ANNUAL REPORT 2019

Abdullah Bin Hamad Al-Attiyah
International Foundation for Energy
& Sustainable Development
(A Non-Profit Organisation)

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About the Foundation

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.

MESSAGE FROM THE CHAIRMAN

H.E. ABDULLAH BIN HAMAD AL-ATTIYAH

Chairman

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

Former Deputy Prime Minister and Minister of Energy & Industry

> **With a small team of dedicated and highly talented staff, the Foundation has established strong partnerships with member companies, other think thanks, academic institutions, and like-minded organisations.**

It is my pleasure to present the Foundation's 2019 Annual Report, which we again publish as a demonstration of our commitment to transparency, accountability and principles governing corporate social responsibility. Thank you for taking a moment to read it. We welcome and value your feedback on how to continue to improve the delivery of our mission.

One of the major challenges the world is still facing today, remains the development, supply and utilisation of energy in a sustainable manner. When combined with the rapidly changing business environment; characterised by constantly shifting geo-political imperatives, increasing climate change concerns and environmental pollution; the complexity of the challenge to deliver sustainable energy, is magnified.

In 2019, the Foundation continued its work at the very centre of this challenge and across the broadest base of issues relating to energy and sustainable development. With a small team of dedicated and highly talented staff, the Foundation has established strong partnerships with member companies, other think thanks, academic institutions, and like-minded organisations. The team at the Al-Attiyah Foundation is privileged to be contributing to efforts to ensure a sustainable energy future for mankind.

This Annual Report presents the highlights of the outputs from the programme of activities of the Foundation in 2019. It was another eventful year of working with captains of industry, policy makers, academia, and reserch organisations, harnessing our collective experience to improve the regulatory environment, facilitate sustainable development and to address the growing challenge of climate change.

I am happy to witness the growth of the Foundation from a humble beginning into a highly respected international hub for thought leadership. The Al-Attiyah Foundation has indeed become a cherished asset that is internationally recognized as a leading organisation providing insights and advice on matters relating to energy and sustainable development.

FOUNDATION BOARD OF TRUSTEES

The Board of Trustees comprises of the following individuals who bring their vast collective local, regional and international leadership experience to guide and set strategic direction for the work of the Foundation.

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* Former Economic Advisor at Amiri Diwan
3. H.E. Saad Sherida Al-Kaabi	*Member* Minister of State for Energy Affairs, Vice Chairman, President and CEO of Qatar Petroleum
4. H.E. Ali Al-Naimi	*Member* Former Minister of Petroleum & Minerals, Saudi Arabia
5. H.E. Abdulaziz Bin Ahmed Al-Malki	*Member* Qatar Ambassador to Italy
6. H.E. Nasser Al Jaidah	*Member* Qatar Petroleum (QP) Board Member and former CEO of QP International
7. Mr. Hamad Rashid Al-Mohannadi	*Member* Former CEO of RasGas Company Limited
8. Mr. Fahad Bin Hamad Al-Mohannadi	*Member* General Manager & Managing Director of QEWC Chairman of Nebras Power QPSC
9. Mr. Reda Ibrahim Ali	Managing Director of the Foundation

OUR MEMBERS AND SUPPORTING PARTNERS

Qatar Petroleum (QP) is a state-owned public corporation established by Emiri Decree No. 10 in 1974. It is responsible for all phases of the oil and gas industry in the State of Qatar. The principal activities of QP, its subsidiaries and joint ventures are the exploration, production, local and international sale of crude oil, natural gas and gas liquids, refined products, synthetic fuels, petrochemicals, fuel additives, fertilizers, liquefied natural gas (LNG), steel and aluminium. QP's strategy of conducting hydrocarbon exploration and development is through Exploration and Production Sharing Agreements (EPSA) and Development and Production Sharing Agreements (DPSA) concluded with major international oil and gas companies. Thriving on a spirit of enterprise, each of our joint ventures is underpinned by transparency, innovation and high standards of quality and service. At Qatar Petroleum, we are committed to one thing above all: Excellence. *www.qp.com.qa*

Qatargas is a unique global energy operator in terms of size, service and reliability. The Company operates 14 Liquefied Natural Gas (LNG) trains with a total annual production capacity of 77 million tonnes. This makes Qatargas the largest LNG producer in the world. Established in 1984, Qatargas develops, produces, and markets hydrocarbons from the world's largest non-associated natural gas field. In addition to producing LNG, Qatargas is also a leading exporter of natural gas, helium, condensate and associated products. Today, Qatargas continues to set the benchmark in the LNG industry as it safely and reliably supplies energy to customers all over the world. *www.qatargas.com*

Qatar Fuel Q.P.S.C ("WOQOD") was formed in 2002 by an Emiri Decree with an aim to provide downstream, refined fuel storage, distribution and marketing services in the State of Qatar. Woqod was incorporated as a Joint Stock Company on 2nd July, 2002. Subsequently, Woqod came out with its Initial Public Offering in 2003 and became Qatari Public Shareholding Company. Woqod is listed on Qatar Exchange and its shares are publicly traded. WOQOD is exclusively responsible for the distribution of fuel needs within Qatar. This includes diesel, gasoline and aviation fuel. The company also trades in bunker fuels, ship-to- ship bunkering within Qatari waters, bitumen importation and distribution, LPG, and own-branded-lubricants. In addition, it builds modern branded service stations across Qatar. *www.woqod.com*

QNB Group was established in 1964 as the country's first Qatari-owned commercial bank, with an ownership structure split between the Qatar Investment Authority (50%) and the remaining (50%) held by members of the public. For the year ended 31 December 2019, Net Profit topped QAR14.4 billion (USD3.9 billion), an increase of 4% compared to same period last year. Total Assets reached QAR945 billion (USD259 billion), an increase by 10% from 30 December 2018, one of the best set of results in QNB Group's history. QNB Group's presence through its subsidiaries and associate companies extends to more than 31 countries across three continents providing a comprehensive range of advanced products and services. The total number of employees is more than 29,000 serving 25 million customers operating through 1,100 locations, with an ATM network of 4,300 machines. *www.qnb.com*

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. In terms of profitability and market capitalization, QIC is also the largest insurance company in the MENA region. It is listed on the Qatar Exchange and has a market capitalization of over USD 4 billion. *www.qatarinsurance.com*

Qatar Electricity and Water Company (QEWC), a Qatari public shareholding company, is one of the first private sector companies in the region that operates in the field of electricity generation and water desalination. Established in 1990 in accordance with the provisions of the Qatari Commercial Companies Law, its purpose was to own, manage, and sell the products of electricity generation and water desalination plants. QEWC is the second largest company in the field of power generation and water desalination in the Middle East and North Africa (MENA) region. It is the main supplier for electricity and desalinated water in Qatar with a market share of 62% of electricity and 79% of water. The company generates electricity of 5.432 Megawatt and produces 258 million gallons of water per day. *www.qewc.com*

The Dolphin Gas Project is a unique energy initiative delivering supplies of natural gas from Qatar to customers throughout the UAE and Oman. It is the only international gas network in the region. Dolphin Energy has been delivering 2 billion standard cubic feet of natural gas every single day, safely and reliably, to provide a source of clean, new energy for the Southern Gulf. It has maintained its production commitments every single year since operations began. Dolphin Energy's gas production in Qatar and subsequent transmission to the UAE and Oman demonstrates how the national and international stakeholders in Dolphin Energy have been able to assemble the skills, technologies and multidisciplinary implementation teams essential to the success of the Project.
www.dolphinenergy.com

Qatar Airways, the national carrier of the State of Qatar, is celebrating more than 20 years of Going Places Together with travellers across its more than 160 business and leisure destinations on board a modern fleet of more than 250 aircrafts. The world's fastest-growing airline will add a number of exciting new destinations to its growing network in 2020, including Osaka, Japan; Santorini, Greece; Dubrovnik, Croatia; Almaty and Nur-Sultan, Kazakhstan; Accra, Ghana; Cebu, Philippines; Lyon, France; Trabzon, Turkey; Siem Reap, Cambodia and Luanda, Angola. A multiple award-winning airline, Qatar Airways was named 'World's Best Airline' by the 2019 World Airline Awards, managed by international air transport rating organisation Skytrax. It was also named 'Best Airline in the Middle East', 'World's Best Business Class' and 'Best Business Class Seat', in recognition of its ground-breaking Business Class experience, Qsuite. Qatar Airways is the only airline to have been awarded the coveted "Skytrax Airline of the Year" title, which is recognised as the pinnacle of excellence in the airline industry, five times. *www.qatarairways.com*

Qatar Petrochemical Company (QAPCO) Q.P.J.S.C. is one of the world's largest and most successful producers of low-density polyethylene (LDPE) - a basic plastic polymer that is derived from oil and natural gas. QAPCO's main facilities consist of an Ethylene plant (cracker) with a production capacity of 840 kilo tonnes per annum (ktpa), three LDPE plants with a total combined production capacity of over 780 ktpa and a Sulfur plant with a production capacity of 70 ktpa. The shareholders are Industries Qatar (80%) and Total (20%). *www.qapco.com*

Founded in 1969 as a joint venture between the Government of Qatar and a number of foreign shareholders, QAFCO has evolved steadily over the past five decades as a world-class fertilizer producer. The country's first large-scale venture in the petrochemical sector, QAFCO was established to diversify the economy and utilize the nation's enormous gas reserve. QAFCO is currently owned 75% by Industries Qatar (IQ) and 25% by Yara Netherland. With 6 world-class plants producing a sizable annual capacity of 3.8 million MT of ammonia and 5.6 million MT of urea, QAFCO stands proudly as the world's largest single-site exporter of urea with up to 14% share of the world supply. QAFCO is strongly committed to operating its assets safely, efficiently and in an environmentally responsible manner to produce high quality Ammonia and Urea. Continuing with its commitment to excellence, QAFCO aims to be the largest producer of urea in the world by 2030, driving towards a greener earth. *www.qafco.qa*

The State of Qatar has been on a remarkable journey of economic development and growth. Shell is immensely proud to have been invited to be a partner in this exciting journey. Since 2006, Shell has invested over $20 billion in Qatar to build a highly material business. As the largest foreign investor in the country, and working closely with Qatar Petroleum, Shell is committed to deliver long term value for Qatar and Shell for decades to come. Today, the scope of Shell's partnership with Qatar Petroleum covers key elements of the oil and gas business. *www.shell.com.qa*

Marubeni Corporation and its consolidated subsidiaries use their broad business networks, both within Japan and overseas, to conduct importing and exporting, as well as domestic business, encompassing a diverse range of business activities across wide-ranging fields including lifestyle, ICT & real estate business, forest products, food, agri business, chemicals, power business, energy, metals & mineral resources, plant, aerospace & ship, finance & leasing business, construction, auto & industrial machinery, and next generation business development. Marubeni participates in global LNG projects in Qatar, Equatorial Guinea, Peru, and Papua New Guinea. Marubeni will continue to work on the smooth operation of existing LNG projects, while also focusing on the pursuit of investment opportunities and expanding trading operations to respond to the increasing global demand for LNG and strengthening its comprehensive approach from sourcing to delivery. *www.marubeni.com*

ConocoPhillips is one of the world's largest independent exploration and production companies, based on proved reserves and production of liquids and natural gas. Since becoming an independent exploration and production (E&P) company in May 2012, ConocoPhillips has focused solely on the core business of finding and producing oil and gas globally. ConocoPhillips endeavour to fully demonstrate its assets, capabilities and resources and strive to make a real difference in the communities where it operates in. This applies to financial and operational performance and also to the way ConocoPhillips does business. ConocoPhillips has a time-honoured tradition of placing safety, health and environmental stewardship at the top of its operating priorities. ConocoPhillips' technical capability, asset quality and scale, and financial strength are unmatched among independent E&P companies and uniquely position the company to compete anywhere in the world. ConocoPhillips production includes light oil, oil sands, natural gas liquids, conventional natural gas, coal seam gas, tight oil and gas, and liquefied natural gas. The partnership with Qatar Petroleum is a shining example of how the State of Qatar and ConocoPhillips are working safely and responsibly to provide the world with the energy it needs. *www.conocophillips.qa*

Established in 2017, North Oil Company (NOC) is a pioneering new Qatari offshore oil operator that unites the expertise of Qatar Petroleum 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. Bringing the strengths and vast experience of QP and Total together enables NOC to solve the challenges of operating one of the world's most complex offshore fields. NOC looks forward to harnessing innovative technology and ensuring the highest safety standards to source energy that will serve the world. *www.noc.qa*

Qatar Chemical Company Ltd. (Q-Chem) is a Qatari company owned by Mesaieed Petrochemical Holding Company Q.S.C. (MPHC) 49 percent, Chevron Phillips Chemical International Qatar Holdings LLC (Chevron Phillips Chemical Qatar) 49 percent, and Qatar Petroleum (QP) 2 percent. MPHC is majority owned by QP. The Q-Chem facility is a world-class integrated petrochemical plant producing high-density and medium-density polyethylene (HDPE & MDPE), 1-hexene and other products, using state-of-the-art technology provided by Chevron Phillips Chemical, a major integrated producer of chemicals and plastics. Over US $1 billion was invested to engineer, construct and commission the Q-Chem facility, which began commercial operations in 2004. Located in Mesaieed Industrial City, the Q-Chem complex has a production capacity of 453,000 metric tons per annum (MTA) of polyethylene and a 1-hexene unit with a production capacity 47,000 MTA. The complex also consists of sulfur recovery and solidification plant, a water treatment plant, seawater cooling system, dock facilities and administrative buildings. *www.qchem.com.qa*

Sasol is an international integrated chemicals and energy company that leverages technologies and the expertise of our 31,270 people working in 32 countries. We develop and commercialise technologies and build and operate world-scale facilities to produce a range of high-value product stream, including liquid fuels, chemicals and low-carbon electricity. By combining the talent of its people and its technological advantage, Sasol has been a pioneer in innovation for over six decades. As market needs and stakeholder expectations have changed, so too have its methods, facilities and products, driving progress to deliver long-term shareholder value sustainably. The growth and enhancement of its foundation businesses in Southern Africa is complemented by the significant chapter of growth, Sasol has entered in its history. *www.sasol.com*

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. Nakilat also owns 1 FSRU vessel and four large LPG carriers, with the latter operated by its in-house ship management arm, Nakilat Shipping Qatar Limited (NSQL). In addition to its core shipping activities, Nakilat operates the ship repair and construction facilities at Erhama Bin Jaber Al Jalahma Shipyard in Ras Laffan Industrial City via two strategic joint ventures: Nakilat-Keppel Offshore & Marine (N-KOM) and Nakilat Damen Shipyards Qatar (NDSQ). It also provides shipping agency services through Nakilat Agency Company (NAC) at all Qatari ports and terminals, as well as towage and other marine support services through its joint venture Nakilat SvitzerWijsmuller (NSW) for vessels at the Port of Ras Laffan and around Qatar's Halul Island. Nakilat's comprehensive business portfolio of shipping and maritime services complements its vision to be a global leader and provider of choice for energy transportation and maritime services. *www.nakilat.com*

Gulf Helicopters Company (GHC) is one of the leading commercial aviation services providers. Our global footprint extends from Europe to Africa to Middle East to South Asia to Far East. Founded in 1970, with the primary objective of catering to the needs of Qatar's Oil and Gas Industry, Gulf Helicopters has grown over the years by leaps and bounds to successfully become a leading global aviation services provider. Gulf Helicopters outstanding engineering capabilities and multi-type fleet offer cost efficient solutions to address the challenging demands of its esteemed clients with complete focus on performance and safety.
www.gulfhelicopters.com

Qatar Cool is the leading district cooling company's in Qatar. Since its inception, Qatar Cool has aimed for operational excellence in every aspect of its business. Over the past 15 years, the company has developed solid technical and operational experience and has refined its approach on both business-to-business (B2B) and business-to-consumer (B2C) fronts. Currently, 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 with the combined capacity of 237,000 tons of refrigeration. *www.qatarcool.com*

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. Set up to take advantage of energy investment opportunities created by the global growth in demand for electricity and water, Nebras Power is an active player in the evolving global power industry, pioneering future energy solutions through its long-term investments. Nebras Power forms part of Qatar's 2030 Vision to diversify the economy, to promote sustainable long-term development of the country and to be the custodian of wealth for future generations. *www.nebras-power.com*

Excelerate Energy L.P. (Excelerate) is a US-based LNG company located in The Woodlands, Texas. Excelerate is owned by George B. Kaiser and is part of his energy group that also includes Kaiser Francis Oil Co, an E&P company with production in the U.S. and Canada along with significant midstream assets, and Cactus Drilling Co, the largest private drilling company in the US. Excelerate is the pioneer and market leader in innovative floating LNG solutions, providing integrated services along the entire LNG value chain with an objective of delivering rapid-to-market and reliable LNG solutions to customers. Excelerate offers a full range of floating regasification services from FSRU to infrastructure development to LNG supply. Excelerate has offices in Abu Dhabi, Buenos Aires, Chittagong, Dhaka, Doha, Dubai, Rio de Janeiro, Salem, Singapore, and Washington, DC. *www.exceleratеenergy.com*

It is worth noting that in addition to the 21 members listed, the Foundation was supported by ExxonMobil and Total in 2019. While they may not be listed as members, their continue support for Foundation's work, particularly the Al-Attiyah International Energy Awards for Lifetime Achievements, is greatly appreciated.

02.
Year in Review

The review of 2019 work programme of the Foundation is presented under the following core activities:

PUBLICATIONS

AWARENESS / SOCIAL MEDIA

MEDIA ANDCOMMUNICATIONS

EVENTS

- CEO Roundtables
- Senior Managers Dialogue
- Al-Attiyah Energy Awards
- Bosphorus
- Event Participation

PROJECTS

PARTNERSHIPS AND COLLABORATIONS

YEAR IN REVIEW

PUBLICATIONS

In summary the Foundation produced the following publications in 2019:

246 EDITIONS
of the Daily News Flash (DNF)

50 EDITIONS
of the Weekly Energy Market Review (WMR)

12 ISSUES
of the Monthly Research Series

5 ISSUES
of the Sustainability Digest

24 ISSUES
of the Bi-Monthly Sustainability News Bulletin

4 WHITEPAPERS
of the CEO Roundtable Whitepapers

2018
Foundation Annual Report

2019
Foundation Book on Renewables

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ENERGY RESEARCH SERIES

The energy topics and the headline messages covered in the 12 Energy Research papers delivered in 2019 were as listed below

DATE: **JANUARY**

Research Themes: **Global Gas Demand: What is the Outlook to 2040 and Beyond for New Emerging Markets, Centres of Growth and Sectors?**

GLOBAL GAS RESOURCES

are adequate to meet even high scenarios for consumption at reasonable costs.

- Solid growth in global gas demand is expected, despite growing efficiency and the rising competitiveness of renewable energy. However, long-term gas demand is quite price-sensitive;
- Global gas resources are adequate to meet even high scenarios for consumption at reasonable costs;
- The gas market is becoming more globalised, creating demand by giving access to new geographies, though some important new pipelines remain stalled by political problems;
- Asia, especially China and later India, is the key centre of gas demand growth. Middle East demand expansion slows down, while Latin America and Africa grow fast, but only from a small base. North America remains a solidly-growing market, while Europe and the former Soviet Union stagnate and then slowly decline;
- Most forecasts show little shift in gas demand between sectors to 2040. Transport will grow fastest but remain minor; gas for petrochemicals and industry is the most promising major use, while residential gas will grow most slowly.

DATE: **FEBRUARY**

Research Themes: **The Phantom Menace: Impact of Methane Leakage on Gas Climate-Friendliness**

- Methane, the main constituent of natural gas, is a powerful greenhouse gas. Natural gas itself releases much less carbon dioxide than coal or oil when burned, but methane leaks reduce its climate benefit;
- Worldwide leakage is estimated at about 3%. On a 20-year timescale, if leakage rates are less than about 8.4%, gas still has a lower global warming impact per unit of useful energy than coal. Nevertheless, any leakage worsens the climate impact of natural gas;
- Major LNG exporters, both companies or countries, can gain from encouraging its use as a zero-sulphur and lower-carbon fuel. They need to support the prerequisite design, regulation, implementation and supporting infrastructure;
- Methane is released by agriculture, biomass burning and natural wetlands as well as from fossil fuels. Atmospheric methane concentrations have risen steadily in the industrial period, and particularly since 2006, although isotopic measurements suggest the latest rise is not because of fossil fuel methane;
- Methane leakage has become an increasingly important issue for environmental activists and greenhouse gas reduction policies;
- There are wide disparities in estimates of methane leakage, even in the well-studied US. Leaks come overwhelmingly from a small number of less careful operators and pieces of malfunctioning equipment. There are also wide gaps in levels of methane leakage between countries, partly due to different situations (such as age of equipment and operating standards and experience), but partly also because of inadequate or inconsistent measurements.

3%

Estimated worldwide leakage

On a 20-year timescale, if leakage rates are less than about 8.4%, gas still has a lower global warming impact per unit of useful energy than coal.

Methane is a powerful greenhouse gas.

Methane leaks reduce its climate benefit.

DATE: **MARCH**

Research Themes: **Foreign Shores: National Oil Companies' International Investments**

- International investments by national oil companies (NOCs) are not new, but have expanded in scale and scope in recent years;
- Different NOCs invest in very different ways. Some have almost no international business. But very few NOCs (Equinor and Petronas being the best examples), and none from the Middle East, have become truly internationalised like an international oil company (IOC), with their international assets of similar size and value to the domestic ones;
- Upstream investments by NOCs have mostly been fairly limited, though growing;
- Gas demand is also set to rise but is vulnerable to competition from renewables;
- Downstream investments are much more notable, and are also growing, with the aim to access and protect attractive growth markets for hydrocarbon demand.

Different NOCs invest in very different ways.

Gas demand is also set to rise but is vulnerable to competition from renewables

Downstream investments are much more notable, and are also growing, with the aim to access and protect attractive growth markets for hydrocarbon demand.

"Upstream investments by NOCs have mostly been fairly limited, though **growing.**"

International investments by national oil companies (NOCs) are not new, but have expanded in scale and scope in recent years.

DATE: **APRIL**

Research Themes: **Dash for Gas? China's Belt and Road and Natural Gas**

- The Belt and Road Initiative (BRI) focusses on connectivity in Eurasia across land and through the Indian Ocean, mostly by financing and constructing physical infrastructure (roads, rail, ports, pipelines, electricity lines, power plants);
- It is a somewhat vague umbrella concept, although China has recently tried to give it a more concrete shape;
- The Arab Gulf states are an important but not core part of the BRI, which focusses more on Central Asia, Iran, Turkey, Pakistan and south-east Asia;
- The BRI stresses China's strengths. In energy, this means coal and to an extent, hydropower and other renewables, more than natural gas.
- Many different Chinese entities claim a role in the BRI, and some rise and fall according to political favour in Beijing.

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The Arab Gulf states are an important but not core part of the BRI, which focusses more on Central Asia, Iran, Turkey, Pakistan and south-east Asia

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DATE: **MAY**

Research Themes: **The Other Renewables: Beyond Solar and Wind**

OTHER RENEWABLES

Contribute more than just kilowatt-hours.

Including water management, low-carbon transport fuels, heat, and carbon capture.

- Most recent media and policy attention on renewables have focussed on solar and wind power, but this neglects other important forms of renewable energy;
- Hydroelectric and biomass today make a larger contribution than wind and solar, although they are more environmentally problematic and have limited room for further expansion;
- Geothermal is mainly limited to favourable locations, while ocean energy is technologically and commercially very immature, though potentially large;
- "Other renewables" contribute more than just kilowatt-hours – including water management, low-carbon transport fuels, heat, and carbon capture;
- The large "other renewables" are likely to grow only slowly, so not providing much new competition for gas, wind and solar. However, they are complementary to solar and wind power;
- Even though global growth is expected to be constrained, specific markets may have high shares of other renewables, making them important for analysis.

> "Even though global growth is expected to be constrained, specific markets may have high shares of other renewables, making them important for analysis."

Hydroelectric and biomass today make a larger contribution than wind and solar.

DATE: **JUNE**

Research Themes: **Petrochemicals: Changing Trends in Refineries**

PETROCHEMICALS

are seen as the main source of future oil demand growth.

Integration of refineries and petrochemical plants is becoming increasingly popular because of technology improvements, added value and robustness to future market trends.

- Integration of refineries and petrochemical plants is becoming increasingly popular because of technology improvements, added value and robustness to future market trends;
- For two reasons, advantaged feedstock has become less available: Middle East countries have allocated their associated gas and cheap non-associated gas, and reformed subsidised pricing; and the rise of US shale has lowered North American natural gas and ethane prices dramatically;
- The world is close to peak required refining capacity, meaning new plants need sources of competitive advantage beyond simply meeting growing demand;
- Petrochemicals are seen as the main source of future oil demand growth;
- Key petrochemical feedstocks – LPG, naphtha and gasoil – are refinery outputs, offering gains from integration. Petrochemical output can be boosted from 8-10% to 20% by integration, and further to 45% by direct crude-to-chemicals plants;
- Further value is created by the flexibility to vary inputs and outputs, enhanced by artificial intelligence methods. Integrated plants can also have lower environmental footprints;
- Cost savings can be achieved from integration by reducing duplication and increasing economies of scale;
- However, integrated plants are more complicated to design and operate, putting a premium on expertise. Proprietary technologies can be combined with those of vendors.

10% to 20%

INTEGRATION BOOSTED PETROCHEMICAL OUTPUT

45%

BY DIRECT CRUDE-TO-CHEMICALS PLANTS

DATE: **JULY**

Research Themes: **Getting Around: Future Transport to 2040**

TRANSPORT ACCOUNTS FOR

21% of primary energy demand

57% of oil demand

Such transformational changes go alongside steady shifts in demographics (ageing Western populations, rising Asian travellers), new transport infrastructure, and improving vehicle efficiency.

- The global transport industry is on the verge of massive changes, unprecedented for the last 70 or even 100 years;
- These changes include the rise of electric vehicles, autonomous (self-driving) vehicles, new business models (ride-hailing apps), and new fuels for ships and planes;
- Such transformational changes go alongside steady shifts in demographics (ageing Western populations, rising Asian travellers), new transport infrastructure, and improving vehicle efficiency;
- These changes are driven by the availability and improvement of new technologies, environmental pressures to reduce greenhouse gases and other pollution, economic drivers (primarily lower costs), and changing consumer tastes;
- Changes in transport have huge implications for the energy business: transport accounts for 21% of primary energy demand and 57% of oil demand;
- Transformation in transport will have wider knock-on effects for society and geopolitics, which themselves affect the broader energy industry.

The global transport industry is on the verge of massive changes, unprecedented for the last 70 or even 100 years.

DATE: **AUGUST**

Research Themes: **Reducing CO2 Emissions from Heavy Industry**

- Industry is the third-largest greenhouse gas emitting sector, with 24% of emissions. Growing global pressure for decarbonisation means public, media and policy attention will increasingly turn to industry;
- Decarbonising industry is much more complicated than the power or transport sector, because of the great variety of plant types, processes, products and customers. Industries have to be internationally competitive. They provide well-paid employment and a key technological edge, meaning governments will protect them;
- About half of industrial emissions come from four large sectors: cement, chemicals, iron and steel, and non-ferrous metals. These provide the priority sectors for decarbonisation;
- Decarbonisation can be achieved by five methods: demand reduction and recycling; energy and material efficiency; low-carbon energy inputs (biomass, renewable/nuclear electricity and hydrogen); new processes; and carbon capture, storage and use (CCUS);
- Total decarbonisation requires a mix of low-carbon inputs, new processes and CCUS, depending on the industry. In turn, these need heavy investment in research and deployment;
- Required policies for industrial decarbonisation include: carbon pricing; government-led investment in research and commercial-scale demonstration; and international trade policies to maintain a level playing field.

24%

come from industry that is the third-largest greenhouse gas emitting sector.

About half of industrial emissions come from four large sectors: cement, chemicals, iron and steel, and non-ferrous metals.

Decarbonisation can be achieved by five methods:

Demand reduction and recycling	Energy and material efficiency	Low-carbon energy inputs (biomass, renewable/ nuclear electricity and hydrogen)
New processes	Carbon capture, storage and use	

DATE: **SEPTEMBER**

Research Themes: **Policies for Promoting Energy Efficiency in Buildings**

- Buildings are one of the three largest energy-using sectors, consuming about 30% of final energy consumption, and 24% of greenhouse gas emissions;
- Energy use has high inertia because of a buildings' long life. Therefore, policy measures to improve efficiency are urgent;
- 73% of residential energy use and 33% of commercial energy use (in the US) relates to thermal management – space heating/cooling and water heating – making this the key area for improvements;
- Improvements in building energy typically have negative cost – they pay for the up-front cost in energy savings over time;
- However, many efficiency opportunities are not captured because of lack of priority and awareness; lack of capital; insufficient scale; and mismatches between building tenant and owner. Building codes, government audits and 'green loans', and Energy Service Companies (ESCOs) can help overcome these barriers;
- It is likely that the more aggressive targets for building efficiency will not be met globally. This will push up overall energy use, and put more stress on deeper decarbonisation of energy supply, and on reducing emissions from areas such as industry.

Buildings are one of the three largest energy-using sectors, consuming about:

24% of greenhouse gas emissions

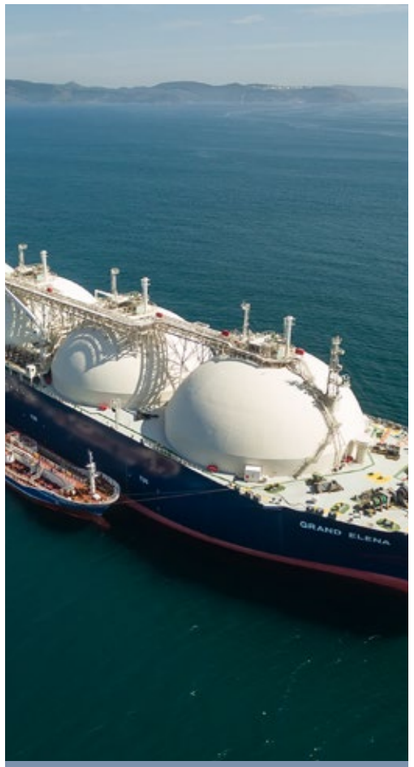
30% of final energy consumption

> "Improvements in building energy typically have negative cost – they pay for the up-front cost in energy savings over time."

Energy use has high inertia because of a buildings' long life. Therefore, policy measures to improve efficiency are urgent.

DATE: **OCTOBER**

Research Themes: **LNG: How will new technologies in LNG impact its market?**



- It is vital for LNG projects to be cost-competitive, given the great expansion of competing projects, the continuation of low-cost coal, and ongoing improvements in renewable energy. This requires delivered costs of $6-8/MMBtu, equating to liquefaction costs (net of feed-gas cost) of $2.125-4.125/MMBu;
- LNG technology improvements are being driven by this cost imperative, as well as by a move to new areas such as the Arctic; a more diverse, flexible and liquid industry; and growing environmental pressures;
- LNG technology is improving across the value chain, but the most important cost reductions are in liquefaction, as this is the area of largest capex. LNG trains are probably not going to get larger, but there will be innovation in both small/mid-size train sizes;
- Key enablers for cost reductions and environmental improvements in liquefaction include modularisation, floating LNG, electric drive, automation/digitalisation, and carbon capture and storage. However, many incremental improvements are also combining to reduce costs and improve efficiency;
- Shipping and regasification offers less room for cost reductions, but more scope for innovative business models, supported by technologies such as satellite imaging and tanker tracking, advanced logistics and scheduling, and targeting small-scale markets and LNG ship bunkering;
- Technologies on their own are not fully effective; they have to be embedded in a suitable business model.

$6-8/MMBtu

equating to liquefaction costs (net of feed-gas cost) of

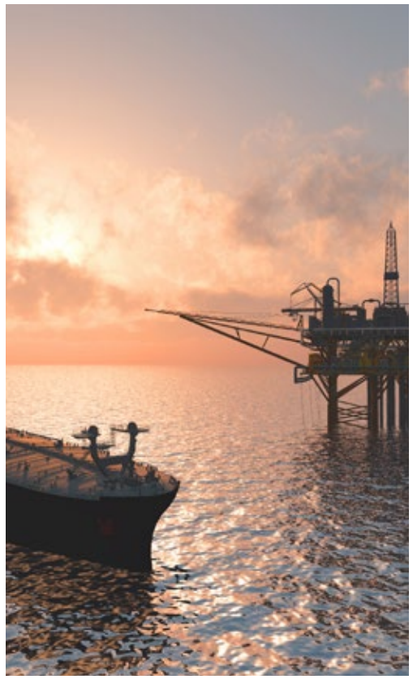
$2.125-4.125/MMBu

> Key enablers for cost reductions and environmental improvements in liquefaction include modularisation, floating LNG, electric drive, automation/digitalisation, and carbon capture and storage.

LNG technology is improving across the value chain, but the most important cost reductions are in liquefaction, as this is the area of largest capex.

DATE: **NOVEMBER**

Research Themes: **A Fine Balance: Energy Outlook for 2020**



- The US-China, US-Iran and West-Russia confrontations are key areas of potential dispute, though likely not outright conflict. Local protests have spread widely in 2019 and can disrupt economies and energy production and transit sites;
- Mostly incremental advances in energy technology are expected, with fossil fuels and renewables both improving in cost and environmental impact;
- Deployment of wind, solar, batteries and electric vehicles will continue at a rapid rate, as they become increasingly less dependent on subsidies. Progress in solar PV and offshore wind is particularly impressive;
- Oil and gas markets will remain well-supplied, and prices under pressure, although they may begin tightening later in 2020.

> The US-China, US-Iran and West-Russia confrontations are key areas of potential dispute, though likely not outright conflict. Local protests have spread widely in 2019 and can disrupt economies and energy production and transit sites.

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DATE: **DECEMBER**

Research Themes: **Medium Term Outlook for Oil and Refined Products?**

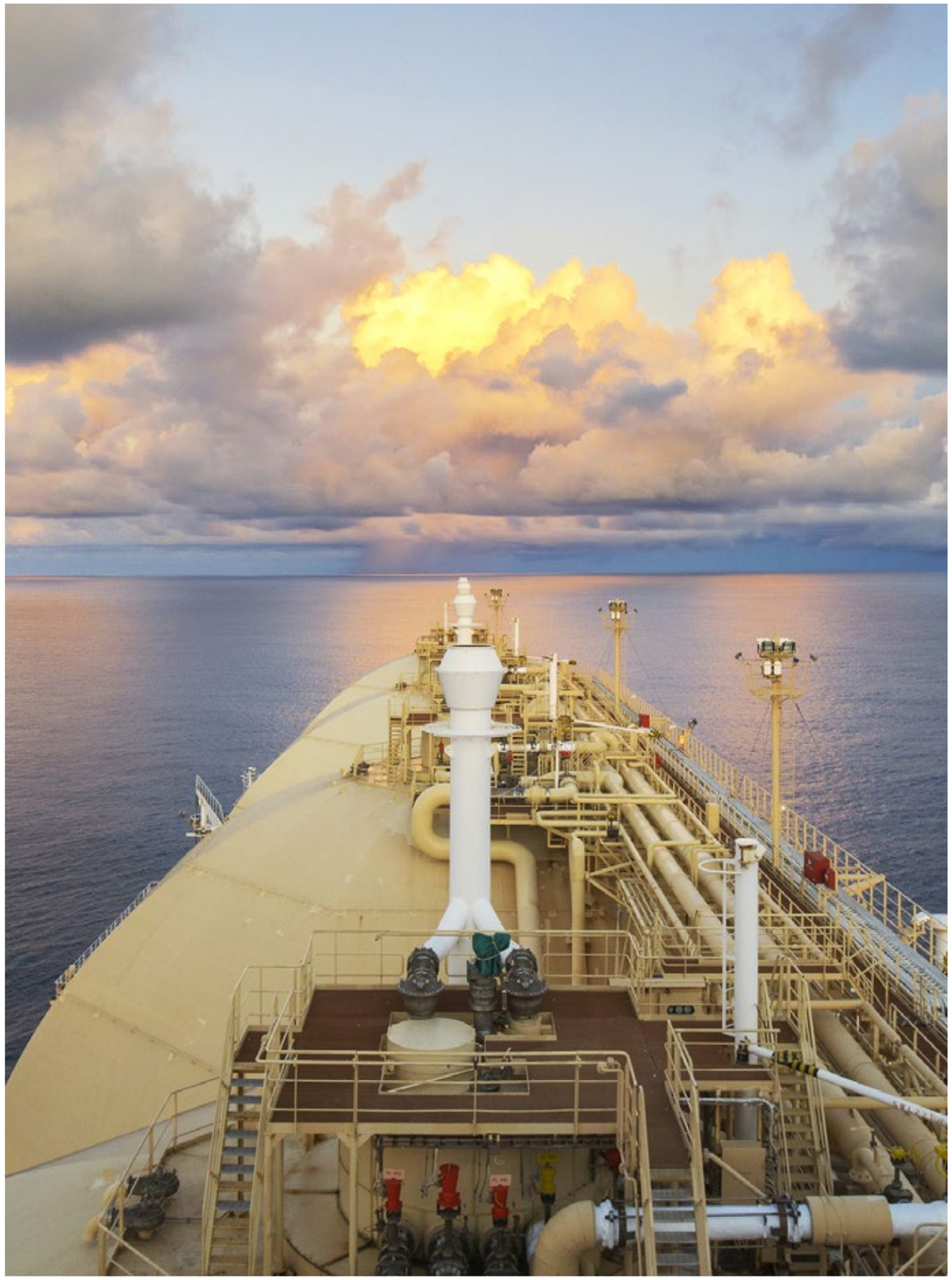
- The geography of demand, and hence of refining capacity and ownership, is shifting towards the Middle East and Asia;
- Strong investment in new and expanded refineries in 2019-20 and 2022 will exceed demand growth, put margins under pressure and lead to refinery closures in some mature markets, particularly Europe;
- 'Peak refining' will be reached before 'peak oil demand', because of growing product supply from natural gas liquids (NGLs), condensate and biofuels;
- The structure of demand will continue to shift away from fuel oil and towards petrochemical feedstocks and jet kerosene;
- New, large and sophisticated Middle Eastern National Oil Company joint-venture refineries in Asia are increasingly important. They reflect the strategic goal of securing demand in key markets;
- Refineries remain under continuing and intensifying pressure to improve environmental performance. This includes producing new-specification fuels, such as low-sulphur fuel oil to meet the IMO 2020 shipping fuel regulations. Greenhouse gas emissions will come under increasing pressure, especially in Europe.

'Peak refining'

will be reached before 'peak oil demand',

because of growing product supply from natural gas liquids (NGLs), condensate and biofuels.

LNG technology is improving across the value chain, but the most important cost reductions are in liquefaction, as this is the area of largest capex.



Annual Report 2019 Abdullah Bin Hamad Al-Attiyah International Foundation for Energy & Sustainable Development

SUSTAINABILITY DIGEST

The 5 Issues of the Sustainability Digest published in 2019 provided insightful thought pieces on specific sustainability and climate change topics, as highlighted in the table below:

DATE: JANUARY

Topic/Theme: **Green LNG: Is Liquefied Natural Gas (LNG) the Clean Energy we need?**

As we strive for decarbonisation, LNG presents a viable lower carbon solution for the energy sector

- As we strive for decarbonisation, LNG presents a viable lower carbon solution for the energy sector;
- Renewable Energy sources benefit from the affordable cost of LNG as it provides a solution to the intermittency problems commonly faced by wind and solar;
- LNG was branded by the EU as a clean energy resource and receives funding for research and development under the various schemes developed for the renewable energy sector.

DATE: FEBRUARY

Topic/Theme: **Circular Economy: How to Grow a Sustainable Economy**

- The term "Circular Economy" is now closely associated with Sustainable Development as it introduces a methodology for reducing consumption of non-renewable resources;
- Lots of examples of individual initiatives but these are general on a small scale as yet;
- Many reasons for adopting the "Circular Economy" approach within Qatar. These are generally all in line and support Qatar Vision 2030.

The term "Circular Economy" is now closely associated with Sustainable Development.

DATE: APRIL

Topic/Theme: **Climate Change: How Risky to Qatar and the World?**

- The implications and challenges of climatic impacts are already evident in all regions of the world;
- Nations are correctly paying attention to "Adaptation" against the backdrop of mounting evidence of the adverse effects of climate change;
- Efforts to mitigate and adapt to climate change also produce "opportunities" for nations and organisations;
- A well-coordinated strategic approach is necessary to combat climate change and avoid all associated risks.

> **Nations are correctly paying attention to "Adaptation" against the backdrop of mounting evidence of the adverse effects of climate change.**

DATE: **MAY**

Research Themes: **Nationally Determined Contributions (NDCs)**

The Paris Agreement

set a long-term goal of keeping global warming below **2°C**,

and if possible, below **1.5°C**

The initial national pledges (NDCs) submitted to the UNFCCC are required to be updated every five years, beginning in 2020.

- The adoption of the Paris Agreement in December 2015 by 196 countries that are Parties to the United Nations Framework Convention on Climate Change (UNFCCC), was hailed as a major breakthrough in global efforts to combat climate change;
- The Paris Agreement set a long-term goal of keeping global warming below 2oC and if possible, below 1.5°C. The agreement established a long-term signal for action based on an inclusive bottom-up approach that requires all countries to submit national targets to reduce emissions and adapt to climate change;
- The initial national pledges (NDCs) submitted to the UNFCCC are required to be updated every five years, beginning in 2020, to ensure that deeper emissions cuts can be achieved over time;
- This pledge-and-review approach, is considered a paradigm shift that allows countries to focus more on collaboration and cooperation, as they collectively step-up global efforts to combat climate change;
- A review of current pledges shows that global emissions will continue to rise and the global average temperature is projected to increase by about 3.2°C by the end of this century. To stay in line with the Paris targets, countries' efforts must triple to meet the 2°C goal and increase fivefold to meet 1.5°C.

DATE: **DECEMBER**

Research Themes: **Sustainable Energy: 2020 and Beyond**

2020 – 2030

is a key period as the world unevenly mobilises a more diverse, sustainable and renewable energy economy

- 2020-2030 is a key period as the world unevenly mobilises a more diverse, sustainable and renewable energy economy. management of water and sanitation for all;
- The United Nations' Sustainable Development Goal 7 (UN SDG7), mandates clean and affordable energy for all by 2030. COP26 in November 2020 will review progress on the Paris Agreement, and hopefully set more stringent goals towards limiting global temperature rises to no more than 1.5-2°C. Developments and decisions taken in 2020 will dictate whether these goals can be achieved;
- Climate progress between the major emitters is patchy: US emissions reductions are slowing and hampered by political neglect; EU policy is strengthening; China and India have moved ahead impressively on deployment of renewables but continue to invest in coal and prioritise economic growth; Russian attitudes are changing but not being accompanied by policy; and OPEC continues to focus more on short-term oil market issues;
- The US's withdrawal from the Paris Accord will probably not make much difference to near-term US emissions, but may limit other countries' ambitions, weaken coordinated global action, reduce clean energy investment, and hand the lead in sustainable energy technology to China and perhaps the EU;
- The pace of progress on global sustainability goals, in particular, the UN SDG7 and SDG13; Paris Accord on Climate Change; and other treaties varies greatly between developed and developing countries;
- More, but still insufficient, attention is being paid to broader sustainability issues beyond climate: pollution, biodiversity, economic inequality, employment, gender and minority rights, social impacts of the energy transition, and modern energy access.

The UN SDG7, mandates clean & affordable energy for all by 2030.

COP26 in November 2020 will review progress on the Paris Agreement

2019 BOOK: THE GROWING WORLD OF RENEWABLE ENERGY

Following the publication of the Foundation two earlier books - *Sustainable Development Goals and Energy Nexus*, in 2017, and *Corporate Social Responsibility Best Practice Guidelines* in 2018, the Foundation produced another book in 2019 on *The Growing World of Renewables*. The book provides authoritative information on renewable energy sources and reviews the driving forces behind the growth of this subsector of the energy industry.

THE GROWING WORLD OF RENEWABLES

This book provides authoritative information on renewable energy sources and reviews the driving forces behind the growth of this subsector of the energy industry.

It identifies the following four factors that are largely responsible for spurring the growth of renewables:

- Growing public and political awareness of pollution and its potential consequences both for personal health and for the planet. There are growing voices, such as the school movement, advocating the need to power the globe with cleaner and more sustainable energy;
- Fast pace of technological advancement. The development of technology is catching up with futuristic dreams and declining costs of renewable technologies is making previously unviable technological solutions practically possible. Renewables are becoming increasingly competitive even during periods of low oil prices;
- Government, financial institutions and businesses are increasingly willing to put financial and organisational support on renewable solutions. Renewables are no longer seen as a risky bet, but rather as a long-term investment that more and more investors are interested to commit;
- The demand for renewables is rising, not only among domestic users but also among industrial energy users. Corporate demand for renewable energy is growing rapidly not just to meet sustainability goals, but because companies are looking for the low, stable energy prices that renewable energy provides.

Some notable examples of widespread initiatives by many countries and private companies to promote and develop renewable energy, are presented in the book. The book highlights a compelling business case for energy companies to pursue significantly bolder and sophisticated measures that can attract large-scale flows of private finance in support of further development of renewable energy technologies.

The following Chapters were covered in the Book:

Chapter 1 – Introduction

Chapter 2 – Different types of energy sources

Chapter 3 – Clean energy sources

Chapter 4 – Role of renewables on the sustainable development goals (UN SDGs)

Chapter 5 – Impact of renewables on climate change

Chapter 6 – Policy framework

Chapter 7 – Business case

Chapter 8 – Updates of technology

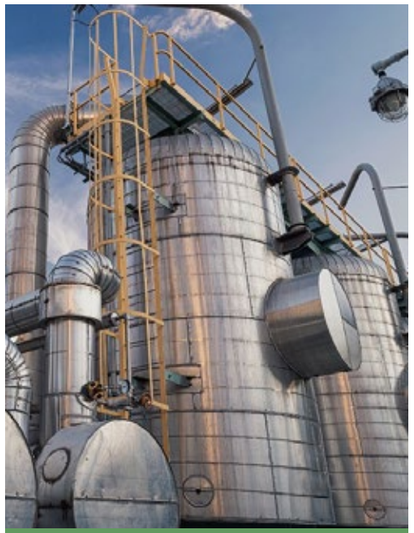
Chapter 9 – Investments

> Renewables are becoming increasingly competitive even during periods of low oil prices.

Government, financial institutions and businesses are increasingly willing to put financial and organisational support on renewable solutions

In addition, the book included six invited papers to showcase some innovative initiatives and insights on renewables.

The Energy Chamber of Trinidad & Tobago



almost 100%

of electricity (in Trinidad and Tobago) is currently been generated through power plants fuelled by natural gas.

Paper 1 – Renewable Energy in Trinidad and Tobago

In Trinidad and Tobago (T&T), a small island developing state in the Caribbean, almost 100% of electricity is currently been generated through power plants fuelled by natural gas.

Although, endowed with sizeable reserves of natural gas, since 2010, there has been declining production of natural gas, which is now unable to meet the demand of installed capacity.

The Energy Chamber has been focusing on advocacy around Energy Efficiency and Renewable Energy in Trinidad and Tobago, as a way of whining the power sector from over dependency only on natural gas. The Chamber has been working with many stakeholders in the country to ensure that everyone understands the context and the urgency to bring renewable energy onto the grid and to be more mindful of the energy that is used.

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Qatar National Bank (QNB)

Finansbank (QNB Group subsidiary), has financed twelve renewable energy projects to support Turkey's transition to a more environmentally sustainable and diverse electricity supply worth over

$350 million

QNB Group subsidiary, ALAHLI, was one of the pioneering Banks in Egypt to adopt fitting branches with solar energy panels.

Paper 2 – Examples of Renewable Energy Financing:

Case Study 1 – Turkey: Over the past four years QNB Group subsidiary, Finansbank, has financed twelve renewable energy projects (six solar, three wind and three hydroelectric power plants), worth over USD350 million to support Turkey's transition to a more environmentally sustainable and diverse electricity supply.

Case Study 2 – Egypt: QNB Group subsidiary, ALAHLI, is playing a leading role in the Egyptian solar energy market by encouraging small & medium scale solar developments. Particular focus is given to integrating renewable energy in the industrial sectors, where QNB ALAHLI is the first bank in Egypt to finance an industrial rooftop solar installation, generating 1MW at the Coca Cola bottling plant in Sadat City.

Case Study 3 – Solar Panels in QNB ALAHLI Branches: QNB Group subsidiary, ALAHLI, was one of the pioneering Banks in Egypt to adopt fitting branches with solar energy panels, thus promoting carbon saving technologies and increasing the energy resilience of its operations.

> QNB Group subsidiary, ALAHLI, is playing a leading role in the Egyptian solar energy market by encouraging small & medium scale solar developments.

Wood Mackenzie Energy Research & Consultancy

Wood Mackenzie
A Verisk Business

Paper 3 – Wood Mackenzie White Paper on Energy Transition

Wood Mackenzie President, Neal Anderson, introduces the 2019 Energy Transition Outlook and examines why the energy mix is not changing nearly as quickly as the world needs it to. In the Outlook, Wood Mackenzie presents an assessment of how the next two decades may play out across the entire energy and natural resources value chain, based on an integrated analysis data drawn from across all of Wood Mackenzie's commodity, technology, markets and segments coverage.

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Wood Mackenzie presents an assessment of how the next two decades may play out across the entire energy and natural resources value chain.

Qatar Environment and Energy Research Institute (QEERI)

QEERI
معهد قطر لبحوث البيئة والطاقة
Qatar Environment & Energy Research Institute
جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY

> Qatar enjoys strong Global Horizontal Irradiation (GHI) with long winter days and it is therefore ideally suited for applications of solar energy based on photovoltaic (PV) systems.

Paper 4 – Electricity Demand in Qatar: Opportunities for Demand Response

Due to the abundance of solar resources, Qatar has a unique opportunity to attain substantial reductions in electricity demand through the enactment of demand response measures in smart grids that include distributed energy production through photovoltaic systems and energy storage. The presents a review of the work on electricity demand data analysis carried out at QEERI with reference to cooling loads.

Paper 5 – Agricultural and Urban Microgrid Systems and Architectures for Qatar

Qatar has large number of scattered farms and animal barns that are not connected to the central grid and hence act as off-grid loads. The use of microgrid for these loads represents an effective mean to supply and manage the needed operational energy. This paper addresses the main aspects that need to be considered for microgrids for farm and urban systems successful deployment in Qatar.

Paper 6 – Environmental and Economic Impacts of PV Adoption in Qatar

Qatar enjoys strong Global Horizontal Irradiation (GHI) with long winter days and it is therefore ideally suited for applications of solar energy based on photovoltaic (PV) systems. The objective of this chapter is to explore and quantify the environmental and economic impacts of PV deployment.

Qatar has a unique opportunity to attain substantial reductions in electricity demand.

Qatar has large number of scattered farms and animal barns that are not connected to the central grid.

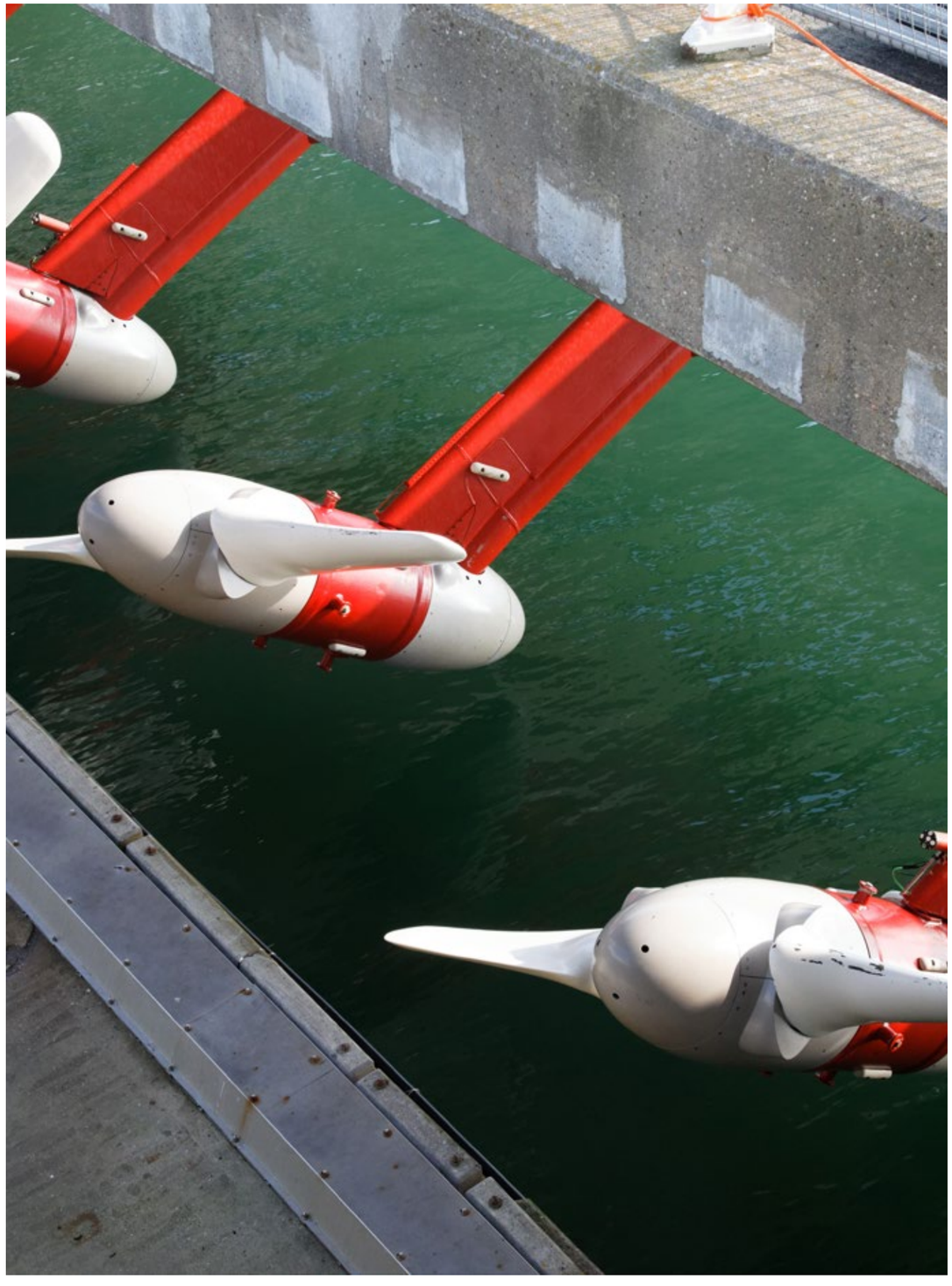
The objective of this chapter is to explore & quantify the environmental and economic impacts of PV deployment.

The book concludes that, the examples of wide spread initiatives by many countries to promote and develop renewable energy, lead to the assertion that the private sector, and more specifically energy industries, occupy a unique place in the constellation of organisations that can shape the development and growth of renewables. This bold assertion is guided by the following premises:

- The momentum on renewable energy is unstoppable;
- The pressure on investors to disinvest from fossil fuels will continue to increase, in the face of mounting climate challenge;
- The Paris Agreement recognizes the need for active participation of all sectors of society, including the different tiers of government, in the widest possible cooperation by all countries, to implement climate actions;
- It is in the interest of the energy industry, that the traditional energy companies step up to be counted among the leading actors in the new paradigm shift presented by the Paris Agreement;
- Nobody understands what it would take to transform the energy sector more than the players within the sector;
- There are many opportunities for the traditional energy companies to use their business expertise to address the challenges facing the development of renewable energy technologies; and
- Harnessing such opportunities makes good business sense and enhances the contribution of the energy sector to sustainable development.

The book concludes that, the examples of wide spread initiatives by many countries to promote and develop renewable energy, lead to the assertion that the private sector.

There are many opportunities for the traditional energy companies to use their business expertise to address the challenges facing the development of renewable energy technologies.



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AWARENESS / SOCIAL MEDIA

BUILDING AWARENESS THROUGH DIGITAL AND SOCIAL MEDIA

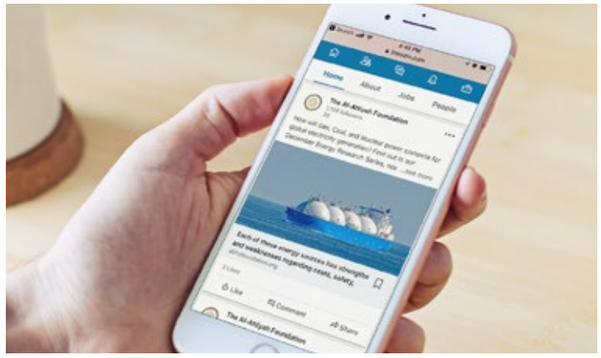
As part of an ongoing and concerted effort to continue to build awareness for the Foundation, and its various activities, a wide variety of tools and platforms were used in 2019 as part of the brand and marketing effort. The key objectives were to;

1. Increase distribution and build more awareness
2. Further increase the Foundation's digital footprint
3. Drive new membership and continue to improve member relations
4. Continue to evolve the 'look and feel' of Foundation's content for ease of consumption

To achieve these objectives the Marketing and Brand Directorate, in partnership with all other Directorates in the Foundation, undertook the following key activities:

Social Media Platform Growth

Putting considerable effort into the growth of its LinkedIn platform, originally launched in 2018, the Foundation added a Twitter channel to its social media plan in early 2019. Using both channels, the Foundation quickly and effectively build up and leveraged both social media platforms, alongside it's website, with ongoing fresh content, videos, and an initial trial run of paid digital advertising. Key content included:



Daily posts on LinkedIn and Twitter effectively doubling monthly impressions

UP TO 1 MILLION

Sharing of members and partners content, as well as relevant 3rd party content and news

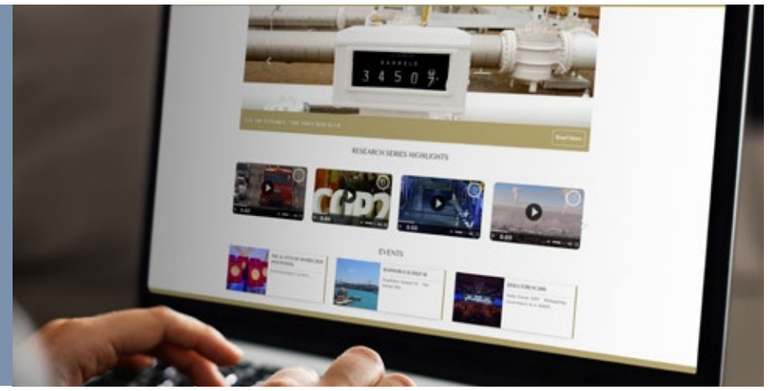
A dedicated 6-week Al-Attiyah International Energy Awards Promotional Campaign.

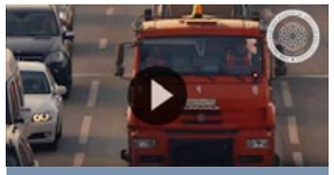
Video Content Development

The Foundation launched a set of high-quality short videos in 2019, with each video highlighting different activities from the Energy and Sustainable Development Directorates. These included:

- The Monthly Energy Industry, and Monthly Sustainability Reports
- An interview with each special guest speaker for each CEO Roundtable
- A full session recording for each of the Senior Managers Energy Dialogues

> "As part of an ongoing and concerted effort to continue to build awareness for the Foundation, and its various activities, a wide variety of tools and platforms were used in 2019 as part of the brand and marketing effort."




2040 Energy Mix


Methane Emissions


Circular Economy

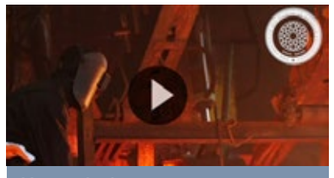

Tackling Climate Change


Renewable Energy Mix


Petrochemical Integration


Climate Change Risk


Future Transport


Heavy Industry

Digital Marketing

With a growing membership base and a distribution list in excess of 250 recipients, the Foundation focused on the continued expansion and management of its Member Database in 2019. This included exercises to increase the number of employees from each member companywho receive the Foundation's publications and the continued improvement of distribution efforts. In addition, the Foundation continued to make use of a Smart Digital Distribution System (MailChimp) for the distribution of publications with, on average, 4 publications distributed per month, followed by tracking and reporting on readership.

The Brand & Marketing Directorate further ensured that the Foundation's website remained up to date in 2019 with continued additions to content, and functionality. With the notable addition of the development of a structure to host a public online library for allof the Foundation's publications.

> With a growing membership base and a distribution list in excess of 250 recipients, the Foundation focused on the continued expansion and management of its Member Database in 2019.

Branding

A new suite of promotional collaterals was developed and used in 2019 to drive awareness for the Foundation's members. This was achieved through the inclusion of members logos on roll up banners, table flags, and published in all hard copy publications, as well as members receiving substantial brand awareness at the 2019 Al-Attiyah International Energy Awards (attended by over 350 VIPs)

Membership Expansion & Renewals

The Foundation put considerable effort into maintaining member relations in 2019. Through the hosting of meetings with members; developing and delivering membership reports; and ensuring members received logo visibility at all Foundation events; the Directorate was successful in resigning twenty of the twenty-one 2019 members for the following year.

In addition, the Foundation was pleased to welcome several new members in 2019. This included:

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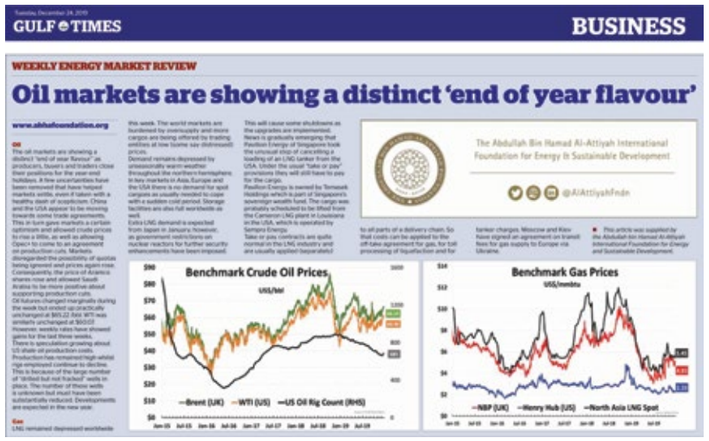
MEDIA AND COMMUNICATIONS

Media Coverage

Every week the Foundation publishes the Weekly Energy News in the Gulf Times, English newspaper in Qatar. In addition, the Foundation issues several media releases on its research, events and partnership activities. The media releases are distributed through multiple outlets, with an estimated monthly coverage of more than 300,000.


GULF TIMES BUSINESS

WEEKLY ENERGY MARKET REVIEW

Oil markets are showing a distinct 'end of year flavour'

The Abdullah Bin Hamad Al-Attiyah International Foundation for Energy & Sustainable Development

@AlAttiyahFndn

Benchmark Crude Oil Prices

Benchmark Gas Prices

WEEKLY ENERGY NEWS REACHING

37,000
PRINT

15,000
ON-LINE


BUSINESS

Shift towards 'circular economy' to boost growth: Al-Attiyah

Circular Economy Concept

Consumer goods, transport

Turkey's lira firms as banks sell forex, S-400


Qatar Shell renews Al-Attiyah Foundation membership for two years

Al-Attiyah Foundation has signed an agreement with Qatar Shell, renewing the latter's membership of the Foundation for another two years, 2019-2021, it was announced yesterday.
Al-Attiyah Foundation vice-chairman HE Dr Ibrahim Ibrahim and Qatar Shell managing director and chairman Andrew Faulkner were the signatories, according to a statement.
Qatar Shell has been a long-standing member and partner of the Foundation for over five years, supporting the independent, non-profit think tank, to continue its mission to provide in-depth research, analyses and thought-leadership under the themes of energy and sustainable development.
HE Dr Ibrahim commented: "Once again, I am pleased to join hands with Andrew Faulkner, managing director and chairman of Qatar Shell, to celebrate their membership renewal and our long-term partnership. As the energy sector is integral to the transition to a more sustainable world, partnerships that provide opportunities for knowledge sharing, become even more important."
Faulkner said: "Qatar Shell is proud to renew our important and longstanding partnership with the Al-Attiyah Foundation. We will continue to contribute to the excellent platforms it provides for sharing independent expert opinion and promoting meaningful discussion of themes surrounding energy and sustainable development, which are vital to Qatar's future development in these fields."
The latest energy and sustainable development research and news can be viewed on the Al-Attiyah Foundation's website at www.abhafoundation.org or by following the Foundation on LinkedIn and Twitter.

Andrew Faulkner and HE Dr Ibrahim Ibrahim at the ceremony.

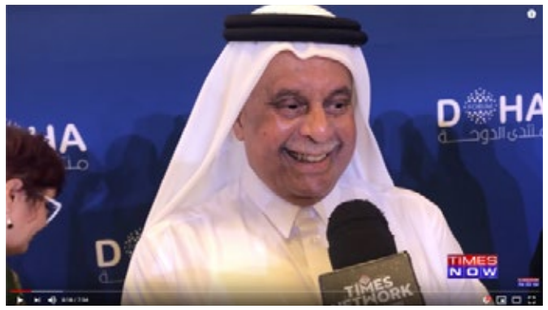

شراكة بين مؤسسة العطية والخليجية للبحث والتطوير

الدوحة - **الراية:** وقعت مؤسسة عبدالله بن حمد العطية الدولية للطاقة والتنمية المستدامة (مؤسسة العطية) في حفل بفندق سانت ريجيس مذكرة تفاهم مع المنظمة الخليجية للبحث والتطوير (جورد) بهدف العمل على مشاريع وميادرات بحثية مشتركة. وأعرب سعادة عبدالله بن حمد العطية مؤسس ورئيس مجلس إدارة مؤسسة العطية عن سروره بتوقيع اتفاقية شراكة مع المنظمة الخليجية بهدف التعاون فيما يخص الموضوعات ذات الاهتمام المشترك المتعلقة بالطاقة والتنمية المستدامة. وإنني أتطلع إلى مخرجات هذا التعاون الإيجابي بما يعزز من عملنا لتحسين الوعي، ورفع معرفة الإجراءات اللازمة لخلق مستقبل مستدام.

وأشار الدكتور يوسف بن محمد الحر رئيس مجلس إدارة المنظمة الخليجية (جورد) إلى أهمية التعاون مع مؤسسة العطية لإجراء الدراسات المشتركة حول مواضيع الاستدامة والتغير المناخي في المنطقة علاوة على بناء وتطوير قدرات الكادر المهني مؤكدا ثقته بأن الشراكة ستعكس مزيج الخبرة لدى الطرفين المتمثلة بتجربة التنفيذ وقيادة الفكر من أجل اقتصاد مستدام منخفض الكربون في منطقتنا.


اتفاقية بين مؤسسة العطية والمنظمة الخليجية جورد


3 تريليونات دولار استثمارات لتطوير أنظمة الطاقة



Al Attiyah Foundation hosts global energy experts at 10th Bosphorus Summit

Qatar-based think tank, the Al Attiyah Foundation, recently hosted world energy experts for two panel sessions on 'Geopolitics of Energy and Transitions to a New World Order' during the 10th Bosphorus Summit in Istanbul, Turkey.
In line with the vision of its chairman, Abdullah bin Hamad al-Attiyah, the foundation's ongoing strategic partnership with the Uluslararasi İşbirliği Platformu, International Cooperation Platform (UIP-ICP), provides an opportunity to enhance proactive multilateral and interdisciplinary co-operation for sustainable development.
As the only energy and sustainable development think tank to partner the ICP Bosphorus Summit, the Al-Attiyah Foundation convened global thought-leaders from academia, industry, and government to share opinions and potential solutions to the challenges faced by the world as it transitions towards a sustainable energy future.
During the two energy panel sessions, Professor Paul Stevens, Distinguished Fellow, Chatham House, said: "If the transition to renewables and low-carbon electricity happens faster than the energy establishment anticipates, the implications for exporters of oil and for the geopolitics of oil will be very serious.
"For example, the failure of many oil-exporting countries to reduce their dependence on hydrocarbon revenues and diversify their economies will leave them extremely vulnerable to reduced oil and gas demand in their main markets."
Steven's views reflect those outlined in a report released by the UN Intergovernmental Panel on Climate Change (IPCC) in October 2018, which affirmed that a huge transformation of the energy sector will be required and that an average investment of $3tn a year will be needed in the next 30-years to transform the world energy systems.
It is expected that much of the investment will involve shifting money away from fossil fuel systems thus, clean energy investments must overtake fossil fuel investments by around 2025.
Since energy is crucial to the production of almost all goods and services of the modern world, and is a dominant contributor to climate change, accounting for 60% of total global greenhouse gas emissions, the challenge to reduce such emissions is immense.
Michael Grubb, research director and professor Energy and Climate Change, University College London (UCL) - Institute of Sustainable Resources and Energy Institute, said: "Climate change is a pressing global issue with time running out to avoid dangerous anthropogenic interference.
"Some countries are leading the way and reducing their CO2 emissions aided by clean energy technologies. The initiatives open up new paths for global energy and economic development."
Akito Matsumoto, senior economist, Commodities Unit, International Monetary Fund (IMF), said: "Natural gas and renewables are set to play an important role in the future energy mix despite the huge uncertainty in what energy policies and technologies will be at play in the future."
Fatih Birol, executive director of the International Energy Agency, echoed these views in the World Energy Outlook 2019: "What comes through with crystal clarity in this year's World Energy Outlook is that there is no single or simple solution to transforming global energy systems.
"Many technologies and fuels have a part to play across all sectors of the economy. For this to happen, we need strong leadership from policymakers, as governments hold the clearest responsibility to act and have the greatest scope to shape the future."
The outputs from the Al Attiyah Foundation's session at the Bosphorus 10 Summit are available on www.abhafoundation.org/ energy, along with the foundation's other insights and research.

The Al Attiyah Foundation convened global thought-leaders from academia, industry, and government to share opinions and potential solutions to the challenges faced by the world as it transitions towards a sustainable energy future.

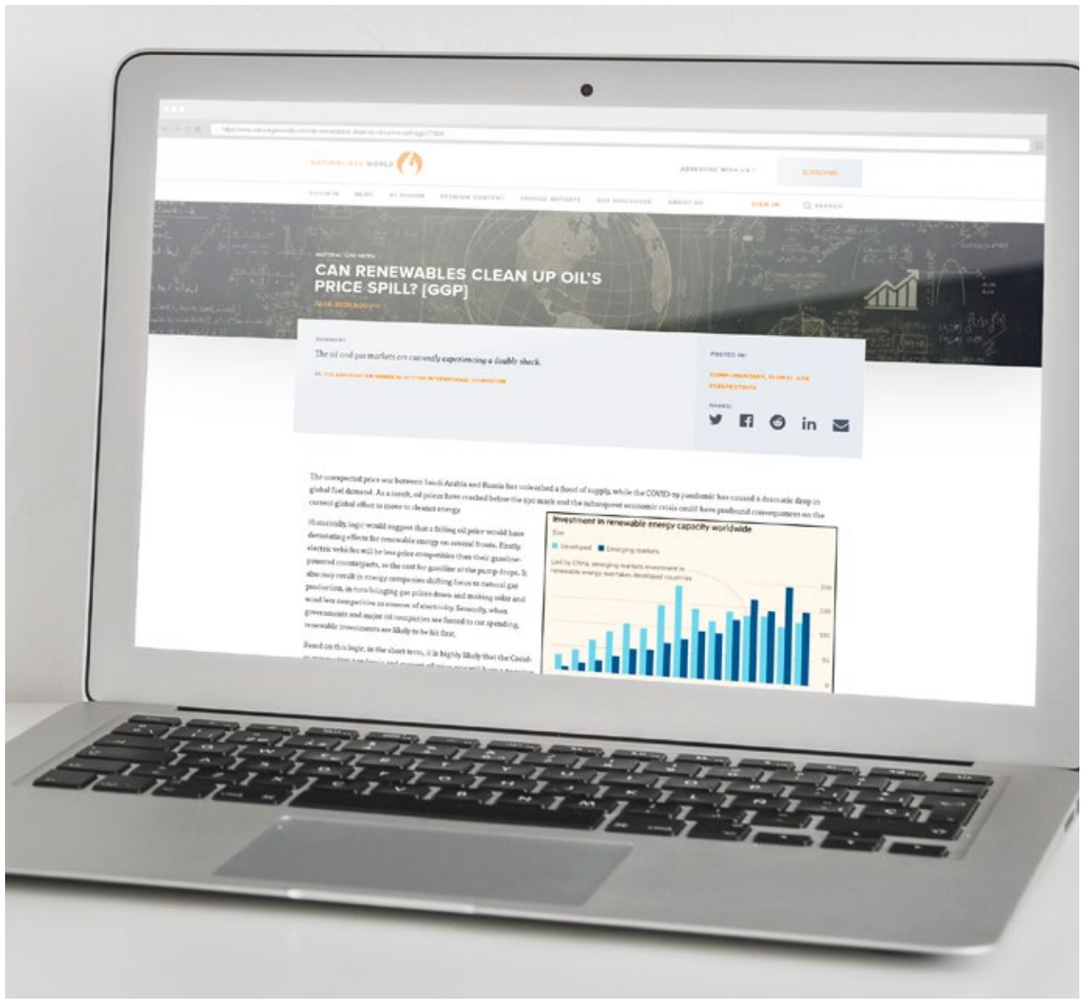
The Foundation also has media partnerships with Natural Gas World and Refinitiv on-line platforms.

Research Series placed on Natural Gas World Website

Over **30k** unique visitors per month

40k social media followers

Drives traffic to Foundation Website



CEO Roundtable Whitepaper was placed on the Zawya.com platform and mailed out to over 10,000 subscribers.

2.5 million-page views per month

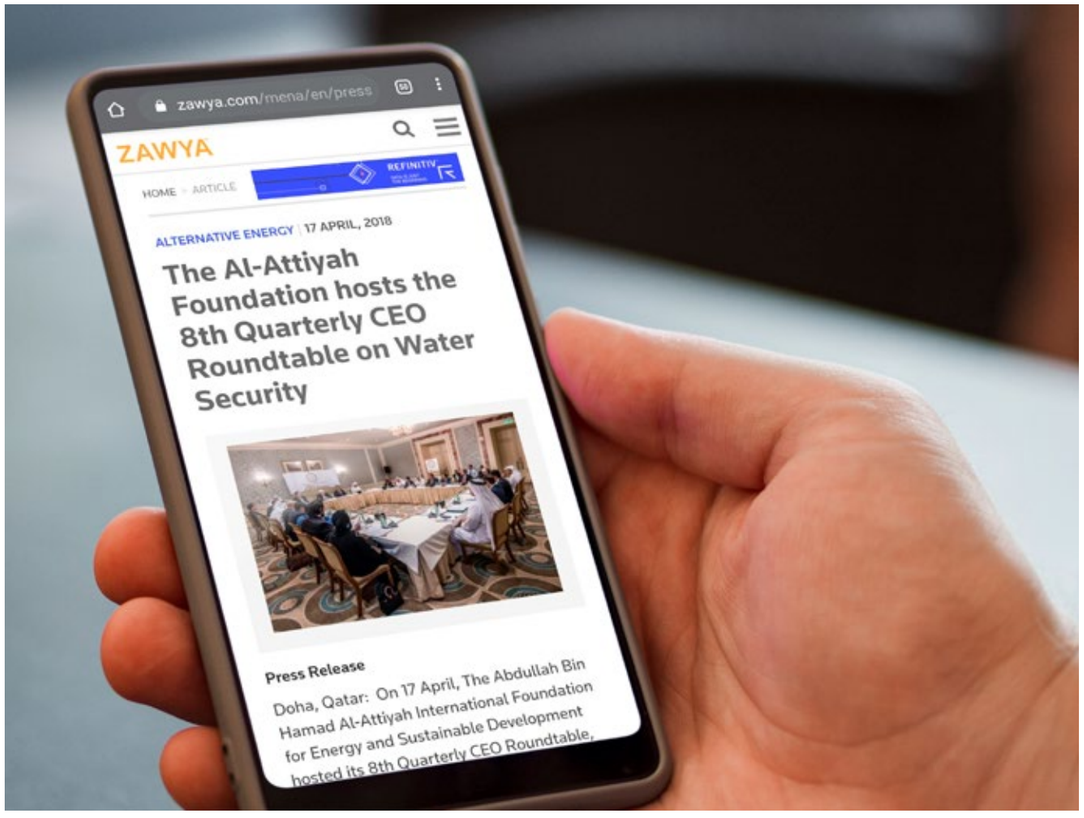
700,000 unique users per month

Branded Email to Subscribers

Link to Whitepaper mail out

Over **10,000** subscribers with interest in energy, sustainable development and GCC

Increased traffic to Foundation website




Corporate Social Responsibility
BEST PRACTICE GUIDELINES

EVENTS

CEO Roundtables

The Foundation hosted four quarterly CEO Roundtable Series in 2019. The dates, topics, list of high-profile international expert speakers, and summary outcomes from the discussions that were compiled into Whitepapers, were as shown in the Table below:

CEO Roundtable 1 – 19th March – Reducing Methane Emissions in the Oil and Gas Industry

International Guest Speakers	Summary Outcomes
1. Scott Foster, Director, Sustainable Energy Division, United nations Economic Commission for Europe (UNECE) 2. Braulio Pikman, Expert Advisor, Environmental Resources Management (ERM) 3. Frederik Rengers, CEO, WTS Energy Netherlands B.V. & Chairman of the Board of The Sniffers 4. Dr. Ioannis Economou, Associate Dean for Academic Affairs and Professor of Chemical Engineering at Texas A&M University	• There is an enormous opportunity for the natural gas industry to enhance its sustainability credentials and its market potential by addressing the challenge of methane, which is responsible for 25% of global warming. • If not tackled, methane emissions can become an existential threat for the whole sector. • Despite a lack of unified measurement and conflicting data about methane emissions, gas producers should not wait for local or global regulation and push ahead with mitigating measures that will not only boost credibility of the whole industry, but likely also their bottom line. • Public commitments by companies to methane emissions reduction targets and carbon footprint of their product can trigger more initiative across the industry. • At the same time, educating and spreading the awareness across the whole value chain, as well as to smaller producers and facility operators, are key to containing reputation damage from careless emitters in countries with laxer regulatory framework.

Public commitments by companies to methane emissions reduction targets and carbon footprint of their product can trigger more initiative across the industry.

CEO Roundtable 2 – 27th June – Petrochemicals: Changing Trends in Refineries

International Guest Speakers	Summary Outcomes
1. Prof. Paul Stevens, Distinguished Fellow, Energy, Environment and Resources Department, Chatham House 2. Eric Duchesne, Senior Vice President Manufacturing and Projects, Total 3. Dr. Andrew Spiers, Senior Vice President, Nexant Energy & Chemicals Advisory International 4. Alan Gelder, VP Refining, Chemicals and Oil Markets, Wood Mackenzie	• We live in a time of economic uncertainty. The energy is buffeted by potential responses to climate change and the need to reduce CO2 emissions on the one hand, whilst also responding to a growing world population demanding, progressing towards achieving the United Nations Sustainable Development Goals (SDG's)i on the other. • Historically, the basic economics of refining has been to refine at the place where demand exists - as crude oil and products are shipped by volume rather than weight - so it is always cheaper to ship crude rather than products! The advent of large crude carriers has emphasised this trend. • Small refineries were often established in crude supplying countries to provide a small domestic market and to ensure security of product supply. • Gradually, crude suppliers have sought to capture some of these refining margins (that is the price to be gained from selling refined products above the price of the crude oil). • All industries need to make a profit, so there is a continuous fight to achieve a margin, the difference between revenue and costs. The fossil fuel and petrochemical industries are no different. • The concept of refining-petrochemical integration stems particularly from the synergies in intermediate and by-products. Surplus and intermediate products from the refinery, such as aromatics, which do not have a ready end-market, can be used in the petrochemical plant; conversely, the refinery consumes methane and hydrogen, which are produced in excess by a steam cracker. • Most studies of the benefits of integration focus on the product synergies. However, there are a number of other areas of cost saving and value addition.

Historically, the basic economics of refining has been to refine at the place where demand exists – as crude oil and products are shipped by volume rather than weight – so it is always cheaper to ship crude rather than products! The advent of large crude carriers has emphasised this trend.

CEO Roundtable 3 – 12th September – Reducing CO2 Emissions from Energy-Intensive Industries

International Guest Speakers	Summary Outcomes
1. John Drexhage, Energy & Extractives Global Practice Consultant – The World Bank 2. Liv Rathe, Director, Corporate Climate Office, Norsk Hydro Ltd 3. Matthew Bateson, Senior Environment and Corporate Affairs Executive; Head of Environment, Climate Change & Legacy Management, Rio Tinto 4. Dr. Patrick Linke, Professor of Chemical Engineering Programme, Texas A&M University Qatar	• Reducing CO2 emissions in the electricity and transportation sectors has already received significant attention. However, the issue of heavy industry, which produces 24% of global greenhouse gas emissions, has not been examined in as much detail. • The Al-Attiyah Foundation's 3rd CEO Roundtable of 2019 focused on three heavy industry sectors. These are cement, iron and steel, and non-ferrous metal production. • Aluminium possesses the unique properties of being strong, lightweight and infinitely recyclable. It is now the second most widely used metal in the world. • The carbon footprint of primary aluminium production is mainly attributed to the CO2 produced from generating the electricity required to manufacture aluminium. • The iron and steel industry is considered to be vital for a country, particularly for economic development. • The steel industry accounts for more than 98% of iron ore consumption. • Leaders in the mining and metals sector have come to terms with the need to manage their own emissions created by the production of raw and processed materials. • However, the idea that there is a level of responsibility for the use of their products, is a much harder concept for some to frame and understand. • Cement is the largest emitter of CO2 amongst the selected heavy industries for the CEO discussion. • Around half the world's cement production is based in China. Consequently, China emits about half of the world's cement emissions. • Achieving decarbonisation of heavy industries will require the investment of a significant amount of resources. It is not possible for a single source of renewable energy to replace the energy that is currently derived from non-renewable sources.

The Al-Attiyah Foundation's 3rd CEO Roundtable of 2019 focused on three heavy industry sectors. These are cement, iron and steel, and non-ferrous metal production.

CEO Roundtable 4 – 4th December – Exploring the 2019 forces shaping our 2020 Outlook

International Guest Speakers	Summary Outcomes
1. Alan Gelder, VP Refining, Chemicals and Oil Markets, Wood Mackenzie 2. Gulmira Rzayeva, Research Associate, Oxford Institute for Energy Studies 3. Jos Delbeke, Former Director General, European Commission and now Professor at the European University Institute 4. Wil Wilson, Lecturer, Ahmed Bin Mohammed Military College	• The aim of the last roundtable of the year was to reflect upon the highs and lows of 2019 and how these might unfold in 2020. • There is growing recognition that the global energy system is undergoing a dramatic transition and that, if approached smartly, this transition presents unprecedented business opportunities for energy suppliers and investors. • The "trade spat" between the world's two largest economies (US & China) continues to perpetuate uncertainty, throwing markets into a spin. • After more than 2 years of the Saudi-led blockade, 2019 brought some glimmers of hope that things are improving. While the end of the blockade is by no means secured, Qatar continues to endure it with commendable poise. • The oil and gas industry is possibly unfairly but undeniably losing its attractiveness for the millennials (those born between 1981-1996). • Whatever one might believe about the effectiveness of the "climate emergency" agenda and climate activism, it has succeeded in putting an uncomfortable spotlight on the fossil fuel industry. • There is need to reframe the conversation about fossil fuels. Fossil fuels are not the enemy, CO2 emissions are. Oil and gas companies might be seen as the bad guys now, but they will definitely be seen as even worse guys if they are unable to meet the growing energy demand.

The oil and gas industry is possibly unfairly but undeniably losing its attractiveness for the millennials (those born between 1981-1996).

Whatever one might believe about the effectiveness of the "climate emergency" agenda and climate activism, it has succeeded in putting an uncomfortable spotlight on the fossil fuel industry.

Senior Managers Dialogues

The Foundation held two Senior Managers Dialogues, the day after the CEO Roundtables, thereby leveraging the inputs from the international expert speakers from the CEO Roundtables , The dialogues, that took place on 20th March and 5th December 2019, provided the opportunity to engage a larger audience consisting of senior managers nominated by members..

On 20th March, the international speakers provided insights on mitigatingmethane emissions from the oil and gas sector, as an effective goal to contribute to global effort to deliver on the Paris Agreement and to attain a number of the Sustainable Development Goals. The highlights of the inputs from the experts include:

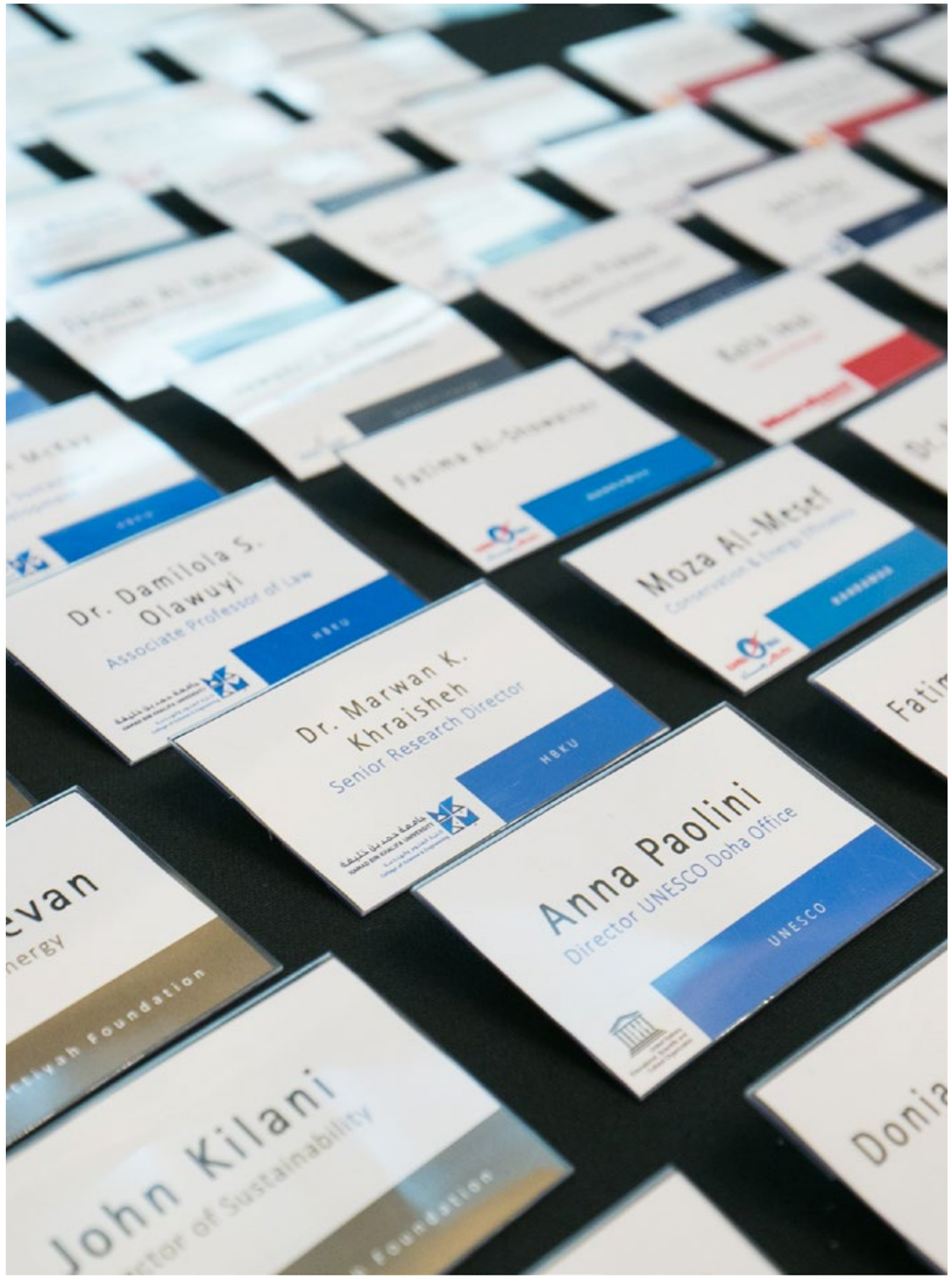
The crystal ball into the future, in terms of demand for petrochemical and refinery products

Essential considerations in deciding whether and where it is appropriate to integrate petrochemical and refinery operations

The economic, operational and technological challenges associated with integration of petrochemical plants and refineries and how the industry is addressing these challenges

Evolving innovative approaches, including efforts to continue to add value to petrochemical and refinery products through integration

The four expert speakers from the fourth CEO Roundtable were hostedat the second Senior Managers dialogue on 5th December, to share valuable insights that could contribute to efforts to improve profitability and opportunities for the petrochemical sector.. The primary objective of this particular dialogue was to reveal the key geopolitical and energy trends that influenced the world in 2019 and most importantly, focus on what or who might be disrupting the status quo in 2020.



The 2019 Abdullah Bin Hamad Al-Attiyah International Energy Awards for Lifetime Achievement

The Foundation's annual flagship event was held on 1st May 2019. The event was very successful and received wide coverage in local and international media. There were over 400 attendees, including 22 local and international leaders of industry and government at the Head Table, that was hosted by H.E. Abdullah Bin Hamad Al-Attiyah.

The following outstanding individuals were conferred with the 2019 prestigious Al-Attiyah Awards in the various categories:

I. H.E. Abdulaziz Ahmed Al Malki
Ambassador Extraordinary and Plenipotentiary to the Quirinale - Italy Non-Resident Ambassador to the Republic of San Marino - Lifetime Achievement for the Advancement of Qatar Energy Industry

II. H.E. Mohammed Hamad Al Rumhy
Minister of Oil and Gas, Sultanate of Oman - Lifetime Achievement Award for the Advancement of Producer-Consumer Dialogue

III. H.E. Dr. Yury Sentyurin
Secretary General, Gas Exporting Countries Forum- Lifetime Achievement Award for the Advancement of Gas Exporting Countries Forum (GECF)

IV. Diane Munro
Editor-in-Chief, Argus Media - Lifetime Achievement Award for the Advancement of International Energy Journalism

V. Kenneth B. Medlock III
Ph.D., James A. Baker, III and Susan G. Baker Fellow in Energy and Resource Economics; Senior Director of the Baker Institute Center for Energy Studies - Lifetime Achievement Award for the Advancement of Education for Future Energy Leaders

VI. Dr. Zhengrong Shi
Founder, Suntech Power - Lifetime Achievement Award for the Advancement of Renewable Energy

VII. Fu Chengyu
Former Chairman Sinopec Group - Honorary Award for International Energy Policy and Diplomacy

A video of the Awards ceremony was produced and publicised in social media and posted on the Foundation website.

Bosphorus Summit 10, Istanbul, 24-28 November 2019

The Foundation continued its strategic partnership with the organisers (UIP-ICP) of the 10th Bosphorus Summit, by again hosting an energy day, held on 24-28 November 2019.

The 10th Bosphorus Summit welcomed over 2000 global delegates presenting, discussing and voting on political, economic and cultural topics to provide insights and direction for national interest and the promotion of common ideals. The energy day hosted by the Foundation brought international energy experts for a panel session to discuss the "Geo-politics of Energy and Transitions to a New World Order". The panellists that included experts from Chatham House, University College London (UCL), and International Monetary Fund (IMF), highlighted the great challenges faced by the world in its efforts to de-carbonise the energy sector. The clear message from the discussion was that all energy sources will be required, in a global de-carbonising effort that should also involve societal changes and strong leadership from both industry and government.

> "The 10th Bosphorus Summit welcomed over 2000 global delegates presenting, discussing and voting on political, economic and cultural topics to provide insights and direction for national interest and the promotion of common ideals."

Event Participation

The other major international and local events that the Foundation participated actively, either through the Chairman, as keynote speaker or panelist, or through Foundation experts include:

No.	Event	Venue and Date
1	Presentation on "Change in the wealth of Qatar for the period from 2016 to 2018" – Qatar Petroleum.	Doha 06 February
2	Workshop titled " Energy Efficiency and Sustainable Development Programme " - Qatar Environment and Energy Research Institute (QEERI) and Hamad Bin Khalifa University (HBKU).	Doha 26 March
3	European Climate Summit - International Emissions Trade Association	Lisbon 15-17 April
4	Energy Outlook 2019 - ExxonMobil	Doha 02 October
6	Energy Security Roundtable - Munich Security Conference Foundation	Doha 29 October
8	International Conference on Sustainable Energy-Water-Environment Nexus in Desert Climate 2019 - Qatar Environment and Energy Research Institute (QEERI) and Hamad Bin Khalifa University (HBKU).	Doha 02-05 December
9	Special Session on "The history of natural gas in Qatar and the current global energy dynamics" – Doha Forum.	Doha 15 December
10	Workshop on "Promoting Demand for Natural Gas 2019" - Gas Exporting Countries Forum. (GECF)	Doha 16 December

PROJECTS

The Foundation continued to engage with members and partners in ongoing projects, throughout 2019. The following two projects were commenced or ongoing during the period under review:

1. Research Project in Collaboration with HBKU

A member sponsored project on, "Public and end user perception of the reuse of by-products of oil and gas industry (Bio-sludge and treated industrial water)", was initiated in 2018 and continued throughout 2019. The project ran under an ongoing partnership initiative with HBKU, under the guidance and supervision of the Foundation.

In 2019, the project team completed four defined phases of the study:

Background review

A literature review was carried out on the best practices for industrial effluent wastewater management in the oil and gas industry, as well as an assessment of wastewater effluent and bio-sludge from oil and gas operations.

Stakeholder mapping

To encourage an open discussion and feed-back, potential stakeholders were identified. The Stakeholder mapping plan was then conducted, highlighting the importance and influence of individual stakeholders through a Stakeholder engagement plan.

Field survey and data collection

An assessment of public perception on the use of TIW and treated bio-sludge was conducted predominantly through a national survey and interviews. Appropriate population sample areas were identified, and preliminary focus group survey and statistical analysis were carried out.

Conclusions and Recommendations

A concluding report and presentation have been produced, with a synthesis report on approaches for framing appropriate legislation in Qatar. The concluding reports are under the final review by the project steering committee, with plans to make a formal presentation of the findings to the Foundation's Board of Trustees and CEOs of member companies. The findings will also be used as the bases for The Foundation's third CEO Roundtable meeting of 2020, under the topic of Circular Economy.

2. Research Project focusing on Measures to Improve Energy Efficiency in Qatar.

The Foundation supported a two-year multi-stakeholder project being carried out by the Institute of Energy Efficiency Japan with funding provided by the Japanese government and Mitsui Qatar.

Some preliminary findings have been published and interviews with stakeholders in Qatar have been held.

PARTNERSHIPS AND COLLABORATIONS

The Al-Attiyah Foundation engages and partners with governments, the private sector, civil society and its members in debates, research and thought leadership. Building on its ability to convene key influencers and experts in their respective fields, the Foundation continued throughout 2019, to nurture mutually beneficial partnerships in the drive towards a sustainable energy future.

During the year under review, the Foundation continued to collaborate closely with the following organisations, through the form of formal MoUs:

UiP-ICP ULUSLARARASI İŞBİRLİĞİ PLATFORMU INTERNATIONAL COOPERATION PLATFORM

World Petroleum Council

MITSUI & CO.

NATIONAL COUNCIL ON U.S.-ARAB RELATIONS

ISAG ISTITUTO DI ALTI STUDI IN GEOPOLITICA E SCIENZE AUSILIARIE

مجلس قطر للمباني الخضراء QATAR GREEN BUILDING COUNCIL

GORD Gulf Organisation for Research & Development

جامعة حمد بن خليفة HAMAD BIN KHALIFA UNIVERSITY

KAHRAMAA كهرماء

In addition, the Foundation strengthened its good working relationships with the following organisations, knowledge partners, and local and international media outlets:

United Nations Global Compact

United Nations Framework Convention on Climate Change

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

iema Institute of Environmental Management & Assessment

GECF Gas Exporting Countries Forum

CHATHAM HOUSE

REUTERS

ALJAZEERA

GULF TIMES

MEMBERS

وقود WOQOD

قطر للبترول Qatar Petroleum

قطرغاز QATARGAS

QIC مجموعة قطر للتأمين QATAR INSURANCE GROUP

QNB

شركة الكهرباء والماء القطرية ش.م.ع QATAR ELECTRICITY&WATER CO. Civilization & Progress حضارة وتقدم

QAPCO شركة قطر للبتروكيماويات QATAR PETROCHEMICAL COMPANY

شركة نفط الشمال North Oil Company

DOLPHIN ENERGY دولفين للطاقة

QATAR AIRWAYS القطرية

SASOL

قافكو QAFCO شركة قطر للأسمدة الكيماوية QATAR FERTILISER COMPANY

QChem شركة قطر للكيماويات المحدودة QATAR CHEMICAL COMPANY LTD

NAKILAT ناقلات

ConocoPhillips

Marubeni

قطركول QATAR COOL

هليكوبتر الخليج GULF HELICOPTERS

نبراس للطاقة Nebras Power

excelerate energy

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www.abhafoundation.org
AlAttiyahFnd
The Al-Attiyah Foundation

The Al-Attiyah Foundation is the only independent, non-profit, Energy and Sustainable Development think tank based in Qatar. Over the last five years, the Foundation has become a hub for thought-leadership in the fields of energy and sustainable development, engaging world-renowned speakers to participate in a high-level dialogue series, conferences and panel discussions.