CLIMATE ACTION | #3 Watch Out | 02 November 2021

Taking the bull by the horns

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- **India announces 2070 net zero target, exceeding the global community's expectation in our view**
- **Other announcements, though ambitious, are largely in line with India's planned energy transition trajectory**
- **We believe clean energy capex is likely to accelerate across energy efficiency, renewables, EVs and hydrogen**

India announces several measures at COP26: India has announced several climate-related targets at COP26 (the 26th session of Conference of Parties – the 2021 annual UN climate change conference). These include net zero by 2070 and a slew of 2030 targets, namely 500GW of non-fossil fuel generation capacity, 50% of energy generation from renewable sources, reduction of 1bn tonnes of carbon from its assumed trajectory, and a 45% cut in carbon intensity of GDP (we believe this is above the 2005 level, though we await the formal policy document).

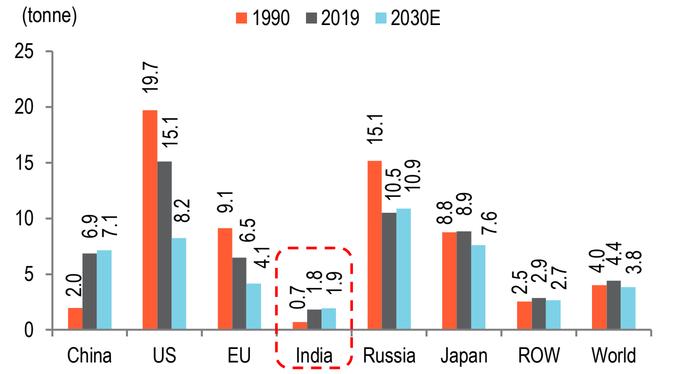
2070 net zero target a significant development: As highlighted in our note titled **Climate Colonialism** of 25 October 2021, pressure was being built on India to declare its net zero target. As per a report by IPCC (Intergovernmental Panel on Climate Change), the world must achieve net zero by 2050 and 2070 respectively to contain the global temperature rise below 1.5°C and 2°C by 2100 versus pre-industrial levels. We expect most developed economies to commit to a net zero target by 2050 and developing economies to commit to 2070 targets going forward.

"LIFE" acknowledges disproportionate carbon dump: India's focus on Lifestyle for Environment (LIFE) indirectly brings out the irony that western countries have much higher living standards and thus very high per capita emission, while they continue to expect a sharp reduction from countries like India with much lower standards of living – the point being that the western lifestyle cannot be protected at the cost of developing countries and that a common minimum living standard must be accepted as a baseline to impose a carbon target on individual countries. As a corollary, poorer countries are likely to insist on US$ 1tn in green investments from the developed world over ten years.

Impact on equity market: We continue to maintain that emitting industries such as coal, steel and refiners will be under pressure while sectors leveraged to energy efficiency, renewable chain, EVs and hydrogen will continue to attract interest. Please see our report **Clean your way up** of 9 June 2021 for a detailed climate impact analysis on the equity market.

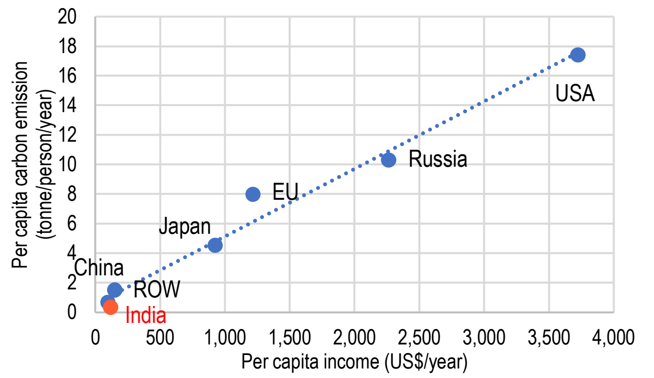
Focus charts

Fig 1 – Per capita carbon emission to remain high for industrialised nations, relatively low for India



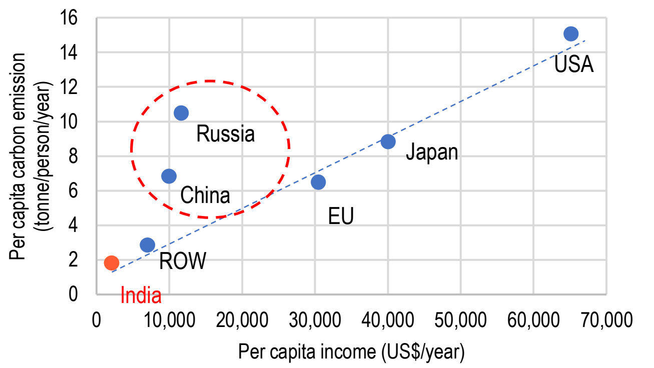
Source: BOBCAPS Research, BP Statistical Review, World Bank

Fig 2 – 1965 country ranking on per capita emission (PCE) shows direct relationship between income and emission…



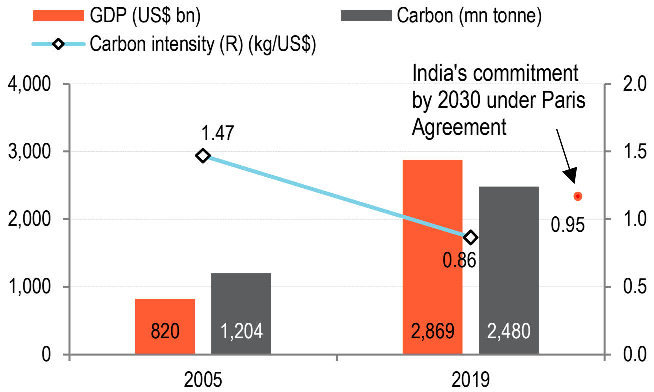
Source: BOBCAPS Research, BP Statistical Review, World Bank

Fig 3 – …while 2019 PCE ranking highlights Russia and China's above-trend emissions



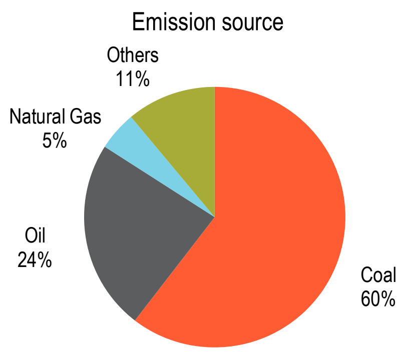
Source: BOBCAPS Research, BP Statistical Review, World Bank

Fig 4 – India's carbon intensity well on track to meet Paris commitment



Source: BP Statistical Review, World Bank data, BOBCAPS Research | Note: Carbon intensity is calculated as CO_2/GDP

Fig 5 – India's carbon emission dominated by coal



Source: BOBCAPS Research, US EPA

Fig 6 – Renewable power with storage now competitive

	Solar (4x)	Wind (4x)	Nuclear	Coal	Gas
Capex (Rs mn/ MW load)	160	240	150	75	50
Generation (Rs/kWh)	2.50	3.25	2.75	4.50	5.50
Storage (Rs/kWh)	3.00	3.00	-	-	-
Total Costs (Rs/kWh)	5.50	6.25	2.75	4.50	5.50

Carbon cost of US$ 12/t

	Solar (4x)	Wind (4x)	Nuclear	Coal	Gas
CO_2 emission (kg/kWh)	-	-	-	0.9	0.4

Source: BOBCAPS Research

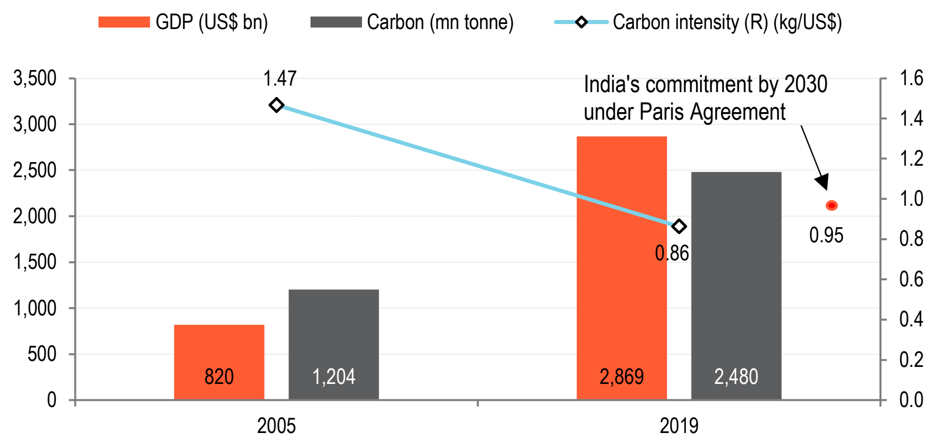
Other targets largely in line

India is already working on a plan to achieve 450GW of renewable capacity by 2030. The addition of 50GW to this target is not very significant though the target itself looks challenging.

Note that non-fossil fuel generators currently account for just a third of India's energy generation, so the announced 50% target from renewable sources by 2030 would be possible only if a significant part of the planned 500GW capacity is indeed installed.

On the carbon intensity front, India is already down to ~0.85kg CO2/USD against the required 0.80kg by 2030 which should be easily achievable in our view. This in turn will cover the targeted reduction of 1bn tonnes of carbon from its assumed trajectory by 2030.

Fig 7 – India's carbon intensity well on track to meet Paris commitment



Source: BP Statistical Review, World Bank data, BOBCAPS Research | Note: Carbon intensity is calculated as CO_2/GDP

Sunset for coal

We believe that the G20's decision to stop funding overseas coal projects will likely result in a drying up of ECBs as a source of debt and FDI as a source of equity. This would have an adverse impact on coal projects globally, including in India.

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Note: Recommendation structure changed with effect from 21 June 2021

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