of the UN Sustainable Development Goals (SDGs) coincided with the landmark Paris Agreement. However, interaction between both processes has been limited to date, which could impede effective implementation of both.
- The pandemic can spur partnerships on the SDGs in new ways, with one of the most promising avenues for partnerships being the private sector.

Carbon emissions, which fell by a remarkable 8% from 2019 levels in 2020, are now quickly returning to pre-crisis levels, and risk undoing all the efforts made on combating climate change.

Sustainable Development Roadmapfrom the 75th United Nations General Assembly April 2021

MAY 2021

RESEARCH THEMES

STRATEGIES FOR SUSTAINABLE PRODUCTION AND CONSUMPTION OF NATURAL RESOURCES

Headline Messages

- This paper primarily considers environmental sustainability, but in the context of the 3Ps – profit, people and planet (the holistic economic, social and environmental sustainability).
- Resources have different challenges, which are often interlinked. Solving one challenge relating to a resource can put more pressure on another resource (e.g. the water-energy nexus).
- New resources emerge as technologies are invented; older resources may remain key, may become less important or may cease to be considered as usable resources entirely.
- For the purpose of sustainability, resources can be classified into non-renewable (e.g. minerals and fuels), renewable but depletable (e.g. fresh water, fish), renewable and non-depletable (e.g. solar and wind power), and degradable (e.g. wood, paper, food material).

New resources emerge as technologies are invented; older resources may remain key, may become less important or may cease to be considered as usable resources entirely.

Strategies for Sustainable Production and Consumption of Natural Resources May 2021

JUNE 2021

RESEARCH THEMES

CRITICAL MATERIALS FOR ENERGY TRANSITION

Headline Messages

- Critical minerals have become increasingly important as new energy systems require new minerals that were not in high demand previously.
- The main drivers of increased demand are electric vehicles, battery storage and electricity networks. Solar and wind power mineral requirements are important but secondary.
- Traditional materials that will see strongly increased demand include copper, silver and graphite.
- 'Emerging' materials that were not in strong demand previously include lithium, cobalt, nickel and rare earth elements (REEs).
- These minerals are often found with high reserves, production and processing capacity, in geopolitically or environmentally challenging areas.

The main drivers of increased demand are electric vehicles, battery storage and electricity networks. **Solar and wind power mineral requirements are important but secondary.**

Critical Materials
For Energy Transition
June 2021

JULY 2021

RESEARCH THEMES

CLIMATE CHANGE SCIENCE

Headline Messages

- Research has narrowed uncertainty but not radically changed our understanding of climate change, global warming and the effect of CO2 since the 1970s.
- Some high-case and low-case warming scenarios have been largely ruled out, but higher levels of warming than consensus remain a possibility.
- Understanding of key tipping points has improved but remains uncertain, leaving major risks of feedback cycles.
- Regional forecasts and extreme weather attribution have advanced substantially.
- Correct modelling of icesheets, carbon storage in the biosphere, and clouds remain key areas of focus and uncertainty.
- Understanding of climate damage is probably heavily underestimated and does not include microeconomic and socio-political effects that are plausible but impossible to model. On the other hand, damage estimates may inadequately account for adaptation.

Understanding of climate damage is probably heavily underestimated and does not include microeconomic and socio-political effects that are plausible but impossible to model.

Climate Change Science
July 2021

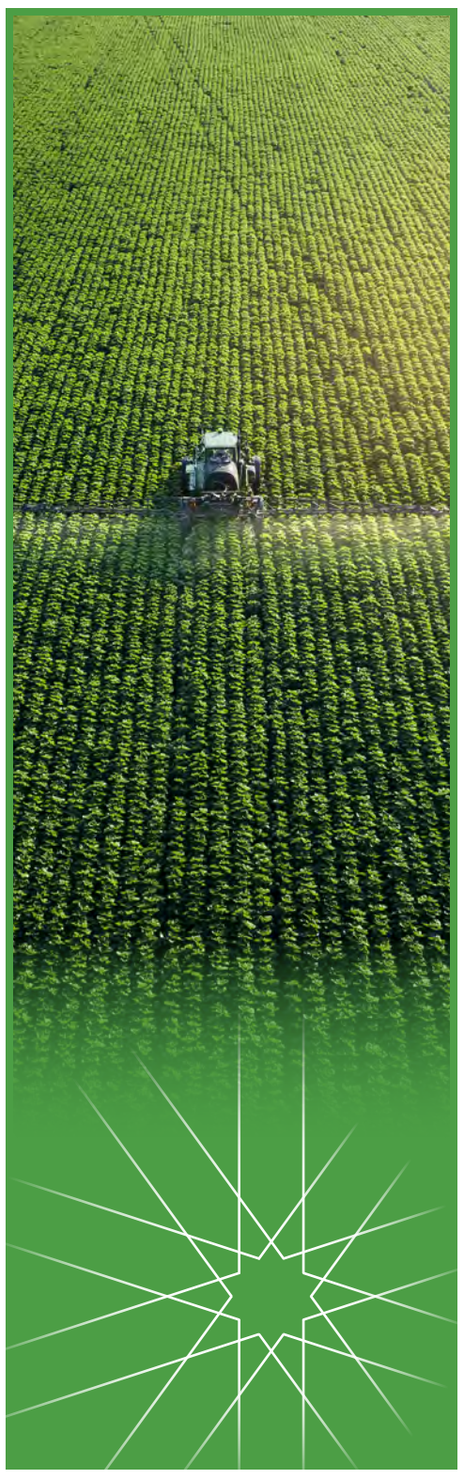
AUGUST 2021

RESEARCH THEMES

CLIMATE CHANGE AND FOOD SECURITY

Headline Messages

- Climate change will have major, and overall negative, impacts on agriculture and food security.
- This is one of the most serious areas of damage arising from climate change, and applies to urban as well as rural populations, and to middle- and high income countries as well as low-income ones, though in different ways.
- Although adequate food is available worldwide, it is unevenly distributed in quantity and nutrition. Meeting future food needs is possible but will be challenged by climate change impacts.
- Agricultural yields will be affected by higher temperatures, shifting precipitation causing drought in certain areas, and higher levels of extreme weather, parasites and diseases.
- Tropical and subtropical areas are likely to suffer worse, while high-latitude areas such as Canada and Russia will probably gain in agricultural yields.



This is one of the most serious areas of damage arising from climate change, and applies to urban as well as rural populations, and to middle- and high income countries as well as low-income ones, though in different ways.

Climate Change And Food Security August 2021

SEPTEMBER 2021

RESEARCH THEMES

NEW FRONTIERS: EMERGING SUSTAINABLE TECHNOLOGIES OF THE NEXT DECADE

Headline Messages

- Increasing concern over climate change, other environmental problems, and energy poverty has created increasing pressure for research and deployment of new sustainable technology across energy production, logistics and use.

- Adoption of new technologies is essential to achievement of the climate change mitigation pathways set by the Intergovernmental Panel on Climate Change's (IPCC) and the UN Sustainable Development Goals enshrined in the 2030 Agenda for Sustainable Development.

- In the energy sector, emerging technologies can meet demand with lower energy use. These include already quite mature technologies like renewable energies, electric vehicles, and hybrid technology, and in the near future, emerging ones like advanced biofuels, perovskite photovoltaics, and hydrogen transport.

- Broader sectors like mobility, AI, automation, 3D printing, remote sensing, biotech, and geoengineering are crucial to developing transformational energy innovations.

Adoption of new technologies is essential to achievement of the climate change mitigation pathways set by the IPCC and the UN Sustainable Development Goals.

New Frontiers: Emerging Sustainable Technologies of the Next Decade September 2021

OCTOBER 2021

RESEARCH THEMES

NET-ZERO SCENARIOS: WHAT WILL THE ENERGY LANDSCAPE LOOK LIKE?

Headline Messages

- Reaching net-zero emissions is akin to achieving "climate neutrality". In the leadup to the 26th Conference of the UNFCCC in November 2021, several new countries have committed to net-zero pledges.
- Any assessment of net-zero scenarios must be reconciled with the Sustainable Development Goals (SDGs).
- Unlike climate-only pathways, socioeconomic-based pathways can offer crucial insights into how future societal choices will affect GHG and CO2 emissions, and therefore, how the climate goals of the Paris Agreement could be met in a sustainable way.
- The IPCC's Shared Socioeconomic Pathways (SSPs) provide a consistent set of assumptions of population, economic activity, and urbanisation as inputs to energy, land use, and ultimately climate impacts.

Reaching net-zero emissions is a kin to achieving "climate neutrality".
In the leadup to the 26th Conference of the UNFCCC, several new countries have committed to net-zero pledges.

Net-Zero Scenarios: What Will the Energy Landscape Look Like? October - 2021

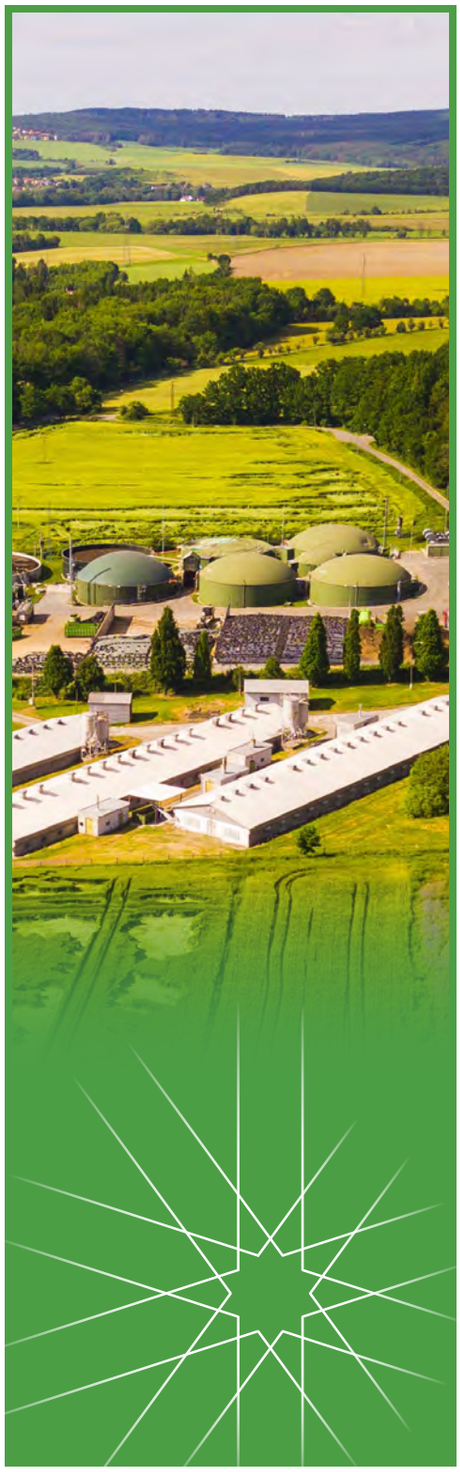
NOVEMBER 2021

RESEARCH THEMES

THE PROGRESS OF GREEN NEW DEALS IN EUROPE AND THE US

Headline Messages

- 'Green New Deal' and the 'European Green Deal' have become brand names for a broad platform of linked environmental, economic and social policies.
- These have a long historical pedigree, going back to the New Deal of the 1930s.
- The recent trend back in favour of 'industrial policy' and activist government has its roots in several concerns: rising economic inequality and a declining working class; much greater government spending to deal with the 2008-9 financial crisis and then the 2020-21 Covid-19 pandemic; competition from China and its state-driven model; and recognition of the urgent need for climate action.
- The GNDs aim to deliver decarbonisation, economic equality and employment, and social progress for marginalised groups and those negatively affected by the energy transition.



'Green New Deal' and the 'European Green Deal' have become brand names for a broad platform of linked environmental, economic and social policies.

The Progress of Green New Deals in Europe and the US November 2021

DECEMBER 2021

RESEARCH THEMES

COP26: OUTCOMES & THE ROAD AHEAD

Headline Messages

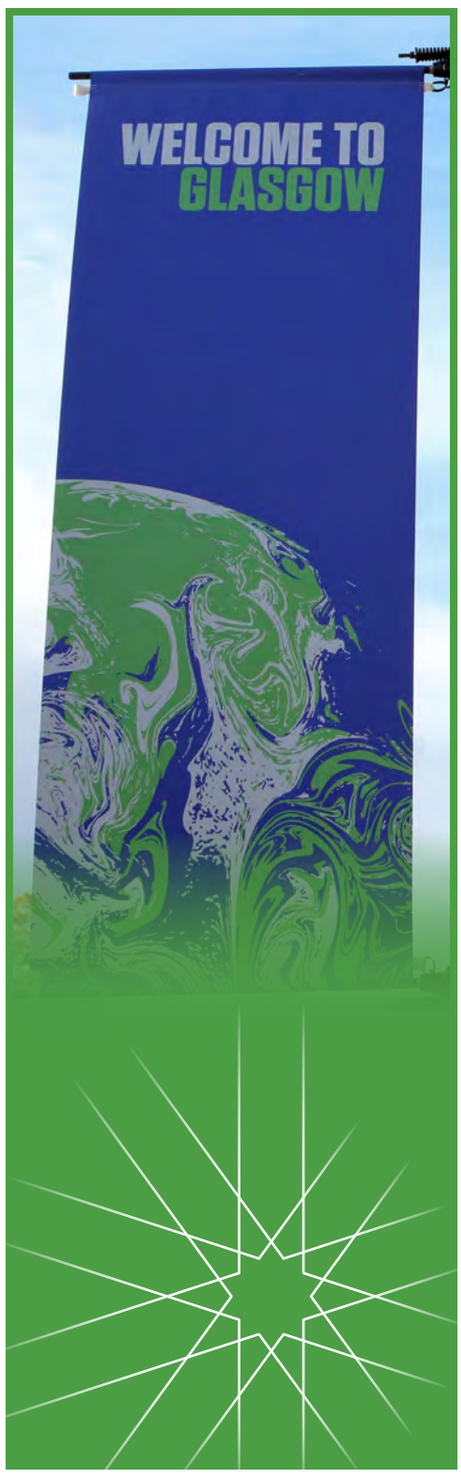
- At the COP26 summit global leaders met to come up with an action plan. This was crucial firstly to restore multilateral action following the US's return to the Paris Agreement; and secondly to get the process back on track following the disruption of the COVID-19 pandemic.

- COP26 for the first time marked an unequivocal statement that human burning of fossil fuels has resulted in the climate crisis, on par with the Intergovernmental Panel on Climate Change's (IPCC) 6th Assessment Report, published in August 2021.

- 120 world leaders, 25,000 delegates, and scores of activists, climate experts, celebrities, businesses, and campaigners attended the summit to hammer out the specifics of key issues. These included, broadly, (1) securing global net-zero by mid-century and maintaining the goal of limiting temperature rise to 1.5°C; (2) adapting to protect communities and natural habitats, and (3) mobilising finance.

120 world leaders, 25,000 delegates, and scores of activists, climate experts, celebrities, businesses, and campaigners attended the summit to hammer out the specifics of key issues.

COP26: Outcomes & the Road Ahead December 2021

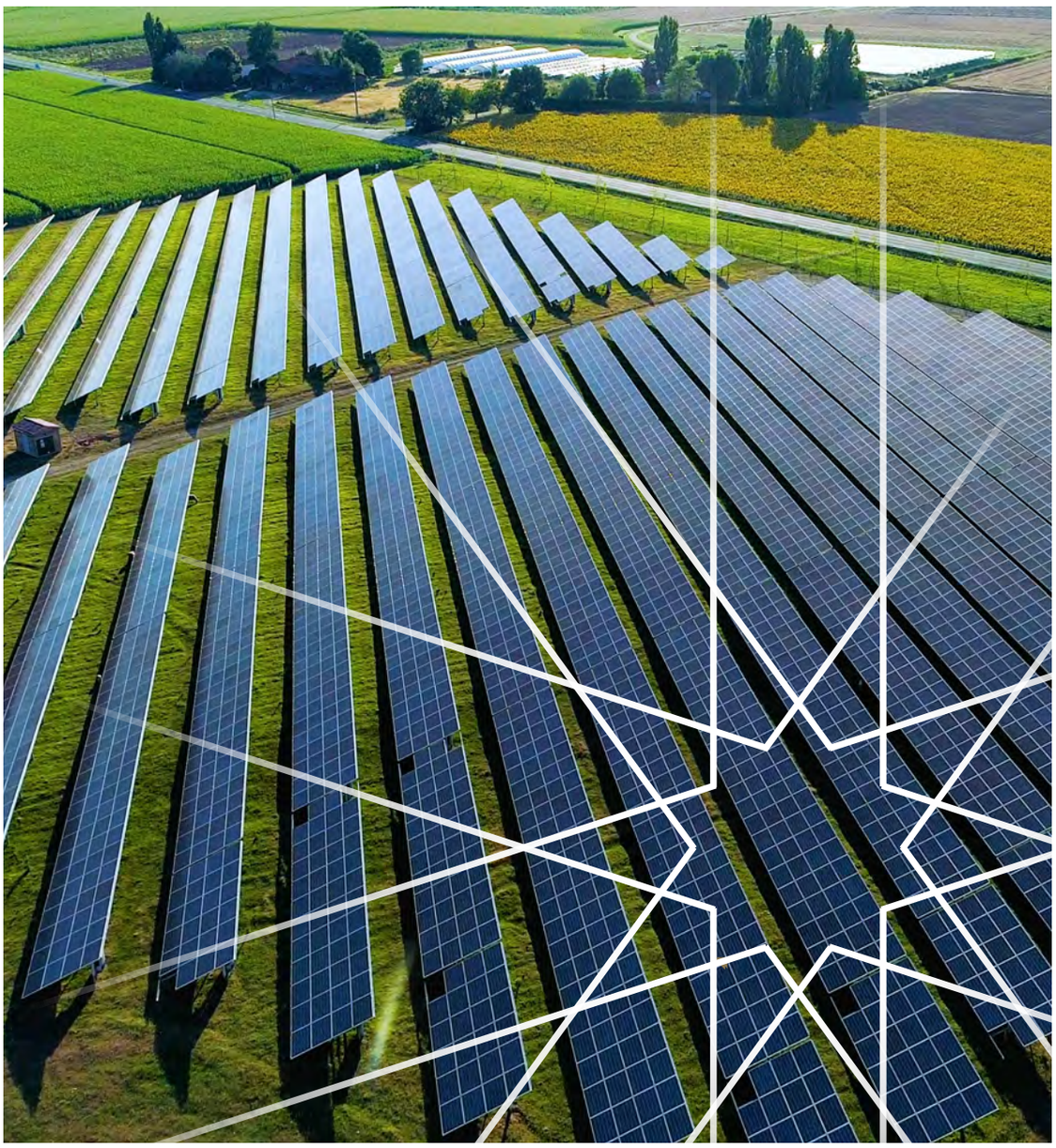


WHITE PAPERS

In 2021, the Foundation hosted four webinars and two CEO Roundtables. For each event, a White Paper that summarised what was discussed, and themes explored by the guest speakers and attendees were produced and published.

The five (5) White Papers comprised of:

- 3 Webinar White Papers
- 2 joint CEO Roundtable and Webinar White Papers



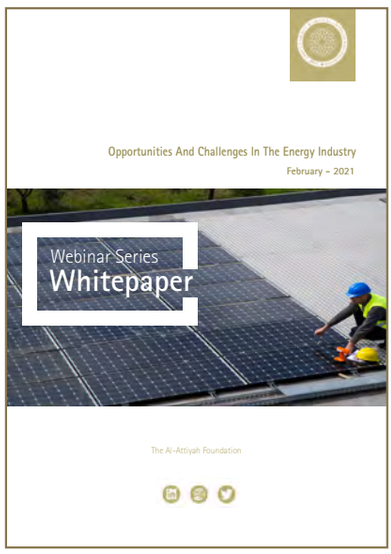
FEBRUARY 2021

WEBINAR THEME

OPPORTUNITIES AND CHALLENGES IN THE ENERGY INDUSTRY

Key Highlights

- It was thought that short term outcomes were more difficult to predict, because of the pandemic, than the long term.
- The panel was positive about the amount of technical progress that was being made on cutting fossil fuel usage and hence on carbon dioxide emissions.
- Energy companies (both IOCs and NOCs) face many challenges and will have changes forced upon them. They can all look forward to lower profitability.



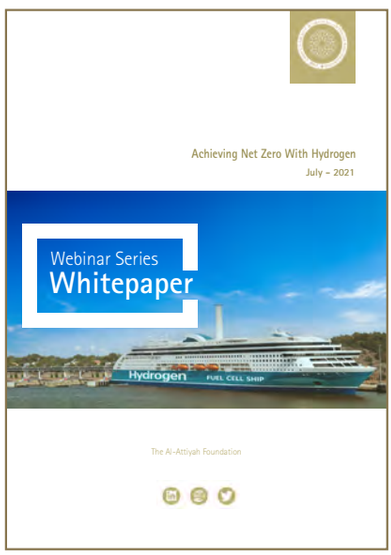
JULY 2021

WEBINAR THEME

ACHIEVING NET ZERO WITH HYDROGEN

Key Highlights

- Green hydrogen, which is produced via the electrolysis of water, where the electricity is provided by renewable electricity, offers a long-term, environmentally friendly alternative to fossil fuels in many chemical and industrial processes and could be key to decarbonising the global economy. However, most of the 70 million tonnes of hydrogen manufactured worldwide in 2019 was made through steam reforming, a carbon-intensive process based on natural gas.
- Many experts urge policymakers to also prioritise “blue” hydrogen, which uses carbon capture and storage (CCS) to prevent carbon dioxide produced in the steam reforming process from entering the atmosphere.



SEPTEMBER 2021

WEBINAR THEME

THE RACE TO NET ZERO

Key Highlights

- The race towards carbon neutrality by mid-century has certainly gathered momentum in the past few years.
- Net-zero carbon aspirations are now increasingly common for countries, sub-national regions and companies, with about 70% of the global economy now covered by firm or indicative net-zero targets.
- Despite the excitement, widescale change to the entire economy is required if the goals of the 2015 Paris Agreement are to be met and the temperature rise kept "well below" 2°C above pre-industrial levels by the end of the century (2100)..

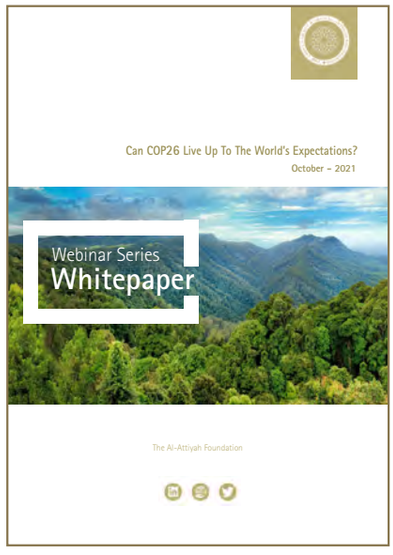
OCTOBER 2021

WEBINAR THEME

CAN COP26 LIVE UP TO THE WORLD'S EXPECTATIONS?

Key Highlights

- Setting common timeframes for national climate commitment, 22 percent said determining how carbon markets will work, 5 percent said agreeing new goals for global climate finance after 2025, and 40 percent said establishing stronger rules for transparent reporting.
- More than half of the corporate sector's carbon emissions derive from small businesses.
- Developed countries' reluctance to help poorer nations vaccinate their populations has also further eroded trust between the two blocs.



DECEMBER 2021

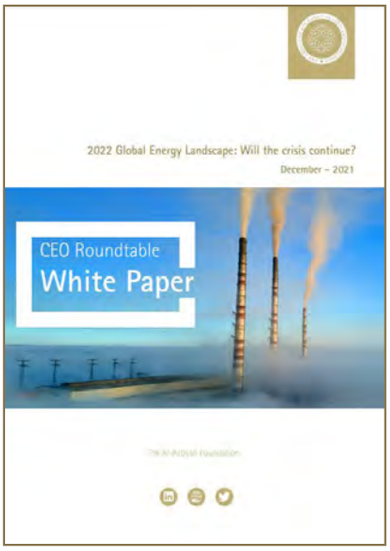
WEBINAR THEME

2022 GLOBAL ENERGY LANDSCAPE

Key Highlights

- The outlook for the global energy sector for 2022 and beyond as sustained oil and gas price volatility, supply-demand imbalances, and conflicting short-term and long-term priorities herald an era of unprecedented uncertainty in the industry.

- Renewables' capacity, although increasing, will only meet half the expected 4% increase in global electricity consumption in 2022, according to the International Energy Agency (IEA), with the rest provided by hydrocarbons. Consequently, carbon emissions from burning coal and gas – which declined in 2019 and 2020 – are likely to increase by 3.5 percent in 2021 and by 2.5 percent in 2022, the IEA forecasts.



SEPTEMBER 2021

WEBINAR AND CEO ROUNDTABLE THEME

THE RACE TO NET ZERO

Key Highlights

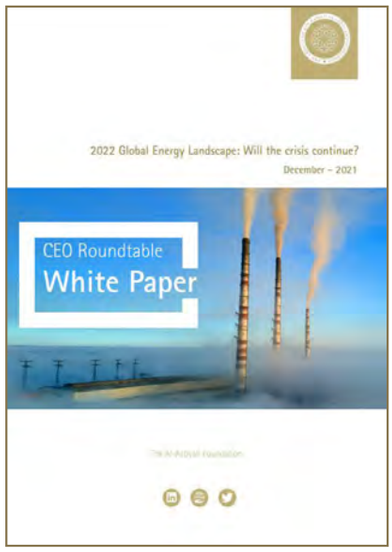
- The race towards carbon neutrality by mid-century has certainly gathered momentum in the past few years.
- Net-zero carbon aspirations are now increasingly common for countries, sub-national regions and companies, with about 70% of the global economy now covered by firm or indicative net-zero targets.
- The CEO Roundtable discussion started with talk of the Shell Energy Transformation Scenarios. The scenarios are split into three categories, Waves, Islands and Sky 1.5. The different initial recovery responses of the three scenarios to the crises of 2020, were explored and how and when these responses will reach net-zero emissions were expounded.

DECEMBER 2021

CEO ROUNDTABLE AND WEBINAR THEME

2022 GLOBAL ENERGY LANDSCAPE: WILL THE CRISIS CONTINUE?

Key Highlights



- At COP26, an agreement was reached relating to the all-important Article 6 on carbon markets that will make the Paris Agreement fully operational. However, a Supervisory Body will be set up to oversee its operational implementation.
- "The critical thing is how you translate pledges into policies and regulations? And then how do you get the finance in place to implement that? We have to turn our attention to the implementation side of this and not just lofty pledges," a participant at the CEO Roundtable stated.
- Renewables' capacity, although increasing, will only meet half the expected 4% increase in global electricity consumption in 2022, according to the International Energy Agency (IEA), with the rest provided by hydrocarbons.

ANNUAL ACADEMIC CONTRIBUTION
GUIDEBOOK ON ESG

In line with the goal to provide industry practitioners, policy makers, academia and other stakeholders with authoritative and practical information, the Foundation produced and published *Guidebook on ESG*.

Environmental, Social, and Governance (ESG) has emerged, over a relatively short period of time, to become a mainstream concern for the entire investment industry. Notable recent events such as, the unprecedented coronavirus pandemic, social unrest resulting from racial discrimination, extreme weather events and severe impacts of climate change in many places around the world, have spurred the meteoric rise in ESG.

The demand for ESG investing is now one of the fastest-growing investment strategies around the world. ESG is here to stay, and the 2020s could become the decade of action, as the adoption of ESG-related practices, as the norm, is expected to become widespread. Responsible companies, investors and governments have to act proactively on ESG, in order to avoid great risks and appropriate the significant opportunities that good ESG strategies provide.

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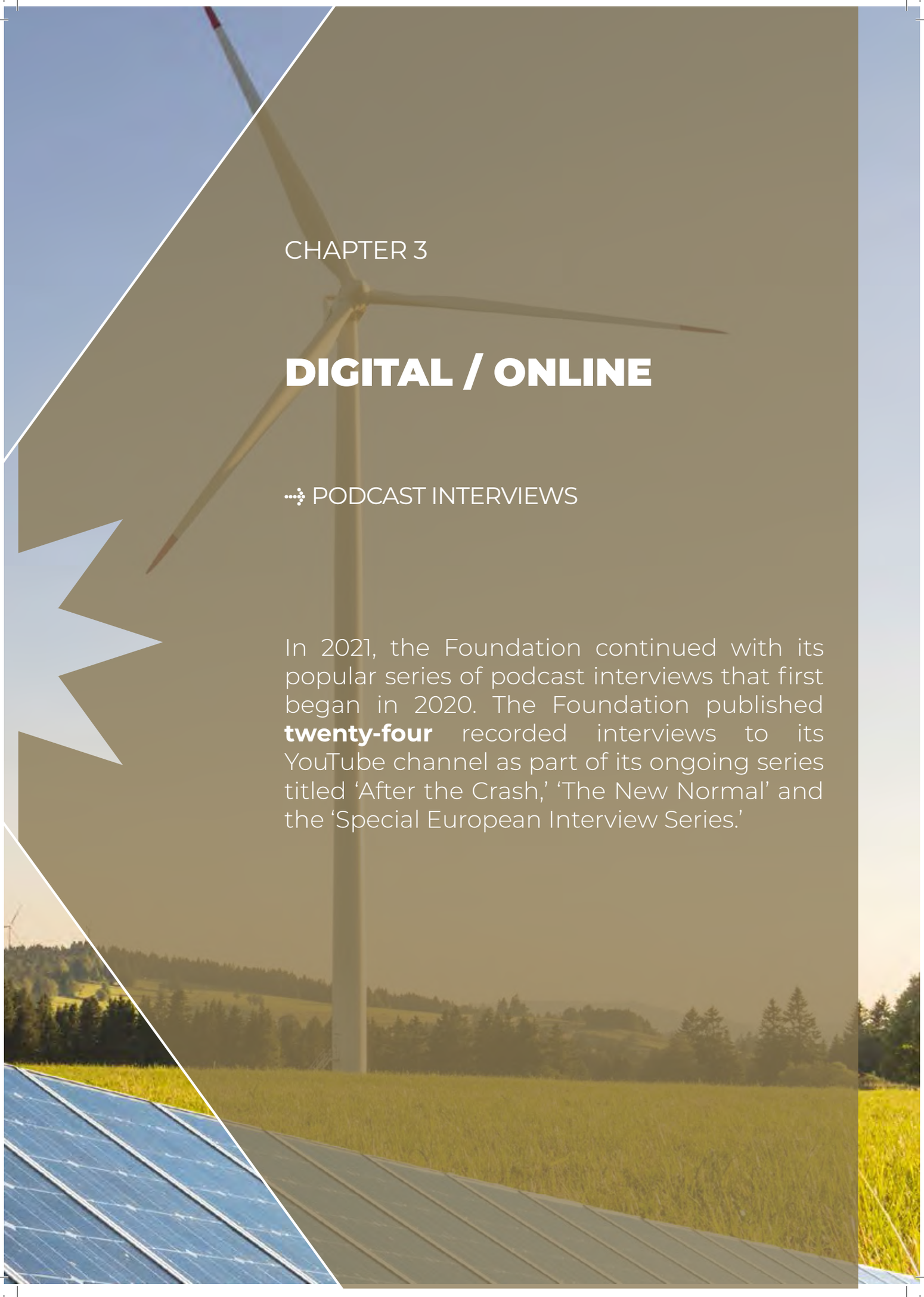


CHAPTER 3

DIGITAL / ONLINE

PODCAST INTERVIEWS

In 2021, the Foundation continued with its popular series of podcast interviews that first began in 2020. The Foundation published **twenty-four** recorded interviews to its YouTube channel as part of its ongoing series titled ‘After the Crash,’ ‘The New Normal’ and the ‘Special European Interview Series.’

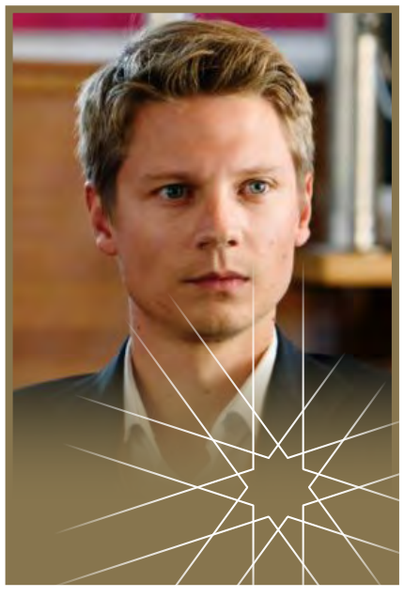
07 FEBRUARY 2021

PODCAST THEME

THE FUTURE ROLE OF CARBON MARKETS

DISCUSSION TOPICS

- How are countries doing in achieving the goals of the Paris Agreement?
- Are you optimistic for progress at COP26?
- Overall view of the carbon markets and risks
- The role carbon markets will have in an increasingly decarbonised global economy



MODERATOR:

Axel Threlfall, Editor at Large, Reuters.

PODCAST GUEST:

Simon Henry, Director of Carbon Markets, IETA

PODCAST LINK:

(556) Al-Attiyah Foundation Podcast: The Future Role of Carbon Markets - YouTube

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01 MARCH 2021

PODCAST THEME

ENVIRONMENTAL PROFESSIONAL BODIES IN ENERGY TRANSITIONS

DISCUSSION TOPICS:

- Mr Harry Sealy shares his thoughts and insights on energy transitions and the role of environmental professional bodies in the switch to renewables.

MODERATOR:

Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST:

Harry Sealy, Founding chairperson, IEMA Middle East and North African.

PODCAST LINK:

Environmental Bodies in Energy Transition With Mr Harry Sealy - YouTube

17 MARCH 2021

PODCAST THEME

CLIMATE CHANGE, AND RENEWABLE ENERGY

DISCUSSION TOPICS:

- Mr Kamel Ben-Naceur provides insight into his work with Nomadia, the IEA, and the Tunisian government, as well as sharing his thoughts and opinions on climate change, and the evolution of the energy industry.

MODERATOR:

Randa Takieddine, Writer and the Director of Al-Hayat Newspaper Office in Paris.

INTERVIEWER GUEST:

Kamel Ben-Naceur, CEO of Nomadia Energy Consulting.

PODCAST LINK:

https://www.youtube.com/watch?v=wVSbT2lPCvM

MARCH 2021

PODCAST THEME

INTERVIEW WITH BÉATRICE BUFFON (Q & A INTERVIEW)

DISCUSSION TOPICS:

- Will electricity in France become more expensive?
- Can solar and wind powered generation compete against nuclear power in France?
- Is it true that most of EDF renewables activity is outside of France?
- Apart from wind and solar power, is EDF looking at other technologies such as hydrogen?

MODERATOR:

Randa Takieddine, Writer and the Director of Al-Hayat Newspaper Office in Paris.

INTERVIEWER GUEST:

Béatrice Buffon, Executive Vice President, EDF Renewables

INTERVIEW LINK:

PowerPoint Presentation (abhafoundation.org)

26 MARCH 2021

PODCAST THEME

METHANE EMISSIONS, ENERGY TRANSITION, & CLIMATE CHANGE

DISCUSSION TOPICS

- The effects of Methane emissions.
- How the Methane emissions can be reduced.
- What role Methane emissions will play in the process of an energy transition, and in combating climate change.

MODERATOR

Eithne Treanor, Founder & CEO of Etreanor Media.

INTERVIEWER GUEST

Bart Wauterickx, CEO & Vice President, The Sniffers.

INTERVIEW LINK

Methane Emissions, Energy Transition, & Climate Change With Mr Bart Wauterickx - YouTube

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27 MARCH 2021

PODCAST THEME

THE CHANGING FUTURE OF ENERGY

DISCUSSION TOPICS:

- Ms Mechthild Wörsdörfer provides her thoughts on energy transition, emissions reduction, climate change, the Paris Agreement, and clean energy technologies such as hydrogen.

MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST

Mechthild Wörsdörfer, Director of Sustainability, Technology and Outlooks, IEA.

INTERVIEW LINK

(837) Al-Attiyah Foundation Podcast: The Changing Future of Energy - YouTube

08 APRIL 2021

PODCAST THEME

HYDROGEN AND CARBON FREE ENERGY

DISCUSSION TOPICS

- Mr Martin O'Neill shares his thoughts and insights on the role of hydrogen and a way forward on carbon-free energy.

MODERATOR

Nawied Jabarkhyl, Correspondent-CGTN Europe.

INTERVIEWER GUEST

Martin O'Neill, Vice President of Product Management, GE Gas Power, Head of GE's Center for Decarbonization.

INTERVIEW LINK

Hydrogen and Carbon Free Energy With Mr Martin O'Neill - YouTube

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05 MAY 2021

PODCAST THEME

NEW FUELS, NEW ENERGY SOURCES (PART 1)

DISCUSSION TOPICS:

- Dr. Marcello Contestabile shares his thoughts and insights on the future global energy mix, and demand for fuel.

MODERATOR

Nawied Jabarkhyl, Correspondent at CGN Europe.

INTERVIEWER GUEST

Dr. Marcello Contestabile, Principal Economist at Qatar Environment Research Institute (QEERI).

INTERVIEW LINK

New Fuels, New Energy Sources (Part I) With Dr. Marcello Contestabile - YouTube

09 MAY 2021

PODCAST THEME

FUTURE ENERGY TRANSITIONS

DISCUSSION TOPICS:

- Dr. Bassam Fattouh talks about international oil pricing systems, peak oil, hydrogen, gas, OPEC pricing power and the dynamics of oil prices and oil price differentials.

MODERATOR

Eithne Treanor, Founder & CEO of Etreanor Media.

INTERVIEWER GUEST

Dr. Bassam Fattouh, Director of The Oxford Institute for Energy

INTERVIEW LINK

Future Energy Transitions With Dr. Bassam Fattouh - YouTube

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25 MAY 2021

PODCAST THEME

NEW FUELS, NEW ENERGY SOURCES (PART II)

DISCUSSION TOPICS:

- What is QEERI and what does it do?
- Insight into Qatar's Poto Voltaic cell research.
- Key opportunities for PV cell technology in the Middle East and challenges faced in the Middle East with reference to climate and energy-rich economies.
- The true future potential for electric vehicles (EVs)

MODERATOR

Nawied Jabarkhyl, Correspondent at CGN Europe.

INTERVIEWER GUEST

Dr. Veronica Bermudez Benito is a Senior Research Director at QEERI (Qatar Environment Research Institute)

INTERVIEW LINK

New Fuels, New Energy Sources (Part II) With Dr. Veronica Bermudez Benito - YouTube

27 MAY 2021

PODCAST THEME

THE CHANGING FUTURE OF ENERGY

DISCUSSION TOPIC:

- Dr. Axel Wietfield provides his insights on the future of hydrogen in the Middle East, the energy transition, and the potential for a hydrogen trading market.

MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST

Dr. Axel Wietfeld, CEO, Uniper Hydrogen and President of Gas Storage Europe (GSE).

INTERVIEW LINK:

The Changing Future of Energy With Dr. Axel Wietfeld - YouTube

15 JUNE 2021

PODCAST THEME

PEAK OIL AND ENERGY TRANSITIONS

DISCUSSION TOPICS:

- Mr Pierre Terzian provides his thoughts on peak oil, peak gas, OPEC, commodity-rich countries, the need for energy-producing countries to diversify, and hydrogen.

MODERATOR

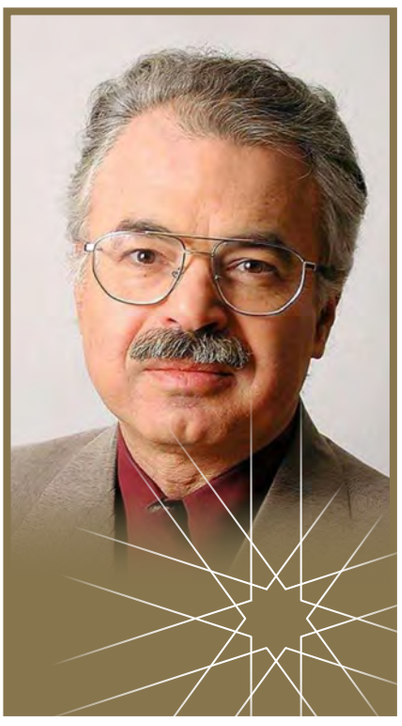
Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST

Pierre Terzian, Chairman and CEO, SA Petrostrategies.

INTERVIEW LINK

Peak Oil & Energy Transitions With Mr Pierre Terzian - YouTube



30 JUNE 2021

PODCAST THEME

NATURAL GAS, HYDROGEN & NET ZERO

DISCUSSION TOPICS:

- Mr Martin Lambert shares his insight into his work on the Gas Research Program at the OIES, hydrogen and a hydrogen-based economy, methane emissions, CCUS, and Carbon Taxes.

MODERATOR

Nawied Jabarkhyl, Correspondent at CGN Europe.

INTERVIEWER GUEST

Martin Lambert, Senior Research Fellow, Oxford Institute for Energy Studies (OIES).

INTERVIEW LINK

European Interview Series: Mr Martin Lambert - YouTube

05 JULY 2021

PODCAST THEME

TOWARDS NET-ZERO

DISCUSSION TOPICS:

- What role does Kaluza play in the global transition to sustainable energy?
- How does your partnership with major energy suppliers benefit the end-user?
- What is “intelligent grid technology”, and how does it work?
- How will EVs contribute to the global net-zero effort?

SESSION MODERATOR

Eithne Treanor, Founder & CEO, ETreanor Media.

SESSION SPEAKER

Marzia Zafar, Director of Sustainability & Policy, Kaluza.

WEBINAR LINK:

Towards Net-Zero With Ms Marzia Zafar - YouTube

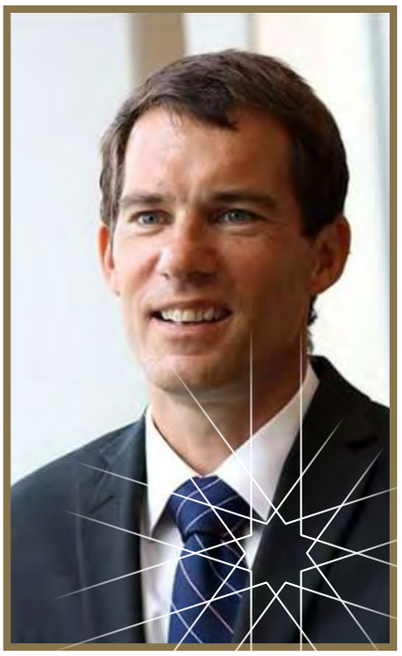
12 JULY 2021

PODCAST THEME

FORCED CHANGES IN THE ENERGY INDUSTRY

DISCUSSION TOPICS:

- Are European IOCs embracing change more readily than those in the US?
- What has caused investors to become more proactive on climate change?
- Are independent oil and gas producers likely to realign their businesses?
- Can US shale oil and gas producers carry on if their sources of finance dry up?



MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST

Tom Ellacott, SVP Corporate Analysis, Wood Mackenzie

INTERVIEW LINK

Forced Changes In The Energy Industry With Mr Tom Ellacott - YouTube

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03 AUGUST 2021

PODCAST THEME

THE METHANE CONUNDRUM

DISCUSSION TOPICS:

- Perspective into the enormity of the challenge of methane emissions.
- What are the main sources of methane emissions, and what is being done?
- What are the major issues relating to methane abatement?
- The UNFCCC panel and monitoring methodologies for mitigating methane emissions.

MODERATOR

Nawied Jabarkhyl, Correspondent at CGN Europe.

INTERVIEWER GUEST

Braulio Pikman, Technical Director, ERM.

INTERVIEW LINK

The Methane Conundrum With Mr Braulio Pikman - YouTube

11 AUGUST 2021

PODCAST THEME

GAS, CCUS, NET-ZERO & HYDROGEN

DISCUSSION TOPICS:

- Is Arctic LNG a major competitor for LNG in Europe?
- What are your thoughts on Russia's second pipeline to China?
- Are the major gas producers doing enough to reduce methane emissions?
- Is CCUS realistic and scalable?

MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST

Dr. James Henderson, Director of the Natural Gas Programme at the Oxford Institute for Energy Studies (OIES)

INTERVIEW LINK

Gas, CCUS, Net-zero, & Hydrogen With Dr. James Henderson - YouTube

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16 SEPTEMBER 2021

PODCAST THEME

SDG7 – AFFORDABLE & CLEAN ENERGY

DISCUSSION TOPICS:

- Insights into the UN High-Level Dialogue on Energy.
- Low carbon emissions energy & SDG7.
- SDG7s role in achieving Net-zero Emissions by 2050.
- The realistic affordability of low emission solutions.

MODERATOR

Axel Threlfall, Editor at Large, Reuters.

INTERVIEWER GUEST

Mr Hongpeng Liu is the Director, Energy Division, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

INTERVIEW LINK

Affordable & Clean Energy With Mr Hongpeng Liu - YouTube

06 OCTOBER 2021

PODCAST THEME

CLEAN ENERGY & NEW FUELS IN THE GULF

DISCUSSION TOPICS:

- What renewable options exist, other than solar energy in the Gulf?
- Can hydrogen become a viable fuel in the Middle East?
- What are the key challenges in the transportation of Hydrogen?
- Can nuclear power be a viable long term global energy solution?

MODERATOR

Eithne Treanor, Managing Director, ETreanor Media.

PODCAST GUEST

Jeffrey Beyer, Managing Director, Zest Associates.

PODCAST LINK

Clean Energy & New Fuels in the Gulf With Jeffrey Beyer - YouTube

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06 OCTOBER 2021

PODCAST THEME

ENERGY & CLIMATE CHANGE IN THE MIDDLE EAST

DISCUSSION TOPICS:

- Will consumption of fossil fuels diminish?
- Can the Middle East continue to grow amidst lower oil demand?
- What measures are needed in the Middle East to combat climate change?
- Are alternative fuels viable for Middle Eastern countries?

MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

INTERVIEWER GUEST

Ali Al-Saffar, Middle East and North Africa Program Manager at the International Energy Agency (IEA).

INTERVIEW LINK

Energy & Climate Change in the Middle East With Ali Al-Saffar - YouTube

07 OCTOBER 2021

PODCAST THEME

LNG – A TIME OF CHANGE IN THE USA

DISCUSSION TOPICS:

- What are the origins of Cheniere Energy?
- What are the latest develops with Tellurian?
- What is the importance of attracting the right people for key roles?
- What is the current status of the Driftwood project?

MODERATOR

Nawied Jabarkhyl, Correspondent at CGN Europe.

INTERVIEWER GUEST

Charif Souki, CEO of Tellurian & Founder of Cheniere Energy.

INTERVIEW LINK:

LNG - A Time of Change in the USA - With Mr Charif Souki - YouTube

03 NOVEMBER 2021

PODCAST THEME

ENERGY TRANSITIONS IN THE MENA REGION

DISCUSSION TOPICS:

- How can the MENA region reduce its carbon emissions?
- What financial impact will carbon reductions have in hydrocarbon economies?
- What effect will carbon taxes have on fuel exports from MENA?
- Is a clean energy and intra-regional electrical network possible within the region?

MODERATOR

Eithne Treanor, Managing Director, ETreanor Media.

PODCAST GUEST

Dr. Mostefa Ouk, Snr. Researcher Fellow, Oxford Institute for Energy Studies.

PODCAST LINK

Energy Transitions in the MENA Region With Dr. Mostefa Ouki - YouTube

03 NOVEMBER 2021

PODCAST THEME

KNOWLEDGE SHARING BETWEEN OIL & GAS PRODUCERS

DISCUSSION TOPICS:

- Challenges inherent in knowledge sharing between oil and gas producers?
- Is there parochialism within the industry?
- What kinds of knowledge are exchanged between producers?
- Why aren't members of the New Producers Group members of OPEC or GECF?

MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

PODCAST GUEST

Dr. Valérie Marcel, Associate Fellow at Chatham House.

PODCAST LINK

Knowledge Sharing Between Oil & Gas Producers With Dr. Valerie Marcel - YouTube

15 DECEMBER 2021

PODCAST THEME

THE CHANGING FUTURE OF EUROPEAN ENERGY

DISCUSSION TOPICS:

- Why are IOC's changing their names?
- Will all energy companies be forced into wind and solar power?
- What does the future hold for nuclear energy in France?
- Thoughts on EU energy policies

MODERATOR

Stephen Cole, Host & Executive Producer, The Agenda.

PODCAST GUEST

Arnaud Breuillac, Former President of Exploration & Production at TotalEnergies

PODCAST LINK

The Changing Future of European Energy with Arnaud Breuillac - YouTube

15 DECEMBER 2021

PODCAST THEME

INSIGHTS AND ANALYSIS ON HYDROGEN AND NATURAL GAS

DISCUSSION TOPICS:

- Thoughts and insights into COP26
- Why have gas prices seen such volatility?
- Will gas prices rise again as the Northern Hemisphere winter approaches?
- Why have main consumer markets not increased storage capabilities?

MODERATOR

Nawied Jabarkhyl, Correspondent at CGN Europe.

INTERVIEWER GUEST

Anne-Sophie Corbeau, Global Research Scholar, Columbia University SIPA.

INTERVIEW LINK

Insights and Analysis on Hydrogen and Natural Gas with Anne-Sophie Corbeau - YouTube

04

CHAPTER 4

EVENTS

EVENTS

OVERVIEW

The Foundation held its bi-annual Board of Trustees meetings to keep board members up to date the latest developments within the organisation and for approvals on key initiatives, as well as regular Technical Sub-Committee meetings, led by a Member of the Board of Trustees, Mr. Hamad Rashid Al Mohannadi.

The Foundation participated in a webinar hosted by ICC Qatar and Refinitiv. “Resilient & Resurgent: Qatar Oil & Gas Overview” was held virtually on March 29, 2021.

The Foundation participated in a webinar titled “How Will LNG Drive a Sustainable Energy World” on 30 August 2021 organised by US-Qatar Business Council. The session featured by H.E. Al-Attiyah, Marianne Kah from Columbia SIPA, and Dominic Genetti from ExxonMobil Qatar.

Qatar Foundation and the Foundation held the Qatar Climate Change Conference on 13 September 2021 at Education City. The Foundation participated as Strategic Partner of the conference which had the aim of bringing people and organisations together to discuss how to pursue local sustainability goals.

His Excellency Abdullah bin Hamad Al-Attiyah delivered a keynote speech that highlighted the timeliness of the conference. “This event is happening at a time when nations and major stakeholders are preparing for the upcoming United Nations climate change conference COP26 in Glasgow,” he said.

The Foundation participated in the MENA Environmental Law Conference hosted by HBKU and UNEP. The Foundation’s Director of Sustainable Development, spoke on the ‘Context and Current Status of Environmental Law Education’ at the conference held during 1-5 November 2021.

The Foundation participated in the 2nd International Conference on Sustainable Energy Water Environment Nexus (ICSEWEN21) hosted by QEERI held on 22-25 November 2021. The 4-day conference, which saw over 300 delegates attend, has become a pivotal activity in the global conversation on the sustainable energy water and environment nexus. The Foundation’s Director of Energy participated as a panelist in a panel session.

In addition to those mentioned above, the Foundation hosted five Virtual Energy Webinars and, once again, hosted its flagship CEO Roundtable series in a new hybrid format.

More information is provided below:

23 FEBRUARY 2021

WEBINAR THEME

EMBRACING CHANGE IN THE ENERGY INDUSTRY

SESSION OVERVIEW

In 2020, global electricity demand fell by 5%, the largest drop since the 1930 global economic crisis, according to the IEA. Furthermore, all fuels saw a decline, except for renewable energy, which grew by 1% last year.

Oil demand had seen some recovery in 2020, but the rebound slowed considerably in November, and slipped in December as renewed lockdowns and rising infection rates, due to the global pandemic, hit consumption.

As the world enters into a new year, and as governments look to rebuild their respective economies, this webinar will provide new insights into recent developments and major forces that will shape the global energy market in 2021 and beyond.

DISCUSSION TOPICS:

- The required new policies to achieve a structural decline in emissions
- New insights into the biggest recent developments and the major forces that will shape the global energy market in 2021 and beyond.

SESSION MODERATOR

Axel Threlfall, Editor at Large, Reuters.

SESSION SPEAKERS:

- Professor Michael Grubb, Professor of Energy and Climate Change.
- University College London.
- Professor Paul Stevens, Distinguished Fellow, The Royal Institute of International Affairs Chatham House.
- Mr. Robin Mills, Founder, Qamar Energy.

WEBINAR LINK:

Webinar: Embracing Change - The Future of the Energy Industry - YouTube

06 APRIL 2021

WEBINAR THEME

PREPARING TODAY'S YOUTH FOR TOMORROW'S ENERGY INDUSTRY

SESSION OVERVIEW:

The energy industry is quickly changing for the better as companies decarbonise their operations and embed climate based ESG principles into their business models. Many oil and gas companies are diversifying their portfolios by expanding into greener energy and developing compelling narratives about their role in the transition to a new global energy system.

At the same time, the sector is increasingly investing in the training and development of young people, creating education pathways and career-awareness initiatives in high schools and universities.

Additionally, there are huge global movements led by organizations that are fostering the next generation of energy industry employees at a high-school level, long before they are trained in a university or employed by a company.

DISCUSSION TOPICS:

- Perspectives of preparing today's youth for tomorrow's energy industry
- The rapid better changes in energy industry as companies decarbonise their operations and embed climate based ESG principles into their business models.

SESSION MODERATOR:

Dmitry Zhdannikov, Energy Editor, EMEA, Reuters.

SESSION SPEAKERS:

- Jagir Baxi, VP & Executive Director of Joint Ventures, ExxonMobil Qatar.
- Dr. Mounir Hamdi, Founding Dean of the College of Science and Engineering, Hamad Bin Khalifa University (HBKU).
- Meredith Adler, Executive Director, Student Energy.

WEBINAR LINK:

Energy Webinar Series - Preparing Today's Youth for Tomorrow's Energy Industry

01 JUNE 2021

WEBINAR THEME

ACHIEVING NET ZERO WITH HYDROGEN

DISCUSSION TOPICS:

With the current situation and international agreements and targets in place, we are in an urgent need for the development and deployment of a truly “clean” fuel, such as hydrogen. Hydrogen could be utilised at a high temperature, producing heat and resulting in no greenhouse gases (GHG) emissions. This makes hydrogen an ideal fuel for use in hard-to-abate sectors, such as the manufacturing of steel, aluminum, and cement.

This webinar will delve into the exciting potential future of hydrogen, the challenges faced in the production, transportation, and utilisation of the fuel, as well as a growing number of significant hydrogen projects currently under development around the world.

DISCUSSION TOPICS:

- The potential future of hydrogen, the challenges faced in the production, transportation, and utilization.

SESSION MODERATOR:

Stephen Cole, Host & Executive Producer, The Agenda.

SESSION SPEAKERS:

- Martin O’Neill, Vice President of Product Management, GE Gas Power, Head of GE’s Center for Decarbonization.
- Frank Woutter, Director, EU GCC Clean Energy Technology Network.
- Jeffrey McDonald, Hydrogen Pricing and Content Specialist, S & P Global Platts.

WEBINAR LINK:

Achieving Net Zero With Hydrogen - YouTube

03 AUGUST 2021

WEBINAR THEME

CAN COP26 LIVE UP TO THE WORLD'S EXPECTATIONS?

SESSION OVERVIEW:

The world's watchful gaze will be fixed on Glasgow at the beginning of November 2021, as global leaders and important industry figures convene for the 26th UN Climate Change Conference of the Parties (COP26). Expectations are running high, with hopes that the two-week climate conference will call on all nations to end the use of polluting vehicles, decarbonise the energy system, abandon coal power, and stop deforestation – all in the pursuit of limiting global warming to 1.5 degrees Celsius.

As we count down to COP26, what can the global energy industry expect from this summit? Are we going to see clear targets for the decarbonisation of the energy sector? What new policies and commitments can the energy industry expect from COP26, that will accelerate the transition to renewables?

DISCUSSION TOPICS:

- The realistic outcomes of COP26 and the potential impacts for the energy industry.

SESSION MODERATOR:

Axel Threlfall, Editor at Large, Reuters.

SESSION SPEAKERS:

- Lisa Jacobson, President, Business Council for Sustainable Energy.
- Simon Henry, Director of Carbon Market Development, International Emissions Trading Association.
- Robin Rix, Chief Policy & Markets Officer, Verra.
- Andrew Wilson, Permanent Observer, International Chamber of Commerce (ICC).

WEBINAR LINK:

Can COP26 Live Up to the World's Expectations? - YouTube

02 DECEMBER 2021

WEBINAR THEME

2022 GLOBAL ENERGY LANDSCAPE: WILL THE CRISES CONTINUE?

SESSION OVERVIEW

The global energy crisis that the planet is currently facing has shown how dependent the world is on fossil fuels. Oil and natural gas prices recently soared to the highest levels in years, pushing up electricity bills as widespread energy shortages hit Asia and Europe. The crisis raises questions about whether the world is ready for the green energy revolution when it is currently struggling to power itself. On the other hand, the crisis shows the need to move further away from coal, gas, and oil as prices for those commodities spike.

That said, renewables are not expanding quickly enough to satisfy the rebound in global electricity demand, which is set to grow by 4% in 2022, according to the International Energy Agency (IEA).

DISCUSSION TOPICS

- The possible pathways for energy in 2022 and how the world can accelerate the shift to a sustainable trajectory in light of IEA's alarming predictions.

SESSION MODERATOR

Axel Threlfall, Editor at Large, Reuters.

SESSION SPEAKERS

- Murray Douglas, Head, EMEARC Markets & Transitions, Wood Mackenzie
- Robin Mills, Founder, Qamar Energy
- Valérie Marcel, Associate Fellow, Chatham House

WEBINAR LINK:

2022 Global Energy Landscape: Will the Crises Continue? - YouTube

08 SEPTEMBER 2021

CEO ROUNDTABLE 1

THE RACE TO NET ZERO

SUMMARY OUTCOMES

- The race towards carbon neutrality by mid-century has gathered momentum in the past few years. Net-zero carbon aspirations are now increasingly common for countries, sub-national regions and companies, with about 70% of the global economy now covered by firm or indicative net-zero targets.
- Despite the excitement, widescale change to the entire economy is required if the goals of the 2015 Paris Agreement are to be met and the temperature rise kept "well below" 2°C above pre-industrial levels by the end of the century (2100).
- Attendees were generally optimistic, citing the progress already made in curbing emissions, the expectations from the upcoming COP26 conference in Glasgow, and several exciting technological breakthroughs that could spur positive developments in the fight against irreversible impacts of human-induced climate change.

INTERNATIONAL GUEST SPEAKERS

- Mr David Hone – Chief Climate Change Advisor at Shell International
- Mr Dirk Forrester – President and CEO of the International Emission Trading Association (IETA)
- Mr Tim Gould – Chief Energy Advisor at the International Energy Association (IEA)
- Ms Kay Harrison – Climate Change Ambassador at the Ministry of Foreign Affairs in New Zealand.

QUOTE FROM H.E. AL-ATTIYAH

"It gave me great pleasure to host the Al-Attiyah Foundation Roundtable once again. The guest speakers offered their valuable insights at critical point in time, just two months before global leaders and major stakeholders gather for the UN Climate Change Conference in Glasgow."

01 DECEMBER 2021

CEO ROUNDTABLE 2

2022 GLOBAL ENERGY LANDSCAPE: WILL THE CRISIS CONTINUE?

SUMMARY OUTCOMES

- Renewables' capacity, although increasing, will only meet half the expected 4% increase in global electricity consumption in 2022, according to the International Energy Agency (IEA), with the rest provided by hydrocarbons. Consequently, carbon emissions from burning coal and gas – which declined in 2019 and 2020 – are likely to increase by 3.5 percent in 2021 and by 2.5 percent in 2022, the IEA forecasts.
- Such estimates cast doubt on whether the world is ready to transition away from fossil fuels, especially when electricity shortages are raising prices and some consumers are still struggling with reduced incomes due to the pandemic.
- A greater reliance on intermittent renewable energy sources such as wind and solar will require better options to store excess electricity for use during fallow periods. Currently, batteries can only store energy for a matter of hours and so are inadequate for long-term energy storage.

INTERNATIONAL GUEST SPEAKERS

- Professor Paul Stevens, Fellow at Chatham House
- Mr Alan Gelder, VP Refining at WoodMackenzie
- Mr Jim Herbertson, Technical Director IPIECA.
- Mr John Kemp, Senior Market Analyst at Thompson Reuters.

QUOTE FROM H.E. AL-ATTIYAH

"It gave me great pleasure to host the fourth and final Al Attiyah Foundation Roundtable of this year. To be able to meet our members and guests face-to-face underlines the excellent progress the State of Qatar has made in the pushback against the coronavirus. The fact that industry leaders and expert guest speakers were able to share ideas and opinions on the most pertinent issues facing our sector, underlines the importance and uniqueness of the Foundation's CEO Roundtable."

QATAR CLIMATE CHANGE CONFERENCE WITH QATAR FOUNDATION

QATAR CLIMATE CHANGE CONFERENCE 13TH OF SEPTEMBER 2021

The Foundation was a strategic partner with the Qatar Foundation for the Qatar Climate Change Conference held in Education City during September. Many of the Foundation's members were present and participated in high-level conversations with other influential people based in Qatar and abroad. The Al-Attiyah Foundation contributed to the content, sourcing of international expert speakers, and providing professional international moderators for the various sessions of the conference.

FELLOWS

The Foundation was delighted to announce that it had elected three new Honorary Fellows for their outstanding contribution to the energy and sustainable development industries in 2021.

DR. IVÁN MARTÉN

Senior Partner Emeritus of Boston Consulting Group

Dr. Iván Martén is a Senior Partner Emeritus of Boston Consulting Group (BCG) and Non-Executive Director and Board Member of several foundations, companies, and educational institutions.

He is a frequent speaker on energy and geopolitical issues, has authored a book on strategic planning and many articles on energy issues, and regularly contributes to the Wall Street Journal. In 2013, he was named one of the “Top 25” most influential consultants of the year by Consulting Magazine.

DR. BASSAM FATTOUH

Director of the Oxford Institute for Energy Studies and professor at the School of Oriental and African Studies, University of London

Dr. Bassam Fattouh is the director of the Oxford Institute for Energy Studies and professor at the School of Oriental and African Studies, University of London.

He served as a member of an independent expert group established to provide recommendations to the 12th International Energy Forum (IEF) Ministerial Meeting held in Cancun during March 2010. He is the recipient of the 2018 OPEC Award for Research. He also acts as an adviser to governments and industry and is a regular speaker at international conferences.

DR. JAMES HENDERSON

Director of Energy Transition Research at the Oxford Institute for Energy Studies

Dr. James Henderson is Director of Energy Transition Research at the Oxford Institute for Energy Studies (OIES). He joined the OIES in 2010 as Director of Natural Gas Programme and also served as a Senior Research Fellow, exploring the Russian oil and gas industries and their place in the global energy economy.

With the OIES he has written numerous books, book chapters, academic papers and other research on the energy sector including “The Russian Gas Matrix: How Markets are Driving Change.”

LOOKING AHEAD

The Foundation was established to deliver independent insight and analysis to decision-makers in academia, government, and industry. The Foundation also organises open discussions and dialogue platforms that provide critically important information on issues affecting the energy industry and the global economy.

In 2022, the Foundation will continue to pursue the following strategic objectives:

1. Position The Foundation as a leading entity both internationally and in Qatar at the forefront of driving national, regional, and global action in the areas of energy and sustainable development.
2. Provide a unique and high-level "platform for co-operation and networking" among industry leaders, and between the private sector and the relevant government institutions.
3. Drive transformational programmes and initiatives that have lasting socio-economic and sustainable development impacts in Qatar, the region, and beyond.
4. Promote a strong partnership approach, ensuring that The Foundation's resources are used wisely with organisations that have similar visions, goals, focus, and programmes.
5. Be the leading organisation that governments, private companies, and other non-governmental organisations turn to for advice on matters relating to energy, sustainable development, and climate change.
6. Be among the world's leading organisations in promoting the transformation of the energy sector.
7. Contribute to the development of skills of future leaders in the energy and sustainability sectors, through partnership and collaboration with academic institutions in Qatar and internationally.
8. Facilitate interactions that would enrich Board members' engagement and dialogue on trending energy and sustainable development topics.
9. Adopt a strategic approach for reducing the carbon footprint of the organisation, including a less paper initiative and alignment with the approach of the UNFCCC Climate Neutral Now Initiative.

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AlAttiyahFndn
The Al-Attiyah Foundation

The Abdullah Bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development is a non-profit organisation established to preserve and build upon H.E. Al-Attiyah's 40 years of service in the energy industry.