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Reflections from #FII2019: How will the energy company of the future look?

As we leave the Future Investment Initiative (FII 2019), we also prepare to wrap up 2019 and reflect on energy growth stories for 2020. In our world, wrapping up 2019 means dissecting 3Q energy financials (of listed companies please, not just the one that is not yet listed), checking whether Brent is still hovering around $60 per barrel, tracking WTI-Brent differentials to make sense of US shale production numbers, declining LNG prices in Asia and Europe (JKM and TTF reached less than $5 and $2.5 per MMbtu respectively in September), quantitative easing efforts (so as long as we don't call them so), Libor, US yield curves, low interest rates, FX dynamics, and so much more.

2019 has been a year of game-changers for the energy sector. These include non-traditional surgical warfare on oil and gas installations in the Gulf, redeployment of US troops, escalation of trade wars (US with China and Europe, Japan-Korea…) coupled with a never-ending Brexit. Add to it significant public backlash against economic policy issues in Iraq, Ecuador, Lebanon and Chile. Game changers were followed by calming statements and "business-as-usual" strategies.

Underneath the surface, however, profound transformations are shaping the energy company of the future. Energy Minister H.R.H Prince Abdulaziz Bin Salman set the tone at the FII by not discussing short-term oil production decisions or Saudi Aramco's IPO which "will come at the right time with the right approach, and definitely with the right decision." He preferred to launch a campaign on the "circular carbon economy" for sustainable growth, ahead of the G20 meeting hosted by Saudi Arabia in 2020. The 4Rs (reduce, reuse, recycle and remove) approach to fossil fuels emissions reflect several initiatives driven by the Ministry and Saudi Aramco over the last few years: e.g. energy efficiency programs in buildings and industry, vehicle efficiency, energy pricing reforms, carbon capture and utilization. Since 2012, Saudi Arabia's energy intensity of GDP decreased by 8%, alongside global benchmarks (global intensity decreased by 12%). The conversion of natural capital, including its carbon stock, into manufactured and human capital must continue.

Fiscal regime applied to Saudi Aramco

"The Government adopted the following changes to the fiscal regime under which the Company operates, effective as of 1 January 2017:

- the income tax rate applicable to Saudi Arabian Oil Company was reduced from 85% to 50% (the Company's interests in in-Kingdom subsidiaries are generally subject to a 20% tax rate, unless such subsidiary is engaged in the production of oil and its associated hydrocarbon products)
- royalties payable by the Company are paid based on production rather than sales and are recorded as an expense rather than a reduction in revenue; and
- the Government implemented an equalization mechanism to compensate the Company for the revenue it directly foregoes as a result of selling crude oil, kerosene, diesel, heavy fuel oil and gasoline in the Kingdom at regulated prices.
  In addition, effective from 1 January 2018, a 20% rate applies to the Company's taxable income related to the exploration and production of non-associated natural gas..."

"Crude oil and condensate production value is based each month on the Company's official selling prices for each destination market. The effective royalty rate is determined based on a baseline marginal rate of 20% applied to Brent prices up to $70 per barrel, increasing to 40% applied to Brent prices above $70 per barrel and 50% applied to Brent prices above $100 per barrel."

"Production royalties due on natural gas, ethane and NGLs … are calculated based on a flat royalty rate of 12.5% applied to a factor established by MEIM. As at the date of the Base Prospectus, the factor to which this royalty is applied is $0.035 per MMBTU for NGLs (propane, butane and natural gasoline) and $0.00 per MMBTU for natural gas (methane) and ethane."*

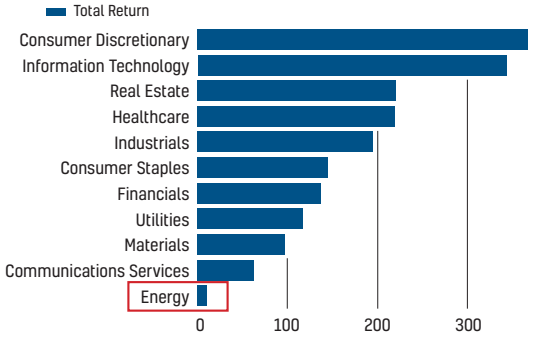
*Excerpts from *Saudi Aramco's Base Prospectus* dated 1 April 2019, Global Medium-Term Note Program

2019 might be the year where we see the lowest oil demand growth since the 2008 financial crisis (+1 MMbd vs less than +800,000 bd). Even after the largest disruption in history following the attacks on Abqaiq and Khurais, energy markets witnessed the occasional knee-jerk reactions, before being hit by the reality of demand fundamentals and crude quality differentials. With petrochemicals the only possible bright spot for future oil demand growth, it is not surprising to see sustained efforts towards vertical integration into refining, petrochemicals and marketing.

Flexibility, scale, and mobilization of significant financial resources to finance working capital and manage price risk are vital. In an increasingly competitive environment, even high-volume low-margin businesses, such as trading, are critical in integrated models. This is particularly true in natural gas, which is still struggling to position itself as a 'destination fuel'. Several oil and gas companies are deploying relentless efforts to build up integrated LNG portfolios, from production, liquefaction, to trading and shipping, regasification, and marketing. Interestingly, National Oil Companies (NOCs), as directed by their governments, seek to extract additional value from the finite sovereign oil or gas resources, hence the massive capital-intensive refining or even crude-oil-to-chemicals schemes. In such cases, the 'obsolescing bargain' concept takes on a new dimension. Fiscal terms are renegotiated based on new environment and investment needs in order to continuously optimize the value extracted from hydrocarbons (see fiscal regime applied to Saudi Aramco box).

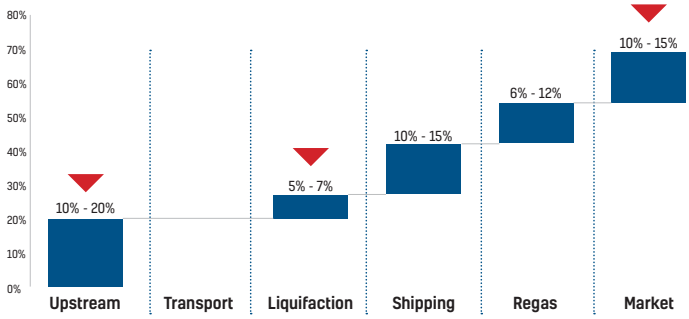
FII 2019 was also a reminder of the dilemma facing the energy sector. The latter may be best summarized in these two graphics: relatively low shareholders' returns and squeezed margins across the value chain. The energy sector provided one of the lowest returns to shareholders during the last decade among the S&P 500, and by a wide margin. Parts of the energy sector seem undervalued given the persistent fear of stranded assets. In parallel, the right-hand graphic shows the specific example of the gas sector, where returns are also being squeezed in the different parts of the value chain. The same is happening across the board. To manage energy transitions and provide an attractive value proposition for investors, energy companies want not only to stabilize earnings by benefiting from counter-cyclical profits, but also to maximize margins across the value chain.

S&P 500 Sector Returns
Total Return (%)



Sept. 6, 2009- Sept. 6, 2019
Source: Bloomberg
FT

Gas Value Chain Options and Typical Returns
Returns hurdle rate of 15% leads to integrated value chain plays



So what is next for oil & gas? "just another investment asset class" or a marriage of reason?

For corporate strategies, a low-carbon world means even more integration, optimization and scale. The 21st century version of the 'license to operate' creates clear imperatives to create or protect value, optimize synergies and build large enough scale. The next step is to seek growth by further optimizing the balance sheet and mobilizing multiple financial resources.

A possible emerging model of integration could be between oil and gas companies and investment funds, including potentially Sovereign Wealth Funds (SWFs). The journey of integration is a marriage between two (or more) different business models, operating cultures, return expectations, and time horizons. US shale, for example, benefited partly from long-term commitments of Private Equities. If the same happens at a large scale, we could see a new industry structure emerging in a low-carbon world and benefiting from scale, flexibility and significant financial resources. In Saudi Arabia, it remains to be seen whether there will be further rapprochement between the PIF and Saudi Aramco. And, as history will continue to teach us, there are marriage terms that take longer to hammer out.

For NOCs, budget autonomy and the ability to keep parts of the sales to invest in maintaining or expanding capacity have been key differentiators. The current financial model enables the most active NOCs (Saudi Aramco, Qatar Petroleum, Petronas) to deliver on their strategies and capacity plans. NOCs with no control on their finances struggle - if not fail altogether- to meet their targets. Table 1 shows the dynamics of governance between selected SWFs and the NOCs in the same country, in addition to the fiscal terms governing the relationship between the NOCs and their governments.

Table 1: Dynamics of governance between SWFs and NOCs and fiscal terms

SWF	Financial backing	Investment strategy	Link with "NOC"	Fiscal/contracts	IPO
Qatar Investment Authority (Qatar) ($170 bn)	Excess oil & gas revenue	Undisclosed – significant stakes in foreign companies, participates in buyouts	CEO of QP on QIA's board. QIA's subsidiary Qatar Holding invests in energy globally	QP pays to MoF tax (35%), no royalties, profit sharing. State receives dividends from QP's affiliated companies. PSAs.	e.g. Gulf International Services (30% QP- 2008)
Government Pension Fund (Norway) ($847 bn)	SDFI, petroleum taxes, dividends from Equinor	Global asset allocation: 60% equities, 40% global fixed income	3% ownership Folketrygdfondet (largest institutional investor on OSE)*	Equinor pays dividends, taxes (25%) and exploration fees. No royalties on fields post- jan 1986, or 8-16%.	2001. 67% government-owned today.
Khazanah Nasional Berhad (Malaysia) ($37 bn)	Ministry of Finance sole shareholder; "non-commodity", bonds/sukuk.	Investments in diverse sectors (aviation, financial services, power, telecoms, HC). 90% in strategic industries in Malaysia.	No link. Prime Minister chairman of KNB board.	Petronas free to operate alone or with IOCs. PSAs. Taxes (38%) and royalties (max 10%). Dividend Payout Ratio 55-70%.	Considered 2010-2011. Subsidiaries floated.

** Focus on Statoil, now Equinor. Petoro manages interests in JVs/SDFI, supervises Equinor for sale SDFI oil (State's holdings in production licenses in NCS)*

Generally, success in the wider relationship between the State, through a regulating entity or a ministry, and an NOC exists when integration is embodied at all governance levels. Even when the NOC enjoys high operational autonomy, the State is either represented on the Board to ensure continued alignment with the national intent, or it maintains direct interests in the assets.

However, in the models existing so far, there is limited to no link between the SWF and the NOC. In the specific case of Saudi Arabia, a lot will depend on PIF's risk tolerance. If PIF concentrates more on its "saving fund" role (e.g. ADIA, CIC- average risk tolerance), there should be limited interface between the two entities with no direct participation in oil and gas resources profits or equity. If PIF prefers higher risk (e.g. QIA, Mubadala, or other so-called Reserve Investment Corporations - RICs) with direct participation in resource profits, the duo could reach unprecedented scale with the financial leverage of the SWF and the operational efficiency of the NOC, coupled with its relentless integration efforts from massive upstream oil production and refining, to global gas and petrochemicals. However, RICs are typically much smaller in size, because of the higher risk, and sovereign immunity considerations were occasionally raised.

If done the right way, this nonetheless appealing configuration would be totally uncharted territory for the industry, and could open a 4th chapter in the industry structure (the unbundling of Standard Oil in 1911, the nationalizations of the 1970s' and the IOCs M&As in the 1990s being the first three). That is a big if, given the competition for capital and resources from other sectors and financial assets, domestically and abroad, with different risk profiles: e.g. technology funds, tourism, entertainment, real estate.

What is next for utilities and renewables? Smaller scale, more grids and storage

Here, the story gets less theatrical but nonetheless remains interesting, because electricity generation becomes distributed, smaller scale and at times deregulated and smart. **Renewables are the 2nd preferred infrastructure industry for institutional investors.**

The momentum to reinforce national contributions under the United Nations Framework Convention on Climate Change (UNFCCC) is possibly the highest ever. However, there are a few issues to highlight. Global climate governance is deeply questioned, as is the role of multilateralism, free trade and global security. Even the alarming October 2018 Intergovernmental Panel on Climate Change (IPCC) report did not accelerate change. There is a growing realization of the complexity of the task and the wide variety of stakeholders' needs and interests: industries, politicians, citizens and tax-payers, energy consumers, energy suppliers, vulnerable populations, and so on. There is also a growing realization that the existing energy system, which took a large part of the 20th century to build, has "sync costs" that cannot just simply be written off.

In fact, the two fastest growing energy technologies in history, renewables and nuclear, benefited from two main aspects: when the debate was depoliticized (nuclear) and where there is a combination of intensive R&D, government incentives, enabling market mechanisms and free trade (solar PV). The same dynamic, at a slower pace, is happening in energy storage and batteries, in mobility, and efficiencies in process/heavy industries. The wider electrification of the economy puts additional pressure on the utilities sector to decarbonize faster. Vaclav Smil reminds us that our increased energy and power density needs require different technologies and fuels, to address emissions in the different utilizations.

However, at small-scale, distributed level, even when regulators show enough creativity to reward flexibility, investors remain wary of regret costs. This is reinforced in a context of decreasing costs, uncertainties about winning technologies and concerns about commodities needed for specific technologies. Until carbon prices are formalized, conventional funding is more available for large-scale well-rated companies, leaving smaller players, typically testing new technologies, tapping into tailored funding mechanisms (mini-perms, green bonds, aggregation of projects as well as soft loans and crowdfunding). Renewables certainly benefited from these, but the rest of the value chain (including storage) is lagging.

In conclusion

Switching back to our short-term market fundamentals, oil markets might well be entering a down-cycle, barring a major macro-economic surprise or a supply disruption. Despite concerns about US shale growth, Non-OPEC crude production growth could still reach 2MMbd (Brazil, Canada, Norway, Russia), plus there is always the need to accommodate more production from post-war OPEC countries. If supply growth does not decelerate, these downside risks are ingredients for a shift in oil producers' policies to defend market shares. On the macroeconomic side, despite bright spots from the large emerging economies (Mexico, Brazil, Russia), there are still concerns that the global economy might "slip into" recession given unstable trade policies and the ballooning corporate debt-at-risk (estimated by the IMF to rise to $19 trillion in the case of a material economic slowdown). Institutional investors, desperately seeking yield, have been taking on riskier and less-liquid securities. Welcoming 2020 will be stimulating.

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