

COP26 triggers a GCC first

UAE commits; Saudi also in the running

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- ◆ Ahead of COP26, the UAE has made a 2050 net zero commitment, the first GCC member state to do so
- ◆ Details are lacking, but we doubt the commitment would include a reduction in oil & gas production
- ◆ Saudi Arabia also has ambition in the climate change arena; we think it too could potentially commit to net zero

Ahead of COP26, the UAE has announced a Net Zero 2050 Strategic Initiative.

The move had been well flagged and is perhaps unsurprising given the current pressure on all countries, including oil states, to consider making a net zero transition in order to remain credible on the world stage. That said, we have argued that not all net zero commitments are the same, and we await more details to see on which part of the net zero spectrum oil states such as the UAE may land.

Saudi Arabia could also potentially commit to net zero... We think the UAE could prove to be just the first Gulf Cooperation Council (GCC) domino to fall as Saudi Arabia has ambition in the climate change arena, with a stated aim of becoming 'a global leader in forging a greener world'. We therefore think a net zero commitment by Saudi Arabia is also a distinct possibility. As a member of the G20, political pressure on Saudi Arabia to make a net zero commitment is arguably greater.

...though we recognise factors that might argue against such a move. The Saudi Energy Minister has questioned the feasibility of the IEA's Net Zero 2050 report, and Saudi is reported to have requested the removal of the term 'net zero' from the recent IPCC report (FT, 30 August 2021). Moreover, the Saudi economy is more reliant on oil than that of the UAE, and Saudi has historically played a more prominent role in international oil politics.

Challenges should be addressed head on. From the point of view of credibility, we think a net zero commitment from either country would need to address – front and centre – the issue of continued, and likely increased, oil & gas production and/or exports over the coming decades. That said, we think a goal of achieving net zero in the domestic economy is a valid one, particularly given advantages such as low renewable power costs and relative newness of the building stock.

Green Initiative events later this month could provide more details. Inaugural Saudi and Middle East Green Initiative events will be held in Riyadh on 23-25 October 2021. We expect these events could provide more details, including potentially, roadmaps with time-bound milestones.

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UAE, Saudi NDCs lag versus others in EM

Both countries have made Paris Agreement pledges, though these lag versus others in EM.

Saudi NDC estimated to reduce emissions by 11-13% in 2030 vs BAU

The **Saudi** Nationally Determined Contribution (NDC) implies up to a 130MtCO_{2e} reduction by 2030, compared to a 'business as usual' (BAU) trajectory. The baseline for the BAU trajectory has not been defined, but Climate Action Tracker calculates that the NDC represents an 11–13% reduction from the estimated BAU range. The NDC has not yet been updated.

Measures cited to achieve the target include energy efficiency, renewable energy, carbon capture and storage, increasing use of gas, and methane recovery and flare minimisation.

The UAE is targeting a 23.5% reduction in emissions in 2030 vs BAU

The **UAE** NDC also set out a number of sectoral measures, with some comprehensive policies on fuel tariff reform, building and efficiency standards, demand-side management, district cooling, and appliance efficiency standards. The NDC was updated in December 2020 to set a target 23.5% reduction in GHG emissions in 2030 relative to BAU, with BAU scenario emissions in 2030 estimated at about 310 Mt.

Major emitters have set higher targets against historic baselines

In terms of 2030 emissions reduction targets, those of the UAE and Saudi fall well short of the goals of major emitters such as the US, UK, EU, Canada, and Brazil, who are targeting c40-70% reductions. Moreover, these reductions will be measured against an absolute baseline of 2005, or 1990 for the EU and UK.

OPEC+ member Russia is also ahead on 2030 goals

As perhaps a closer comparator, Russia (a member of OPEC+) has an NDC target of a 30% emissions reduction in 2030 versus 1990.

Although DM, Norway is a useful comparator as another major oil & gas producer that has committed to net zero

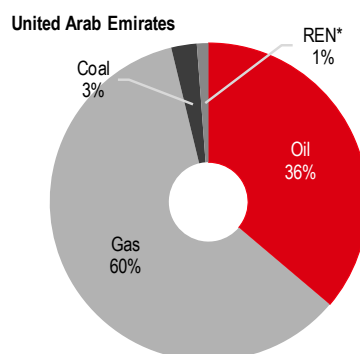
We would also highlight Norway as a perhaps useful comparator – although a DM, it is also a major oil & gas exporter that is aiming for net zero despite plans to increase its oil production. The country is focussed on reducing the emissions of its oil & gas industry by c25% in 2023 versus 2019, and by 40% longer term. Key enablers of this shift are the connection of offshore oil & gas facilities to the electricity grid, which is powered almost exclusively by renewables, as well as the implementation of CCS (Carbon Capture and Storage) projects. Its NDC, updated in February, targets a 50-55% reduction in emissions in 2030 versus 1990.

Dependence on oil is a challenge, but not insurmountable

For both Saudi and the UAE, oil accounts for around 25-30% of real GDP.

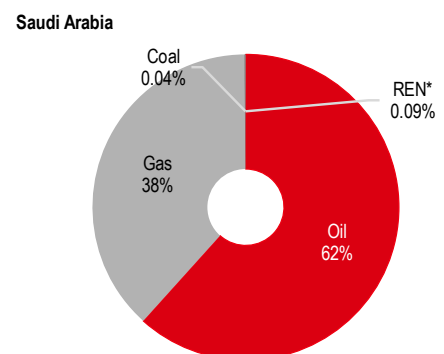
Moreover, the availability of cheap oil and gas has led to a relative overdependence on them in the energy mix. However, gas has increasingly been supplanting oil, particularly in meeting growing domestic electricity and industrial demand.

1. UAE: Fossil fuel mix in primary energy use



Source: BP Statistical Review 2021; Note: *Includes renewable power (apart from hydro, which is reported separately) and biofuels

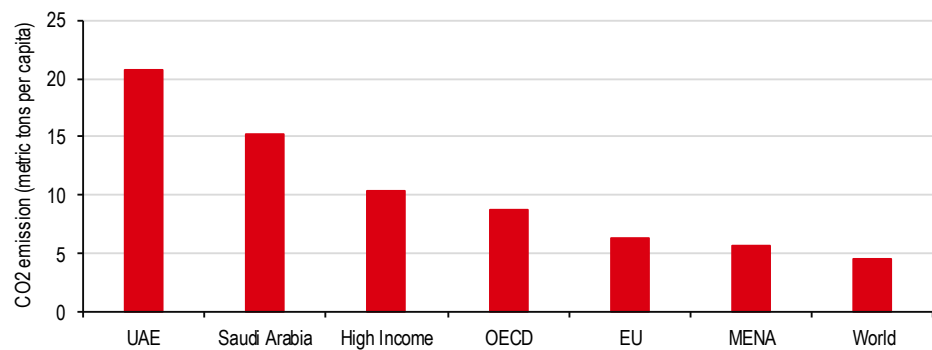
2. Saudi: Fossil fuel mix in primary energy use



Source: BP Statistical Review 2021; Note: *Includes renewable power (apart from hydro, which is reported separately) and biofuels

Similarly, and unsurprisingly, the availability of cheap oil and gas – along with fuel subsidies, a high reliance on desalinated water, and the need for air conditioning for most of the year – has left both countries with very high per capita emissions.

3. CO₂ emission (metric tons per capita, 2018)



Source: World Bank

More recently, however, both economies have been focussing on reducing their reliance on oil and gas, and recognition of the impending energy transition is very clear.

At the same time, there are no aspirations from the countries to curtail oil and gas production in the near term; in fact, their outlook for the next decade or so is quite the reverse.

Global oil demand is expected to peak somewhere between 2030 and 2035

OPEC's overall view (2021 World Oil Outlook (WOO), September 2021) is that global oil demand will continue to increase – driven by emerging economies – before plateauing after 2035. As a result, OPEC estimates that the industry will need cumulative long-term upstream, midstream, and downstream oil-related investments of cUSD12trn by 2045.

This, however, clearly does not align with the IEA's Net Zero by 2050 report (May 2021), which concludes that, in order to achieve a global energy sector with net zero emissions by 2050, there should be no further investment in new incremental fossil fuel supply projects beyond this year.

Increased renewables in the energy mix will likely free up more oil & gas for export

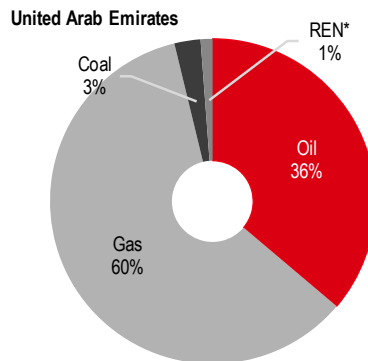
An interesting point raised by our Energy Transition analysts is that increased renewables in the primary energy mix of GCC countries will likely free up more oil for export. And the more oil is exported the easier it will be for the likes of the UAE and Saudi to hit domestic emissions reduction targets as power generation use is emissions intensive (According to UN rules, net zero commitments relate only to emissions generated within a country's borders, so emissions on exported oil & gas need not be included).

Current energy and efficiency targets vary by country and emirate

UAE's Energy Strategy 2050 aims for a 50% clean energy contribution by 2050

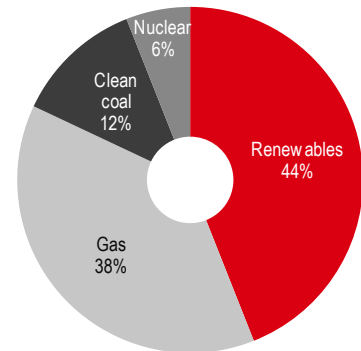
UAE: In 2017, the country launched its **Energy Strategy 2050**. The strategy targets to increase the contribution of clean energy – defined as renewables and nuclear – in the total energy mix to 50% in 2050 (from 1% in 2020). In the process, the strategy aims at saving AED700bn from the clean energy initiative and reducing the carbon footprint of power generation by 70%.

4. UAE - primary energy mix (2020)



Source: BP Statistical Review 2021

5. UAE - 2050 target energy mix



Source: UAE Energy Strategy 2050

Furthermore, the UAE's strategy aims to increase the "consumption efficiency" of individuals and corporates by 40% and to invest AED600bn by 2050 to meet the growing energy demand.

Dubai is aiming for 75% clean energy by 2050...

Meanwhile, the **Dubai Clean Energy Strategy 2050** has even more ambitious targets. The strategy aims for the emirate to produce 75% of its energy requirements from clean sources by 2050, with an intermediate step of targeting an "environment friendly" energy mix by 2030.

Going a step further, the emirate's water and electricity utility announced on 6 October that the emirate's grid will be powered entirely by renewable energy before 2050.

...while Abu Dhabi is targeting 50% by 2030

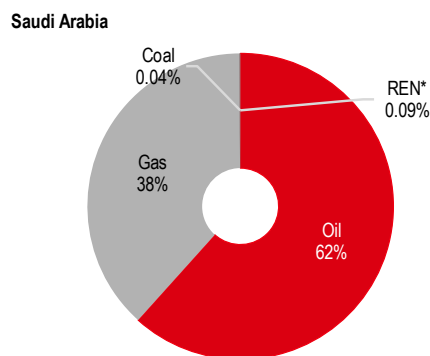
Abu Dhabi also has a more ambitious target than the UAE as a whole, aiming to generate 50% of its power requirements from clean energy resources by 2030.

Saudi Arabia also has a target of 50% renewable energy by 2030...

Saudi Arabia: Under its **Vision 2030**, launched in 2016, **Saudi Arabia** is targeting 50% of power from renewable sources by 2030, compared to just under 1% in 2019.

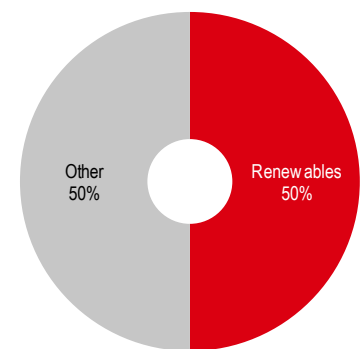
On the efficiency side, Saudi Arabia proposes to reduce per capita water consumption by about 43% to 150 litres per day by 2030. It is important to highlight that the Kingdom has one of the highest per capita water consumption rates in the world at 250 litres per capita per day.

6. Saudi Arabia - primary energy mix (2020)



Source: BP Statistical Review

7. Saudi Arabia - 2030 target energy mix



Source: Saudi Vision 2030

...and has recently launched two new Green Initiatives

Saudi Arabia has recently announced additional climate change initiatives

Earlier this year, Saudi announced the **Saudi Green Initiative**. This builds on the 50% renewables target, with additional aims including:

- ◆ Reduce carbon emissions by more than 4% of global contributions. As Saudi Arabia accounted for c1.5% of global CO₂ emissions in 2020, this equates to reducing emissions by almost three times Saudi's own emissions, implying significant carbon sequestration aspirations (in which tree planting could play a key role – see below)

- ◆ Plant 10bn trees across Saudi Arabia 'in the upcoming decades'

Further, the Saudi Green Initiative underpins the wider **Middle East Green Initiative**, of which the key aims are:

- ◆ Reduce carbon emissions by more than 10% of global contributions.
- ◆ Plant 50bn trees across the Middle East (including 10bn in Saudi Arabia)
- ◆ Through afforestation, restore an area equivalent to 200m hectares of degraded land, reducing global carbon levels by 2.5%
- ◆ Contribute to reducing carbon emissions resulting from hydrocarbon production in the region by more than 60%.

Saudi Arabia has signed up to the Net Zero Producers Forum

Saudi Arabia has signed up to the Net Zero Producers Forum

Saudi Arabia and the UAE took part in the US Leaders Summit on Climate in April of this year; however, of the two, only Saudi Arabia signed up to the Net Zero Producers Forum.

COP ambitions

We note that the UAE is competing with South Korea to host COP28, and that another MENA country, Egypt, will be the host of COP27. We further note that South Korea has set a 2050 net zero goal, although Egypt has not.

- ◆ We look at relevant actions across key aspects of the economies

We are positive on initiatives in the renewables, hydrogen and methane abatement sectors, see room for improvement in terms of EVs, and are less optimistic on the prospects for tree planting.

Egypt has COP27, UAE bidding for COP28

Renewables

The World Bank, in its June 2020 '*Global Photovoltaic Power Potential by Country*' report, ranked Saudi Arabia in the top 10 globally, and the UAE in the top 15 globally, in terms of solar power resource potential.

Unsurprisingly, therefore, the renewables build-out of these two countries has largely focused on solar. And to recap, the UAE has a target of 44% of energy production from renewables in 2050 (from 1% in 2020), while Saudi has a target of 50% by 2030 (from just under 1% in 2019).

Hydrogen

Saudi. Our Energy Transition analysts believe that renewable power costs of USD10/MWh (consistent with the lowest bid in the most recent Saudi auction) would likely position Saudi for a leading role in the 'green' hydrogen ecosystem.

UAE. The UAE is also pursuing a hydrogen strategy, aiming to position itself as a low-cost producer and exporter of blue and green hydrogen, as well as liquid ammonia, produced using hydrogen.

Low renewable power costs argue for both countries to become key players in hydrogen

Methane abatement

Oil and gas producers vent or flare methane gas when it is uneconomic or impractical to sell it. Methane can also leak into the atmosphere during the extraction, refining, and transport processes.

That said, **Saudi Aramco** had a methane intensity of only 0.06%/ton of marketed gas in 2018, and less than 1% flaring of gas on average in H1 2019.

Similarly, **Abu Dhabi National Oil Company (ADNOC)**, the primary oil & gas producer in the UAE, quotes a methane intensity of only 0.01%. Moreover, the UAE now mandates non-flaring operations as the norm, while allowing flaring only in unavoidable circumstances.

Methane abatement has already been addressed

Transport

Under its Green Initiative, **Saudi** plans to add 9,900km of railway in order to reduce traffic and lower emissions.

The **UAE** is also investing in rail, with the aim of linking all major UAE industrial ports and trading centres.

**Significant scope to upgrade
EV ambitions**

The **Dubai Green Mobility Strategy** has set a target that 10% of all cars purchased should be either electric or hybrid by 2030, with this figure set at 30% for government-procured vehicles.

Saudi does not yet have a target for EVs, but the Public Investment Fund has a majority stake in US EV manufacturer, Lucid Group, which is reported to be planning to start production in Saudi Arabia in 2024 (Saudi Gazette, 8 September, 2021).

Building efficiency

**Increased building efficiency
is a low-hanging fruit**

When 'primary' and 'secondary' (i.e. electricity) energy consumption are added together, buildings account for 30% of total global energy use.

The Emirates Green Building Council (EmiratesGBC), the official Green Building Council for the **UAE**, has begun by producing a definition of a Nearly Net Zero Energy Building (nZEB) for the UAE and has concluded that the UAE market will be ready for the adoption of the nZEB concept between 2020 and 2030.

Saudi Arabia launched the Saudi Energy Efficiency Program back in 2012, which covers the building sector (along with transport and industry).

We note that one key factor in determining building efficiency at a country level is the relative age of the building stock. In the UAE in particular, but also in Saudi, buildings are relatively new on average, which allows for latest efficiency developments to be included.

Tree planting

**We are least positive on the
tree planting initiatives**

There is currently no detail on the plans to plant 10bn trees across the Saudi Arabia and a further 40bn across other parts of the Middle East, other than that the timeframe is 'in the upcoming decades'. It is possible that further details may be forthcoming at the Saudi Green Initiative and Middle East Green Initiative events scheduled for later this month.

We note that the One Million Trees initiative launched by Dubai in 2010 did not have a successful outcome.

Conclusion

We have argued that not all net zero commitments are the same, and we await more details to see on which part of the net zero spectrum the UAE will land.

That said, we do think the UAE could prove to be just the first GCC domino to fall. We think there is a distinct possibility that Saudi Arabia could follow in the not too distant future, although we recognise there are differences between the two countries that could argue against such a move. Further, we would not expect a commitment from either state to include emissions generated from exported oil & gas, or indeed to incorporate any planned reductions in oil & gas production (especially in the light of planned near-term capacity increases). Nevertheless, we think a goal of achieving net zero in the domestic economy is a valid one, with the caveat that we think the intention to continue operating as a petro-state would need to be addressed head on.

The inaugural Saudi and Middle East Green Initiative events, which will be held in Riyadh on 23-25 October 2021, clearly provide Saudi with an opportunity to give further details on its climate aspirations.

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