

Dragoman Digest

India outlines hydrogen ambitions

Plan faces several headwinds

India will mandate a gradual increase in industries' use of "green hydrogen" as part of its efforts to drive incipient demand for hydrogen – a key challenge for hydrogen as an energy source. Under the draft policy, from 2023-2024, green hydrogen must account for 10 percent of the overall hydrogen volume used by refineries. The figure is 5 percent for fertiliser plants. This will rise to 25 percent and 20 percent respectively in five years. The policy will eventually include the transport and steel manufacturing sectors.

India's ambitions face several headwinds. Its installed renewable energy capacity will need to increase substantially and account for the lower capacity factor of renewables. With around 94 gigawatts of installed capacity, renewables (not including hydro) account for less than 4 percent of the country's total electricity generation. Whilst Modi has set an ambitious goal to increase India's renewable energy capacity by 227 gigawatts (GW) by 2022, just 15 GW of renewable energy capacity (out of the 167 GW in the pipeline) is projected to come online this year due to project delays. According to the International Renewable Energy Agency the price of a large-scale electrolyser – currently at around US\$750 per kilowatt (kW) – will need to fall to around US\$350/kW to make green hydrogen production economically viable. Whilst India's Government is yet to launch any incentive programme to manufacturer or purchase electrolysers, the National Hydrogen Mission policy – currently under ministerial consultation – has promised "suitable incentives" to develop India's hydrogen value chain. The final policy will provide an indication of India's commitment. It may merely be a means for Prime Minister **Narendra Modi** to alleviate pressure from the international community to outline a firm net zero target ahead of the UN's Climate Change Conference (COP26) in November. The **UK's** COP26 President Alok Sharma is scheduled to visit Modi in Delhi next week to push for further action.

The cost competitiveness of Indian renewable energy gives some cause for optimism. The average installed cost of solar photovoltaics was US\$596/kW – 8 percent lower than China. India led the world for low-price solar photovoltaic last year, with an average levelized cost of energy of US\$38/MWh for utility scale generation, ahead of **China** at US\$44/MWh. India will need to reduce the average cost of electricity to US\$20/MWh. This will rely on nurturing demand by providing the right incentives and driving cost efficiencies across the value chain.

Iran ruffles US feathers across the region

The US has signalled that it will launch an "appropriate" military response

In recent months, aggressive 'kinetic' attacks in the Middle East on the **US** and its allies' military assets and personnel – likely coordinated by **Iran** – have increased sharply. Iran is likely in part responding to **Israel's** broad clandestine campaign against Iranian shipping – which has reportedly cost Iran billions of dollars in oil revenues that it uses to fund and provide weapons for its proxies – and its June cyber-attack on Iran's Natanz nuclear facility. Iran's attacks challenge rights of navigation in the Gulf and seek to intimidate US partners. At least five ships with ties to **Israel** have come under attack this year and US troops have been targeted in **Iraq** and **Syria**. The US has generally responded to Iranian provocation by covertly targeting pro-Iranian militias in northeast Syria and Iraq.

The US's official declaration that Iran was "actively involved" in two attacks in the Gulf of Oman last week is material. The US Central Command – whose top priority is deterring Iran – alleges that Iranian gunmen seized the Israeli-linked oil tanker, and launched three drones that killed two crew members from the **UK** and **Romania** on a separate Israeli-operated

tanker. This declaration, alongside Secretary of State Antony Blinken's promise to launch "an appropriate response," raises the likelihood that the US will coordinate a substantive military strike to deter further provocations.

The US' last major response was the assassination of Iranian Major General Qassem Soleimani in January last year. A larger scale offensive response might include coordinated action with allies – including Israel – targeting Iranian military assets across the region. However, any substantial military response would likely challenge progress on Iran nuclear deal negotiations – which are currently stalled due to Iran's rapidly expanding nuclear programme, disagreements over its ballistic missile programme and its support for proxies. It would also challenge President **Biden's** intention to reduce the US' involvement in the Middle East.

Early teething issues for China's ETS

Scheme remains a work in progress

On July 16, China's national emissions trading scheme (ETS) officially made its debut. Participating companies' total carbon emissions are likely to exceed 4.5 billion tons, making China's ETS the world's largest. However, the political pressure coming from Beijing to get the ETS off the ground has left several unresolved issues.

It is not clear which agency will be ultimately responsible for regulating the ETS. Whilst the Ministry of Ecology and Environment is nominally in charge, the State Council, China's cabinet, is also drawing up regulations of its own. Nor have the punishments for fabricating emissions data been clearly drawn up yet. More significantly, the total quota limit for participating companies – believed to be approx. 4 billion tons of CO₂ in aggregate – has been described as "generous" by industry insiders. Another concern is the market's lack of liquidity. On August 4, trading volumes were only 20,000 tons, way down from July 16's 120,000-ton figure. The trading volume will probably not increase much until the end of the year, when some firms will have no choice but to buy credits to offset their emissions. Liquidity will also gradually increase as companies from more sectors join. However, financial institutions are not expected to be able to participate for some time, partly due to the complexity of drawing up regulations.

Nonetheless, China's ETS is already having an impact. The current price of around 50 yuan (US\$7.71) is double what most participating power companies initially proposed. Anticipated extra costs have incentivised China Huaneng Group and China Huadian Corp (two of China's largest power firms) to significantly increase renewable investments. The ETS' progressive development should see it play an important role in decarbonising China's economy.

India moves to scrap retrospective taxation

Small but significant step in making India a more attractive investment destination

Indian Prime Minister **Narendra Modi** appears to be making a concerted attempt to liberalise India's economy and attract foreign investment. Significant labour and agricultural reforms were passed last September – the latter causing much controversy. Modi has also made noises about privatising and consolidating India's 367 sprawling and often loss-making SOEs. March's budget had US\$28 billion in incentives to lure foreign manufacturers to India. Companies including Amazon, Apple, Foxconn and Tesla have recently set up shop or expressed significant interest.

Of course, none of these reforms alone change the fact that India remains an unpredictable place to do business. Last week's tabling of a bill to rescind regulations allowing

retrospective taxation is significant in removing one of the most egregious examples of arbitrary business practices. India first allowed retrospective taxation in 2012 after the government lost a US\$2.9 billion tax battle with Vodafone. Modi's BJP, political party, loudly condemned the legislation at the time but has only now moved to shelve the practice.

The 2021 financial year saw a record US\$82 billion worth of FDI flow into India, up 10 percent from FY20. New Delhi will be hoping its latest step will help India continue to reap increased FDI.