

Time for Renewables in KSA

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With COP25 having taken place in Madrid it is time to take a fresh look at the prospects for renewable energy in Saudi Arabia. Before doing so, it is also worth revisiting our previous survey [\[1\]](#) of the geopolitical context in which climate measures are being taken and examine the governance, risk and compliance framework which is reasonably foreseeable to be adopted in the short to medium term. Finally, we will look at concrete measures which are being taken in Saudi Arabia to address the challenge of climate change.

Regulatory Stepping Stones

The Extinction Rebellion protests which took place this summer in London and other major cities were hard to miss. Thousands of interested citizens, many of whom would previously not have contemplated participating in direct political action, drawn from the broadest spectrum of ideological backgrounds, were determined to engage in peaceful protest (and yet risk being arrested) in order to focus attention on the climate crisis. Basing their actions on the hard science of climate change, they have certainly succeeded in ratcheting the issue up political and corporate agendas. Although the rhetoric and tactics of the protests have drawn criticism, the direction of travel is clear. The protestors are however the tip of an iceberg - the

divestment movement, which seeks to encourage institutional investors (such as sovereign wealth funds, banks, global asset managers and insurance companies, cities, pension funds, health care organisations, universities, faith groups and foundations) to reconsider their portfolios on ethically green lines has had a profound impact. The value of portfolios committed to divestment have increased from US\$52 billion in 2014 to more than US\$11 trillion in 2019, an increase of 22,000 per cent. [\[2\]](#)

Progress will however have to accelerate if the Intergovernmental Panel on Climate Change ('IPCC')'s warnings are to be heeded. The reality is stark: [\[3\]](#)

- implementing current unconditional Nationally Determined Contributions ('NDCs') would lead to a global mean temperature rise of between 2.9°C and 3.4°C by 2100 relative to pre-industrial levels, and continuing thereafter; and
- the current level of NDC ambition needs to be roughly tripled for emission reduction to be in line with the 2°C goal and increased fivefold for the 1.5°C goal.

A temperature rise of more than 2°C would be catastrophic. We have already breached the 1.1°C threshold.

Unsurprisingly, the requirement to report climate impacts on a regular basis is likely to become a fact of life for all corporates as part of their Governance, Risk and Compliance ('GRC') frameworks. The Task Force on Climate-related Financial Disclosures ('TCFD'), led by former Mayor of New York, Michael Bloomberg, has been particularly active in this regard. The foreword to the June 2019 TCFD [\[4\]](#) report bears repetition here:

"Based on a recent report issued by the [United Nations'] Intergovernmental Panel on Climate Change urgent and unprecedented changes are needed to meet the goals of the Paris Agreement." The report warns limiting the global average temperature to a maximum of 1.5°C "require[s] rapid and far-reaching transitions in energy, land, urban and infrastructure [systems] (including transport and buildings), and industrial systems." In fact, according to a recent United Nations Environment Programme report on emissions, global greenhouse gas emissions have to peak by 2020 and decline rapidly thereafter to limit the increase in the global average temperature to no more than 1.5°C above pre-industrial levels. However, based on current policies and commitments, "global emissions are not even estimated to peak by 2030—let alone by 2020." As a result, governments and private sector entities are considering a range of options for reducing global emissions, which could result in disruptive changes across economic sectors and regions in the near term."

The World Economic Forum ('WEF'), famous for its Davos meetings of key leaders at the public/private interface, also continues to work with members of its Alliance of CEO Climate Leaders. WEF is also partnering with law firms to help corporate legal departments better understand climate-related risks. Climate governance principles have been promulgated for how corporate boards should address climate-related risk. Furthermore, in April 2019, S&P Global Ratings released its Environmental, Social, and Governance ('ESG') Evaluation Analytical Approach. [\[5\]](#) The ESG Evaluation "is a cross-sector, relative analysis of an entity's capacity to operate successfully in the future and is grounded in how ESG factors could affect stakeholders." The ESG will assess (at the request of an entity) whether and to what extent a company has complied with the TFCFD's 11 recommended disclosures related to climate change which include measures under governance, strategy, risk management and the setting of metrics and targets. Other ratings agencies (including Fitch and Moody's) are also active in this new market for tangible validation of sustainability measures.

The reality of these measures and their perception in the market will become determinative of corporate success in the future. As Mark Carney, Governor of the Bank of England and recently appointed UN Special Envoy for Climate Action and Finance, has said: "There will be industries, sectors and firms that do very

well during this process because they will be part of the solution...but there will also be ones that lag behind and they will be punished.” His core message is that: “Companies that don’t adapt will go bankrupt without question.” These are the considerations which will animate innovation for the foreseeable future. General Counsel in all sectors should be raising and discussing these issues with their commercial counterparts as a standing agenda item in all ESG/GRC meetings – not just in terms of their own businesses but also as regards their supply chains.

At a time when digitisation and innovation are key themes for business it also worth noting that the global energy burden of ICT could comprise 20 per cent of all the world’s electricity demand by 2025. The fourth industrial revolution will therefore have to be very carefully calibrated to take account of its environmental footprint. The challenge is clear:

“The situation is alarming,” said [Anders] Andrae, who works for the Chinese communications technology firm Huawei. “We have a tsunami of data approaching. Everything which can be is being digitalised. It is a perfect storm. 5G [the fifth generation of mobile technology] is coming, IP [internet protocol] traffic is much higher than estimated, and all cars and machines, robots and artificial intelligence are being digitalised, producing huge amounts of data which is stored in data centres.” [6]

Moreover, the kinds of reporting requirements described above are likely to harden: Carney has warned major corporations that they have two years to agree rules for reporting climate risks before global regulators devise their own and make them compulsory. [7] The International Renewable Energy Agency (‘IRENA’) predicts that nearly US\$148 billion will be required each year until 2050 to limit global temperature increases to 1.5 C above pre-industrial levels – investment on this kind of scale will be subject to significant scrutiny and reporting requirements. Raising funds for significant projects or innovations that do not have auditable green credentials will be difficult if not impossible. If this is not easy reading for those engaged in oil and gas, it is deeply troubling for the shale industry which has, in recent years, operated as a kind of thermostat on the global oil price but remains a deeply polluting source of hydrocarbons. Moreover, businesses which do heed Carney’s warning and accept the challenge of moving towards carbon neutrality will want to see that regulations are enforced locally and internationally.

It’s not just Mayor Bloomberg, Governor Carney and the WEF. The European Union has agreed (subject to EU Commission approval) a new set of rules governing which financial products can be called ‘green’ and ‘sustainable’. [8] The initiative classifies products into three levels, and also requires full disclosure of all financial instruments, forcing funds without any sustainability claims to disclose that they are not assessed under the green criteria. Under the agreement, all financial products that claim to be green or sustainable will have to disclose exactly what proportion of their investments are environmentally friendly. “With credible and ambitious definitions for sustainable investment the EU will lead the world in sustainable finance...now that we have credible definitions on which economic activities can be considered sustainable, the new Commission will have to start preparing to clearly identify environmentally harmful activities and the investments that currently support them” said EU lawmaker Bas Eickhout, lead negotiator on the matter.

More Than Green Shoots

In 2016 [9] Saudi Arabia’s Vision 2030 development blueprint recognised that “the kingdom’s impressive natural potential for solar and wind power generation remains largely untapped” and pledged to generate 9.5GW of renewable energy by 2030. 2016 now seems like a long time ago – and initiatives have rapidly expanded in their ambition and scope. Commentator Jonathan Gornall observes:

“Saudi Arabia, equipped with the motivation and the funds to carry out bold renewable-energy projects, has shown it can act fast. It is, after all, less than three years since the very first wind turbine was installed in the kingdom – tellingly, to supply 2.75MW of electricity to a facility in Turaif belonging to Saudi Aramco, the world’s largest oil and gas company.”

Much has been written about the short-term success of the recent Saudi Aramco IPO – but perhaps the key determinant of its long term impact will be the ability to sustain and accelerate the kind of progress described above, and at a pace to maintain alignment with the kinds of international reporting benchmarks that are likely in future – noting what is said above about the huge surge in data storage requirements. Aramco is not the only large industrial consumer of power in the Kingdom; where it leads others must follow. With a young population that is adept at adopting new technology, contributing to the tsunami of data indicated above, the imperative is clear.

The opportunity is however significant, according to Michael Hayes [\[10\]](#), global head of renewables, KPMG International (reported in Arab News 20 November 2019):

“The amount of capital required to support the energy transition is vast and it is for this reason that a whole new sector called green finance has emerged in recent years delivering new products such as green bonds and green insurance. Much of the expenditure in renewables over the next 20 years will be in emerging markets and so Saudi Arabia should concentrate on creating a centre for green finance for emerging markets”.

The Saudi government intends to attract between US\$30 billion and US\$50 billion in new investments into renewables by 2030, as it plans to tender around 9.5GW of solar and wind capacities by 2023. More broadly, the government has embarked on a series of initiatives that are squarely aimed at improving the state’s green performance.

In July 2019, Renewable Energy Project Development Office (‘REPDO’) of Saudi Arabia’s Ministry of Energy, Industry and Mineral Resources (‘MEIM’) announced a new global record low LCOE (levelised cost of electricity) for the 400MW Dumat Al Jandal onshore wind project which closed at 1.99 US c/kWh. This comes after REPDO successfully awarded the 300MW Sakaka photovoltaic (‘PV’) project which also broke global records for the lowest LCOE for solar PV at 2.34 US c/kWh during the time of bid. The two projects will contribute to the Kingdom’s target of 27.3 GW of renewable energy capacity by 2024 and 58.7 GW by 2030. Following the successful financial close of the Dumat Al Jandal project, REPDO recently launched the tendering process for six new projects with a combined energy capacity of 1.47 GW. A further six projects are on track to be tendered by the end of 2019, bringing in an additional 1.58 GW of renewable energy capacity. All projects tendered by REPDO are 100 per cent IPPs that will be backed by 20 to 25-year power purchase agreements.

REPDO also announced details of the bidding process and the timeline for 12 renewable energy projects. In June 2019, REPDO qualified 60 companies, including 28 from Saudi Arabia. Qualified companies will now proceed to the RFP stage as either managing member, technical member, or under a newly-created category of ‘local managing member’. This new category will encourage greater local and international partnerships during the forming of bidding consortiums.

The projects, which are part of the Kingdom’s Round Two of the National Renewable Energy Program (‘NREP’), are divided into small ‘Category A’ projects with the capacity to produce 100 megawatts (‘MW’) or less, and larger ‘Category B’ projects with a capacity above 100 MW. The smaller-scale projects are designed to create greater opportunities for local companies to participate in NREP. In January 2019, REPDO invited expressions of interest for the first six solar PV projects to be tendered in Round Two of the NREP, with generation capacity ranging from 20 to 600 MW. This is compared to a total of 42 companies which qualified for Round One NREP projects in 2017.

The Ministry expects these projects to attract approximately 5.2 billion Saudi riyals (US\$1.4 billion) of private sector investment. All Round Two projects will require a minimum percentage of local content that will be calculated according to the mechanism defined by the Local Content & Government Procurement Authority ('LCGPA'), which aims to increase the value added contribution of products and services to the national economy. As part of Vision 2030, NREP paves the way for the Kingdom to build a reliable and efficient domestic renewable energy sector over the next decade, and these will include power generation projects as well as local manufacturing of related components. Projects within Round Two will carry a minimum requirement of 17 per cent local content as calculated by the mechanisms defined by the LCGPA, which aims to increase the value-added contribution of products and services in the national economy.

It is not just big projects that are in play (and we have not touched on mega-projects such as Neom in this article). The King Abdullah Petroleum Studies and Research Centre ('KAPSARC') recently published a study [11] in relation to rooftop solar installations in Mosques. A 124 kilowatt PV system was installed and commissioned on the rooftop of a mosque in Riyadh, Saudi Arabia. With net metering, PV reduces the mosque's energy bill by 50 per cent. With appropriate planning, net metering could bring the bill down to zero. Using satellite data the KAPSARC analysis considered rooftops in residential, mosque, shopping mall, and health care buildings within the Riyadh area. The upper limit of rooftop solar PV capacity that can be deployed in the city of Riyadh was found to be 4.34 gigawatts (GW). This capacity represents nearly 22 per cent of the peak load and can satisfy approximately nine per cent of the energy requirement in the greater Riyadh region. The prospects for rooftop solar in the Kingdom are significant. The Public Investment Fund has also recently established the National Energy Services Company ('Tarshid'), a collaborative effort between the Ministry of Energy, Industry and Mineral Resources, the Ministry of Finance and the Saudi Energy Efficiency Center, to act as a catalyst for the development of a more energy efficient Saudi Arabia. Its particular focus will be buildings and street-lighting retrofits and renewable energy. These kinds of benchmarks will also have to wash through to the country's emerging PPP programme. Seeding this kind of local ecosystem will create thousands of sustainable jobs – again a key target of the country's transformation agenda.

Since 2016 huge strides have been in realising the goals of Vision 2030. Fully embedding and mainstreaming environmental initiatives is a crucial part of that platform for renewal. As indicated above in our sketch of the developing regulatory environment the burden will rapidly shift onto proving your business' green credentials – the era of green-washing is over.

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[1] <https://www.tamimi.com/law-update-articles/saudi-arabias-vision-2030-black-swans-for-saudi-arabias-power-sector/>

[2] \$11 Trillion and Counting, Report by Yossi Cadan – 350.org, Ahmed Mokgopo – 350.org, Clara Vondrich – Divest Invest https://financingthefuture.platform350.org/wp-content/uploads/sites/60/2019/09/FF_11Trillion-WEB.pdf

[3] https://ane4bf-datap1.s3-eu-west-1.amazonaws.com/wmocms/s3fs-public/ckeditor/files/United_in_Science_ReportFINAL_0.pdf?XqiG0yszsU_sx2vOehOWpCOkm9RdC_gN

[4] <https://www.fsb-tcfd.org/wp-content/uploads/2019/06/2019-TCFD-Status-Report-FINAL-053119.pdf>

[5] https://www.spglobal.com/_media/documents/environmental-social-and-governance-evaluation-analytical-approach.pdf

[6] <https://www.theguardian.com/environment/2017/dec/11/tsunami-of-data-could-consume-fifth-global->

[electricity-by-2025](#)

[7] <https://www.theguardian.com/business/2019/oct/08/corporations-told-to-draw-up-climate-rules-or-have-them-imposed>

[8] https://www.reuters.com/article/us-eu-finance-climate/green-bonds-set-for-shake-up-as-eu-agrees-rules-for-sustainable-financial-products-idUSKBN1Y9251?utm_campaign=Carbon%20Brief%20Daily%20Briefing&utm_medium=email&utm_source=Revue%20newsletter

[9] Article by Jonathan Gornall, 7 December 2019: <https://www.asiatimes.com/2019/12/opinion/saudi-arabias-path-toward-solar-energy/>

[10] <https://www.arabnews.com/node/1586796/corporate-news>

[11] KAPSARC: *The Potential of Distributed Solar PV Capacity in Riyadh: A GIS-Assisted Study*
Abdelrahman Muhsen and Amro M Elshurafa, September 2019