



EXPLORING THE 2019 FORCES SHAPING OUR 2020 OUTLOOK

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CEO Roundtable White Paper

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





INTRODUCTION

EXPLORING THE 2019 FORCES SHAPING OUR 2020 OUTLOOK

On the 4th December in Doha the Abdullah Bin Hamad Al-Attiyah International Foundation for Energy and Sustainable Development hosted its 4th CEO Roundtable of 2019, with the aim to reflect upon the highs and lows of the past year and how these might unfold in 2020. Four expert guest speakers shared their unique perspectives on what they believe should be the focus for 2020 and beyond.

The speakers' presentations, as well as the rich roundtable discussion that followed, explored the key geopolitical, energy and sustainability trends that influenced the world in 2019, as well as the key game-changing forces that might disrupt the status quo in the future.



CEO Roundtable Series

H.E. Abdullah Bin Hamad Al-Attiyah founded the CEO Roundtable Series as a platform for knowledge exchange and support for the global community in the quest towards a sustainable energy future. The quarterly events which have been hosted in Qatar for three-years are a crucial networking and learning opportunity in the calendar of industry CEOs.

CEO ROUNDTABLE SPEAKERS:



Gulmira Rzayeva

*Research Associate, Oxford
Institute for Energy Studies.*



Alan Gelder

*VP Refining, Chemicals and Oil
Markets, Wood Mackenzie.*



Jos Delbeke

*Professor, European University
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Wil Wilson

*Cyber Security Analyst, Defense
Contract Management Agency
(DCMA).*

MODERATOR



Axel Threlfall

Editor-at-Large, Reuters.

HISTORICAL CONTEXT

Any meaningful debate about the future of the energy market should be considered against the backdrop of the following:

- Global energy system:** growing recognition that the global energy system is undergoing a dramatic transition and that, if approached smartly, this transition presents unprecedented business opportunities for the energy suppliers and investors. Experts acknowledge this transition as "the investment opportunity of a century" with investable prospects in renewables – in energy transport, carbon capture and storage, green chemicals and grid interconnectivity infrastructure – adding up to a potential global value of \$4.3 trillion by 2030.
- Supply and demand:** with its growing shale-gas production, US is poised to join Australia and Qatar as a top global LNG exporter. Qatar Petroleum announced plans to boost its LNG capacity by almost two thirds to 126 million tonnes a year by 2027. 2019 has tipped the balance for gas and LNG into oversupply, and this is expected to continue into next few years due to the large number of new projects in the US, Russia and Australia scheduled to come on stream.
- Global geo-political landscape:** the "trade spat" between the world's two largest economies perpetuates uncertainty, throwing markets into a spin. Another key development, dubbed "the contract of the century", is the \$55 billion, 38 bn cubic meter pipeline between Russia and China – not only the largest gas project in history but also a symbol of Moscow's diplomatic pivot towards Beijing at a time of its worsening relations with the West.

US efforts to split up Russia and China ended up cementing the relationship between them.



WORLD OIL AND GAS OUTLOOK, AND THE IMPACT OF SHIFTING INVESTOR ATTITUDES

Global economic growth: Are the clouds breaking yet?

It seems we have dodged a global recession – at least for now – and economic growth in 2020 should recover from 2019. Positive numbers from China and Eurozone are boosting trade-sensitive sectors including oil and gas. IMF forecasts 3.4% global GDP growth in 2020, driven by easier financial conditions and growing hopes of the US-China trade rapprochement. However, we're not out of the proverbial woods just yet. The tentative 'phase one' trade agreement between US and China is a good first step but it's unstable, short-term and fragile; and a long-term comprehensive trade deal is still unlikely. This continued uncertainty about US-China trade spat, the resulting nationalism tendencies, the never-ending ambiguity about Brexit, and the looming 2020 presidential election in the US (not helped by the impeachment probe!) – these are some of the key risk factors that are dampening investor confidence worldwide. We should probably expect 2020 to be economically tumultuous.

Oil outlook: "supply cushion" looms over 2020 as world demand eases

US tight oil production growth has slowed from its 2018 peak rate but there are gains from other non-OPEC producers. There's no stopping the "hefty supply cushion" that is likely to build up during the first half of 2020. The International Energy Agency (IEA) forecasts that non-OPEC supply will add a massive 2.3 million barrels a day in 2020, with the growth coming from the US, Brazil, Iraq, Norway, the UAE and Guyana. In early December, OPEC announced to cut their oil production by another 500,000 barrels per day



Alan Gelder: VP Refining, Chemicals and Oil Markets, Wood Mackenzie

in the first quarter of 2020, which resulted in the experts' price predictions for 2020 ranging from just below \$60 to high \$60s per barrel.

World oil demand growth remains solid, although the pace of growth is slowing. China's growth slows while India's demand remains robust. Demand in the rest of the world is dominated by petrochemical projects, mainly in the US, which benefits from a cheaper feedstock as a consequence of the shale oil revolution. As a result of the rapidly growing focus on climate change, oil demand growth and the world's overreliance on oil are being vilified – at least in the Western societies.

The International Oil Companies (IOCs) must be able to demonstrate their adaptability to these evolving supply-demand dynamics in the oil markets, i.e. the ability to re-assess, re-scope and re-scale their conventional projects to ensure responsible deployment of capital and long-term resilience of investments to climate change.

Refining: the biggest regulatory shake-up in the product market is around the corner

Effective on the 1st of January 2020, the International Maritime Organisation (IMO) regulation bans high-sulphur fuel oil (HSFO) from the bunker pool. This new regulation – aiming to cut sulphur oxide gas emissions, protect public health and support the environment – mandates that vessels must use marine fuels with a maximum sulphur content of 0.5% compared to the current limit of 3.5%. This constitutes the largest reduction in the sulphur content of a transportation fuel ever undertaken at one time. While the spirit of the regulation might be clear and while the shipping and refining industries have been preparing for the new rules for several years already, the impact is uncertain. Experts warn that over-capacity looms across the downstream sector.

Growing investor distain for oil & gas?

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 and their responsibility to take urgent climate action. Investor attitudes towards the oil and gas industry are shifting – ranging from decreasing interest and nervousness, to unconcealed distain. The divestment campaign against fossil fuels is accelerating. According to the US-based environmental non-governmental organisation (NGO) 350.org, committed fossil fuel divestments globally reached \$11 trillion and come from organisations spanning all sectors of society: medical associations, governments, pension funds, private sector, cultural institutions and philanthropies.

Some examples include the \$1 trillion Norway's Government Pension Fund, The National Trust, European Investment Bank, Catholic Church to name a few.

Reactions are mixed. Shell listed divestment campaigns as a material risk in its latest annual report and is responding by transforming its business model. BP CEO Bob Dudley, said in 2018 that the climate activists' efforts could threaten energy security and the global economy. Bill Gates – co-founder of Microsoft and one of the world's most prominent philanthropists – argues that the climate activists are "wasting their time" lobbying investors to ditch fossil fuel stocks and would make more impact trying to shift financing streams to disruptive technologies that slow carbon emissions and help people adapt to a warming world.



Implications and recommendations for the future:

As the oil and gas majors strive to retain a social contract to operate in Western societies, they would be well served to:

- Assess how the growing investor and societal distain for fossil fuels impacts the analysts' valuations of oil and gas companies;
- Assess the resilience of their corporate strategies against the climate emergency activism and its demands;
- While these dynamics are creating a particular set of risks for oil and gas majors in the West, unique opportunities emerge for the Middle Eastern National Oil Companies (NOCs):
 - o Extract "lessons learned" from countries more advanced in their energy transitions (US, UK, Germany, Norway);
 - o Re-think how to diversify domestic economies from over-reliance on energy and towards manufacturing, technology and innovation sectors;
 - o Invest in technologies that decrease carbon emissions, and improve climate change mitigation and adaptation.

Geo-political oil dynamics are shifting in startling ways

One astonishing – even if not entirely unforeseeable – example of the oil geopolitical power balance shifting is China's recent purchase of Ecuador's almost entire oil supply. This marks a new milestone in China's

aggressive quest for foreign oil. Ecuador, an OPEC nation, pumps about 520,000 barrels per day but China's move shows how the Asian giant's oil firms are becoming powerhouse traders in energy markets far from home. "Never before has Ecuador committed its oil to a trader" said Rene Ortiz, a former Ecuadorean energy minister and secretary general of OPEC. Chinese funds will now cover 61% of Ecuador's financing needs, in return for which China can claim about 90% of Ecuador's oil shipments in coming years, a rare feat in today's diversified oil market.



Investors' changing attitudes about oil and gas

Total investment in fossil fuels exploration, production, refinery and transport could fall from \$12.5 trillion to \$8.8 trillion through 2030, while total investment in fossil fuels-based power generation could fall from \$3 trillion to \$1 trillion through 2030.

The fall is particularly abrupt for coal (-70%), significant for oil (-32%) and more limited for gas (-16%).

Source: COP23 panel by HSBC and Energy Transitions Commission.

CAN THE OIL AND GAS INDUSTRY THRIVE THROUGH THE ENERGY TRANSITION?

Energy transition, shifting the geopolitics of gas



Ms. Gulmira Rzayeva: Research Associate, Oxford Institute for Energy Studies.

The energy transition is a historically unprecedented challenge which requires historically unprecedented actions. It impacts the specific parts of the value chains differently. The power sector has seen a rapid expansion of renewable energy driven by emissions reduction policies, which forces the sector to grapple with the increasing risk of stranded assets. Network operators need to ensure their storage and transport assets are ready to accept the new gases such as biogas, biomethane or hydrogen. It's unclear how long beyond mid-2030s it will be possible to sell unabated gas in major EU markets. While the mid-2030 may seem a long time horizon commercially, it is rather short in terms of operational arrangements required for new exploration, infrastructure investment and long-distance pipelines.

This means a reduction in opportunities for pipeline exporters. Current reserves-to-production ratios in Russia, North Africa, Caspian, Middle East and U.S. allow for substantial exports of gas and LNG to the EU in the 2040s. The challenge is whether the IOCs can revamp their natural gas business to successfully compete in the net-zero carbon energy space.



"We must reframe the conversation about fossil fuels. Fossil fuels are not the enemy, CO2 emissions are!"



Are oil and gas companies transforming their business models quickly enough?

During the roundtable conversation, the oil and gas companies noted that while they're observing a shift in investors' attitudes towards fossil fuels, it is not so much distant as nervousness. Oil and gas players acknowledge the challenges of climate change and they are committed to being part of the solution. They're adjusting their strategies to address the three-legged stool of expectations: (1) shareholders' need for robust financial performance, (2) world's growing energy demand and (3) societal expectations for a cleaner planet.

An accelerated transition poses a significant challenge for IOCs and NOCs alike, disrupting business models and undermining profitability.

The dual challenge of transitioning to a decarbonised world, without jeopardising profitability, is not unsurmountable but it's not an easy feat.

A frequent challenge to the oil and gas executives is whether or not the industry is transitioning their business models quickly enough to respond to decarbonisation demands from society, governments and investors. The shared view around the table was that in the last decade, the energy industry has over invested and over spent, and as a result has not performed satisfactorily in the global investment market (that used to constitute about 11% of total investments and is now 4%), and it will now have to demonstrate rigorous financial discipline and portfolio resilience against climate change. There is a consensus that the industry as a whole must do a better job explaining the benefits of oil and gas for the wider society and the positive role the oil and gas companies play in the transition, e.g.:

- Improving access to energy for the about 1 billion people on earth without electricity and the 3 billion who cook using solid fuels that pollute their air and damage their health;
- Providing cleaner electricity from a combination of natural gas and renewable energy;
- Investing in innovative low-carbon technologies and renewable projects around the world;
- Underpinning modern society and fuel economic growth by supplying energy to power industry, heat homes and provide fuel for transport.

Implications and recommendations for the future:

- The gas industry must develop decarbonisation pathways including biogas, biomethane and hydrogen (from power to gas and reformed methane with carbon capture and storage).
- The cost of these technologies is high and the industry cannot rely on government funding. The industry must develop investable commercial models for these low-carbon pathways;
- To keep the social license to operate, oil and gas producers must be an active part of the energy transition debate and involve all stakeholder groups: fellow IOCs and NOCs, utilities, energy consumers, policy makers, NGOs and society at large. Unfortunately, social media tends to perpetuate the problem – there's more shouting than dialogue taking place, and the depth of the climate debate is too often "Tweeter deep".
- Hydrocarbons will continue to play a big role in the future energy mix. The task for the industry is to harness the power of these valuable resources, in line with societal needs, by providing energy in an environmentally friendly way.



In 2012, 3 years before the adoption of the Paris Accord, the 18th United Nations Climate Change Conference known as the Conference of the Parties (COP18) took place in Doha, when the amendment to the Kyoto agreement was agreed under the leadership of H.E. Abdullah Bin Hamad Al Attiyah, Chairman, Al-Attiyah Foundation, former Deputy Prime Minister and Minister of Energy and Industry. Other key issues on the table included decisions on transparency, finance, adaptation, and forests; and agreeing a work plan to negotiate a new legally binding international climate agreement by 2015. We have just emerged from COP25, which took place between 2-13 December 2019, in Madrid. What matters most now is the implementation of the commitments already made under the Paris Agreement, rather than adding new targets.

The EU has already taken determined action. In her acceptance speech Ursula Von Der Leyen, the newly appointed president of the European Commission, branded climate change an "existential challenge" for Europe and the world. Her vision for Europe is to become the first climate-neutral continent by 2050. To make this happen, the current goal of reducing emissions by 40% by 2030 (from 1990 levels) is not enough. Emissions reduction of 50% by 2030 and 90% by 2050 is required. Given that Europe's current level is 20%, these aspirations are ambitious.

Key pillars of EU 2030 Climate and Energy Framework:

- Greenhouse Gas (GHG) emissions reduction target: the core of the GHG reduction agenda is the EU Emissions Trading System (ETS). EU ETS is the world's



Jos Delbeke: Professor, European University Institute.

biggest scheme for trading greenhouse gas emissions allowances. Launched in 2005, it covers about 11,000 power stations and industrial plants in 30 countries, whose carbon emissions make up almost 50% of EU total. Today its carbon price is around €25 per tonne and is expected to increase. Other countries have since introduced their own schemes, many of which are based on the EU's: California, Canada, New Zealand, South Korea, Kazakhstan, China (nationwide ETS launching in 2020). More countries are looking into implementing similar programmes: South Africa, Mexico, Chile and others.

- Share of renewables energy target: binding target for 2030 is minimum 32% of final energy consumption with major build-up coming from wind and solar aided by their continued capital cost decline. Meeting this target will be challenging due to the complex and costly infrastructure network required for renewables penetration into the market (grids, pipelines, storage technologies and battery capacity).

- Energy efficiency improvements: EU has policy measures on energy efficiency in all stages of the energy chain, including energy generation, transmission, distribution and end-use consumption. Policy considers issues such as energy-efficient renovations of buildings, energy efficiency certificates for building sales and rentals, energy labeling and eco-design of household appliances, smart electricity meters etc.
- Sectors such as light and heavy transport, aviation, fluorinated gases are also addressed in the framework.

Climate change policies are not an excuse for EU de-industrialisation

When announcing the EU Green Deal on 11th December, Mrs. Von Der Leyen emphasised that climate change policies should not be an excuse for allowing the export of strategic, valuable industrial activities from the EU. Re-industrialisation is a top strategic goal for the EU. Technologies that enable industrial decarbonisation are getting massive investment: hydrogen, power-to-gas, CCS and CCUS, batteries, energy storage, electric vehicles. The EU Green Deal contains 50 policy measures, including a legally binding target of reducing EU emissions to net zero by 2050, a carbon border tax to prevent companies from relocating outside the EU to avoid climate legislation, a €100 billion Just Transition fund to help coal-reliant regions, and a policy to not conclude any free trade agreement with a country who is not a signatory to the Paris climate agreement (currently US is the only one).

Implications and recommendations for the future:

- Expect more and higher carbon taxes.
- Expect more low-carbon innovations, particularly in energy, transport, and industry sectors.
- Expect taxonomy on green investments and green bonds.
- Pro-active EU policy towards G20 countries and Africa is under development.



DECARBONISATION POLICY FRAMEWORK: EU EXAMPLE

- Central and private banks as well as pension funds will face more shareholder pressure to consider climate change risks in their portfolio decisions (and potentially to divest away from fossil fuels).
- Further shifts in energy economics (particularly related to renewables-and-gas systems unlocking the intermittency issues) and investment flows to Africa to unleash power of solar and affordable financing.
- Bright future for hydrogen in heavy industry, particularly steel, with 90-95% emissions reduction potential. Hydrogen is a huge enabler of EU's re-industrialisation agenda, which makes it a strategic priority.

Key highlights and lowlights from COP25 in Madrid

- Emissions are going up. According to Global Carbon Project's annual report tracking carbon emissions, despite a decline in coal use, emissions are rising due to growth in natural gas and oil. Current policies are too weak to achieve the "well below 2°C" Paris goal.
- 600 asset managers with \$37 trillion under management demanded to end countries' \$5.1 trillion fossil fuel subsidies.
- Chevron \$10bn asset value write down signaling worries about long term value of oil and gas.
- US and Saudi Arabia rank bottom of new global climate action rating.

- Dutch government to ban coal from 2030.
- New report: "oil, gas and climate" finds that the oil and gas industry plans to invest over US\$1.4 trillion in new extraction in the US, Canada, Norway and Argentina make it impossible to achieve the Paris goals. The report calls on bans on fossil fuel licenses, removal of finances and subsidies, and creation of just transition plans for communities and workers.
- Climate Target Update Tracker will track governments' updated 2030 targets (Nationally Determined Contributions or NDCs) and analyse how much more improvement is needed to meet Paris goals.

Source: <https://unfccc.int/cop25>.



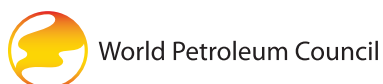


OUR MEMBERS

Currently the Foundation has over fifteen corporate members from Qatar's energy, insurance and banking industries as well as several partnership agreements with business and academia.



Our partners collaborate with us on various projects and research within the themes of energy and sustainable development.





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