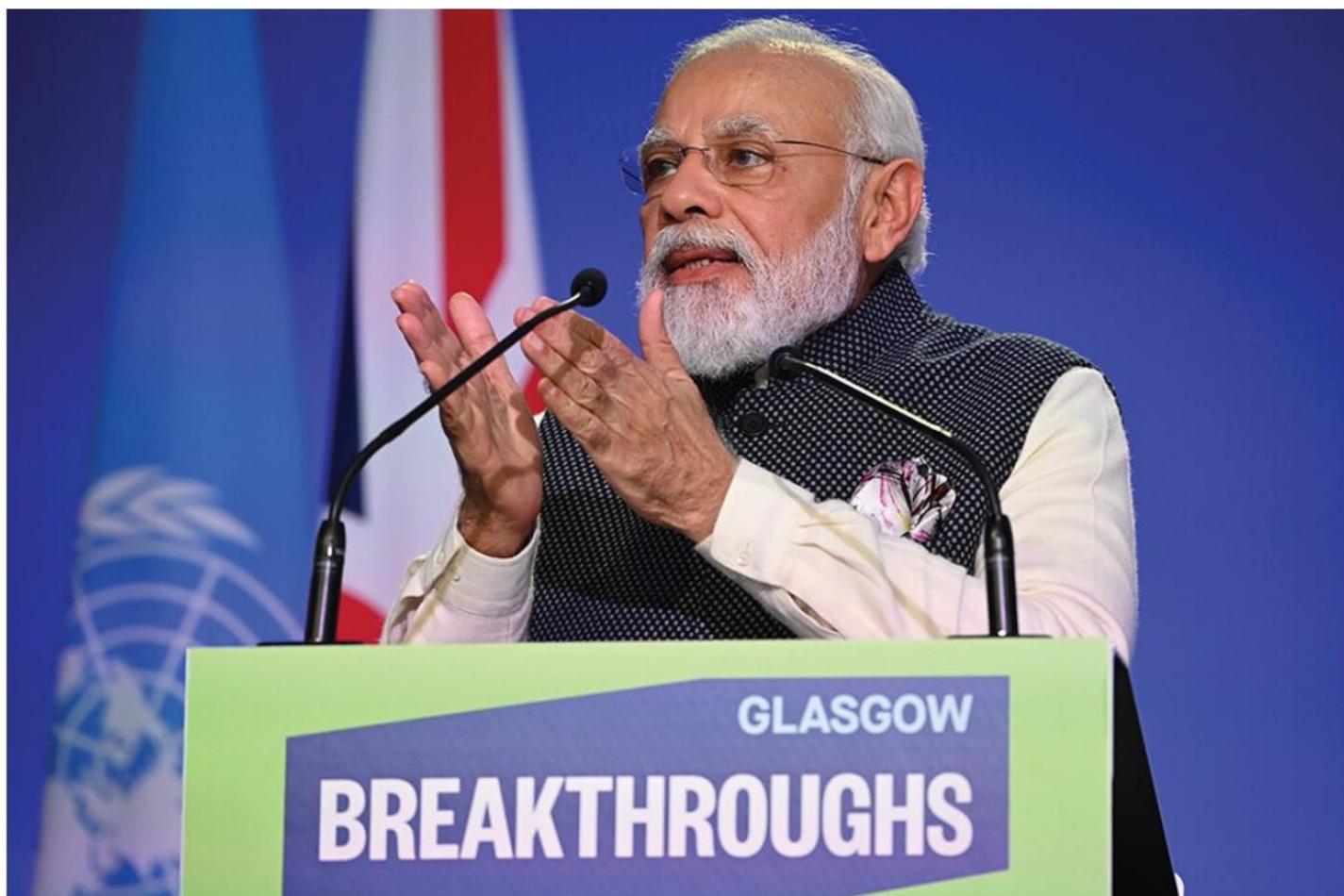


India marches towards its green dream



Indian prime minister Narendra Modi has set ambitious climate targets for the country. Photo: Getty Images

India is chipping away at the many obstacles on its way to achieving carbon neutrality by 2070. The path is uphill, but will its efforts pay off?

BY MANJU DALAL

April 19, 2022

Rajiv Ranjan Mishra, managing director at Indian power producer Apraava Energy, has seen the impact of climate change in India. He recalls how 30 years ago, the river Ganges, or Ganga, flowed alongside his school in the north state of Bihar.

“Now, the gorgeous river flows a kilometre away and looks very much like a narrow stream in the non-monsoon months,” he says.

Mishra’s company – one of India’s largest diversified power firms, previously known as CLP India – is seeing unprecedented changes too. Apraava is setting up wind farms near the Great Rann of Kutch, which has seen record rainfall. In the past, the Kutch, a large area of salt marshes in the Thar Desert between India and Pakistan, faced dry weather conditions for most of the year.

Now, the gorgeous river [Ganges] flows a kilometre away and looks very much like a narrow stream in the non-monsoon months

RAJIV RANJAN MISHRA, APRAAVA ENERGY

India is extremely vulnerable to global warming, given its topography and socio-economic structure. In a report published in February, the Intergovernmental Panel on Climate Change (IPCC), the United Nations body which is responsible for advancing knowledge on human-induced climate change, said that India would face extreme

scenarios, from rising sea levels to groundwater scarcity. India's 1.3 billion people will be prone to a rise in health hazards, while the agriculture-reliant economy will suffer because changes in climate will hurt crop production.

The government is paying attention. Prime minister Narendra Modi announced India's target to become net zero, cutting greenhouse gas emissions to as close to zero as possible, by 2070 at the 26th Conference of Parties (COP26) in October 2021, the most-watched annual climate change event in the world.

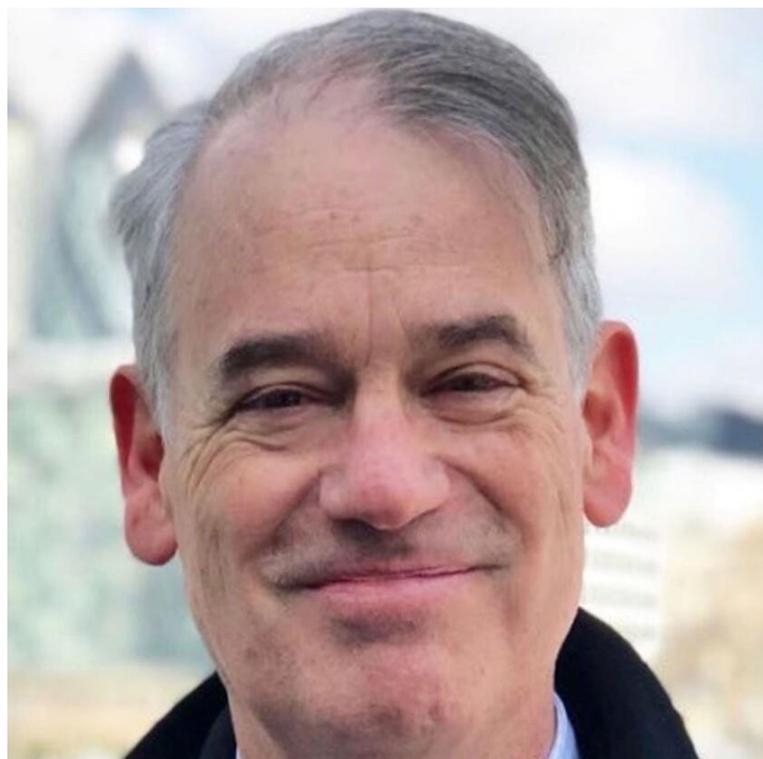
Carbon cut

Modi said the country's non-fossil energy capacity would be brought to 500 gigawatts (GW) by 2030, and that India's carbon intensity would be cut to 45% in eight years. In the same timeframe, India plans to meet 50% of its energy requirements through renewable energy. The carbon emission intensity was clarified as being for all greenhouse gases, not just carbon dioxide, while the announcement that 50% of India's energy consumption will come from renewables was later corrected by the external affairs ministry to be focused on renewables' capacity.

"It's good that India at least has a [net zero] target now," says Wai-Shin Chan, head of climate change centre of excellence and global head of ESG research at HSBC.

But the work is only just beginning. Hong Kong-based Chan feels India should start looking at parts of the economy that need to change structurally and find ways to fund them.

India didn't want to voluntarily do better than the rich countries' targets as it would then deter developed countries from helping India



SEAN KIDNEY, CLIMATE BONDS INITIATIVE

He adds that the 2070 target has not been broken down as much as it could and reckons there is room for improvement by bringing it forward.

The majority of countries have set net zero targets to hit by 2050, with two of the world's largest economies – China and India – setting later deadlines, China by 2060 and India 10 years later.

Sean Kidney, co-founder and CEO of Climate Bonds Initiative (CBI) – a non-profit body working to mobilize global capital for climate change – says the 2070 target makes more sense for India.

“An earlier target could not only have been challenging, but India didn’t want to voluntarily do better than the rich countries’ targets as it would then deter developed countries from helping India in funding its humongous funding needs,” he says.

According to HSBC Global Research’s estimates, India would need to scale up its annual funding on energy investment to \$160 billion.

This funding is on top of a similar amount needed for transportation and other infrastructure. “That’s a lot of money required to bring the entire ecosystem in line with the 2070 ambitions,” Chan adds.

Funding options are certainly available. Worldwide, the green financing market has exploded to meet climate change needs, but in India, it is early days.

Sustainable fund assets in Asia Pacific topped \$60 billion in the past year thanks to strong support from inflows and diversification in new products, BNP Paribas said in its third quarter 2021 Asia Pacific ESG credit investor survey. They were below \$10 billion in the fourth quarter of 2018 and below \$40 billion at the beginning of 2021.

Global sustainable assets under management exceeded \$3.9 trillion by the third quarter of 2021, compared to \$1.3 trillion a year earlier. The world will require \$115 trillion in investment by 2050 to meet global net zero ambitions.

Can India meet the vast financing needs to fight climate change?

Green financing

HSBC Research suggests that half of India’s green transition is likely to be stimulated by government action, driving the nation’s own funding requirements.

Finance minister Nirmala Sitharaman took the first step towards addressing India’s green financing needs in the 2022 union budget in February when she announced plans for India’s first green bond. The offering is likely to be issued locally in rupees and is an important step in creating a healthy, domestic, green financing market.

It’s also important to ensure there’s demand for such issues.

Chetan Joshi, head of HSBC’s debt financing business in India, says the country needs ESG-labelled funds to spur local green financing.

“Until we see more dedicated funds, having a credible onshore ESG financing market is still a distance away,” he reckons.

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CHETAN JOSHI, HSBC

It's not for lack of trying. Indian companies and local investors have struggled to create a green financing market onshore.

India's rupee government bond market is well-established, but the corporate bond market lacks depth and most of the deals are locally rated double-A or triple-A credits. Big investors, such as state-backed insurance companies and provident funds, are restricted in the kinds of credit they can buy and therefore do not venture down the credit curve, limiting the demand for lower-rated bonds.

This is also why high-yield rated issuers struggle to raise sizeable bonds onshore with tenors of their choice.

"When raising finance, you first look at the least cost, fixed-rate option available," says Apraava's Mishra.

For Apraava that means borrowing in the loan market, either local or offshore, or in the rupee-denominated bond market. The company could raise cheaper funding locally due to its triple-A domestic rating. Even though Apraava is open to selling an international bond, so far the cost offshore on a fully-hedged basis has been too high.

In 2015, HSBC was one of three bookrunners that led a Rp6 billion (now \$79 million) green bond for CLP India, which is what Apraava was called at the time.

CLP India was a wholly owned subsidiary of CLP Holdings, a Hong Kong-listed company partly owned by the Kadoorie family. Apraava now runs independently; it is jointly owned by Hong Kong power company CLP Group, and Caisse de dépôt et placement du Québec, a Canadian institutional fund manager.

Apraava Renewable Energy Private – which was previously called CLP Wind Farms and was one of the first companies to identify the potential of renewable energy in India – was the issuer of the 2015 unrated green bonds. The deal was the first-of-its-kind green bond from south Asia and southeast Asia. The notes paid a coupon of 9.15% and were issued in three series of equal amounts, with maturities every April in 2018, 2019 and 2020.

In October 2020, Apraava Renewable Energy, which now has a portfolio of 1,250MW, raised about Rp2.69 billion from a dual-tranche deal to refinance debt. The firm is rated triple-A by India Ratings & Research, a subsidiary of Fitch Group.

Mishra says the key factor for investors is still a borrower's credit rating rather than its "greenness".

"Your green credentials are nice to have," he adds. Several companies, including Apraava, are in the process of obtaining ESG ratings.

A handful of other companies have also tapped the local green market, but issuance is patchy. In March 2022, solar project developer Avaada Energy raised Rp14.4 billion in three-year green notes at 6.75%. The AAA-rated offering was the largest green bond from the renewable sector in India at the time of pricing, and will be used to refinance high-cost bank loans.

Including hedging costs, Avaada would have paid at least 2 percentage points more had it tapped the international bond markets, say DCM bankers.

HSBC's Joshi says that rising global interest rates, volatile markets and swap costs are some of the main factors that Indian borrowers consider when deciding whether to issue bonds domestically or overseas.

Indian borrowers raised a total of \$8.2 billion from the offshore ESG bond market last year, according to Dealogic data. The volumes were the strongest since 2015, when India's first offshore green bond was sold.

Nasdaq-listed ReNew Energy Global, the parent of India-based ReNew Power, is one of the repeat issuers. Its \$400 million green issue has a door-to-door maturity of 5.25 years with a call option at the end of 3.5 years and was the first high-yield bond from India this year. Printed in the first week of January, the 144A/Reg S Ba3/—/BB- rated notes were priced below par to yield 4.5%.

Offshore markets have given ReNew a new pool of capital and access to long-term fixed costs as the Indian market offers limited depth for such structures, says Kailash Vaswani, president of corporate finance and acting CFO at ReNew Power.



Kailash Vaswani, ReNew Power

Like many of its peers, ReNew uses local loan and bond funding to build its renewable projects. Once these projects are operational, and out of construction risk, ReNew was able to take out the debt with offshore bonds. “Such refinancings keep our powder dry in the domestic market,” says Vaswani.

ReNew, which is the only Indian renewable company with over 7.4GW of operational capacity, aims to reach 18GW of total capacity by the 2024/2025 financial year. The capital markets will be an important venue to raise funds and finance that growth.

Other Indian borrowers too are planning ESG bonds; improving access to international markets becomes pertinent as a way to diversify their funding sources. However, India has onerous rules for external commercial borrowings (ECB), a term used to describe debt raised by a local firm from international investors or banks.

Indian ECB rules cap the all-in cost of international borrowings at 4.5% per annum over Libor. The minimum tenor for deals is one year but can go up to five, seven or 10 years for certain specific purposes laid out by the Reserve Bank of India.

Borrowers can raise \$750 million per financial year without seeking central bank approval, but beyond that, the regulator’s nod is required.

Vaswani suggests that the ECB guidelines could be relaxed on end-use restrictions, refinancing of debt, tenor options and the pricing cap. Domestically, Vaswani says provisioning norms could be modified so that lenders can set aside lower capital for providing financing for green assets and pass on the cost benefit to issuers.

State-owned banks, which dominate Indian lending, are slowly formulating their internal climate change policies. So far, State Bank of India is the only state lender with a specific policy in place.

India also has the Infrastructure Debt Funds (IDF), which can be incentivized to provide green financing, Vaswani adds.

IDFs are investment vehicles backed by commercial banks or non-banking financial institutions, in which domestic or offshore investors can invest: the money raised is used to refinance debt at infrastructure companies. The aim is that by using these vehicles, banks will have more scope to lend to fresh infrastructure projects.

Perhaps more urgently, however, more awareness needs to be created among both borrowers and investors about the growing importance of ESG, say market observers. Efforts appear to be well underway.

Buzzword

Indian issuers are far more aware of ESG than they were five years ago, HSBC’s Joshi says: “Now, companies have dedicated ESG teams and we spend a good amount of time discussing their ESG targets,” he adds.

Even on the equities side, ESG is becoming a buzzword. Last year, dedicated ESG assets under management in India were in the range of \$1.5 billion to \$1.6 billion, says Mumbai-based Sougat Chatterjee, a buy-side equities analyst at BNP Paribas.

Sustainability is something that [millennials] actually relate to



SOUGAT CHATTERJEE, BNP PARIBAS

He adds that in the past five years, ESG disclosures from Indian companies have increased and a chunky portion of earnings calls are now dedicated to ESG efforts, even among medium-sized companies.

From the 2022/2023 financial year that begins on April 1, India's top 1,000 companies by market capitalization will need to prepare a business responsibility and sustainability report that will include ESG disclosures. The report, which will be part of the annual report and available on the company's website, is an expansion from an earlier business responsibility report – a shorter version of disclosures – that companies had to publish.

The Securities and Exchange Board of India, the capital markets regulator, came out with a consultation paper in January that proposes regulating ESG risk ratings. This makes India the first country in the world to consider regulating ESG ratings providers. The consultation was open for comments until March 11.

But apart from the government's policies, peer pressure and growing demand for green assets by investors, there is another force at play: India's millennials have done much to increase awareness about climate change.

"Sustainability is something that [millennials] actually relate to," says 29-year-old Chatterjee.

It helps that various financial technology companies, such as online stock, currencies and commodities broker Zerodha, have added to the ESG awareness by substantially lowering the cost of accessing capital markets. The younger generation, who use these platforms, focus on ESG funds that tend to perform better than their conventional counterparts.

Offshore, ESG bonds attract more orders and higher-quality investors. "This creates a greater momentum and ultimately impacts the pricing of the bonds," says Joshi.

Kickstart

CBI's Kidney feels a similar situation can play out in the domestic market as local bond investors are hungry for green assets.

"We need a leader to kickstart any bond market," he says, referring to how a sovereign bond can be that "circuit breaker" to provide liquidity, pricing advantage and yield curve to allow Indian companies to print green bonds. Kidney also reckons India can seek guarantees from developed nations to raise cheaper capital to support its green dreams.

If public sector companies follow the sovereign with more green deals, they will attract foreign capital and, in the long run, become savvier as they will be answerable to sophisticated ESG investors.

In the private sector, companies are already setting their net zero targets, adopting green frameworks and transitioning their business strategy for a cleaner world.

Financing coal-fired power plants has now become virtually impossible for the private sector



RAJIV RANJAN MISHRA, APRAAVA ENERGY

ReNew, for instance, is ranked among the top 10 renewable companies in the world by Sustainalytics for its exposure to and management of ESG risks. ReNew declared itself as carbon neutral for scope one and scope two emissions in 2021, bridging the gap with its 2050 net zero target.

Mishra, who is also chairman of the Association of Power Producers and co-chairman at the Confederation of Indian Industry's National Committee on Power, says the private sector has stopped building coal-fired power plants for nearly a decade now.

"Financing coal-fired power plants has now become virtually impossible for the private sector," he adds.

Aprava Energy, which owns and operates coal-fired power plants, has decided to withdraw from thermal projects. CLP Group has announced its planned exit from coal by 2040, and Aprava has said it will not make investments in thermal energy, but rather will focus its efforts on the non-carbon generating parts of its business.

While the Indian government and corporations address the financing gaps for a greener India, there are still plenty of hurdles.

"India's goals are ambitious ... but without a road map it is hard to assess how likely they are to meet them," says Hong Kong-based Nneka Chike-Obi, a director in ESG research, sustainable finance, at Fitch Ratings.

For starters, the government has not updated the country's Nationally Determined Contribution (NDC), its plan for aligning with the Paris Agreement, since 2018, she says. India has also not yet provided more detail on its 2070 target.

Even though the private sector has stopped building new capacity, critics say that India continues to expand its coal capacity through state-owned enterprises.

India's coal-fired power plant pipeline is the second largest in the world (after China) and it is one of the few countries to have increased its capacity since 2015, according to the Climate Action Tracker, an independent scientific analysis platform that tracks government climate actions and maps them against the Paris Agreement's aim of keeping global warming below 2 degrees Celsius and pursuing efforts to limit warming to 1.5 degree Celsius.

CAT ranks India's overall climate targets and policies as "highly insufficient", the same as China's.

India's goals are ambitious ... but without a road map it is hard to assess how likely they are to meet them



NNEKA CHIKE-Obi, FITCH

Chike-Obi points to another much-needed policy improvement.

“The government provides energy subsidies, but the majority go to fossil fuel-generation”, she says, citing the International Energy Agency, according to which India provided the third-largest amount in fossil fuel subsidies in the world at \$23.8 billion. “This compares to just over \$1 billion in subsidies to renewables in 2020, a figure that in absolute terms has fallen since 2018,” she adds.

Fitch rates a number of Indian wind and solar companies. Securing offtake agreements and subsidies from governments or state-backed companies provide support to the credit ratings of these issuers.

CBI’s Kidney says there is an urgent need for India to pay attention to its water and waste-water infrastructure. “We cannot keep polluting the Ganga [river] like we’re doing now.”

He says India needs water harvesting and processes to clean its wastewater. In urban areas, sustainable infrastructure should be provided.

Kidney cites the example of Mumbai where tall residential towers with swimming pools are being built, and where the condominiums use water supplied by tankers. “That is madness,” he says.

He sees scope to replace chemical-based fertilizers with organic options as well. Urea is widely used in India’s economically important agriculture sector as a fertilizer, but it is one of the main sources of nitrous oxide emissions.

Indian policy reforms sometimes get stuck between the central and state level, as individual states have the power to make their own policies. Reforms in sectors such as electricity fall in the concurrent list, where both the centre and the state need to decide on policies. Most often, disagreements crop up on sectors included in this list.

Addressing concerns

The central government is addressing some of these concerns. For instance, in February it released its first National Green Hydrogen Policy which will focus on the industrial use of green hydrogen and ammonia refineries and fertilizers.

Indian conglomerates, including the Adani Group and Mukesh Ambani-owned Reliance Group, have also announced plans to develop green hydrogen production and are pursuing green transition at the individual business levels.

To tackle electricity transmission and distribution losses, India introduced a smart metering project last year which could, potentially, have a big impact. But so far, installation of smart meters is lower than the government’s target of 250 million meters by 2022. Plans for a grid upgrade are limited by the weak finances of power distribution companies.

These problems, however, can be tackled. HSBC Research analysts suggest India could think of setting up an independent regulator that ensures market pricing of power tariffs. HSBC also suggests using incentives to speed up smart metering, and plug transmission and distribution losses, as well as eventually privatizing distribution companies.

“I see effort after effort from the central government,” Apraava’s Mishra says. He expects India to announce plans for the development of a national carbon market soon.

Even without any government subsidy, wind and solar have become electricity sources with the lowest costs involved. The solar tariff, for example, is 20% lower than the power produced by state-owned National Thermal Power Corp from its coal-fired plants.

India has committed about \$3 billion to battery development and solar photovoltaic capabilities. There are also opportunities to enhance public transport and improve adoption of electric vehicles, which could significantly help in controlling carbon dioxide emissions.

Here too, India is moving in the right direction. The country supports the EV30@30 campaign; the target is to make electric vehicles account for at least 30% of new cars sold by 2030. The government has provided several incentives, including lower goods and services tax rates and state-level subsidies to promote EV adoption.

However, HSBC Research analysts believe India may see slower adoption of EVs compared to China, the US or even Europe, especially for personal cars. This is because India’s market is focused on small cars and small bikes, and the cost of batteries remains relatively high.

The best place for India to start to meet its net zero target will be with the thermal sector, where the maximum emissions are coming from, says HSBC’s Chan. Agriculture, he reckons, can be tackled later given its size and sensitivity.

At a broader level, India can think of coming out with a green taxonomy to clarify its sustainability priorities. Such a move usually attracts more capital, as seen in China when it came out with its taxonomy in 2015.

But “while a taxonomy is important, it also needs to be science-based,” says Fitch Ratings’ Chike-Obi. “This includes establishing baselines and targets for greenhouse gas emissions and identification of key sectors and economic activities.”

A country’s taxonomy can be broadly aligned with international best practices on what qualifies as being green, but Chike-Obi says India’s taxonomy should reflect its own needs and environment. “So it is hard to point to another taxonomy and say India should adopt it – they are quite locally specific.”

India will soon have an opportunity to show how serious it really is about its climate goals. A COP27 meeting is scheduled to be held in Egypt in November 2022, where countries will revisit their net zero targets and strengthen them. And India will certainly be in the spotlight.