

PANCHAMRIT PRAYAS

COP26

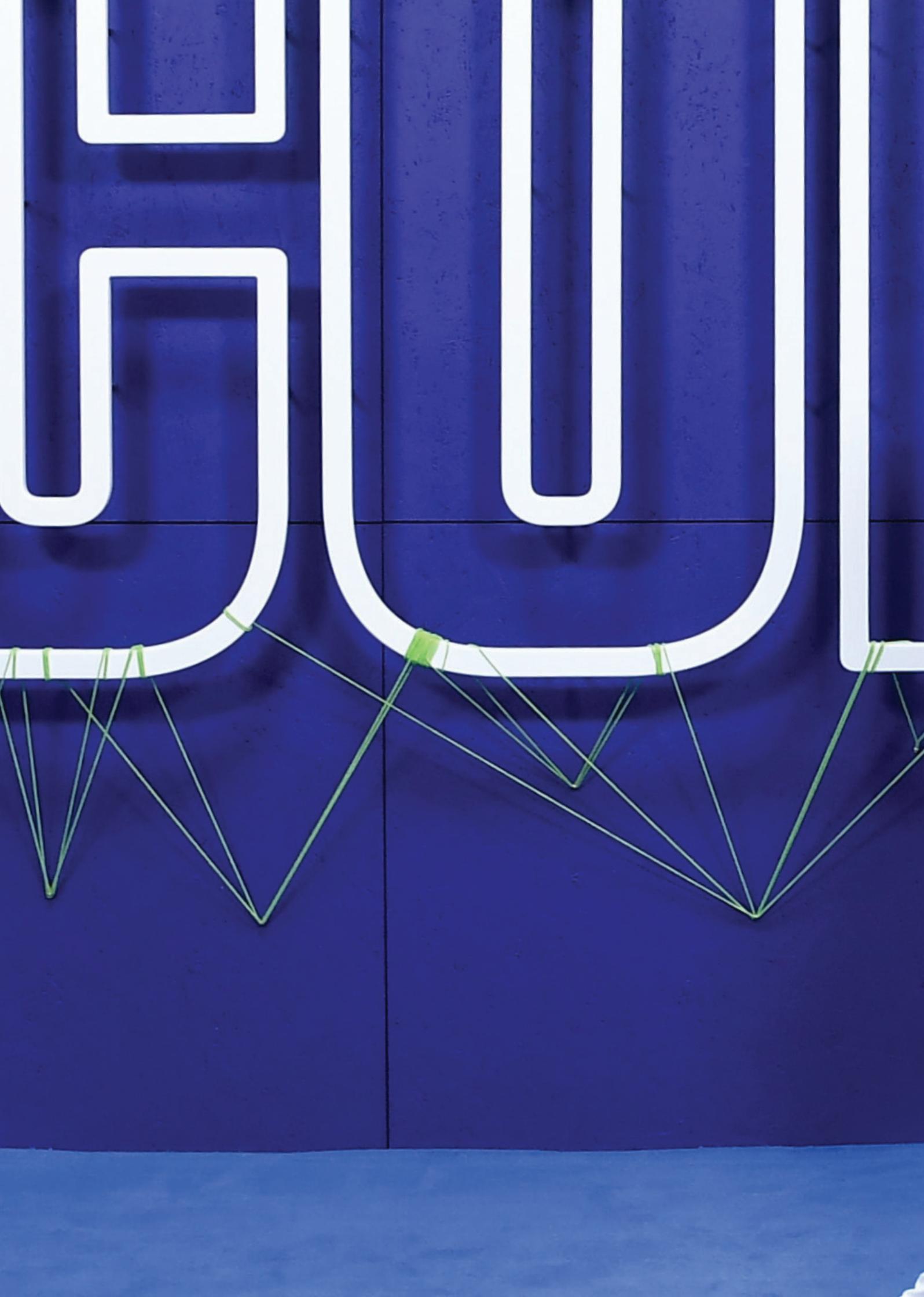
CLIMATE COMMITMENTS

An anthology of articles



United Nations
Climate Change









English Articles



Narendra Modi pledges India will reach net zero emissions by 2070



HANNAH ELLIS PETERSEN, THE GUARDIAN

01 November, 2021 Hannah Ellis-Petersen is the Guardian's south Asia correspondent.

India will meet a target of net zero emissions by 2070, the country's prime minister has told the Cop26 global climate summit.

India was one of the last remaining major economies that had held out on a net zero commitment, despite months of pressure from the US, and Modi's announcement marked one of the most significant moments of the summit's opening day.

SPEAKING AT THE WORLD LEADERS' SUMMIT AT THE UN CONFERENCE IN GLASGOW, NARENDRA MODI MADE FIVE KEY PLEDGES FOR HOW INDIA WOULD DECARBONISE OVER THE NEXT FEW DECADES. INDIA, A DEVELOPING COUNTRY OF MORE THAN 1.3 BILLION PEOPLE, IS THE WORLD'S THIRD LARGEST EMITTER OF CARBON DIOXIDE AFTER THE US AND CHINA.

Modi also made significant shorter-term commitments, promising to have 50% of India's power generated by renewable energy by 2030, increase its non-fossil energy capacity to 500GW by 2030 and reduce its projected carbon emissions by 1bn tonnes between now and 2030. By 2030, he also committed to a 45% reduction in the carbon intensity of the economy.

While the 2070 net zero target falls behind the 2050 commitment made by the US and Europe and the 2060 commitment made by China and Saudi Arabia, it is in line with what many climate experts have modelled as the most feasible scenario for India to achieve net zero. A recent report released by the Delhi-based thinktank the Council on Energy, Environment and Water (CEEW) put forward 2070 to 2080 as India's most realistic roadmap for achieving carbon neutrality.

"India has clearly put the ball in the court of the developed world," said Arunabha Ghosh, the chief executive of CEEW. "This is real climate action."

Unlike countries in the west, and even China, India is decades away from its peak in terms of economic growth and energy consumption, and India's energy demand is expected to grow faster than any other country over the next few years. Its population is also expected to overtake that of China to make it the largest in the world.

Currently, 70% of all power in India is generated by coal, and while it is one of the cheapest producers of solar energy in the world, there is still not the technology available to integrate it into the energy grid on a large scale. Advancements in hydrogen technology and storage will also be needed to help India's industrial sector wean itself off coal, which is unlikely to happen until around 2040, according to experts.

India is already bearing the harsh consequences of climate breakdown. Millions across the country are exposed to severe heat, water shortages, extreme weather events such as flooding and coastal erosion, which have all been increasing in recent years.

In the build-up to the conference, Indian officials had appeared to rebuff calls to commit to net zero, emphasising instead the need for climate funding and climate justice for developing countries, who historically have emitted far less greenhouse gas than countries such as the US but are now bearing the economic costs that come with net zero commitments.

THE COMMITMENTS DREW PRAISE FROM THE EMINENT CLIMATE ECOLOGIST NICHOLAS STERN, WHO SAID: “THIS WAS A VERY SIGNIFICANT MOMENT FOR THE SUMMIT. [THE ACTION] MIGHT MEAN THAT INDIA’S ANNUAL EMISSIONS OF GREENHOUSE GASES COULD PEAK BY 2030. THIS DEMONSTRATES REAL LEADERSHIP FROM A COUNTRY WHOSE EMISSIONS PER CAPITA ARE ABOUT ONE-THIRD OF THE GLOBAL AVERAGE. THE RICH WORLD MUST RESPOND [AND] DELIVER A STRONG INCREASE IN INTERNATIONAL CLIMATE FINANCE.”

In his speech, Modi called out previous commitments of climate finance as “hollow” and demanded developed countries make \$1tn available as climate finance to developing countries “as soon as possible today”.

Modi told his fellow world leaders: “I am sure that the decisions taken in Glasgow will safeguard the future of generations to come and give them a safe and prosperous life.”

He apologised for running over his allotted speech time but said he believed it was his “duty to raise my voice for developing countries”.

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India's pledge to triple renewables by 2030 is more important than its goal of net-zero carbon emissions



EAMON BARRETT, THE GUARDIAN

03 November, 2021 | Eamon Barrett is a journalist with The Fortune.

ON MONDAY, INDIA PRIME MINISTER NARENDRA MODI SURPRISED THE CONGREGATION OF WORLD LEADERS GATHERED AT THE COP26 SUMMIT ON CLIMATE CHANGE AND COMMITTED HIS COUNTRY—THE WORLD'S THIRD-LARGEST POLLUTER—TO A TARGET OF NET-ZERO EMISSIONS BY 2070.

Only days earlier, India's environment minister had rejected setting a net-zero target, saying such announcements were "not a solution in itself" and that "it is how much carbon you are going to put in the atmosphere before reaching net-zero that is more important."

In fact, Modi's announcement—while a surprise—aligns with his minister's sentiment.

India's new 2070 deadline is 20 years beyond the mid-century mark by which time, scientists say, the world must achieve net-zero emissions to stave off the worst effects of climate change. Modi's goal is ten years beyond the 2060 deadline scientists accept as reasonable for developing economies, which is also the deadline China committed itself to last year.

But Modi's 2070 net-zero target was last of five climate commitments he outlined Monday. The preceding four—which tackle increasing renewable energy and reducing carbon intensity all by 2030—are more immediate and quantifiable targets. And one—to make renewable energy 50% of the country's energy mix by the end of the decade—could kickstart the end of India's addiction to coal.

New renewables

According to the International Energy Agency (IEA) renewable energy tech, such as wind and solar, contributes only 3% of India's total energy mix today. The broader class of non-fossil fuels—including biomass, which is the burning of animal remains, agricultural produce, and wood—contributed around 25% of India's total energy mix in 2020.

To get renewable energy to 50% of India's energy mix will be a major challenge," says Aditya Lolla, senior analyst for Asia at energy think tank Ember, noting that Modi's target of generating half of India's power needs for renewables will require the country to install new capacity at twice its current rate of growth.

Modi's 2030 plans, which target 500 gigawatts (GW) of renewable electricity by the end of the decade, will require the country to triple its current installed capacity of renewable tech, with solar power playing a major role in the country's future electricity grid.

India is already the world's fifth-largest solar power producer in terms of installed capacity, yet solar power only generates 4% of the country's electricity needs. To meet Modi's goals, India needs to install 240 GW of solar by 2030.

"That's a massive increase," Lolla says. According to energy consultants Mercom India, India installed just 4.6 GW of solar energy in the first half of this year. Building out new projects will require billions of dollars to finance.

The IEA estimates India will need to spend \$1.4 trillion on "clean energy technologies" in order to put the country "on a sustainable path over the next 20 years." Modi wants at least some of the funding India will need to develop those technologies to come from foreign countries.

Greenbacks

INDIA'S HISTORIC CONTRIBUTION TO GLOBAL CARBON EMISSIONS IS CONSIDERABLY LOWER THAN THAT OF WESTERN NATIONS, WHICH INDUSTRIALIZED EARLIER. THE FACT THAT POST-INDUSTRIAL NATIONS, LIKE THE U.S., ARE NOW PRESSURING DEVELOPING ECONOMIES LIKE INDIA TO DECARBONIZE AT THE SAME RATE IS A PARTICULAR BUGBEAR FOR MODI, WHO HAS REPEATEDLY CALLED FOR COP26 TO RECOGNIZE "CLIMATE JUSTICE" AND COMPEL RICH COUNTRIES TO SUPPORT THE DECARBONIZATION OF DEVELOPING ECONOMIES.

"It is India's expectation that the world's developed nations make \$1 trillion available as climate finance as soon as possible," Modi said Monday, picking a figure ten-times greater than the \$100 billion in annual funding developed nations have already pledged—but failed to provide—for developing economies.

But capital is already pouring into India's nascent solar market. In August, India's minister for power said private and public funds have invested \$70 billion in India's renewable energy sector, and global investors continue to see promise in the industry.

"Foreign investors see India's solar market as a high-growth area, and many are buying substantial stakes in local firms that know the market and operate successfully there," Conway Irwin, climate and cleantech research director at analysts HIS Markit, said in an interview in July.

IHS MARKIT RANKED INDIA THE THIRD MOST ATTRACTIVE DESTINATION FOR INTERNATIONAL INVESTMENT IN SOLAR ENERGY LAST MONTH, WHILE ERNST & YOUNG CONSIDERS THE SUB-CONTINENT THE PRIMARY DESTINATION FOR SOLAR FUNDING. THAT'S GOOD NEWS FOR MODI'S FAR-FLUNG 2070 DEADLINE BECAUSE, AS INDIA'S SOLAR SECTOR SHINES BRIGHT, ITS POLLUTING COAL INDUSTRY WILL START TO FIZZLE.

Outshining coal

Currently, India plans to expand its domestic coal-fired power capacity in order to meet its growing demand for energy. But according to the New Delhi-based Council on Energy Environment and Water (CEEW), a think tank, India will need to slash coal usage 99% by 2060 to get to Modi's net-zero target by 2070.

"If India meets its renewable energy targets it will come to a point quite quickly where the country doesn't need to install any new coal-fired power," Ember's Lolla says.

According to Ember, India can meet its projected energy growth without installing any additional coal power if the country meets its renewable energy target and installs 500 GW of power from renewable sources by the end of the decade.

In fact, Ember says, if India meets its renewable goals by 2030, it will need less coal power at the end of the decade than it required at the start, meaning the country can start to wind down its existing fossil-fuel infrastructure.

"Blanket 2070 means nothing unless we talk about shutting down coal," Lolla says. "That's why I think the pledge for India to reach 50% renewables by 2030 is one thing from Modi's speech that is really key."

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India's 2070 Climate Target Is a Far Bigger Deal Than It Sounds



DAVID FICKLING, BLOOMBERG

02 November, 2021

David Fickling is a Bloomberg Opinion columnist covering commodities, as well as industrial and consumer companies.

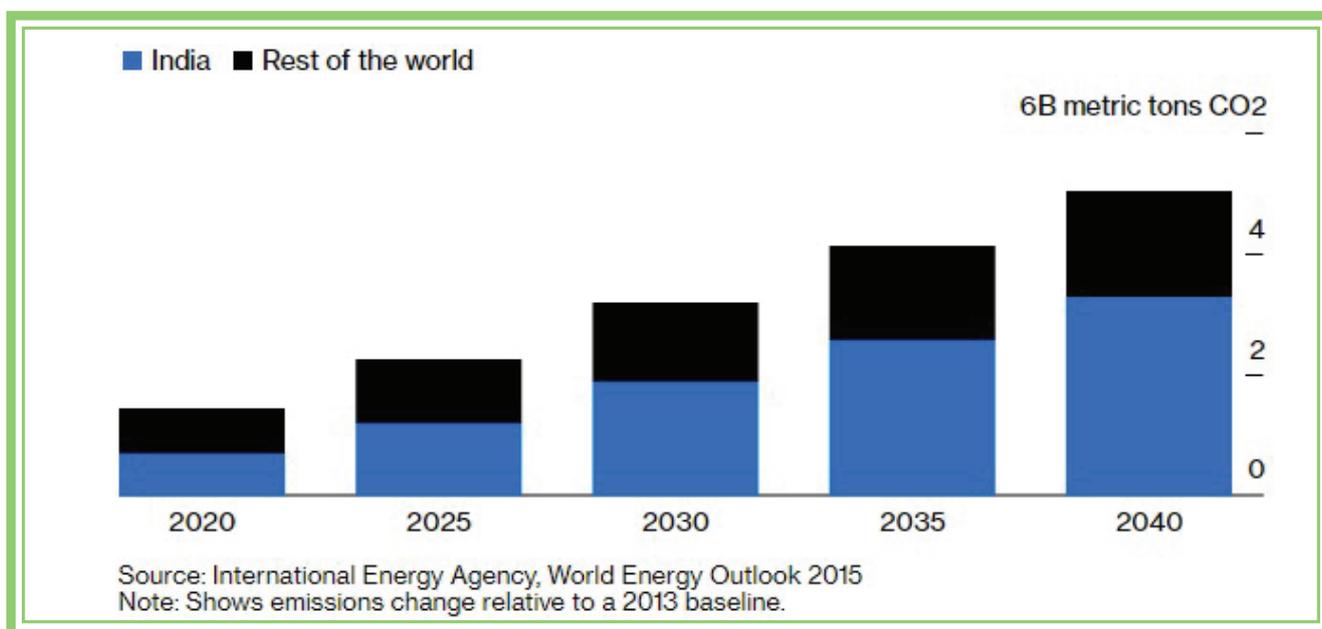
The world's third-biggest polluter is setting real limits on its carbon footprint, as renewable installations approach the finish line and fossil-fuel power use declines fast.

For a world that needs its carbon emissions to diminish to nothing within the next 30 years, the announcement by India's Prime Minister Narendra Modi of a 2070 net zero target might sound profoundly disappointing.

The world's biggest emitter, China, isn't promising zero before 2060. The second-largest, the U.S., is unlikely to be able to pass legislation through Congress sufficient to fortify President Joe Biden's 2050 target against unpicking by future administrations or the courts. Now the third-ranked polluter is out with a promise that's 20 years too late. After a lackluster communique on climate from the Group of 20 meeting in Rome, the United Nations climate conference in Glasgow might appear to have already failed.

That view fails to recognize how far India has moved to come to this point – and how far it could still go. Indeed, it's possible, based on Modi's other promises, that the country's emissions have already peaked, or come close to it. If that's so, the largest remaining piece of the puzzle in tackling climate change is coming into focus.

The Next China

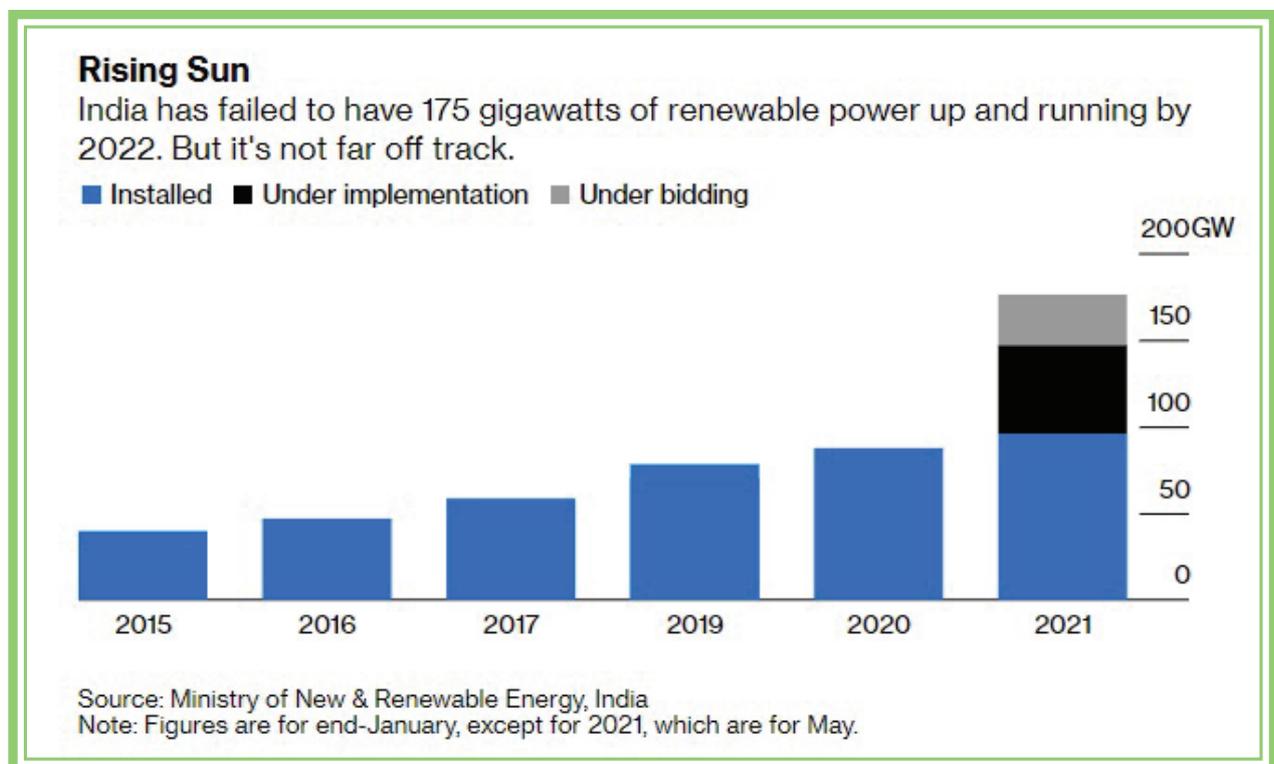


At the time of the Paris Agreement, India was expected to account for about two-thirds of the future increase in global emissions

Until recently, it was conventional to regard India as “the next China” in terms of emissions, much as boosters used that phrase to characterize its potential economic growth. Just as China accounted for the bulk of the world’s increase in emissions during the 2000s and 2010s, so would India in the 2020s and 2030s. About 65% of the additional greenhouse gases pumped between 2013 and 2040 would come from there, according to the International Energy Agency’s 2015 World Energy Outlook.

That situation was well-suited to New Delhi’s long-held stance on international climate negotiations. From the first glimmerings of climate diplomacy in the 1980s, the government has consistently argued that developing nations that bear little of the historical responsibility for global warming shouldn’t be constrained in their ability to pollute. When Modi’s predecessor Manmohan Singh signed up to a 2009 declaration stating the importance of keeping to two degrees Celsius of warming or less, it was enough to cause significant upset domestically because of the perceived constraint the acknowledgement imposed.

The change since then has been profound. At the time of the 2015 Paris climate conference, India’s two major energy targets pointed to increasing renewables deployment, and rapid emissions growth. Coal output would double to 1.5 billion metric tons by 2020. Installations of wind, solar and other renewable generations would quadruple to hit 175 gigawatts by 2022.



That's still not good enough. To hit Modi's new target of 500GW by 2030, India's renewable installers will need to quadruple their rate of deployments to 45GW or so every year over the rest of this decade – equivalent to building the U.K.'s entire renewable fleet every year for the best part of a decade.

Still, if that target comes close to success, then emissions from India's power sector, already

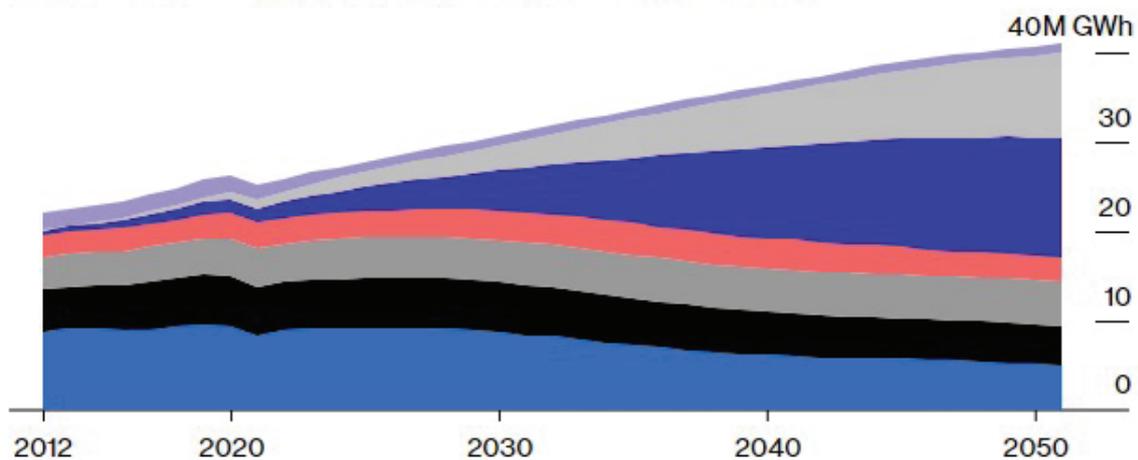
slowing, will have stopped rising and entered decline more than a decade earlier than most analysts expected. BloombergNEF research indicates that generation from coal and gas peaked in 2018; if renewable installations exceed its 2030 estimate of 380GW, the decline in fossil power will be even faster.

AT THE TIME, IT WAS THE RENEWABLES TARGET THAT WAS WIDELY DISMISSED, LABELLED AS "INCREDIBLE" BY A 2016 BROOKINGS INSTITUTION REPORT. IN PRACTICE, THOUGH, WHILE COAL PRODUCTION HAS BARELY BUDGED — INCREASING IN LINE WITH CONSUMPTION ROUGHLY 12% BETWEEN 2015 AND 2019 — RENEWABLES INSTALLATIONS ARE NOW CLOSE TO THE FINISH LINE. INSTALLED CAPACITY WAS 96GW IN MAY, WITH A FURTHER 51GW UNDER APPROVAL OR CONSTRUCTION AND 30GW UNDER BIDDING — ENOUGH TO HIT 176GW WHEN IT'S COMPLETED.

Blowin' in the Wind

India's fossil-fired power generation may have already peaked, and its decline may be faster with more renewable installations

■ Coal ■ Gas ■ Hydro ■ Nuclear ■ Wind ■ Solar ■ Other



Source: BloombergNEF

Note: Outlook is based on around 380GW of renewable installations in 2030, vs. government target of 500GW.

That still leaves substantial emissions from other parts of the economy, to be sure. Power is the biggest slice of India's emissions and the one contributing the bulk of the increase in the total, but manufacturing, transport and agriculture are nearly as important.

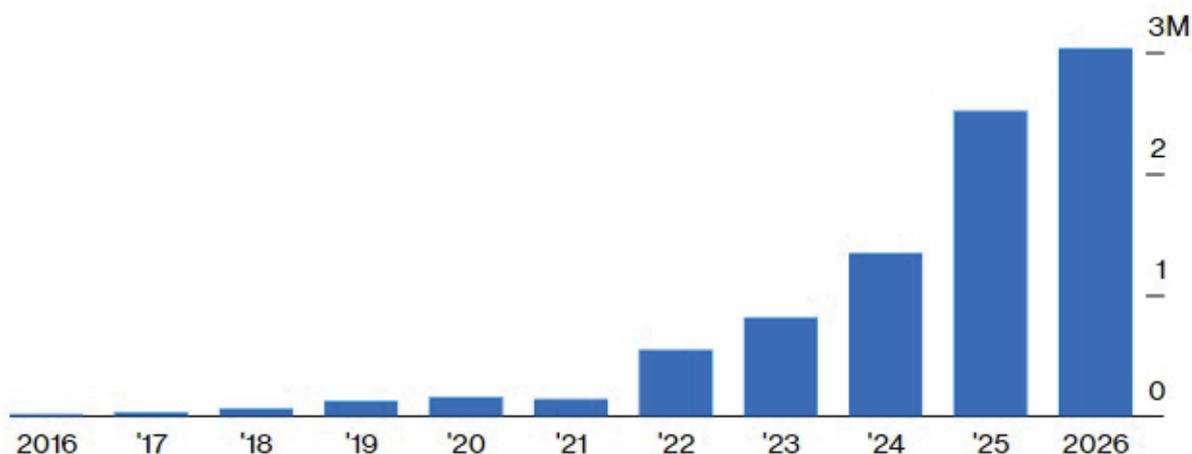
Even there, there's the prospect that India will bend the curve. Billionaires Mukesh Ambani and Gautam Adani have set their sights on turning India into a superpower of green hydrogen, much as Ambani's Jamnagar oil refinery, the world's biggest, turned it into a player in crude oil processing in the 2000s. That offers the prospect to decarbonize key industrial sectors such as steelmaking – where India's shortage of high-quality coal and expertise in producing pig iron without blast furnaces, plus a coming glut of Chinese scrap metal, suggest a lower-emissions pathway for ferrous metal production.

IN TRANSPORT, TOO, ELECTRIC VEHICLES ARE BECOMING INCREASINGLY UBIQUITOUS. LOW TAXES AND CHARGING COSTS MEAN ELECTRIC TWO- AND THREE-WHEELERS ARE ALREADY CHEAPER TO OPERATE THAN CONVENTIONAL VEHICLES.

Local consultancy JMK Research & Analytics estimates electric two-wheelers will hit a 17% share of their domestic market by 2026, and Piaggio & C. expects electric vehicles to have a 20% to 30% share of three-wheelers in the next two to three years. (Four-wheeler cars only comprise around 15% of India's vehicle sales).

Two Wheels Good

Electric bike sales could hit a 17% share of India's local two-wheeler market by 2026



Source: JMK Research & Analytics

Most importantly, 2070 isn't the end of the process.

IN JUST OVER A DECADE, INDIA HAS GONE FROM A POSITION OF ACCEPTING NO LIMITS ON THE WORLD'S GREENHOUSE EMISSIONS, TO SETTING A CONSTRAINT ON EVEN ITS OWN CARBON FOOTPRINT. IF INVESTMENT DOLLARS FLOW FROM RICH COUNTRIES INTO INDIA'S BOOMING LOW-EMISSIONS SECTOR, INDUSTRIES THAT SEEM AS HARD TO DECARBONIZE NOW AS THE POWER SECTOR SEEMED IN 2015 WILL BE THE NEXT TO MOVE. INDIA'S PATH TO ZERO IS JUST BEGINNING.

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COP26: Why India's 2070 net-zero pledge is better news than it sounds



ADAM VAUGHAN, NEWS SCIENTIST

02 November, 2021 | Adam Vaughan is chief reporter at New Scientist magazine. He mostly covers environment, climate change, energy, technology and genetic privacy.

India has said it will reach net-zero carbon emissions by 2070. This is decades later than many other countries, but it marks the first time the country has put an end date on its contribution to climate change.

The target was announced by prime minister Narendra Modi at the COP26 summit in Glasgow yesterday, amid warnings by world leaders about the dangers of failing to act fast enough on emissions.

“A year ago no one would have expected India to announce a net-zero target at COP26,” says Thomas Hale at the University of Oxford. “But that’s the nature of tipping points. Once critical mass is reached, it is very hard not to join in.” He says that countries representing 90 per cent of global GDP are now covered by a net-zero target.

However, India’s 2070 date is 20 years later than the 2050 pledged by the UK, US and other high-income countries, and later than the 2060 chosen by China, Russia and Saudi Arabia.

“The date is late, but more important is that India committed to zero at all, which was thought to be unlikely by many,” says Niklas Höhne at the New Climate Institute, a German non-profit organisation. The long-term commitment will also shape investments today, he adds.

WITH A POPULATION OF 1.38 BILLION AND GROWING, INDIA IS THE WORLD’S FOURTH BIGGEST EMITTER AFTER CHINA, THE US AND THE EUROPEAN UNION. BUT IT HAS SOME OF THE LOWEST PER CAPITA CO2 EMISSIONS, AT 1.9 TONNES PER PERSON IN 2019, COMPARED WITH 5.5 TONNES IN THE UK AND 16 TONNES IN THE US, A POINT MODI HAS REPEATEDLY EMPHASISED IN THE PAST.

The new goal wouldn’t see the world keep to the Paris Agreement’s aim of keeping temperature rises to 1.5°C above pre-industrial levels, as that requires global emissions to reach net-zero around 2050. Hale says that it is largely the fault of richer countries, which used much of the world’s “carbon budget”, leaving little room for countries like India to grow their economies.

Modi also declared four other steps, including 50 per cent of India’s energy being sourced from renewable sources by 2030. Although he used the word “energy”, the target is very likely to cover only electricity, as such a goal for energy would be nigh-impossible for India.

The country’s renewable energy capacity should reach 500 gigawatts by 2030, up from around 134GW today, and it is also aiming to cut its projected CO2 emissions by a billion tonnes between now and 2030 and cut its carbon intensity – emissions released for each unit of GDP – by 45 per cent.

Modi said yesterday that while the world had focused on cutting emissions, it hadn't paid enough attention to adapting to a warming world. "This is an injustice to those countries more impacted by climate change," he said.

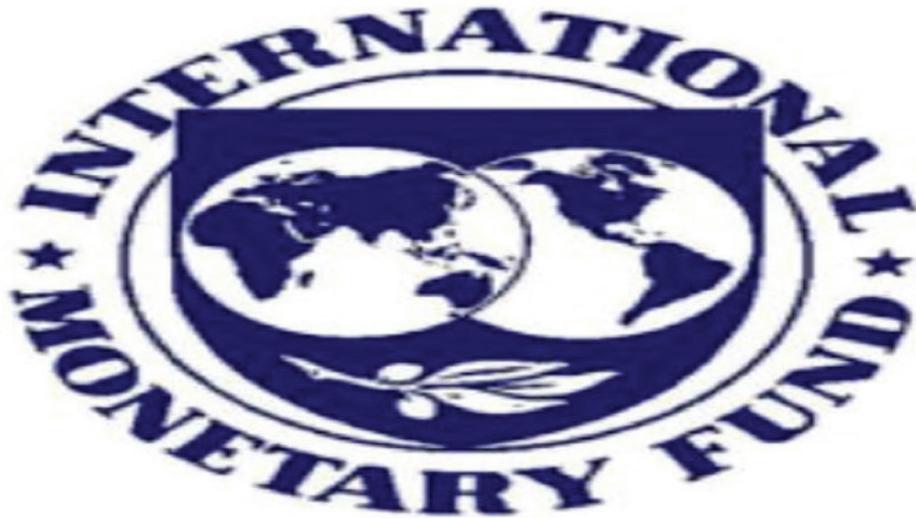
India's 2070 pledge means that all major emitters have now declared a net-zero deadline, effectively putting a backstop on when the world will stop burning fossil fuels. Last week, China, the world's biggest polluter, formalised its 2060 goal in a plan submitted to the United Nations. The blueprint also committed to peaking emissions before 2030.

The COP26 summit was opened by UK prime minister Boris Johnson likening the situation for world leaders faced with climate change to being James Bond strapped to a ticking doomsday device. He said the meeting in Glasgow could become the moment humanity began to "defuse that bomb".

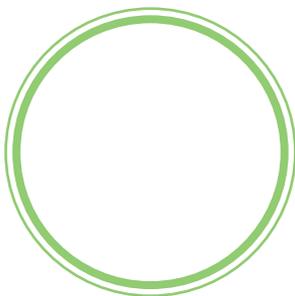
Broadcaster and naturalist David Attenborough gave an emotional speech, urging leaders to stabilise atmospheric CO2 concentrations and to turn "tragedy into triumph". He added: "Our motivation should not be fear, but hope." UN secretary general Antonio Guterres issued a bald warning that: "We are digging our own graves." Meanwhile, US president Joe Biden apologised for the US pulling out of the Paris Agreement under Donald Trump.

One of the most striking speeches of the day came from Mia Amor Mottley, prime minister of Barbados. "1.5°C is what we need to survive. 2°C is a death sentence for the people of Barbuda and Antigua," she said, referring to one of the island nation's Caribbean neighbours. "Can we find it within ourselves to bring Glasgow back on track or do we leave today believing it was a failure before it starts?"

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IMF Praises India's Announcement At COP26 To Adopt Net Zero Emissions By 2070



DAVID FICKLING, BLOOMBERG

02 November, 2021

David Fickling is a Bloomberg Opinion columnist covering commodities, as well as industrial and consumer companies.

The International Monetary Fund (IMF) on Thursday welcomed India's announcement with regard to addressing the climate change challenges at the recently concluded COP26 summit in Glasgow.

"WE WELCOME INDIA'S ANNOUNCEMENT AT THE COP26 OF NEW TARGETS TO INCREASE RELIANCE ON RENEWABLES AND REDUCE THE CARBON INTENSITY OF ITS ECONOMY, INCLUDING TO ADOPT NET ZERO TARGET BY 2070," GERRY RICE, DIRECTOR, COMMUNICATION DEPARTMENT, IMF, TOLD REPORTERS AT A NEWS CONFERENCE.

"As you know, India is currently one of the world's largest emitters, still heavily reliant on coal for electricity generation. And so, its actions may help catalyse action in other emerging market economies as well," he said.

"INDIA'S SIGNIFICANT INVESTMENT IN RENEWABLES AND CLIMATE CHANGE ADAPTATION POLICIES SUGGEST IT IS WELL-POSITIONED TO TAKE FURTHER STEPS TO REACH THIS NEW TARGET," RICE SAID RESPONDING TO A QUESTION.

"We are heartened by India's focus on achieving progress in the current decade given the urgent need for global mitigation action. And as with other countries, it will be important to follow through with specific actions to contain emissions over the current decade," he added.



Can India achieve net zero carbon emissions by 2070? The road is long but not impossible



SAHELI ROY CHOUDHURY & SHUBHANGI GOEL, CNBC

04 November, 2021

Saheli Roy Choudhury is a reporter for CNBC reporting on India.

INDIA'S ROAD TO NET ZERO CARBON EMISSIONS WILL BE LONG AND CHALLENGING — WHILE IT'S NOT IMPOSSIBLE, IT WILL NEED A LOT OF STRATEGIC PLANNING IN THE DECADES AHEAD, ECONOMISTS TOLD CNBC.

The world's third-largest emitter of greenhouse gases surprised the world on Monday by setting a target for net zero carbon emissions — after years of rejecting calls for it.

Speaking at the COP26 summit, Prime Minister Narendra Modi said India would aim for net zero carbon emissions by 2070. While it's the first time India has made such a pledge, the timeline is still two decades beyond the 2050 target set by the climate summit's organizers.

Net zero emissions refer to achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions removed from the atmosphere, through natural means or by using the still nascent carbon capture technology.

"I was surprised because there has been quite a heated debate on net-zero in India," Ulka Kelkar, director of the climate program at World Resources Institute, India, told CNBC.

Can India achieve its 2070 target?

India is still largely dependent on fossil fuels like oil and coal and its economic priorities are mostly focused on domestic issues. The country's energy demand is expected to rise sharply over the next decade as the economy continues on its growth trajectory.

Kelkar said she believes India's 2070 target is "very much achievable" when taken together with the other targets for 2030 that Modi announced.

They include the following:

- » India will expand its renewable energy capacity to 500 gigawatts by 2030;
- » Around 50% of its energy needs would come from renewable sources;
- » It will reduce total projected carbon emissions by a billion tonnes between now and 2030;
- » India will reduce carbon intensity of its economy by less than 45%.

The pledges "will provide policy certainty to industry to invest in decarbonization technologies, and will also inspire India's states and cities to set their own net-zero pathways to development," Kelkar said on email.

By 2070, India will also be a comparatively richer country with a much higher per capita income that will create the fiscal space needed for the transition, said Vaibhav Chaturvedi, an economist with climate think-tank Council on Energy, Environment and Water.

"We think 2070 is doable. Having said that, it is not going to be a cakewalk," he told CNBC on Tuesday.

“It does need a lot of strategical planning and planning is the word. It is not going to happen just because the announcement is made,” Chaturvedi said. “A lot of sectoral actions, policy planning and intervention has to be there.”

“We haven’t figured it out yet, but that is fine for now. The announcement has just happened ... we will probably figure it out in the next year,” he added.

Chaturvedi explained that India has to navigate potential challenges – such as ensuring that coal workers are not left behind, energy prices do not rise in the near term and getting the state governments on board. Power distribution reforms are also “absolutely necessary” to pave the way for the transition to happen.

What happens next?

India will likely target the power sector first, according to Chaturvedi. The country has already made headway in its push for renewable energy through solar and wind.

“The second sector is hydrogen – that is also a big one. The biggest players in India have already entered the market,” he added.

Hydrogen is a “versatile energy carrier” which can help meet different energy challenges, according to the International Energy Agency. It has a wide range of applications that can help reduce carbon emissions in many sectors.

But most of the hydrogen production today still relies on fossil fuel as a power source, making it a pollution-heavy process.

Broadly, if the world wants to achieve its target of reducing global emissions to net zero by 2050, developed countries must lead the way by achieving net zero well before that date, according to Chandrashekhar Dasgupta, a former climate negotiator for India and an ex-ambassador to European Union and China.

“The major technological breakthroughs for decarbonization will mostly originate in these countries,” said Dasgupta, a distinguished fellow emeritus at The Energy Research Institute, in an email to CNBC before India’s surprise announcement.

Poorer countries will follow suit in the latter half of the century, he added.

“Affluent countries are able to bear the high initial R&D and other overhead costs. Costs will gradually come down with economies of scale and differential pricing, enabling poorer countries to follow,” he said.

NET ZERO EMISSIONS REFER TO ACHIEVING AN OVERALL BALANCE BETWEEN GREENHOUSE GAS EMISSIONS PRODUCED AND GREENHOUSE GAS EMISSIONS REMOVED FROM THE ATMOSPHERE, THROUGH NATURAL MEANS OR BY USING THE STILL NASCENT CARBON CAPTURE TECHNOLOGY.



COP26: India polishes its climate reputation at Glasgow



TK ARUN, THE FEDERAL

02 November, 2021

TK Arun is the Editor for The Economic Times

He also offered more proximate targets, to be reached by 2030: to reduce India's projected emissions by 1 billion tonnes, to achieve 500 GW

of non-fossil fuel power generation capacity, to meet 50 per cent of the nation's energy requirements from renewable sources and to reduce the economy's emission intensity by 45 per cent.

The fall in energy intensity is needed to facilitate the other goals. However, there is a bit of a mismatch between the goal to have 500 GW of non-fossil-fuel installed capacity and the goal to meet half the energy requirement from renewable sources.

Non-fossil fuel sources would include nuclear power, which should play an ever-increasing role in generating power, particularly the baseload, apart from hydroelectricity, which is ideal for peaking power. Renewable sources are a subset of non-fossil-fuel sources. If half the energy requirement is met from renewable sources and we have a lot of nuclear and hydel capacity in addition, say, enough to meet an ambitious 25 per cent of the energy demand, that means India would generate harmful emissions only for generating a quarter of its energy needs.

THE PRIME MINISTER ALSO RAISED THE ISSUE OF LIFESTYLE. FROM FRENETIC CONSUMPTION, HE URGED THE WORLD TO MOVE TOWARDS CONSCIOUS REDUCTION IN THE DEMAND PLACED ON THE WORLD'S RESOURCES. HE COULD HAVE RECALLED MAHATMA GANDHI'S ASSERTION THAT THE WORLD HAS ENOUGH TO MEET EVERYONE'S NEEDS, BUT NOT TO MEET EVERYONE'S GREED.

capacity to generate the needed power.

PRIME MINISTER NARENDRA MODI ADDED A LITTLE WARMTH TO THE GLOBAL CLIMATE, BUT OF THE KIND THAT GLADDENS THE HEARTS OF CLIMATE ACTIVISTS. HE COMMITTED INDIA TO A NET-ZERO GOAL BY 2070, 10 YEARS BEHIND CHINA'S DECLARED NET-ZERO GOAL, BUT ADDRESSING A BUGBEAR OF THE CLIMATE COMMUNITY THAT INDIA, AMONG THE WORLD'S LARGEST EMITTERS, HAS NOT FIXED A DEADLINE ON ADDING NET-ZERO GREENHOUSE GAS EMISSIONS.

Ideally, the goal for energy from non-fossil fuel sources should be more ambitious than the target for renewable capacity.

The big plans India has for green hydrogen, backed up with large orders already being placed for megawatt-hour storage of power, together can address the intermittency of renewable power. But these cannot raise the capacity utilisation of renewable sources: the sun must shine and the wind, blow, for solar panels and wind turbines to generate power. That means a significantly higher renewable

While the rich world blames China for being the world's largest emitter of greenhouse gases, they conveniently forget that China produces these emissions in the course of feeding the conspicuous consumption of the rich world. If the rich world curbed its consumption demand, China would need to produce less, and there would be lower emissions, and Chinese policy would focus more on improving the lot of their own citizens.

The prime minister also did well to demand a trillion dollars of climate funding, raising the bar for what the developed world ought to do, to achieve tangible action by poorer nations. He also called for tracking of the achievement of progress on spending. This is important both conceptually and for effective implementation.

The Sixth Assessment Report of the Intergovernmental Panel on Climate Change, the UN's expert body on the subject, estimates that some 700 billion tonnes of CO₂ would need to be removed from the atmosphere to contain global warming below 1.50 C by 2050. Those with the resources to do this happen to be the same people who have the moral obligation to do it, and for the reason why they today have the resources to do it: they filled the air with greenhouse gases in the decades of fast, resource-intensive growth.

It would help carbon removal if either of two things were available: a steep enough price for traded carbon or chemistry that allows carbon removed from the air to be used as the starting point for producing organic compounds that today come from petroleum.

High-end cars already used carbon fiber for their body panels. The Boeing 787 Dreamliner is made of carbon fiber. Carbon fiber can usefully replace heavy steel cables of the kind used in lifts and cranes, to achieve both superior strength and energy-saving reduction of weight.

Even as India demands transfer of climate technology from the rich nations, there is every reason for India to invest in R&D that would produce this sort of chemistry.

DOES ANNOUNCING A TARGET NEARLY FIVE DECADES IN THE FUTURE REALLY MAKE SENSE? DOES INDIA'S EMBRACE TODAY OF CARBON NEUTRALITY IN 2070 MATTER IN THE REAL WORLD? THE ANSWER TO BOTH QUESTIONS IS IN THE AFFIRMATIVE.

The rich world is committed to achieving carbon neutrality by 2050, which, after the Sixth Assessment Report, is not enough. They need to have achieved significant net negative emissions by then. But setting a target helps formulate policy that requires time to execute and achieve results. It also helps governments to put in place incentives that will help companies in the area of green energy make faster progress.

Before anyone rushes to conclude that India's climate goals are designed to help Ambani and Adani with their vaulting green hydrogen ambitions, let us note that the Biden infrastructure bill contained a proposal – how much of it would survive its political pruning through Congress is anyone's guess – to offer green hydrogen a subsidy as high as \$6 per kg. Ambani has declared that he would bring down the price of green hydrogen to \$1 a kg by 2030, and he did not ask for any subsidy.

Before COP26, India and China were seen as the holdouts on the climate front. Xi Jinping did not do his country any favour by failing to show up. India, on the other hand, will leave Glasgow with some additional sheen to its climate reputation.

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'Solar is the answer': India, UK launch world's first transnational solar grid project at Cop26



STUTI MISHRA, THE INDEPENDENT

04 November, 2020

Stuti Mishra is a journalist reporting for The Independent.

'WITH THIS CREATIVE INITIATIVE, CARBON FOOTPRINT WILL BE REDUCED, AND THE COST OF ENERGY WILL ALSO COME DOWN'

India and the UK have together unveiled the world's first transnational network of interconnected solar power grids at the Cop26 summit, calling it an answer to the challenges of solar power.

The project, called Green Grids Initiative: One Sun One World One Grid, will connect 140 countries through a solar-powered electricity network. It aims to solve the biggest challenge to solar energy – the availability of sunlight – by producing energy wherever the sun is shining and providing it to other areas, ensuring a 24-hour supply.

The ambitious plan is jointly spearheaded by India and the UK and has the support of 80 members of the 99-nation strong International Solar Alliance (ISA). India and France launched the ISA on the sidelines of the Paris Cop21 summit in 2015.

At the launch of the initiative on Tuesday, India's prime minister Narendra Modi, who attended the event along with his UK counterpart Boris Johnson, said Green Grids could be an answer to the world's challenge in acquiring consistent solar energy.

"The challenge is that solar energy is available only in the day and is also dependent on weather. 'One Sun, One World, One Grid' is the answer to this challenge. With a worldwide grid, clean energy will be available everywhere, every time. This will lessen the need for storage and increase the viability of solar projects," Mr Modi said.

"With this creative initiative, carbon footprint will be reduced, and the cost of energy will also come down. It will also foster a spirit of cooperation among different countries and regions of the world," he added.

Mr Johnson said that the UK was "working hand-in-hand with our friends in India to transform the future of the power sector" and to ensure that clean and reliable electricity was accessible everywhere by the end of the decade.

"It's fantastic that more than 80 countries have backed our newly-launched Green Grids Initiative, whose collaboration will not only see greater growth, jobs and investment in our global green future but also make sure no one is left without access to energy," he said.

"Solar is the answer if the world is to realise ambitions of neutralising emissions by around mid-century," Arti Khosla, director of Climate Trends said.

"The Green Grids initiative is a unique concept of the connected global super

electricity grid and is an out-of- box innovative idea, the kinds of which will need fruition to break the mould of how power sector has functioned so far,” she added.

The initiative will be completed in three phases but other details have not yet been shared.

However, experts believe that the highly ambitious plan can boost efforts to cut carbon emissions by making renewable energy more accessible since a key challenge with solar power has been storage costs.

AT THE LAUNCH OF THE INITIATIVE ON TUESDAY, INDIA'S PRIME MINISTER NARENDRA MODI, WHO ATTENDED THE EVENT ALONG WITH HIS UK COUNTERPART BORIS JOHNSON, SAID GREEN GRIDS COULD BE AN ANSWER TO THE WORLD'S CHALLENGE IN ACQUIRING CONSISTENT SOLAR ENERGY.



Cop26: What does India's 2070 net zero target mean for the world?



STUTI MISHRA, THE INDEPENDENT

02 November, 2021

Stuti Mishra is a journalist reporting for The Independent.

Indian prime minister Narendra Modi's surprise announcement of a 2070 target for net zero carbon emissions has come with several ambitious pledges.

India, which is one of the three largest emitters of greenhouse gases after China and the US, had earlier stayed away from net zero commitments and instead demanded more action from developed nations.

Before the UN climate negotiations, India also emphasised that net zero targets were less important than the path towards achieving reduced emissions. However, pressure had been building on India ever since China announced its 2060 net zero target last year.

On Monday, Mr Modi's statement at the Cop26 summit in Glasgow included several ambitious targets – to increase the use of renewables and to curb emissions – that experts believe can be transformative for the country in the coming years.

MR MODI'S TARGET FOR INDIA TO ATTAIN NET ZERO EMISSIONS IS 20 YEARS LATER THAN THAT OF MOST OTHER COUNTRIES, AND 10 YEARS LATER THAN CHINA. HOWEVER, INDIA'S SHARE OF HISTORIC CARBON EMISSIONS IS ALSO A LOT LESS THAN THAT OF MORE DEVELOPED NATIONS LIKE THE US AND CHINA.

Net zero, which is also referred to as carbon neutrality, does not mean that a country would bring down its emissions to zero. It is a state in which a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere through carbon sinks and various other technologies.

One of the most ambitious goals of the landmark Paris Agreement was that the world should cut emissions in half by 2030 and achieve global carbon neutrality by 2050, for a 50 per cent chance of limiting global heating to 1.5C.

Mr Modi said on Monday that India will bring up its non-fossil energy capacity to 500 GW by 2030.

He also pledged that by the same year, 50 per cent of India's energy would come from renewable sources. Though the country has made great strides in the area in the last few years, this is a big jump from where India's current renewable energy capacity stands.

Mr Modi announced that India will reduce its total projected carbon emissions by one billion tonnes between now and 2030. Further, by that period, India will reduce the carbon intensity of its economy – a measure that relates to the amount of goods produced per unit of energy – by 45 per cent rather than the current target of 35 per cent.

More than India's net zero pledge, though it carries diplomatic relevance, it is the other announcements that will drive real change in the coming years, said Dr Navroz Dubash, a professor at the public policy think-tank Centre for Policy Research.

"Much more intriguing are the announcements on railways, on non-fossil capacity and the

benchmark for renewable energy,” Dr Dubash said. “These are what give scope for India to drive a low carbon development transition in the next decade.” Mr Modi had referred in his speech to a commitment to make India’s railways net zero by 2030, a pledge that was actually first made last year.

However, despite India’s fast-paced development of green energy capacity, the country continues to be heavily dependent on coal and it is the world’s second-largest producer and consumer of the dirty fossil fuel. While India’s pledges centre around increasing renewable energy, there are no commitments on how soon coal will be phased out or when the construction of new plants will stop.

“Given the changed economics of the energy sector, with renewables and battery storage now cheaper than new coal, India was well positioned to commit to No New Coal and a coal peak. The fact that it didn’t is worrying and a huge missed opportunity,” said Ashish Fernandes, the CEO of Climate Risk Horizons.

“What’s the plan to stop growing our coal and oil emissions specifically and start phasing down? India cannot afford, for both financial and ecological reasons, to continue expanding its coal sector. There are 26GW of new coal plants in the permitting pipeline. Building these would be a disaster for the climate and lock the Indian economy into expensive electricity,” he added.

Dr Vaibhav Chaturvedi, a fellow at the Council on Energy, Environment and Water (CEEW), said that though India’s net zero target may come later than others, it is actually more ambitious than that of China or the European Union.

“We at CEEW expect this to provide a clear roadmap to Indian and global energy markets and accelerate the pace towards deep decarbonisation and a 1.5C future,” Dr Chaturvedi said in a statement. “This announcement, in line with CEEW’s latest report, will also provide a blueprint for India’s transition to a low carbon economy.

“By announcing the net zero year, the prime minister has also accorded a red carpet to foreign and domestic inventors who want to invest in research and development, manufacturing, and deployment of green technologies in India,” he said.

But Dr Chaturvedi added: “India’s efforts though will have to be supported by the availability of climate finance from developed countries. Without foreign capital, on concessional terms, this transition will prove to be difficult.”

The issue of funding has been at the core of India’s stand at climate summits. At Cop26, Mr Modi reiterated it and demanded \$1trillion in climate finance.

“TODAY WHEN INDIA HAS RESOLVED TO MOVE FORWARD WITH A NEW COMMITMENT AND NEW ENERGY, THEN THE CLIMATE FINANCE AND TRANSFER OF LOW-COST TECHNOLOGY BECOME EVEN MORE IMPORTANT,” HE SAID. “TODAY IT’S IMPORTANT TO TRACK CLIMATE FINANCE JUST LIKE WE TRACK THE PROGRESS OF CLIMATE MITIGATION.”

However unlike in 2015, India's commitments this year do not come with any financial conditions attached. The country managed to achieve many of its initial Paris targets without any significant climate funding.

“WE AT CEEW EXPECT THIS TO PROVIDE A CLEAR ROADMAP TO INDIAN AND GLOBAL ENERGY MARKETS AND ACCELERATE THE PACE TOWARDS DEEP DECARBONISATION AND A 1.5C FUTURE,” DR CHATURVEDI SAID IN A STATEMENT. “THIS ANNOUNCEMENT, IN LINE WITH CEEW’S LATEST REPORT, WILL ALSO PROVIDE A BLUEPRINT FOR INDIA’S TRANSITION TO A LOW CARBON ECONOMY.



COP26: India's Narendra Modi surprises climate summit with 2070 net-zero vow



EDITORIAL, SOUTH CHINA MORNING POST/BLOOMBERG

02 November, 2021

Indian Prime Minister Narendra Modi surprised delegates at the COP26 climate summit with a bold pledge: the world's third-biggest emitter will reach net-zero by 2070.

The announcement injected new life into talks that had been set back by a disappointing outcome from the Group of 20 meeting in Rome this weekend. Though India's goal is two decades behind rich nations such as the US and UK, it is compatible with what scientists say is needed to avoid catastrophic global warming.

"This was a very significant moment for the summit," said Nicholas Stern, chairman of the Grantham Research Institute on Climate Change and the Environment at the London School of Economics. It's a chance for India to show that "it can deliver on both economic development and climate change".

India stood out among top emitters, including the US and China, that were being closely watched at the conference. President Joe Biden, hamstrung by politics at home, did not bring anything substantially new to the table. Meanwhile China's Xi Jinping did not attend in person and offered no new plans to cut emissions.

The challenge for India is figuring out how to finance the transition to net zero, which will require trillions of dollars of investment.

Modi reiterated his stance that rich countries should help support poor nations by raising more money to accelerate the transition to clean energy – though he did not specify how much exactly India would need from the international community.

"It is India's expectation that the world's developed nations make US\$1 trillion available as climate finance as soon as possible," Modi said, a figure that's 10 times more than annual climate finance target set by rich countries. "Justice would demand that those nations that have not kept their climate commitments should be pressured."

Bloomberg reported earlier that Modi's office had been working on modelling what was needed to get to net zero. But the officials balked at setting a goal without strong financing commitments from rich nations.

On Monday, the Indian leader backed up his 2070 net-zero goal with more aggressive near-term targets. He raised India's 2030 target for low-emission energy capacity to 500 gigawatts from 450GW and pledged to produce half the country's electricity using renewable energy.

India will also cut carbon-dioxide emissions 1 billion tons (907 million tonnes) from business as usual by the end of the decade. To deliver on the 2070 goal, the country still has to lay out a detailed plan for the 40 years in between.

Earlier in the day, UK Prime Minister Boris Johnson kicked off the COP26 summit by urging world leaders to “defuse the bomb of climate change.” With helicopters buzzing overhead, delegates swarmed through the vast conference centre along the banks of the river Clyde and long lines formed as organisers struggled to accommodate the crowds.

One of COP26 President Alok Sharma’s hopes for the Glasgow summit is to eke out enough commitments from countries to keep the Paris Agreement’s stretch goal of global limiting warming to 1.5 degrees Celsius relative to pre-industrial levels within reach.

Modi’s announcement is consistent with what research shows is needed to meet that target. To keep temperatures from rising more than 1.5 degrees, the UN’s Intergovernmental Panel on Climate Change projects that the world has to reach net-zero carbon dioxide emissions by about mid-century and then hit net zero across all greenhouse gases by 2070.

“Country-wise net zero cannot be the same for all nations,” said Arunabha Ghosh, chief executive officer of the Council on Energy, Environment and Water, who has advised the prime minister’s office. India’s target is “equitable and just”, he said.

It’s in India’s self-interest to stem global warming, even if the problem was caused mainly by carbon dioxide accumulated in the atmosphere by countries that industrialised first. The nation of 1.3 billion people is one of the most vulnerable to climate impacts. Extreme weather events like heatwaves, floods and disruptions to the rainy monsoon season will have devastating impacts.

Modi also committed to increasing India’s 2030 carbon intensity reduction goal – measured as carbon dioxide emissions per unit of gross domestic product – from 35 per cent to 45 per cent. Stern, from the London School of Economics, said the new targets could mean India reaches peak emissions by 2030.

At the COP26 opening, developing nation leaders expressed frustration that rich countries have failed repeatedly to deliver on a promise to mobilise more funds to help them decarbonise and adapt to a warming planet. Still, in their speeches on Monday, it was smaller and poorer countries that stepped up.

Nepal and Thailand also set new carbon neutrality targets, for 2045 and 2050, respectively. Meanwhile Canada and Australia declined to set new short-term emissions targets, though they did pledge some new money toward financing the transition.

“In the last few months, India has been lining up policies that can take it towards these goals, policies about hydrogen, electric vehicles, renewable energy and industry decarbonisation,” said Chandra Bhushan, president of New Delhi-based International Forum for Environment, Sustainability and Technology. “Now India needs investments.”

MODI'S ANNOUNCEMENT IS CONSISTENT WITH WHAT RESEARCH SHOWS IS NEEDED TO MEET THAT TARGET. TO KEEP TEMPERATURES FROM RISING MORE THAN 1.5 DEGREES, THE UN'S INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE PROJECTS THAT THE WORLD HAS TO REACH NET-ZERO CARBON DIOXIDE EMISSIONS BY ABOUT MID-CENTURY AND THEN HIT NET ZERO ACROSS ALL GREENHOUSE GASES BY 2070.



Modi Outshines Biden on Glasgow Climate Stage: COP26 Daily Third-Biggest Emitter Makes Net-Zero 2070 Pledge



AKSHAT RATHI, BLOOMBERG

02 November, 2021

Akshat Rathi is a London-based reporter for Bloomberg News.

The country will increase its non-fossil fuel power capacity to 500 gigawatts by the end of the decade, he said, raising its goal from 450GW. Modi said half of India's electricity will come from renewable sources by 2030.

INDIAN PRIME MINISTER NARENDRA MODI SAID THE WORLD'S THIRD-BIGGEST EMITTER WILL ZERO OUT POLLUTION BY 2070, THE BOLDEST STATEMENT OF INTENT AT THE OPENING OF THE COP26 CLIMATE SUMMIT IN GLASGOW.

Modi also committed to increasing India's 2030 carbon intensity goal – measured as carbon dioxide emissions per unit of gross domestic product – from 35% to 45%. It will also strive to produce half of its electricity using renewable energy and cut carbon-dioxide emissions 1 billion tons from business as usual by 2030.

The Indian leader also demanded that rich countries ramp up their contributions to help less developed nations decarbonize.

“It is India's expectation that the world's developed nations make \$1 trillion available as climate finance as soon as possible,” Modi said. “Justice would demand that those nations that have not kept their climate commitments should be pressured.”

India's new targets don't mean its absolute emissions will decline by the end of this decade. The goals, if met, would help the world stem global warming significantly compared to the current trajectory.

To keep temperatures from rising more than 1.5C, the UN's Intergovernmental Panel on Climate Change projects that the world has to reach net-zero carbon dioxide emissions by about mid-century and then hit net zero across all greenhouse gases by 2070.

Earlier, U.S. President Joe Biden offered promises of American action to combat climate change and propel clean energy – but made no new big, bold promises in his speech.



India's 2070 net zero target is a first step



EDITORIAL, FINANCIAL TIMES

■ 02 November, 2021

In the way of so much climate diplomacy, the Indian government's COP26 commitment to reach net zero carbon emissions by 2070 managed to be an example of heartening progress and a cause for rueful disappointment at the same time. That the world's third-biggest emitter and most populous country now has a target to reduce its emissions to virtually zero is encouraging and a vital step in limiting global warming. It was a diplomatic coup for the British hosts and a landmark moment in India setting itself on a path, eventually, to a green economy. Yet it intends to hit this target so late – much later than many other countries – that limiting the increase in global average temperatures to 1.5C will become much harder. It will provide ammunition for climate sceptics in the rich world to ask why they should go faster when others are dragging their feet. That would be a mistake. Instead, India's target should be seen as a first step that trust-building and technological progress should bring forward. And perhaps even more important than a target for half a century's time are India's genuinely bold interim commitments to reduce emissions, increase the use of renewable energy and make growth less reliant on fossil fuels.

PRIME MINISTER NARENDRA MODI'S RELUCTANCE TO EMBRACE A SHORTER TIMETABLE TO REACH NET ZERO IS UNDERSTANDABLE. WHILE MANY WESTERN COUNTRIES ARE COMMITTED TO A 2050 DEADLINE, THE INDIAN GOVERNMENT RIGHTLY POINTS OUT THAT THEY HAVE USED FOSSIL FUELS FOR DECADES, IF NOT CENTURIES, TO LIFT LIVING STANDARDS.

That is an option that India's millions of rural poor – often reliant on diesel generators – are only just beginning to enjoy. Not only is India's contribution to historic emissions much less than other countries but its high ranking on aggregate emissions reflects a much bigger population. On a per head basis its emissions are towards the bottom of the table, thanks to its relative poverty. It would be churlish to say that Indians have less entitlement to a high-carbon lifestyle than those living elsewhere.

ALONGSIDE THE NET ZERO TARGET, MODI SET OUT A SERIES OF EARLIER GOALS, INCLUDING OBTAINING HALF OF ITS ENERGY FROM RENEWABLES AND REDUCING THE CARBON INTENSITY OF THE ECONOMY BY 45 PER CENT, BOTH BY 2030. THESE ARE GENUINELY HELPFUL AND SHOULD NOT BE DISMISSED. IF INDIA CAN MAKE THE NEXT HALF CENTURY OF GROWTH MUCH LESS DAMAGING FOR THE PLANET THAN CHINA'S ECONOMIC TRANSFORMATION, THAT WOULD BE AN ENORMOUS ACHIEVEMENT THAT WOULD ALSO LIFT MILLIONS OUT OF POVERTY.

Nevertheless, more will still be needed on the environmental front. Indians are likely to be among the worst-affected by a warmer planet: climate scientists estimate that roughly half of India's population will experience extreme heat by 2070. Hundreds died as recently as last month in extreme floods that are only likely to get worse and more common as the planet gets hotter. Genuine allocations of climate finance from the west to poorer countries, previous versions of which Modi described not entirely unfairly as "empty", will build trust and encourage India, and the other developing countries for which Modi said he had a "duty to raise my voice", to go further. Rich countries should not be disheartened by later net zero targets for poorer ones – China last year announced a 2060 target – but push to hit net zero faster themselves. That would allow poorer countries to use more of the world's "carbon budget" and demonstrate that there does not have to be too much of a trade-off between environmentalism and development.

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India has shown what climate leadership looks like



ARUNABHA GHOSH, THE INDIAN EXPRESS

05 November, 2021
Arunabha Ghosh is CEO, Council on Energy, Environment and Water.

On November 1, the first day of the UN climate conference in Glasgow (COP26), Prime Minister Narendra Modi delivered a bold statement for low-carbon development. He committed to net-zero greenhouse gas emissions by 2070 and backed that up with strong near-term commitments. This changes everything for India, for the planet, for investors and technology developers, and for climate negotiations.

THE PRIME MINISTER SPOKE FOR DEVELOPING COUNTRIES, IN EFFECT CALLING FOR A DEAL FOR DEVELOPMENT THAT WOULD BE JUST, EQUITABLE, PEOPLE-CENTRIC AND PLANET-POSITIVE.

The much-anticipated announcement of India contained five elements: Non-fossil electricity capacity of 500 GW by 2030; 50 per cent electricity capacity from renewables by 2030; one billion tonnes of emission reduction by 2030; 45 per cent reduction in emission intensity of GDP by 2030; and net-zero emissions by 2070.

It is important to recognise how transformational these commitments are. Currently, India has 101.5 GW of renewables plus 46.5 GW of large hydropower capacity. Combined with 6.8 GW of nuclear power, this amounts to 155 GW (40 per cent of power capacity) coming from non-fossil sources. In 2021 India has already met one of its important commitments, which had originally been set for 2030.

Now it has upped the game. Getting to 500 GW of non-fossil capacity will not be easy. If, say, India builds another 50 GW of hydropower and nuclear capacity, it would still mean installing about 300 GW of additional renewables capacity. This will be a breathless marathon: Every working hour, six days a week, 365 days a year, for the next nine years, India would have to deploy at least 10.5 megawatts of renewable energy capacity.

Similarly, a reduction of 1 billion tonnes of emissions reduction by 2030 amounts to about 3 per cent absolute reduction, in addition to the avoided emissions that would accrue from already stated targets for clean energy, electric mobility, industrial energy efficiency, and LED lighting. To put this in context, industrialised countries reduced emissions by only 3.7 per cent during 1990-2019. Calculations by the Council on Energy, Environment and Water (CEEW) show that the near-term target for renewables capacity would result in 246 million tonnes of CO₂ saved in the electricity sector alone in 2030.

Overall, the net-zero target is a call for economic transformation. CEEW analysis, published in recent weeks, shows how a 2070 net-zero scenario will change the outlook for many key sectors. With (green) hydrogen but without carbon capture and storage, by 2070 industrial energy will shift significantly. Electricity from non-traditional sources provides less than 20 per cent of industrial energy currently,

but its share would have to jump to 65 per cent by 2070. Hydrogen's negligible share would have to grow to 19 per cent of industrial energy by 2070. Electric vehicles would have to be 84 per cent of all four-wheelers and 79 per cent of all trucks sold in 2070. Coal-based power would have to be completely eliminated.

Once the dust settles over COP-26, India would do well to have legislative backing for long-term targets. Performance and progress towards net-zero by each successive government should be monitored by the Parliament. Developing near-term and mid-term sectoral roadmaps would give businesses policy and regulatory clarity. Further, a National Commission on Climate Change, as a constitutional body, should be formed to deal with climate change as a strategic risk and an overarching development priority, and improve inter-ministerial and Centre-state coordination.

The economic cost for net-zero transition will amount to between \$ 9,400 billion to \$ 14,000 billion (in 2015 prices) between 2030 and 2100. The cost variations depend on whether hydrogen and CCUS have a big or small role in India's energy transition. An economy-wide carbon price will be needed sooner than later to raise resources and nudge investments.

Having set the targets, there will be a need for hard investment. The net-zero announcement is an invitation to institutional investors. It is a challenge laid out for innovators. Not every answer is known. That is also an opportunity to develop next-gen smart appliances, grid storage, solar panels, wind turbines, energy-efficient industrial boilers, electrolyzers for green hydrogen, or EV batteries.

We will need a mindset change. Everything will now have to become sustainable, regardless of the economic sector. Use, reuse and misuse of resources (land, water, air, carbon) must become guiding principles to pursue jobs, growth and sustainability. The transition must be just for those impacted by economic shocks and by climate shocks. None of this is a given, nor will it be easy.

YET, INDIA HAS PUT THE BALL FIRMLY IN THE COURT OF DEVELOPED COUNTRIES. FIRST, DESPITE A 2070 NET-ZERO YEAR, ITS CUMULATIVE EMISSIONS FROM 1900 TO 2100 WOULD STILL BE LOWER THAN THAT OF THE US OR THE EU (WHICH HAVE DECLARED 2050 NET-ZERO TARGETS) OR CHINA (WITH A 2060 NET-ZERO YEAR). SECOND, INDIA'S TRANSITION FROM PEAKING EMISSIONS TO NET-ZERO WOULD BE FASTER THAN ANY OTHER MAJOR ECONOMY, WHICH ARE TAKING A SLOW-MOTION ROUTE TO NET-ZERO STRETCHING FROM FOUR TO MORE THAN SEVEN DECADES.

Third, India has called out the shifting of goalposts around unmet climate finance promises. Just days ago, the \$100 billion that was meant to be delivered by 2020 has now been pushed to 2023. There is no guarantee that this new deadline will be honoured. India has, instead, demanded \$1 trillion "at the earliest" for developing countries. Effectively, \$100 billion is now a floor not a ceiling for climate finance.

Fourth, India continues to show institutional leadership. This week it launched the Infrastructure for Resilient Island States – an initiative under the Coalition for Disaster Resilient Infrastructure to support vulnerable island countries. It also launched the Green Grids Initiative – One Sun One World One Grid in partnership with the UK to interconnect grids across countries and tap into renewable energy resources everywhere.

Will there be naysayers? Certainly. Some will be concerned about the feasibility of these ambitions. Others will criticise that the net-zero date is too far into the future to be meaningful. A third set will question specific sectoral numbers. A healthy debate is welcome. Investments are welcome even more. But

INDIA HAS SILENCED CRITICS WHO SUGGESTED IT HAD NO BOLD VISION FOR THE PLANET. IT HAS SET OUT ITS VISION, BACKED IT WITH ACTION, IS REQUESTING COOPERATION, BUT WILL NOT ACCEPT ANY FALSIFICATION OF ITS INTENTIONS.

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India's new climate targets: Bold, ambitious and a challenge for the world



SUNITA NARAIN, DOWN TO EARTH

02 November, 2021

Sunita Narain is a researcher, journalist, and environmental activist who works with CSE & Down To Earth.

India's commitment to achieve Net Zero emissions by 2070 is akin to not just walking the talk on the climate crisis, but running the talk.

At the 26th Conference of Parties (CoP26), Indian Prime Minister Narendra Modi declared a five-fold strategy – termed as the panchamrita – to achieve this feat. These five points include:

- » India will get its non-fossil energy capacity to 500 gigawatt (GW) by 2030
- » India will meet 50 per cent of its energy requirements from renewable energy by 2030
- » India will reduce the total projected carbon emissions by one billion tonnes from now onwards till 2030
- » By 2030, India will reduce the carbon intensity of its economy by less than 45 per cent
- » So, by the year 2070, India will achieve the target of Net Zero

India's climate change targets are laudable and put the ball firmly in the court of the already rich world to now show that they mean business. This is because, India has not been a historical contributor to the greenhouse gas emissions – from 1870 to 2019, its emissions have added up to a miniscule 4 per cent of the global total.

It is lambasted as the world's third highest polluter in 2019, but its scale of emissions, 2.88 CO₂ gigatonnes (Gt) as compared to the highest polluter (China at 10.6 Gt) and second highest (United States at 5 Gt), are not comparable, not by a stretch. And, we have a huge need to grow our economy and to meet the energy needs of millions of our people.

So, from every angle, we did not have to take these global targets to reduce our carbon emissions. This is why, it is not just a challenge to achieve for India but also a challenge for the world to follow suit.

But, what do these ambitious targets mean? Let me decode them:

- » 500 GW of non-fossil fuel energy capacity by 2030: India will meet this target

India's Central Electricity Authority (CEA) has done a projection for the country's energy mix for 2030. According to this, India's installed capacity of non-fossil energy for electricity generation – solar, wind, hydel and nuclear in 2019 was 134 GW and by 2030 it will be 522 GW. This will require solar energy installed capacity to go to 280 GW and wind energy to go to 140 GW.

According to this, total installed capacity will be 817 GW and power generation will be 2,518 billion units in 2030.

Under this scenario and energy trajectory, India will be able to meet its 500 GW of non-fossil fuel energy capacity by 2030.

		Installed capacity (GW) 2019	%	Generation (Billion Units) 2019	% of generation 2019	Installed capacity (GW) 2030	% of installed capacity 2030	Generation (Billion Units) 2030	% of generation
1	Coal and gas	228	63	1,072	80	282	36	1,393	56
2	Hydro	45	12.5	139	10.1*	61	7.5	206	8
3	Renewable	82.5	22.7	126	9.2	455	54.5	805	32
4	Nuclear	6.7	1.9	378	2.7	19	2.3	113	5
		362		1376		817		2,518	

*Including import from Bhutan

Source: Central Electricity Authority

India will meet 50 per cent of energy requirements from renewable: India intends to not invests in coal source

According to the CEA, in 2019, India was meeting 9.2 per cent of its electricity generation from renewables. By 2021, with an increase in renewable energy capacity to 102 GW the generation had increased to roughly 12 per cent and so, it means that we need to increase this to meet the 50 per cent electricity generation target by 2030.

India's power requirement in 2030 is projected to be 2,518 BU and if we target to meet 50 per cent of our requirements from renewables, then the installed capacity will have to increase from the planned 450 GW to 700 GW.

If we consider hydroelectricity as part of renewables – as it is considered globally – then we will need to increase new renewable capacity to 630 GW. This is definitely achievable.

India's target and energy plan for 2030 also implies that India will restrict its coal-based energy; currently, roughly 60 GW of coal thermal power is under construction and in the pipeline.

According to CEA, India's coal capacity will be 266 GW by 2030 – which is an addition of 38 GW (which is roughly, what is under construction currently). This means India has stated that it will not invest in new coal beyond this.

» India will reduce projected carbon emissions by 1 billion tones (Gt) from 2021-2030: Doable, challenge the world to follow this

India's current CO₂ emissions (2021) are 2.88 Gt. According to the Centre for Science and Environment (CSE)'s projections based on the median annual rate of change in the past decade 2010-2019, India's generation in a business-as-usual scenario will be 4.48 Gt in 2030.

According to this target, India will cut its carbon emission by 1 billion tons (1 Gt) and therefore, our emissions in 2030 will be 3.48 Gt.

This means that India has set an ambitious goal to cut its emissions by 22 per cent.

In terms of per capita: India would be 2.98 tonnes of CO₂ per capita and as per this target it will be 2.31 tonnes per capita. If you compare this to the world, US will be 9.42 tonnes in 2030, EU 4.12 in 2030, UK, the CoP26 host, 2.7 in 2030 and China will be 8.88 CO₂ tonnes per capita.

According to the Intergovernmental Panel on Climate Change (IPCC), global CO₂ emissions must be 18.22 Gt in 2030 for the world to stay below 1.5°C rise in temperature. If we take the global population in 2030 and divide this amount, it would mean that the entire world has to be 2.14 tonnes per capita of CO₂ in 2030.

India is reaching this goal and most importantly, it will do so without adding to the cumulative emissions in the atmosphere. This is where the entire world should commit to go in 2030.

In terms of the carbon budget: With the new Nationally Determined Contribution announcement (November 2, 2021), India will occupy: Nine per cent of the remaining IPCC 400 Gt carbon budget for 1.5°C by 2030; 8.4 per cent of world emissions in this decade; and 4.2 per cent of world emissions between 1870-2030.

» Carbon intensity reduction by 45 per cent: India needs to work on carbon-intensive sectors

Carbon intensity measures the emissions of CO₂ of different sectors of the economy and demands that these are reduced as the economy grows. According to CSE's observations, India has achieved 25 per cent of emission intensity reduction of gross domestic product between 2005 -2016, and is on the path to achieve more than 40 per cent by 2030.

But this means that India will have to take up enhanced measures to reduce emissions from the transport sector, the energy-intensive industrial sector, especially cement, iron and steel, non-metallic minerals and chemicals.

It would also require India to reinvent its mobility systems so that we can move people, not vehicles – augment public transport in our cities and improve thermal efficiency of our housing. All that is in our best interests.

» Net Zero by 2070: It challenges the developed countries and China to be more ambitious

According to the IPCC, global emissions must halve by 2030 and reach Net Zero by 2050. Given the enormous inequity in emissions in the world, the Organization for Economic Cooperation and Development (OECD) countries must then reach Net Zero by 2030, China by 2040 and India and the rest of the world by 2050.

However, the targets for Net Zero are both inequitable and unambitious. According to this, OECD countries have declared a Net Zero target for 2050 and China for 2060.

THEREFORE, INDIA'S NET ZERO TARGET OF 2070 IS AN EXTENSION OF THIS AND CANNOT BE ARGUED AGAINST. HOWEVER, THIS COMBINED NET ZERO GOAL WILL NOT KEEP THE WORLD BELOW 1.5°C TEMPERATURE RISE AND IT MEANS THAT OECD COUNTRIES MUST FRONTLOAD THEIR EMISSION REDUCTIONS BY 2030.

Most importantly, China which will occupy 33 per cent of the remaining budget, must be asked to reduce its emissions drastically in this decade. China alone will add 126 Gt in this decade.

The future

India has accepted a massive transformation of our energy systems, which will be designed for the future and compliant with the new climate change goals.

The big issue that must concern us as we move ahead – and this will remain the discussion for the future – will be to ensure that growth is equitable and that the poor in the country are not denied their right to development in this new energy future.

THE PER CAPITA EMISSIONS OF INDIA REMAIN LOW, BECAUSE WE HAVE MASSIVE NUMBERS OF PEOPLE WHO STILL NEED ENERGY FOR THEIR DEVELOPMENT. NOW, IN THE FUTURE, AS WE HAVE SET OURSELVES THE GOAL TO GROW WITHOUT POLLUTION, WE MUST WORK ON THE INCREASING CLEAN, BUT AFFORDABLE, ENERGY FOR THE POOR.

As carbon dioxide emissions accumulate in the atmosphere – average residence time is 150-200 years – and it is this stock of emissions that “force” temperatures to rise, India has committed not to add to this burden.

This natural debt of the already industrialised world and China now needs to be paid for. And this is why, Prime Minister Modi is correct in saying that this requires massive transfer of funds and that these funds must be measurable. It is ironical that climate change funding remains non-transparent and without verification.

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India pushing 2050 deadline comes with strong commitment to cut emissions



WRITTEN BY: AMITI SEN

The Hindu Business Line, 03 November, 2021
Amiti Sen is a journalist with The Hindu Business Line

2070 TARGET LEAVES INDIA WITH ONE OF THE SHORTEST GAPS BETWEEN PEAK EMISSION, NET-ZERO YEAR

A day after setting the 2070 deadline for net zero carbon emission, Prime Minister Narendra Modi had one-on-one meetings with global leaders, while India held its ground on pushing the cut-off date.

The deliberations were part of the two-week COP26 UN Climate Change Conference in Glasgow to brainstorm and take on commitments for reducing emissions.

While the PM held meetings with his Nepal counterpart Sher Bahadur Deuba, President of Ukraine Volodymyr Zelensky, Israeli PM Naftali Bennett, among others, Foreign Secretary Harsh Vardhan Shringla underlined that India has taken on a much bigger share of commitments.

Shringla pointed out that the 2070 target leaves India with one of the shortest gaps between the peak emission year and net-zero year, reflecting the country's willingness to contribute to climate change despite its preoccupation with development issues.

At an event on the effect of climate change on Small Island Developing States (SIDS), Modi committed that the Indian Space Research Organisation (ISRO) will build a special data window for SIDS to get timely information about cyclones, coral-reef monitoring and coast-line monitoring through satellites. The Foreign Secretary, at the same time, underlined that India's contribution should not be minimised.

"While many economies that have announced a net zero (target) have peaked much earlier, we are yet to peak. We have to reach that level of development and industrial activity that would provide us with a future that we expect for our citizens," Shringla said at a press conference after Modi's national statement at the COP 26 Climate Summit in Glasgow on Monday.

Focus on alleviating poverty

Although most developed countries, including EU members and the US, have agreed to achieve net-zero by 2050, they reached their emission peaks several years back.

Many European countries including France, Germany, the UK, Sweden, Belgium, Denmark, Switzerland and the Netherlands achieved the peaks in the 1990s, while the US achieved its carbon emission peak in 2007. India, on the other hand, is unlikely to reach its peak before 2040. The PM has outlined India's own progression that has led up to the net-zero situation, Shringla said.

“The PM has pointed out that as we are essentially a developing country, our focus is on bringing millions of our citizens out of poverty. We are working night and day to ease the standard of living in India of our citizens. We constitute 17 per cent of the world’s population. Yet we contribute only 5 per cent to global emissions. We are contributing very readily to the overall issue of handling climate change because we believe in it,” the Foreign Secretary said.

“WHILE MANY ECONOMIES THAT HAVE ANNOUNCED A NET ZERO (TARGET) HAVE PEAKED MUCH EARLIER, WE ARE YET TO PEAK. WE HAVE TO REACH THAT LEVEL OF DEVELOPMENT AND INDUSTRIAL ACTIVITY THAT WOULD PROVIDE US WITH A FUTURE THAT WE EXPECT FOR OUR CITIZENS,” SHRINGLA SAID AT A PRESS CONFERENCE AFTER MODI’S NATIONAL STATEMENT AT THE COP 26 CLIMATE SUMMIT IN GLASGOW ON MONDAY.



Running – not walking – the talk on climate



SUNITA NARAIN, HINDUSTAN TIMES

02 November, 2021

Sunita Narain is a researcher, journalist, and environmental activist who works with CSE & Down To Earth.

Historically, India has not been a contributor to greenhouse gas emissions. From 1870 to 2019, its emissions add up to a minuscule 4% of the global total. It was lambasted as the world's third-highest polluter in 2019, but its scale of emissions stands at 2.88 CO₂ gigatonnes (GT) compared to the two highest polluters: China, at 10.6 GT and the US, at 5 GT. This while India needs to meet the energy needs of millions of its people.

INDIA'S TARGETS FOR THE CLIMATE CRISIS, ANNOUNCED BY PRIME MINISTER (PM) NARENDRA MODI IN GLASGOW ARE BOLD AND AMBITIOUS — AND CHALLENGING. BUT GIVEN THE ENORMITY OF THE CRISIS, INDIA IS NOT JUST WALKING THE TALK, BUT RUNNING IT.

FROM EVERY ANGLE, INDIA DID NOT HAVE TO MAKE THESE GLOBAL TARGETS TO REDUCE ITS CARBON EMISSIONS. DESPITE THIS, INDIA'S CLIMATE TARGETS ARE LAUDABLE, AND THEY SHOW THE DEVELOPED WORLD THAT IT MEANS BUSINESS.

Let's decode the targets: The most important is the national commitment to "reduce projected carbon emissions by 1 billion tonnes from 2021 to 2030." Taking a business-as-usual (BAU) scenario, carbon emissions are projected to be 4.48 Gt in 2030. This commitment means that India's carbon emissions would now be 3.48 Gt in 2030. In other words, the country has set an extremely high target to cut 22% from BAU.

But this does not explain the real change that we have set ourselves to achieve. India's annual per capita emissions would be roughly 3 tonnes in the BAU scenario – still much lower than most industrialised countries. But now, in the new scenario, emissions will be 2.3 tonnes per capita by 2030.

If you compare this to the rest of the world, the sheer scale of the transformation is apparent. The US, even after the 50% reduction target set by President Joe Biden (which it is in danger of not meeting because of the stalemate in Congress) will see a comparable number of 9.42 tonnes of CO₂ per capita in 2030. China, as it has not set any emission reduction target, will actually see the number go up from 7.3 tonnes to 9 tonnes of CO₂ per capita in 2030.

India's climate commitment is a challenge for the rest to follow. According to the Intergovernmental Panel on Climate Change (IPCC), global emissions must be 18.22 GT in 2030 for the world to stay below a 1.5°C rise in temperature. If you take the global population in 2030, this means that every person in the world can only emit some 2.14 tonnes of CO₂. India's per capita comes close.

The Conference of the Parties (COP) 26 target has to be to match this in every industrialised country. The United Kingdom (UK) – the host – has an ambitious

climate plan of 2.7 tonnes per capita – higher than India, and above what the world needs in 2030. Australia, Canada, the European Union (EU), Russia, the US, and China are all way above this. Russia tops this at 13.5 tonnes of CO2 per capita in 2030.

MOST IMPORTANTLY, AS CARBON DIOXIDE EMISSIONS ACCUMULATE IN THE ATMOSPHERE FOR 150-200 YEARS, THEY FORCE TEMPERATURES TO RISE. INDIA HAS COMMITTED NOT TO ADD TO THIS BURDEN. THIS NATURAL DEBT OF THE INDUSTRIALISED WORLD AND CHINA NOW NEEDS TO BE PAID. AND THIS IS WHY PM MODI HAS RIGHTLY SAID A MASSIVE TRANSFER OF FUNDS IS REQUIRED, AND THAT THESE FUNDS MUST BE MEASURABLE. IT IS IRONIC THAT FUNDING FOR THE CLIMATE CRISIS REMAINS NON-TRANSPARENT AND WITHOUT VERIFICATION.

The remaining targets – to reach 500 GW in non-fossil energy capacity; to meet 50% of energy requirements from renewable energy; and to reduce the carbon intensity of the economy by less than 45% – are the roadmap to reach the 1 billion tonnes CO2 emission reduction by 2030.

This is the trajectory of growth for our future and adds substance to the 2030 goal. However, only a few countries – and not the industrialised world – have put out their carbon reduction paths with clarity. This, again, suggests what the world must do before leaving Glasgow.

The question remains: Is all of this possible? In terms of the energy mix, reaching 50% electricity from renewable energy (RE) would mean that India will have to up its RE target from 450 GW in 2030 to around 630-700 GW. This is achievable, but will need huge investment. India's coal energy in 2030 – as per estimates of the Central Electricity Authority (CEA) will be 266 GW in 2030 – which means that we are capping future growth in this globally indicted dirty energy source.

India has accepted a massive transformation of its energy systems, which will be designed for the future, and compliant with the climate crisis goals.

The big issue will be to ensure that growth is equitable, and that the poor are not denied their right to development in this new energy future. As we set ourselves the goal to grow without pollution, we must work on increasing clean, but affordable, energy for the poor.

The last target is net-zero by 2070 – though much in the headlines is a non-issue. The fact is that for the world to reach net-zero in 2050, the industrialised world should have committed to a net-zero target of 2030 and China, 2040, at the latest. India could have then been pressured to also commit to net-zero by 2050. But now, the world has set an extremely unambitious and inequitable net-zero target, with most industrialised countries tom-tomming their goal for 2050. This will not keep the world on course to avoid the devastating impacts of the climate crisis.

The agenda for COP26 is now clear: Raise the ambition of the industrialised world and commit to even greater cuts by 2030; put the spotlight on China to drastically reduce emissions; and provide the finance that is needed for the transformation – not transition – in the developing world. It's within our reach. But will the rich world's leaders now really run the talk?

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Net Zero By 2070 – India’s goal is more ambitious than that of China, European Union



SHAIENDRA YASHWANT, MONEY CONTROL

03 November, 2021

Shailendra Yashwant is a senior advisor to Climate Action Network South Asia (CANSA).

EVEN IF INDIA'S NET ZERO GOAL IS A DECADE BEHIND CHINA AND TWO DECADES BEHIND THE UNITED STATES, IF THE EMISSION REDUCTION TARGET COVERS ALL GREENHOUSE GASES, IT WILL BE COMPATIBLE WITH WHAT SCIENTISTS SAY IS NEEDED TO AVOID CATASTROPHIC GLOBAL WARMING

On November 2, Prime Minister Narendra Modi took everyone at the COP26 Climate Summit in Glasgow by surprise when he announced that India will reach carbon neutrality by 2070. India has resisted committing to Net Zero targets and maintained its position that the country has delivered more than its fair share as part of the Paris Agreement.

Even on the eve of his departure for Glasgow, Environment Minister Bhupender Yadav was insisting that India will not compromise on its need for economic development, while developed countries did near to nothing to cut down their greenhouse gas emissions or deliver on the much-needed climate finance commitment of \$100 Billion.

India's announcement to turn Net Zero is much more ambitious than that of China, or the European Union as the Net Zero goal includes four more bold commitments: India will increase its non-fossil fuel power capacity to 500 gigawatts by the end of the decade, up from 450GW; half of India's energy will come from renewable sources by 2030; India's 2030 carbon intensity goal – measured as carbon dioxide emissions per unit of gross domestic product – will be increased from 35 percent to 45 percent; and the country will also strive to produce half of its electricity using renewable energy, and cut carbon-dioxide emissions by 1 billion tonnes by 2030.

In his speech, Modi was unclear on whether these commitments were unconditional, except his appeal to developed countries for increasing their climate finance commitment from \$100 billion to \$1 trillion per annum to assist developing countries to make the transition to carbon neutrality. That's a huge ask considering rich countries have failed to deliver the \$1 billion by 2020.

Even if India's Net-Zero goal is a decade behind China and two decades behind the United States, if the emission reduction target covers all greenhouse gases, it will be compatible with what scientists say is needed to avoid catastrophic global warming.

In any case, the proof of this ambitious intent will be the official NDC (Nationally Determined Contribution) submission that India is yet to make to the UNFCCC, which should have the roadmap and detailed implementation plan. It will be interesting to see how these international commitments match with the domestic plans of massive uptake of coal power in the coming decades, 30GW under construction and another 27GW in pipeline.

Nevertheless, India's announcement is being seen as a big relief for the embattled British Prime Minister Boris Johnson who just two days ago, following the lacklustre outcome at the G-20, had warned that the "the COP26 climate summit is at serious risk of failure because countries are still not promising enough to restrict global temperature rises to below 1.5C."

With Russian President Vladimir Putin and Chinese Premier Xi Jinping not attending the COP in person, and the US not bringing anything new to the table, all eyes were on India, and the Prime Minister played to the gallery drawing applause as well as a few guffaws. The latter mainly from European negotiators that were unable to fathom the import of his announcement, and were seen muttering, "Is it for real?"

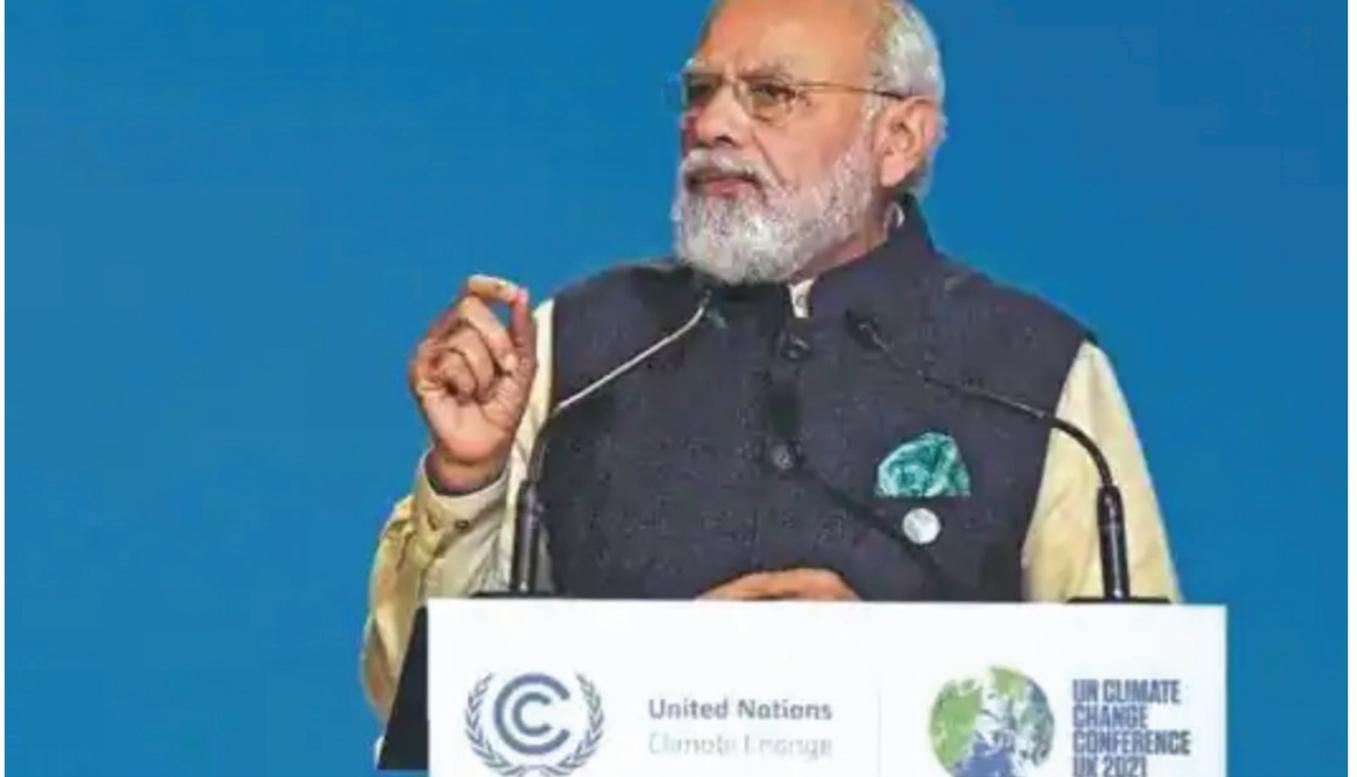
Nicholas Stern, chairman of the Grantham Research Institute on Climate Change and the Environment at the London School of Economics welcomed the announcement: "This was a very significant moment for the summit," he said. "It's a chance for India to show that it can deliver on both economic development and Climate Change."

India's announcement was also welcomed by many South Asian negotiators, "What India does today will inform the choices its neighbours make in the near future and will impact the entire South Asian region," said a negotiator from the Maldives.

Back home in India, most experts and commentators were welcoming of the announcement, despite the burden of additional costs, and a clear gap between these commitments and the environmental destruction on the ground in India with dilution of the Environmental Impact Assessment (EIA) laws, and blanket approvals for infrastructure projects in the Himalayas, and coal mines in the forests of central India.

"The overseas media will focus on India's Net-Zero by 2070 statement. But while it may mean something diplomatically – the last major economy in the bag – it will not be what drives change in India. Much more intriguing are the announcements on railways, on non-fossil capacity, and the benchmark for renewable energy. These are what give scope for India to drive a low carbon development transition in the next decade," points out Navroz Dubash, Professor, Centre for Policy Research.

INDIA'S ANNOUNCEMENT WAS ALSO WELCOMED BY MANY SOUTH ASIAN NEGOTIATORS, "WHAT INDIA DOES TODAY WILL INFORM THE CHOICES ITS NEIGHBOURS MAKE IN THE NEAR FUTURE AND WILL IMPACT THE ENTIRE SOUTH ASIAN REGION," SAID A NEGOTIATOR FROM THE MALDIVES.



Modi articulated the Global South's position at CoP-26



SREERAM CHAULIA, LIVEMINT

03 November, 2021

Sreeram Chaulia is a professor and dean at the Jindal School of International Affairs.

Prime Minister Narendra Modi's firm yet responsible speech at the opening plenary of the CoP-26 climate change summit in Glasgow set the tone not only for India, but all developing countries, which are eager to contribute to a greener planet but feel cheated, discriminated against and handicapped by the hypocrisy of rich nations.

MODI'S BLUNT STATEMENT THAT "THE PROMISES MADE TILL DATE REGARDING CLIMATE FINANCE HAVE PROVED TO BE HOLLOW", AND HIS EXHORTATION THAT "DEVELOPED COUNTRIES PROVIDE CLIMATE FINANCE OF \$1 TRILLION AT THE EARLIEST", ECHOED CONCERNS OF THE G77 GROUP OF DEVELOPING COUNTRIES.

South Africa, which coordinates closely with India, has estimated that more than \$750 billion per annum is owed by the Global North to poorer countries for quicker transitions to clean energy-based development. According to The Wall Street Journal, public-cum-private climate finance from North to South has never exceeded \$75 billion in any year between 2013 and 2019. Even the modest goal of \$100 billion climate finance per annum that was mooted in Copenhagen in 2009 has not been fulfilled. Modi's remark that "countries which do not live up to their promises made on climate finance must be pressured too" brought home the frustration that there has been too much emphasis in Western discourse and negotiation stances on more ambitious future carbon emission cuts and not enough on keeping past promises on climate finance and redressing historical climate injustice.

It is disingenuous of rich countries, having released so much carbon into the atmosphere since the dawn of the industrial revolution and been the prime cause of anthropogenic climate change, to pressure the Global South into deeper carbon cuts and early 'net-zero' emission dates. India's position, which echoes that of the G77's 134 member states, is that rich countries have already used up their carbon space and should compensate for their past carbon footprint by attaining 'net negative' emissions by 2030.

India and its partners also have every right to doubt the veracity and seriousness of net-zero declarations by 2050 made by rich countries. The EU faces severe energy shortages and rising power bills. Convincing coal-dependent members like Poland to shut down fossil-fuel industries or gas-dependent members like Germany that seek to import fossil fuels for decades to come, is not going to be a cakewalk. The EU has a 'long-term strategy' for its 2050 net-zero goal, but its struggles to enforce supranational authority on member countries do not bode well.

The US, which insists it's back with a bang to provide global leadership on climate change under President Joe Biden, currently consumes 8.5% of the world's coal with only 4.25% of the world's population. The stiff resistance Biden's Clean Electricity Performance Program has faced from politicians within his own

Democratic Party, and the possibility that the US presidency will shift back to Republicans in 2024, reveal how far the US can really go in fulfilling its 2050 net-zero commitment. The same holds for Australia, the world's third largest exporter of fossil fuels after Russia and Saudi Arabia. Prime Minister Scott Morrison's CoP-26-eve declaration that Australia too would achieve net-zero by 2050 has been met with derision by Australians themselves.

Then there is the 800-pound dragon. China has financed and built so many coal-fired power plants (76% of the global total in 2020 alone) that its belated eschewing of this obnoxious practice of globalizing pollution offers little solace. China's own carbon neutrality target year of 2060 must be juxtaposed with the fact that in 2021, Beijing started building 43 new coal-fired power plants and 18 new blast furnaces.

Despite its ascent, China cleverly tags along with the G77 on climate issues. The reality is that China is also a big part of the problem and should be judged by its counterproductive actions on the ground, rather than insincere targets. President Xi Jinping's absence at the Glasgow summit could be taken as a sign of Beijing's unwillingness to sacrifice Chinese self-interests for the sake of global public goods.

In contrast to all these big polluters, India has shown its verifiably responsible side by rapidly ramping up investment in wind and solar capacities and scaling up goals, such as 50% renewables in its energy mix by 2030. Modi's candid admission that India may not achieve net-zero until 2070 should not be a cause for global alarm because whatever coal or gas-fired emissions India exudes in coming decades will progressively be mitigated by a revolutionary leap forward in renewables.

MODI REMINDED EVERYONE AT GLASGOW THAT INDIA ACCOUNTS FOR 17% OF THE WORLD'S POPULATION BUT EMITS ONLY 5% OF GLOBAL EMISSIONS. EVEN AT THE HEIGHT OF ITS LATE INDUSTRIALIZATION IN THE COMING DECADE OR TWO, INDIA'S SHARE OF GLOBAL CARBON EMISSIONS IS UNLIKELY TO HIT THE LEVELS THAT WESTERN COUNTRIES AND CHINA REACHED AT THEIR PEAKS. CLUBBING INDIA WITH CHINA OR PROJECTING INDIA AS A MAJOR OBSTACLE TO A GREENER FUTURE, AS SOME IN THE WEST AND AMONG ACTIVIST CIRCLES DO, IS FACTUALLY AND PROPORTIONALLY FALLACIOUS.

Modi's invocation at Glasgow of the "suffering" of all developing countries and his vow to raise their voice is justified by facts and accomplishments. It is time for the world to acknowledge India as a leader in climate solutions and for the onus of climate action to be shifted to countries that have exhausted their carbon credits and lost the moral argument long ago. Without enforcing climate justice, CoP-26 will go down as yet another well-meaning attempt that ultimately failed the litmus test of saving the planet.

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COP26

WELCOME
TO GLASGO
HOME OF
COP26



SETTING THE TONE AT GLASGOW

PRAKASH JAVADEKAR



India has set the tone at Glasgow



PRAKASH JAVADEKAR, THE INDIAN EXPRESS

04 November, 2021

Prakash Javadekar is a Member of Parliament, Rajya Sabha & former Union Minister for Information and Broadcasting, and Environment, Forest and Climate Change.

Prime Minister Narendra Modi's speech at Glasgow CoP26, the major event of its kind after the Paris climate summit in 2015, has put India in a leadership role. The PM displayed supreme confidence and outlined India's climate actions. He urged the world to act now and put forth the views of developing nations, outlining the concepts of climate justice and lifestyle issues.

HE MADE FIVE BIG-TICKET ANNOUNCEMENTS. FIRST, INDIA WILL PRODUCE 500 GW OF NON-FOSSIL FUEL ENERGY. SECOND, INDIA WILL HAVE 50 PER CENT RENEWABLE ENERGY IN ITS ENERGY MIX. THIRD, INDIA WILL REDUCE ITS EMISSIONS INTENSITY FROM 35 PER CENT TO 45 PER CENT. HE ALSO COMMITTED TO REDUCING INDIA'S CARBON EMISSIONS BY ONE BILLION TONNES. THESE FOUR ACTIONS WILL BE DONE BY 2030. AND, FINALLY, HE MADE THE HISTORIC ANNOUNCEMENT FOR WHICH THE WORLD WAS WAITING: INDIA WILL ACHIEVE THE NET-ZERO TARGET BY 2070.

In 2014, our renewable energy capacity was just 20GW. The PM decided to increase it to 100GW by 2022. The cost of solar power, which was Rs 16/unit has now come down to Rs 2/unit. Tremendous investments are flowing into solar, wind and bioenergy. We are on course to generate 100GW of solar power next year. Last year, PM Modi raised the bar and set a new target of 450GW of renewable energy at the UN General assembly. At Glasgow, he has increased the target to 500GW. This is a tremendous commitment. India is only the fourth country to achieve renewable energy at such a scale.

The International Solar Alliance initiated by India is also progressing rapidly. India is probably the only country that has flown a commercial aircraft on biofuel. We already have 40 per cent renewables in our energy mix and we are sure to achieve the new 50 per cent target set by the PM by 2030. The problem with solar energy is battery storage and transmission. Here, the role of invention, investment and low-cost technology are important. India is also making progress in these areas. It is also experimenting and promoting solar-wind combine plants.

The target of reducing emissions intensity from 35 per cent to 45 per cent is also ambitious. Fortunately, the Indian industry has plans to achieve the net-zero target by 2050 and they are investing in clean technologies. Indian Railways will also be net-zero by 2030, which will reduce 60 million tonnes of carbon emissions. Two billion LED bulbs are also reducing carbon emissions to a large extent. Thus, the Prime Minister's announcement of reducing carbon emissions by one billion tonnes is feasible and will definitely be achieved.

PM MODI'S SPEECH WAS STRAIGHTFORWARD. HE RAISED THE ISSUE OF FINANCE, TECHNOLOGY, ADAPTATION, LIFESTYLE AND CLIMATE JUSTICE. IN 2009, THE DEVELOPED WORLD COMMITTED \$100 BILLION PER YEAR AS A GRANT TO THE DEVELOPING WORLD TO ACHIEVE THEIR CLIMATE TARGETS. THE PRIME MINISTER TOLD THE SUMMIT THAT THIS PROMISE PROVED TO BE EMPTY. THEREFORE, HE URGED THE DEVELOPED WORLD TO PAY WHAT IS DUE. HE EMPHATICALLY TOLD THE WORLD THAT THIS IS A PART OF CLIMATE JUSTICE.

He also advocated for low-cost technology transfers. The truth is that every climate mitigation action has a cost and the poorer sections should not be burdened with that cost. Therefore, technology transfer is important. He also talked about providing finances for climate adaptation, as agriculture and farmers in the developing world

are suffering India.

due to climate change. He emphasised the CDRI (Coalition For Disaster Resilient Infrastructure) initiative by

PM MODI TALKED ABOUT LIFESTYLE ISSUES EFFECTIVELY. HE WAS FORTHRIGHT IN TELLING THE WORLD THAT DESTRUCTIVE CONSUMPTION HAS TO BE STOPPED AND WE HAVE TO ADOPT A SUSTAINABLE LIFESTYLE. WITH MY EXPERIENCE OF EARLIER CLIMATE SUMMITS, I CAN PROUDLY SAY THAT PM MODI HAS SET THE TONE AT GLASGOW AND THE OUTCOME WILL ALSO BE INFLUENCED BY INDIA'S ACTIONS AND APPEALS. HE EMPHASISED THAT THE COMMITMENTS OF THE PARIS AGREEMENT ARE NOT JUST EMPTY TALK, BUT A COMMITMENT MADE TO THE WORLD. HE SAID THAT INDIA IS THE ONLY BIG ECONOMY THAT HAS FULFILLED ITS COMMITMENTS UNDER THE AGREEMENT.

Let us understand the cause of climate change, which is resulting in erratic weather patterns, floods, droughts, hurricanes, ice caps melting, sea levels rising and changes in cropping patterns. The countries that used fossil fuels for their progress emitted a huge quantity of carbon into the atmosphere. India's contribution to historical emissions is just 3 per cent and even now, India's contribution is just 5 per cent, as mentioned by Prime Minister Modi. Developed countries prospered because of emissions, but the developing countries are suffering because of these emissions and the resulting climate change. If the developed world fulfilled its commitment, there is hope for the world. I have always stressed that the developed world should not profit from disaster.

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At COP26, Narendra Modi Took the Lead in Defending Climate but Not at the Cost of Growth



DEEPAK VOHRA, NEWS18

02 November, 2021

Ambassador Deepak Vohra is Special Advisor to the Prime Minister, Lesotho, South Sudan, and Guinea-Bissau; and a Special Advisor to Ladakh Autonomous Hill Development Councils, Leh and Kargil.

Prime Minister Narendra Modi stood tall at the COP26 Summit in Glasgow as he showcased how India is the only country that is delivering in “letter and spirit” the commitments on tackling climate change under the Paris Agreement. While emphasising that India would achieve net-zero carbon emissions by 2070, reach its non-fossil energy capacity to 500 GW and also meet 50 per cent of its energy requirements from renewable energy by 2030, Prime Minister Modi made a big impression on the world stage. He, in that way, showed the way to lead the world in dealing with issues of such global concerns.

India’s leadership in dealing with climate change will spur other countries to raise their own contributions in meeting this global challenge. The crux is to find the right balance between national interest and international responsibility. India, under Prime Minister Modi, has proved that it is possible to have growth and development while preserving the ecology.

PRIME MINISTER MODI HAS TAKEN THE LEAD IN DEFENDING THE CLIMATE. HIS PERSONAL INTERVENTION IN THE ADOPTION OF THE LANDMARK 2015 PARIS AGREEMENT WAS ACKNOWLEDGED BY SEVERAL WORLD LEADERS. HIS INITIATIVE ON SETTING UP AN INTERNATIONAL SOLAR ALLIANCE FOR PROMOTING SOLAR POWER WORLDWIDE WAS WIDELY WELCOMED.

Addressing COP26 two days ago, the biggest climate conference on earth, Prime Minister Modi quoted an ancient Indian green blessing: “Sarve bhavantu sukhinah (may all be happy).”

In July 2021, 15,000 of the world’s leading scientists declared a climate emergency warning that we have 12 years to limit global warming to a maximum of 1.5C and avoid climate breakdown. The window to save our world from the shameless overexploitation of its resources is closing.

Climate impacts are evident fast and furious. Almost 200 countries signed the UN Framework Convention on Climate Change in Paris in 2015. They agreed to limit global warming to below 2 degrees Celsius of pre-industrial levels, possibly at 1.5 degrees Celsius. Many agreed on zero net emissions within a few decades, meaning that the same amount of greenhouse gases would be removed as emitted.

Each country was to produce a nationally-determined contribution (NDC) to the global effort including electric vehicles, renewable energy and forest protection. Unfortunately, when combined, all the NDCs are far short of the goals.

In 2009, rich countries promised \$100 billion a year by 2020 to help developing countries fight climate change. It still remains a promise.

We need to cut emissions annually by 7 per cent between now and 2030, but last year, even amid COVID-induced global lockdown, emissions could fall by 6 per cent. The US has promised to cut emissions by half by 2030 and reach net zero emissions by 2050.

IN GLASGOW, INDIA LAUNCHED A DRIVE TO SAFEGUARD INFRASTRUCTURE IN SMALL ISLAND STATES. RISING SEA LEVELS IS AN EXISTENTIAL THREAT FOR THEM. THE NEW PROGRAMME FOR THE SMALL ISLAND STATES IS PART OF THE COALITION FOR DISASTER RESILIENT INFRASTRUCTURE (CDRI), AN INDIAN INITIATIVE ANNOUNCED BY PRIME MINISTER MODI AT THE UN GENERAL ASSEMBLY IN 2019.

Climate change is a “crisis multiplier” that has profound implications for international peace and stability with its acute effects on food security, natural resources and migration patterns, Secretary-General António Guterres told the Security Council in February 2021.

Over the course of the Earth’s 4.5-billion-year history, the climate has changed a lot. But the rapid warming we’re seeing now can’t be explained by natural cycles of warming and cooling. The changes that would normally happen over hundreds of thousands of years are happening in decades.

Global temperatures are now at their highest in recorded history. Seventeen of the 18 warmest years on record have all taken place since 2001.

Climate emergency is the defining issue of our time. The last decade was the hottest in human history. Wildfires, cyclones, floods and droughts are now the new normal, damaging not only the environment but also weakening our political, economic and social systems.

THE GERMANWATCH INSTITUTE’S GLOBAL CLIMATE RISK INDEX 2020 IDENTIFIES JAPAN, THE PHILIPPINES, GERMANY, MADAGASCAR, INDIA, SRI LANKA, KENYA, RWANDA, CANADA, FIJI, AS THE MOST AFFECTED BY CLIMATE CHANGE. INDIA IS A MAJOR VICTIM OF EXTREME HEAT, FLOODS, AND SANDSTORMS, AMONG OTHER DEVASTATING NATURAL EVENTS. A GOVERNMENT STUDY SUGGESTS THAT CANADA IS WARMING TWICE AS FAST AS THE REST OF THE PLANET. WE HAVE SEEN AUSTRALIA BURNING AND LOSING 8.4 MILLION HECTARES.

The most visible effect of climate change is the melting of polar ice and glaciers, causing sea levels to rise. In one month alone, Greenland lost over 197 billion tonnes of water due to an ice sheet melting, according to researchers at the Danish Meteorological Institute.

So far in 2021, about 50,000 reported wildfires in the US have caused moderate to severe drought in about 90 per cent of land in the western states and degraded over 10 million acres.

Climate change is a global phenomenon but with local consequences. We have seen devastating floods in China and Germany, a heatwave in Siberia. On June 23, 2021, ground stations in Moscow measured an air temperature of 34.8°C (94.6°F) – the city’s hottest June temperature on record.

The climate of Latin America is getting hotter and drier. The greenhouse effect of excess carbon dioxide and methane emissions makes the Amazon rainforest hotter and drier, resulting in more wildfires in Brazil. Climate change in Africa is leading to increased temperatures and rainfall variability.

Madagascar, which was self-sufficient in agriculture, now faces famine owing to climate change. Its southern part has had no rain for five years; people are eating locusts, shoe leather, leaves.

Climate change also causes conflict. In Sudan, where I served as Ambassador for many years, desertification drives hundreds of thousands to seek pasture in greener areas, sparking conflict with locals.

And climate change causes natural disasters. Climate-related disasters have tripled in the last 30 years. The main causes of climate change are:

- » 1) Increased use of fossil fuels such as coal, oil, and gas to generate electricity, run cars and other forms of transport, manufacturing and industry.
- » 2) Deforestation, because living trees absorb and store carbon dioxide.
- » 3) Increasingly intensive agriculture, which emits greenhouse gases like methane and nitrous oxide.

Anyone who doesn’t believe that climate change is happening doesn’t believe in science. In September 2021 US Climate Change representative John Kerry told the Chinese leadership that climate change was more important than politics. However, China’s Foreign Minister Wang Yi claimed that the worsening bilateral relationship could hamper future cooperation on climate issues, forgetting that climate is not ideological, not partisan, and definitely not a geostrategic weapon.

While India has been the most active in fighting climate change, according to Bloomberg’s Climate Policy Factbook, eight G-20 countries, including the US, Canada and Australia, increased their financial support for oil, coal and gas from 2015-20.

CLIMATE CHANGE MUST BE FOUGHT NOT IN SILOS BUT IN AN INTEGRATED, COMPREHENSIVE, AND HOLISTIC WAY, AS PRIME MINISTER MODI HAD SAID AT A G20 EVENT LAST YEAR. THE WORLD CAN PROGRESS FASTER IF THERE IS GREATER SUPPORT IN TECHNOLOGY AND FINANCE FOR DEVELOPING NATIONS. THE TARGETS INDIA HAS VOLUNTARILY COMMITTED ITSELF TO ARE UNPRECEDENTED FOR A DEVELOPING COUNTRY.

India's commitment to ecologically sustainable economic development is linked with its age-old civilisational values of respecting nature, incorporating a sense of inter-generational equity, and common humanity. Remember the Chipko forest conservation movement in India around 1973 in the Himalayan region of Uttarakhand that went on to become a rallying point for many future environmental movements all over the world?

The Modi government, in particular, has taken several momentous decisions in its fight against climate change and global warming. The Swachh Bharat Abhiyan has eliminated open defecation through 110 million new toilets and a superb awareness campaign, protecting our water bodies from human pollution.

Free or subsidised distribution of 350 million LED bulbs has dramatically reduced electricity consumption. Single-use plastic will be banned from August 2022. Forest cover is increasing exponentially. A world record of planting 50 million trees in one day was set in 2016.

For every additional dollar of GDP, India will be using progressively lesser amounts of energy. India's latest target of achieving 50 per cent (500 GW) of its energy requirement from renewable sources by 2030 is likely to be achieved in advance (we are at 40 per cent already).

India is among the top three renewable energy producers in the world, building massive solar farms. Degraded land is being recovered faster than any other country. We have recovered well over 10 million hectares of degraded land in the past decade, the target being 26 million by 2030.

Solar tariffs in India are now below even the fuel costs of running most existing coal-fired power plants. In the last 12 months, no new coal-fired power plants have been announced.

The National Thermal Power Corporation has begun a pivot towards renewables, saying no more greenfield development of coal-fired power projects and announcing a target to install 32GW of renewable energy capacity by 2032.

The good news is that we have the solutions—the technology for a low-carbon future already exists with real, technically feasible, affordable alternatives to fossil fuels. Green hydrogen is the most exciting. We will achieve net-zero emissions by 2070, possibly earlier.

WHILE THE WORLD MAY NEVER RETURN TO THE STABLE CLIMATE THAT GAVE BIRTH TO CIVILISATION, IF COP26 RECOGNISES CLIMATE CHANGE AS A GLOBAL SECURITY THREAT, WE MAY YET ACT IN TIME. AND IN ALL THIS, PRIME MINISTER MODI'S ROLE WOULD UNDOUBTEDLY BE A DEFINING ONE.

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India's green shoots for the planet



SHYAM SARAN, BUSINESS STANDARD

03 November, 2021

Shyam Saran is the Chairman of the National Security Advisory Board and Senior Fellow at the Centre for Policy Research, New Delhi

Before assessing the significance of Prime Minister Narendra Modi's five-point Panchamrita pledge at Glasgow, some key elements in the current discourse on climate change should be clarified. Countries are being asked to sign on to a net zero emissions target by 2050. The term "net zero emissions" is a balance sheet concept. Global emissions need not fall to zero by 2050. They could conceivably keep rising as long as enough negative emissions in the shape of "carbon sinks" are somehow rolled out to exactly balance the plus side of the balance sheet. Nature provides carbon sinks through forests and the oceans, including marine and coastal vegetation. There may be as yet unviable and untested but technologically feasible fixes, such as carbon capture and storage (CCS) and geo-engineering solutions. For the foreseeable future, it is only by expanding the absorptive capacity of natural sinks that negative emissions may increase but the scale required by 2050 may be problematical.

Let us turn to another multilateral event which took place at Kunming in mid-October this year, the Conference of Parties to the Biodiversity Convention. This turned the spotlight on the rapid rate at which the world's forests are being depleted through logging, forest fires and environmental degradation. The oceans are awash with vast islands of floating plastics while the dumping of hazardous wastes is turning many deltaic regions into dead zones where no marine life is possible anymore. Thanks to ocean pollution and to already rising temperatures, ocean chemistry is changing with less capacity to absorb carbon emissions. It is estimated that these natural sinks together absorb some three quarters of global carbon emissions but this capacity is getting relentlessly eroded. Climate change and biodiversity are two sides of the same coin. You cannot continue to destroy the planet's biodiversity and hope to tackle climate change.

None of the proposed technological fixes have had any encouraging results so far. The CCS has been around for nearly two decades but there is not a single major coal-based thermal plant actually fitted with this technology. If a 1000-MW thermal plant costs \$1 billion, its CCS installation would cost another billion. The economics simply does not work. PM Modi's unexpected announcement of achieving net zero by 2070 may have neatly deflected the pressures on India to sign up to an ambitious pledge but it does nothing to dispel the ecological emergency that threatens all life on the planet. Since China's President Xi Jinping was not physically present at Glasgow, PM Modi took centre-stage on several occasions, engaging in friendly banter with several important leaders and this plays well domestically. Given the huge difference in their levels of emissions, India achieving net zero only 10 years after China's declared target date sounds eminently fair and reasonable, even more ambitious by contrast.

However, 2070 –and even 2050 –is very far into the future, given the accelerating technology driven change that is sweeping across the world. We have a new data-driven digital world, with Artificial Intelligence and Machine Learning, which techno-optimists believe will deliver solutions to the climate crisis before doomsday strikes. This is a dangerous bet.

Countries have now made pledges to reduce methane emissions by 30 per cent by 2030 and to begin to reverse deforestation by the same year. Methane is a short-lived greenhouse gas but contributes much more to warming than carbon dioxide. But it is the steadily melting perma-forests of Greenland and Siberia which may lead to a huge and dangerous upsurge in methane lying locked up in frozen vegetation under the ice. As for reversing deforestation, there is unlikely to be any progress as long as a tree cut down for sale as timber has more marketable value than a tree growing in the forest.

IT IS IN THIS CONTEXT THAT THE REST OF THE FOUR “AMRITA TATTVAS” OR SOURCES OF NECTAR ANNOUNCED BY PM MODI ARE MUCH MORE NEAR-TERM, SIGNIFICANT AND SUBSTANTIAL. HE HAS PLEDGED THAT BY 2030, INDIA’S NON-FOSSIL ENERGY WILL BE 500 GIGAWATTS (GW) AS AGAINST THE EARLIER TARGET OF 450 GW. THANKS TO THIS PUSH TOWARDS RENEWABLE AND CLEAN ENERGY, A BILLION TONNES OF CARBON EMISSIONS WILL BE REDUCED BETWEEN NOW AND 2030 AGAINST A BUSINESS-AS-USUAL TRAJECTORY. THE CARBON INTENSITY OF GROSS DOMESTIC PRODUCT GROWTH WILL COME DOWN BY 45 PER CENT BY 2030 AGAINST AN EARLIER TARGET OF 33-35 PER CENT ANNOUNCED AT PARIS. PM MODI ALSO ANNOUNCED THAT BY 2030, 50 PER CENT OF INDIA’S ENERGY WOULD COME FROM NON-FOSSIL SOURCES. THE FOREIGN SECRETARY LATER CLARIFIED THAT THE PM WAS REFERRING TO INSTALLED ELECTRICITY GENERATION CAPACITY BY THAT DATE. THIS WAS EARLIER SET AT 40 PER CENT. HOWEVER, THIS MEANS THAT FOR THE FORESEEABLE FUTURE COAL WILL CONTINUE TO BE THE MAINSTAY OF POWER PRODUCTION.

Taken together, these pledges certainly represent enhanced ambition and put the spotlight back on the advanced and affluent countries that still evade their responsibility and continue to shift the burden of energy transition on to the developing world. PM Modi was right in demanding climate justice and that the developed world step up to the plate in providing much higher levels of finance and technology to enable climate change action by developing countries. He

mentioned a figure of \$1 trillion but did not indicate the time span over which it should be disbursed.

The International Solar Alliance, which was an Indian initiative at Paris in 2015, has not made much progress so far. An initiative first announced in 2018, the One Sun One Grid One World project has been given a push through partnering with the UK, which has its own but related Green Grid project. But the challenge of creating a common cross-border grid even regionally is daunting, let alone a global network. Under the Coalition for Disaster Resilient Infrastructure, PM Modi announced the Infrastructure for Resilient Island States initiative, taking into account the greater frequency of extreme climate events that have affected the most vulnerable parts of the world. Financing will remain the main challenge. Neither may gain immediate traction but help burnish India's green credentials.

How should one describe India's Climate diplomacy at Glasgow? A modest but welcome green shoot in a gathering high in decibels but low on substance.



How PM Modi defended national interests at COP26



JAYANTA GHOSHAL, INDIA TODAY

02 November, 2021

Jayanta Ghoshal is a senior Delhi-based journalist.

Has Prime Minister Narendra Modi become the fulcrum of COP26 solidarity with his powerful speech on climate change?

The COP26 summit started off on an uneasy note with heads of major economies such as China and Russia giving it a miss, and other global superpowers disagreeing on several issues.

With this, he ensured that major superpowers look up to India to resolve the disputes among them. The United States, United Kingdom, Australia and several European Union nations recognised India's role in the global fight against climate change.

PM Modi's argument

Joe Biden has probably understood that his predecessor Donald Trump's withdrawal from the Paris Agreement left the United States alienated. Not only has he promised more aid to developing nations, but he also signalled that the US is ready to negotiate on the Paris Agreement.

BUT PM MODI'S ARGUMENT WAS THAT THE WEST WAS INDUSTRIALISED EARLIER, WHILE ASIAN, AFRICAN AND LATIN AMERICAN COUNTRIES WERE EXPLOITED FOR CENTURIES. SO, WHILE CARBON EMISSION TARGETS ARE ACCEPTABLE TO ALL, IT IS THE WESTERN ECONOMIES THAT'LL HAVE TO TAKE THE LEAD.

Also, there is a demand for increasing aid since post-Covid, deindustrialisation will harm developing economies more. However, PM Modi made five commitments today:

- » India will achieve net zero emissions by 2070.
- » India will bring down its non-fossil energy capacity to 500 GW by 2030.
- » India will bring down its carbon intensity to 45 per cent by 2030.
- » India will fulfil 50 per cent of its energy requirement through renewable energy by 2030.
- » India will reduce 1 billion tonnes of carbon emissions from the total projected emissions by 2030.

THE PM ALSO SAID THAT THE WEST CANNOT MICROMANAGE FUNDS ALLOTTED TO DEVELOPING COUNTRIES. HIS SPEECH FOUND RESONANCE ACROSS EVERY DEVELOPING COUNTRY IN THE WORLD.



India And Climate Change: Low Culpability, High Mitigation Commitment



DR. SUBHASH CHANDRA PANDEY, SWARAJYA

02 November, 2021

Dr Subhash Chandra Pandey is the Former Special Secretary & Financial Advisor, Ministry of Commerce & Industry

Global leaders have assembled in Glasgow to attend the 26th "Conference of Parties", a gathering of countries who signed the U.N. Framework Convention on Climate Change and the Paris Climate Agreement 2015.

The most immediate agenda for the world now is post-pandemic economic recovery and resumption of disrupted global supply chains. Climate change is one of the enduring concerns apart from terrorism and drugs menace on which countries have been struggling in the last few decades.

The climate change threat arises from emission of greenhouse gases (GHG) like carbon dioxide and methane which trap sunlight, thereby increasing global temperatures.

This leads to slow and steady melting of frozen water bodies, rise in sea level, threatening the very existence of many small countries. Primary sources of GHG are vehicular and factory emissions (using petroleum based fuels and coal) and dairy industry for milk and meat.

Industrially advanced economies have very high per capita GHG emissions and they have been pressing large, developing economies like China and India to slow down GHG emissions, which is difficult without funds and technology to switch to cleaner, greener, non-GHG emitting fuels.

USA, under President Joe Biden, wants to build international consensus around a target of countries committing to a 'Net Zero Green House Gas Mission' target by 2050.

The new US administration is keen to reclaim the global leadership on climate change as former US President Donald Trump had pulled out of the 2015 Paris Accord on climate change.

The idea of Net Zero Green House Gas Mission refers to a balance between the amount of greenhouse gases emitted into atmosphere and the amount removed from it.

The Kyoto Protocol adopted in 1997 was a historic turning point when legally binding targets were agreed for industrialised countries to reduce overall GHG emissions.

Developed countries were required to reduce greenhouse gas emissions by at least 18 per cent below 1990 levels by the year 2020.

However, the second commitment period of the Kyoto Protocol that only commits entered into force in December 2020, just one day before its expiry.

These targets were rather modest, grossly inadequate to meet the main objectives of the UNFCCC but several developed countries backtracked and refused to take on any targets in the second commitment period.

The Net Zero idea is, strictly speaking, diluting the commitments agreed in the Kyoto Protocol adopted in 1997 and United Nations Framework Convention on

Climate Change (UNFCCC) in Paris in 2015.

The developed countries have faltered on delivery of finance, technology transfer, and capacity building support to developing countries. They were supposed jointly mobilise at least \$100 billion per year by 2020 to support climate change mitigation action in developing countries.

The new US administration has been pushing for net zero carbon emissions by 2050, under which a country compensates for the greenhouse gases it generates by making provisions for absorption and removal of an equal amount.

It is heartening to note that it is willing to honour the commitment agreed to by developed countries to assist developing nations by \$100 billion annually so as to facilitate transition towards climate-friendly technologies.

INDIA HAS DEMONSTRATED A STRONG POLITICAL COMMITMENT AND LEADERSHIP POSITION ON CLIMATE ISSUES AND ACHIEVED REMARKABLE PROGRESS SO FAR IN MEETING NATIONALLY DETERMINED CONTRIBUTIONS (NDCS) UNDER THE PARIS AGREEMENT.

India is the only one among the G20 group of countries expected to meet the targets that it set for itself in Paris.

In 2015, India announced a target of 175 GW of installed renewable energy capacity by 2022 (excluding large hydro), which included 100GW of solar and 60GW of wind energy capacity.

Solar power capacity in India has increased from 2.6 GW in March, 2014, to 45GW (August 2021).

The world's largest renewable energy expansion programme is going on in India – a target of 175 GW by 2022 has been set.

The International Solar Alliance is a new international body pioneered by India. Recently, India achieved fifth global position in solar power deployment by surpassing Italy.

Solar tariffs in India are very competitive and achieved near grid parity. We are the world's third largest producer and third largest consumer of electricity.

Total power generation capacity in India has increased from 243 GW in March 2014 to 320 GW in March 2017 to 388 GW in August 2021.

Total installed capacity as of August 2021 was 388,134 MW of which coal was 202GW (52 per cent), Large Hydro 46GW (12 per cent), solar 45GW (12 per cent) and wind 40GW (10 per cent).

The overall profile of installed generation capacity is 61.5 per cent – thermal energy at 12.2 per cent, hydroelectric energy at 24.5 per cent and renewable energy (wind/solar) about 37 per cent.

India will reach 40 per cent renewable energy capacity well before 2030, as per targets accepted under the 2015 Paris Climate Change agreement.

India's goal of operationalising 450 GW of renewable power is a major contribution to check emission of greenhouse gases.

All this when India is least responsible for greenhouse gases (GHG) emissions. US has contributed the maximum to the emission of GHGs, followed by EU and China.

INDIA'S CARBON FOOTPRINT IS EXTREMELY LOW. PRESSURE ON INDIA AND CHINA TO REDUCE CARBON EMISSIONS REMINDS ONE OF AN IRRESISTIBLE ANALOGY: WHEN DRINKS ARE IN SHORT SUPPLY, HEAVY BOOZERS BECOME APOSTLES OF ALCOHOLICS ANONYMOUS TO DISSUADE NEO-BOOZERS. [ALCOHOLICS ANONYMOUS IS AN INTERNATIONAL NGO FOUNDED IN 1935, TWO YEARS AFTER THE END OF PROHIBITION IN THE UNITED STATES IN DECEMBER 1933. ITS PRIMARY PURPOSE IS TO HELP ALCOHOLICS "TO STAY SOBER AND HELP OTHER ALCOHOLICS ACHIEVE SOBRIETY.]

Dire predictions were made in the report of the Intergovernmental Panel on Climate Change (IPCC) about global warming due to incessant carbon dioxide emissions and got the ears of top leaders assembled in Paris in 2015 with India taking a lead role.

The IPCC, in its Fifth Assessment Report (AR5) published in 2014, had observed that there had been an increasing trend in the emissions of GHG since the advent of the industrial revolution, with about half of the emissions occurring in the last 40 years.

The risk of climate change is largely a function of total cumulative GHGs in the atmosphere. IPCC had estimated that for temperature increase to remain below 2°C of pre-Industrial Revolution levels, the world must cap emissions at about 2,900 giga tonnes (Gt) of CO₂ from all sources from the industrial revolution till the year 2100.

Of this, the world had already emitted 1,900 Gt of CO₂, by 2011, thus already consuming around two-thirds of this 'carbon budget'.

This meant that out of the budget of 2,900 Gt, only 1,000 Gt remains to be used during 2012 to 2100. [This is my allusion to liquor in 'short supply'. It is scientifically prudent to limit CO₂ emission to 1000 Giga Tonnes by 2100. So who gets how much to drink, er, 'right to pollute the atmosphere' out of this 'quota' of 1,000 GT till 2100 is the moot question.]

Despite rather low per capita GHG emissions, India is making big advances to switch to greener energy.

About 52 per cent of our power generation capacity is coal-fired, meeting about 75 per cent of our energy needs.

Switching from coal-based power plants to solar, hydro, and nuclear is not easy, and renewable energy, especially solar and hydro, cannot offer a reliable 24x7 power supply at steady voltage.

India has nevertheless made some major, specific commitments in Glasgow, one long-term and one shorter-term.

One, is to become Net Zero by 2070. Two, is to cut GHG emissions by 1 billion (100 crore) metric tonnes by 2030.

ACCORDING TO WORLD RESOURCES INSTITUTE, INDIA'S TOTAL GREENHOUSE GAS EMISSIONS WAS ABOUT 3.3 BILLION TONNES IN 2018 AND IT IS PROJECTED TO RISE ABOVE 4 BILLION TONNES PER YEAR BY 2030.

IT MEANS AT CURRENT TRENDS, INDIA COULD BE EMITTING ANYWHERE BETWEEN 35 TO 40 BILLION TONNES OUT OF WHICH A CUT OF 1 BILLION TONNES WOULD REPRESENT A REDUCTION OF 2.5 TO 3 PER CENT IN ITS ABSOLUTE EMISSIONS IN THE BUSINESS-AS-USUAL SCENARIO.

INDIA IS ALL FOR SAVING THE PLANET WITHOUT INHIBITING HER OWN ECONOMIC GROWTH, AND AT THE SAME TIME ENSURING OTHER COUNTRIES WALK THE TALK ON COUNTERING CLIMATE CHANGE.

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AGREEMENT.**



Renew Power Ceo Sumant Sinha Hails PM Modi's 5-Point Plan To Fight Climate Change



SUMANT SINHA, REPUBLIC WORLD

03 November, 2021

Sumant Sinha is the Founder, Chairman and Managing Director of ReNew Power – one of India's largest clean energy companies.

A lot of the commitments that the Prime Minister has talked about the thing that we were already acting on as a country.

The new things that the Prime Minister talked about is the 45% carbon intensity reduction and the 1 billion tonnes carbon reduction by 2030.

I'm sure it is positive and it is the first time that India has laid a net zero target on the table.

I THINK THAT THE POSITION THAT THE PRIME MINISTER HAS TAKEN IS VERY POSITIVE AND HE IS DEALING WITH ALL THIS ISSUE OF CLIMATE CHANGE FROM THE FRONT.

He is noticing an opportunity for India to become a leader in clean energy technology and that is a very sensible step that has been taken.

PRIME MINISTER MODI IS A MAN WITH A VISION AND HE WANTS TO IMPLEMENT HIS VISION AND HE IS TRYING TO MOVE THE REST OF THE WORLD IN LINE WITH THAT VISION.



COP 26 Climate Summit: Not zero by 2050, but much lower emissions than now



EDITORIAL, THE FINANCIAL EXPRESS

03 November, 2021

New Delhi's promise, at the COP 26 climate summit, that it will cut net carbon emissions to zero by 2070 surprised many because India had seemed reluctant to agree to a deadline. Tight-lipped officials were offering the standard bureaucratise to say India would go to Glasgow with a positive mindset, meaning it would not play deal-breaker.

HOWEVER, PRIME MINISTER NARENDRA MODI HAS COMMITTED TO PUTTING IN PLACE NON-FOSSIL ENERGY GENERATION CAPACITY OF 500GW BY 2030, BY WHICH TIME 50% OF THE COUNTRY'S ENERGY REQUIREMENTS WOULD BE MET FROM RENEWABLES. THE PM SAID AT THE CLIMATE SUMMIT, INDIA WOULD REDUCE THE TOTAL PROJECTED CARBON EMISSION BY 1 BILLION TONNES, AGAIN BY 2030, AND ALSO LOWER THE CARBON INTENSITY OF THE ECONOMY TO BELOW 45% BY THE END OF THE DECADE.

Most rich countries have set themselves earlier deadlines, of around 2050. However, China's distant date of 2060, has been seen by many as the country not doing enough. Indeed, the faraway target would allow it to continue to set up coal-fired power plants. Against this backdrop, India's even more distant 2070 might also be perceived to be not meaningful and the negotiations could get tricky.

However, given the cost of the exercise it would have been difficult for India to do more in less time. Moreover, it's not as though the rich countries are displaying much more urgency, in terms of their own plans, than they did at Paris in 2015. Experts believe the 2070 timeline would give India the necessary opportunity to deliver on development; for developing nations to have the space to grow, the developed nations will need to get far more ambitious about net zero targets for themselves than they have set.

Given India is the world's third-biggest emitter of greenhouse gases, combatting climate changes and reducing carbon emissions would require major financial and technological support.

THE PM HAS CALLED OUT DEVELOPED NATIONS ON THE PROMISES MADE BY THEM TO MAKE AVAILABLE FUNDS FOR THE MITIGATION AND ADAPTATION AND EXHORTED THEM TO AID THE TRANSITION WITH A CORPUS OF \$1 TRILLION, A TEN-FOLD INCREASE OVER PRIOR ESTIMATES.

It is not clear how developed nations will respond to the quantum increase over levels set by them; it is hard to see funds of this magnitude being committed even if many more countries have raised the bar in their shift to clean energy.

Experts who have cautioned that funding must be both transparent and measurable, must be heeded; Sunita Narain recently observed in a column in Business Standard, it is not simply the scale of the funding that needs to be decided on, but

also the rules that would govern the corpus so that the transfers can be counted and verified. Narain cautioned that a repeat of the complicated, convoluted, and cheap Clean Development Mechanism (CDM) should be prevented.

Apart from global aid, India will also need source funds internally; it is unlikely carbon taxes will be levied for the next few years, but it is possible some kind of a cess will come into force thereafter. Some countries are already imposing carbon tariffs on imports of certain goods, especially those relying on fossil-fuel derived power. Against this backdrop, the final outcome at the G20 summit was disappointing. Although there was unanimity on putting an end to international financing for coal-fired power generation, no targets were set for phasing out coal domestically.

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Most experts hail India's 2070 pledge, say it's transformative, equitable, just



EDITORIAL, THE TIMES OF INDIA

■ 03 November, 2021

PM Modi's surprise announcement at the COP26 on Monday, committing India to a net-zero economy by 2070 and 50% renewables in the energy mix by 2030, was generally hailed by international experts as one of the key breakthroughs of the Glasgow conference although some expressed disappointment over the 50-year promise. Climate change expert Nicholas Stern called it a "very significant moment" for the summit. "This demonstrates real leadership... The rich world must respond to PM Modi's challenge to deliver a strong increase in international climate finance," he said, adding that it was a chance for India to show "it can deliver on both economic development and climate change".

However, John Gummer, chair of the Climate Change Committee, a statutory body set up by the UK government, was quoted in the media as slamming India's plans to reach net zero in 50 years' time, saying it "really won't do".

On the other hand, most experts said the commitment was "equitable and just" in the context of India's current stage of development. Said Ulka Kelkar, climate director of the India chapter of the World Resources Institute,

"IF IT IS NET-ZERO GREENHOUSE GAS EMISSIONS, I WOULD SAY IT'S ON PAR WITH WESTERN COMMITMENTS. THE FAIR COMPARISON, IS NOT WITH THE US AND EUROPE AS OF TODAY, BUT WITH THE US AND EUROPE OF 20-30 YEARS AGO."

It wasn't immediately clear in international circles whether the net-zero pledge by 2070 was for carbon emissions alone or for all greenhouse gases. "Country-wise net zero cannot be the same for all nations," said Arunabha Ghosh, chief executive officer of the Council on Energy, Environment and Water, who has advised the PMO. India's target is "equitable and just," he said.

WHILE NOT MANY COUNTRIES REACTED TO THE ANNOUNCEMENT, UK PM BORIS JOHNSON, REPRESENTING THE SUMMIT'S HOST GOVERNMENT, WELCOMED THE MOVE. "INDIA HAS TODAY ANNOUNCED AMBITIOUS PLANS FOR HALF ITS ENERGY TO COME FROM RENEWABLES BY 2030. THIS WILL CUT CARBON EMISSIONS BY A BILLION TONNES, CONTRIBUTING TO A WORLDWIDE DECADE OF DELIVERY ON CLIMATE CHANGE," HE TWEETED.

The Time magazine said climate advocates recognised that the 2070 target was further off than was ideal but it was potentially transformative for the world's third-largest emitter (India) while Bloomberg noted that the net-zero target will give companies and investors some idea of the country's long-term climate ambition.



COP26: Modi's pleasant turnaround on India's net-zero pledge by 2070. What does this mean for India Inc.

EDITORIAL, TIMES NOW

■ 02 November, 2021

PRIME MINISTER NARENDRA MODI HAS MADE A BOLD PLEDGE IN A SURPRISE MOVE AT THE COP26 CLIMATE SUMMIT THAT THE WORLD'S THIRD-BIGGEST EMITTER WILL REACH NET-ZERO BY 2070.

In a surprise move at the COP26 climate summit, PM Modi made an announcement that has injected new life into the climate talks. India – the world's third-biggest emitter – will reach net-zero by 2070.

The bold pledge took the world by surprise, especially after a disappointing outcome of the G20 Summit in Rome. The leaders of the Group of 20 nations had met over the weekend, but all that remained of it was vague promises and nothing concrete to hold them accountable for the emissions.

However, PM Modi's announcement now has changed the dynamics of the climate talks. As the largest emitter, China offered no new plans to cut emissions. In fact, Chinese President Xi Jinping didn't attend the conference in person. US – the second-largest emitter – did not have anything new to add to the talks either. Being bogged down by politics of fossils at home, President Joe Biden refrained from committing to any drastic move. The eyes were all set on India to bring some hope to the world already reeling under the effects of climate change. And India did not disappoint.

"This was a very significant moment for the summit," Bloomberg quoted Nicholas Stern, chairman of the Grantham Research Institute on Climate Change and the Environment at the London School of Economics as saying. It's a chance for India to show that "it can deliver on both economic development and climate change."

Modi's announcement is consistent with the UN's Intergovernmental Panel on Climate Change (IPCC) research, which categorically projects that the world has to reach net-zero carbon dioxide emissions by about mid-century and then hit net zero across all greenhouse gases by 2070, to keep temperatures from rising more than 1.5 degree Celsius.

While the commitment has been made and the promise has been sealed, the big question now is how India will achieve this goal in the years to come. Even though it sounds ambitious, let us not forget that India is already set on the path of overfulfilling the commitment it made at the Paris COP in 2015 to cut its emissions intensity by 33 to 35 per cent compared to 2005 levels by 2030. So on Monday, when he committed to increasing India's 2030 carbon intensity reduction goal from 35 per cent to 45per cent, and the 2030 target for low-emission energy capacity to 500 gigawatts from 450 GW and pledged to produce half the country's electricity using renewable energy, Modi had a good reason with sound backing.

Financing is a key challenge for the country as it embarks on the journey to transition to net zero. At the summit, PM Modi reiterated that the rich countries should support the poorer nations financially to accelerate the transition to clean energy. And it is an equitable and just demand.

“It is India’s expectation that the world’s developed nations make \$1 trillion available as climate finance as soon as possible. Justice would demand that those nations that have not kept their climate commitments should be pressured,” Modi reportedly said. Now, \$1 trillion is a number that’s ten times higher than the annual climate finance target set by the “rich” countries.

In the paper that he co-authored – ‘Getting to Net Zero: An Approach for India at COP26’ – former vice-chairman of Planning Commission Montek Singh Ahluwalia categorically states that India could realistically achieve net-zero emissions by 2065-70 if it curbs its coal usage within the decade and climate finance directed to emerging economies rises to a ballpark of \$200 billion in the coming years.

India, along with the rest of the world, stands to benefit from the Prime Minister’s bold decision. The country with 1.3 billion people is one of the most vulnerable to climate change and its impact. And with this decision, India has yet again shown the world that it walks the talk.

WHILE THE COMMITMENT HAS BEEN MADE AND THE PROMISE HAS BEEN SEALED, THE BIG QUESTION NOW IS HOW INDIA WILL ACHIEVE THIS GOAL IN THE YEARS TO COME. EVEN THOUGH IT SOUNDS AMBITIOUS, LET US NOT FORGET THAT INDIA IS ALREADY SET ON THE PATH OF OVERFULFILLING THE COMMITMENT IT MADE AT THE PARIS COP IN 2015 TO CUT ITS EMISSIONS INTENSITY BY 33 TO 35 PER CENT COMPARED TO 2005 LEVELS BY 2030. SO ON MONDAY, WHEN HE COMMITTED TO INCREASING INDIA'S 2030 CARBON INTENSITY REDUCTION GOAL FROM 35 PER CENT TO 45PER CENT, AND THE 2030 TARGET FOR LOW-EMISSION ENERGY CAPACITY TO 500 GIGAWATTS FROM 450 GW AND PLEDGED TO PRODUCE HALF THE COUNTRY'S ELECTRICITY USING RENEWABLE ENERGY, MODI HAD A GOOD REASON WITH SOUND BACKING.



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Climate Change



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FPJ Edit: COP26 - Net-zero emissions for India by 2070 promise by PM Modi is big step forward in battle against climate change

EDITORIAL, THE FREE PRESS JOURNAL

03 November, 2021

The success of the 26th Conference of Parties meet of the United Nations Framework Convention on Climate Change – or COP26 as it is popularly known – hinged on whether the world's developed nations, as well as the world largest carbon emitters, took meaningful measures to address the increasingly urgent threats posed by global warming.

PRIME MINISTER NARENDRA MODI'S COMMITMENT TO THE WORLD TO TAKE INDIA TO NET ZERO CARBON EMISSIONS BY 2070 MARKS A BIG STEP FORWARD IN THE GLOBAL BATTLE AGAINST CLIMATE CHANGE.

India, as the world's third largest emitter of greenhouse gases, had so far refused to commit to a definitive date for achieving 'net zero' emissions. A net-zero emission state requires a country to capture or secure carbon equal to what it emits – in other words, neutralise its climate impact. This is a tall ask for any country, given the dependence on fossil fuel for energy and mobility. For India in particular, given that it is still an aspirational developing nation, with a large part of its population yet to reap the benefits of economic growth in a meaningful fashion, it is a difficult choice.

While climate change does disproportionately impact the poor, focusing on climate change at the expense of development also disproportionately impacts the poor. Further, as a country with one of the largest reserves of coal, and an existing power generating system which is significantly dependent on coal-fired thermal power, it would be a tough task for India to decarbonise its economy without derailing its growth momentum.

HOWEVER, INDIA HAS SHOWN SIGNIFICANT COMMITMENT TO THE GLOBAL BATTLE AGAINST CLIMATE CHANGE BY NOT ONLY SETTING A 'NET ZERO' TARGET BUT MAKING OTHER SIGNIFICANT PLEDGES TO SPEED UP THE DECARBONISATION OF ITS ECONOMY AND REDUCE ITS CARBON EMISSIONS.

The UN Intergovernmental Panel on Climate Change (IPCC) – has stated that global emissions need to drop by nearly half – 45 per cent – by 2030 from the levels existing in 2010 in order to contain global warming to 1.5° C above pre industrial levels. That means that even the Net Zero target dates set by the large carbon emitters – 2050 for the US and EU, 2060 for China and now, 2070 for India – may not be early enough to combat a disastrous rise in temperatures before then.

In this context, India's other commitments made at the Glasgow COP26 conference are as significant as the commitment to Net Zero by 2070. These include a commitment to take India's non-fossil energy capacity to 500GW by

2030; a pledge to meet half of all its energy requirements from renewable energy sources by 2030; a reduction in its carbon emissions by a whopping one billion tonnes by 2030 and a promise to cut the carbon intensity of its economy to less than 45 per cent by 2030.

THESE ARE AMBITIOUS TARGETS. MORE IMPORTANTLY, AS PRIME MINISTER MODI POINTED OUT IN HIS SPEECH, DEVELOPING COUNTRIES WOULD NEED BOTH FINANCIAL AND TECHNOLOGICAL SUPPORT FROM THE DEVELOPED WORLD IN ORDER TO NOT ONLY DECARBONISE THEIR ECONOMIES BUT TACKLE THE DISASTROUS IMPACT THAT CLIMATE CHANGE – CAUSED LARGELY BY THE CARBON EMISSIONS OF THE PAST FROM THE DEVELOPED WORLD – IS ALREADY HAVING ON THEM.

“Today, when India has made a new commitment with new energy to move forward with its promises at a time like this, climate finance and low-cost climate technology becomes more important,” Modi said, calling for the developed economies to extend at least \$1 trillion in climate financing.

That, however, looks unlikely to happen, going by the track record so far. Modi himself noted in his speech that the promises of financial and technological support made in the 2015 Paris meet have turned out to be ‘hollow’. While the Paris Agreement of 2015 called for developed nations to provide \$100 billion a year in climate funds to developing nations to help them combat climate change, that milestone is far away and is likely to be achieved only by 2023. Increasing this ten-fold may be a necessity, but looks even less likely to happen.

India’s own commitments are daunting but at least set an aspirational goal. They also will also hopefully prod other large emitters to take more meaningful measures to address climate change. In this context, it is important to note that while India has significantly increased its NDCs (nationally determined contributions), the world’s two biggest polluters, the US and China, have not made any changes to their 2015 NDCs. India too, will have to move quickly on energy sector reforms, particularly in overhauling its inefficient distribution sector and weaning away utilities from thermal power, while significantly scaling up the creation of renewable power capacity.

Alongside this, the private sector also needs to pitch in to transition the mobility sector away from fossil fuels to electric and hydrogen fuel. So far, India’s track record on performance versus promise on climate has been much better than that of the West. It is up to the rich nations to now ensure that their pledges are not empty promises.

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COP26 Summit-

प्रधानमंत्री मोदी ने किया
एलान, 2070 तक नेट
कार्बन जीरो अर्थव्यवस्था
होगा भारत



PRANAY UPADHYAY] ABP LIVE

02 November] 2021

Pranay Upadhyay is an ABP News correspondent-

पीएम मोदी ने कहा कि भारत दुनिया की केवल 17 फीसदी आबादी का प्रतिनिधित्व करता है। लेकिन वैश्विक कार्बन उत्सर्जन में उसकी हिस्सेदारी केवल 5 प्रतिशत है फिर भी भारत ने 2015 के पेरिस समझौते में किए वादों का ईमानदारी से पालन किया है। पेरिस में जताए भारत के संकल्पों में इजाफा करते हुए पीएम ने ऐलान किया कि भारत

2030 तक अब 500 गीगावाट बिजली उत्पादन गैरपारंपरिक ऊर्जा संसाधनों से करेगा। इसके अलावा अपने ऊर्जा मिक्स में 50 फीसदी तक अक्षय ऊर्जा संसाधनों को बनाएगा। ध्यान रहे कि भारत ने 2015 में 2030 तक पहले 175 गीगावाट और फिर 450 गीगावाट बिजली उत्पादन गैर पारंपरिक ऊर्जा संसाधनों से करने का लक्ष्य रखा था। साथ ही एनर्जी मिक्स में गैर फॉसिल फ्यूल की हिस्सेदारी 40 फीसद तक ले जाने का टारगेट तय किया गया था।

कॉप 26 बैठक में भारत ने सम्भावित कार्बन उत्सर्जन में 2030 तक 1 बिलियन टन की कटौती का भी ऐलान किया। साथ ही पेरिस में भारत ने अपनी अर्थव्यवस्था की कार्बन इंटेंसिटी में 2005 स्तर से 33-35 प्रतिशत कटौती की घोषणा को भी अब बढ़ाकर 45 प्रतिशत करने का ऐलान किया है। विदेश सचिव हर्षवर्धन श्रृंगला ने कहा कि प्रधानमंत्री के भाषण के साथ भारत ने अपने ही पूर्व घोषित संकल्पों को और अधिक बढ़ाया है। यह जलवायु परिवर्तन कई चुनौती के प्रति भारत की गम्भीरता दिखता है।

यह फैसला किसी के दबाव में नहीं

देश सचिव ने कहा कि भारत ने यह फैसला किसी के दबाव में नहीं लिया है। बल्कि आने वाला समय यह बताएगा कि भारत ने अपने पीक तक पहुंचने से पहले ही नेट कार्बन का लक्ष्य तय कर लिया है।

महत्वपूर्ण है कि दुनिया के कई देशों ने 2050 तक नेट कार्बन जीरो की बात की है। दुनिया में कार्बन उत्सर्जन के मामले में चीन ने 2060 तक नेट जीरो का लक्ष्य घोषित किया था। हालांकि कॉप26 के भाषण में पीएम ने इस बात को पुरजोर तरीके से उठाया कि जलवायु परिवर्तन के मुद्दे पर दुनिया के कई देशों ने अब तक अपने वादों को पूरा नहीं किया है।

जलवायु परिवर्तन (Climate Change) के मुद्दे पर ब्रिटेन के ग्लासगो में हो रहे COP26 वैश्विक मंथन के मंच से प्रधानमंत्री नरेंद्र मोदी (PM Narendra Modi) ने मजबूती से भारत के संकल्पों को जताने के साथ ही मुखर लहजे में अब तक इस मुद्दे पर हुई वादाखिलाफियों को भी उजागर किया। पीएम मोदी ने तत्काल एक ट्रिलियन डॉलर के क्लाइमेट फाइनेंस कोष को बनाने पर बल दिया। वहीं बेहतर भविष्य के लिए लाइफ यानी लाइफस्टाइल फॉर एवर्नमेंट का भी मंत्र दिया। इतना ही नहीं उन्होंने पहली बार भारत को 2070 तक नेट कार्बन-जीरो अर्थव्यवस्था बनाने का भी बड़ा ऐलान किया।

उन्होंने दो टूके कहा कि अब तक इस वैश्विक समस्या से निपटने के लिए हुई कार्रवाई खोखली साबित हुई है. वैश्विक मंच से पूरी बेबाकी के साथ मोदी ने कहा कि कार्रवाई उन देशों के खिलाफ होनी चाहिए जिन्होंने क्लिमेट फाइनेंसिंग के अपने वादे पूरे नहीं किए हैं. उन्होंने क्लाइमेट फाइनेंसिंग के लिए मानक बनाए जाने का भी आग्रह किया.

प्रतिवर्ष 100 अरब डॉलर की क्लाइमेट फाइनेंसिंग उपलब्ध कराने का लक्ष्य

ध्यान रहे कि विकसित देशों की तरफ से प्रतिवर्ष 100 अरब डॉलर की क्लाइमेट फाइनेंसिंग उपलब्ध कराने का लक्ष्य रखा गया था. ताकि विकासशील देश हरित तकनीकों को अपना सकें. हालांकि 2016 में अमेरिका के पेरिस समझौते से बाहर हो जाने के बाद से यह प्रक्रिया ही लड़खड़ा गई थी. वहीं जलवायु परिवर्तन पर अमेरिकी राष्ट्रपति जो बाइडन के संकल्पों के बावजूद उनके अपने ही खेमे में 1 ट्रिलियन डॉलर के इंफ्रास्ट्रक्चर बिल और 3.5 ट्रिलियन डॉलर के क्लिमेट चेंज बिल को लेकर मतभेद हैं.

कॉप-26 बैठक में पीएम मोदी ने भारत के सांस्कृतिक संस्कारों में पर्यावरण संरक्षण का हवाला देते हुए कहा कि भारत इस वैश्विक चुनौती से मुकाबले में पूरा योगदान करने और सब के साथ मिलकर काम करने के लिए तैयार है.

पीएम ने दिया लाइफ का मंत्र

भारतीय प्रधानमंत्री ने जलवायु परिवर्तन की चुनौती से निपटने और बेहतर भविष्य के लिए लाइफ यानी लाइफस्टाइल फॉर एंवरनमेंट या पर्यावरण मित्र जीवनशैली को वैश्विक आंदोलन बनाने का भी आह्वान किया।

इसके तहत संसाधनों की बर्बादी की बजाए उनके उचित और किफायती इस्तेमाल पर जोर देने, साथ ही परिवहन से लेकर रोजमर्रा इस्तेमाल के समान, हॉस्पिटैलिटी से लेकर प्रौद्योगिकी तक हर क्षेत्र में सजग चयन किया जाए. यानी जरूरत के आधार पर चुनाव किया जाए. पीएम मोदी ने कहा कि इससे न केवल जलवायु परिवर्तन पर दबाव कम होगा बल्कि संसाधनों का भी बेहतर इस्तेमाल सम्भव होगा.

विश्वबैंक आकलन के मुताबिक यदि तत्काल कदम न उठाए गए तो 2050 तक दुनिया में कचरे का बोझ 70 फीसद बढ़ जायेगा. वहीं यह भी सच है कि 16 प्रतिशत आबादी वाले विकसित देश 34 फीसदी से अधिक कचरे के लिए जिम्मेदार हैं. यानी इन देशों में उपभोग की जीवनशैली इस्तेमाल से ज्यादा बर्बादी कर रही है. स्वाभाविक तौर पर इसका खामियाजा विकाशील देशों को उठाना पड़ रहा है.

महत्वपूर्ण है कि दुनिया के कई देशों ने 2050 तक नेट कार्बन जीरो की बात की है. दुनिया में कार्बन उत्सर्जन के मामले में चीन ने 2060 तक नेट जीरो का लक्ष्य घोषित किया था. हालांकि कॉप26 के भाषण में पीएम ने इस बात को पुरजोर तरीके से उठाया कि जलवायु परिवर्तन के मुद्दे पर दुनिया के कई देशों ने अब तक अपने वादों को पूरा नहीं किया है



ग्लासगो में पीएम नरेंद्र मोदी ने दुनिया को दिखाया असली क्लाइमेट चेंज क्या है



SANDIPAN SHARMA] TV9 BHARATVARSH

02 November] 2021

Sandipan Sharma is a journalist-

ग्लासगो (Glasgow) की ब्ब26 ग्लोबल क्लाइमेट समिट (Global Climate Summit) में पीएम नरेंद्र मोदी (PM Narendra Modi) ने दुनिया के सामने जलवायु पर पांच मंत्र दिए। जिन्हें उन्होंने पंचामृत कहा।

भारतीय परंपरा में अमृत उसे कहते हैं जो जीवन देता है। वहीं, पंचामृत पांच मीठे पदार्थों का मिश्रण होता है, जो पूजा-अर्चना के दौरान देवताओं को अर्पित किया जाता है। पीएम मोदी इससे बेहतर शब्द नहीं चुन सकते थे। हमारी जलवायु के संरक्षण और बचाव के लिए पीएम मोदी के पांचों मंत्र शिखर सम्मेलन के लिए अमृत जैसे ही थे, जिसमें कोई लक्ष्य हासिल होता नहीं दिख रहा था, क्योंकि विकसित देश असली चुनौतियों से हमेशा बचते रहे हैं और उनमें प्रतिबद्धता की भारी कमी दिखती है।

पीएम मोदी के भाषण से महज एक दिन पहले ब्रिटिश प्रधानमंत्री बोरिस जॉनसन ने समिट के असफल होने की चेतावनी दी थी। जी-20 कॉन्फ्रेंस में दो दिन की चर्चा के बाद जॉनसन ने कहा था कि शिखर सम्मेलन में बात आगे बढ़ती नहीं दिखती और इसके सफल होने की संभावना भी 10 में से 6 ही है।

पीएम मोदी ने समिट को नेतृत्व, दिशा और उम्मीदें दीं

निराशा के इस माहौल में पीएम मोदी ने समिट को नेतृत्व, दिशा और उम्मीदें दीं। उन्होंने साल 2070 तक नेट-जीरो इमिशन का कमिटमेंट किया। विकास में पश्चिमी विकसित देशों से दशकों पीछे होने के बावजूद भारत ने बहुत बड़ी घोषणा कर दी है।

जबकि विकास की ऊंचाइयों को हासिल करने के लिए भारत में साल दर साल ऊर्जा की जरूरत बढ़ने का अनुमान है। पीएम मोदी ने दुनिया को दिखा दिया कि भारत जैसा विकासशील देश सिर्फ अपने लिए नहीं, बल्कि सबके लिए सोचने को तैयार है।

पश्चिमी देशों और चीन के लिए यह एक चौंकाने वाला संदेश है। जिन्होंने अपने व्यापारिक हितों को तवज्जोह देते हुए वैश्विक तापमान वृद्धि को 1.5 सेंटीग्रेड से नीचे रखने के उपाय करने से इनकार कर दिया है। दुनिया में सबसे ज्यादा प्रदूषण फैलाने वाले ये देश अपने लालच और स्वार्थ के लिए ही जाने जाते हैं। उन पर आलोचनाओं का भी कोई खास असर नहीं दिखा है।

क्लाइमेट चेंज 'सेंटिमेंट और कमिटमेंट' भी है

पीएम मोदी ने उन्हें दिखाया कि जलवायु परिवर्तन के मसले पर प्रतिबद्धता का मतलब क्या होता है। जबकि ऊर्जा के सबसे बड़े स्रोत के तौर पर कोयले पर अपनी निर्भरता कम करने में भारत को अभी लंबा वक्त लगेगा।

स्वच्छ ऊर्जा के दूसरे नए स्रोत का विकास अभी जारी है और इसके लिए जरूरी उत्पादन तकनीक और भंडारण क्षमता में भारी निवेश की जरूरत होगी. इसके अलावा, चीन की जिद के कारण भारत को न्यूक्लियर सप्लायर्स ग्रुप से बाहर रखा गया है. जिससे ईंधन के साफ और सस्ते स्रोतों तक भारत की पहुंच कम हो गई है. आपूर्ति की पाबंदियों और मांग में बेतहाशा तेजी की इस पृष्ठभूमि में मोदी द्वारा नेट-जीरो रिस्ट्रिक्शंस का कमिटमेंट एक साहसिक पहल है.

हालांकि, आलोचक इसे यह रंग देने की कोशिश कर सकते हैं कि भारत 2070 तक नेट-जीरो इमिशन हासिल करने की योजना बना रहा है जबकि अमेरिका और यूरोप ने इससे दो दशक पहले की समय सीमा तय की है. लेकिन, यह विकसित देशों की बराबरी की राह पकड़ चुके भारत के लिए सबसे रियलिस्टिक टारगेट है, जबकि दुनिया के कार्बन फुटप्रिंट में भारत का योगदान ज्यादा नहीं रहा है. जैसा कि पीएम मोदी ने खुद बताया कि वैश्विक आबादी में जहां भारत का हिस्सा 17 प्रतिशत है, वहीं ग्लोबल इमिशन में उसकी हिस्सेदारी सिर्फ 5 प्रतिशत है. भारत की जनसंख्या अभी बढ़ रही है. ऐसे में देश की उर्जा-आवश्यकताओं में कटौती करना मुश्किल होगा. लेकिन, मोदी ने साफ किया कि भारत अपने वादों पर पूरी तरह अडिग है, क्योंकि क्लाइमेट चेंज सिर्फ एक शिखर सम्मेलन नहीं है, बल्कि 'सेंटिमेंट और कमिटमेंट' भी है.

भारत 2030 तक क्लीन-ग्रीन अर्थ का अहम पड़ाव हासिल करेगा

पीएम मोदी ने विकसित देशों को इस मौके पर उनके आधे-अधूरे वादों की भी याद दिलाई. इन देशों से अपील की कि वो जलवायु परिवर्तन पर अपने करार को पूरा करने के लिए ज्यादा से ज्यादा निवेश करें. वर्तमान से करीब 10 गुना तक अधिक. साथ ही, उन्होंने उनकी जवाबदेही तय करने का आग्रह किया, जो क्लाइमेट चेंज के बारे में बात तो करते हैं, लेकिन काम बहुत कम करते हैं. उन्होंने कहा कि भारत स्पष्ट रूप से परिभाषित लक्ष्य तय कर दुनिया को एक रास्ता दिखाने के लिए तैयार है.

पीएम मोदी ने इस मामले में चार और घोषणाएं कर नई चुनौतियां विकसित देशों के सामने रख दीं. नेट-जीरो इमिशन के भारत के लक्ष्य की तरफ इशारा करते हुए उन्होंने 2030 तक क्लीन-ग्रीन अर्थ का अहम पड़ाव हासिल करने का दावा किया. उन्होंने कहा कि 2030 तक भारत अपनी नॉन-फॉसिल एनर्जी की क्षमता को 500 गीगावाट तक पहुंचाएगा. रिन्यूएबल एनर्जी की 50 फीसदी जरूरतों को पूरा करेगा. कार्बन इमिशन एक बिलियन टन तक कम करेगा और अपनी इकोनॉमी के मुताबिक कार्बन इंटेंसिटी को 45 फीसदी तक कम करेगा.

ये लक्ष्य पेरिस में आयोजित पिछली समिट में लिए गए सभी संकल्प से कहीं ज्यादा हैं. इनसे स्पष्ट है कि भारत चरणबद्ध तरीके से इस संकट का निवारण करेगा और एक दशक से भी कम समय में इसकी उपलब्धियां दिखनी शुरू हो जाएंगी. इस संदर्भ में, उत्सर्जन में एक अरब टन की कटौती करने की प्रतिबद्धता ऐतिहासिक है, क्योंकि इस समय इसमें हर साल लगभग पांच फीसदी की वृद्धि हो रही है.

भारत का पंचामृत धरती मां को अर्पित है

वर्षों से विकसित देश क्लाइमेट चेंज के मामले पर होने वाली बहस में चतुराई दिखाकर एकाधिकार हासिल कर चुके हैं. विकास की ऊंचाइयों तक पहुंचने के बाद भी हवा में टनों पॉल्यूटेंट छोड़कर उल्टा वो दूसरे देशों को उपदेश देते रहते हैं. अपने विकास और फॉसिल फ्यूल पर निर्भरता की मजबूरियों के कारण ही अब तक बाकी दुनिया ने उनके पाखंड को बर्दाश्त किया है.

लेकिन, मोदी ने विकासशील देशों का नेतृत्व करते हुए स्पष्ट रूप से बताया कि भारत तय समय-सीमा में क्या कर सकता है. यह कमिटमेंट से भागने वाले उन पॉल्यूटर्स को चुप कर देगा, जो भारत से एक स्पष्ट समय सीमा निर्धारित करने के लिए कह रहे थे. भारत ने विकास से समझौता किए बिना ऐसा कर दिखाया है. पीएम मोदी का रुख अब दुनिया के लिए एक स्पष्ट खाका तैयार करेगा कि जलवायु के लिए प्रतिबद्ध रहते हुए भी संतुलित विकास कैसे किया जाए, जिससे आने वाली पीढ़ियों के लिए एक बेहतर दुनिया छोड़ी जा सके. मोदी ने भारत का पंचामृत मानवता की सबसे बड़ी देवी दृ धरती माता दृ को अर्पित किया है. दुनिया को इसका पालन करना चाहिए.

निराशा के इस माहौल में पीएम मोदी ने समिट को नेतृत्व, दिशा और उम्मीदें दीं. उन्होंने साल 2070 तक नेट-जीरो इमिशन का कमिटमेंट किया। विकास में पश्चिमी विकसित देशों से दशकों पीछे होने के बावजूद भारत ने बहुत बड़ी घोषणा कर दी है।



Climate: India throws down the gauntlet



BAIJAYANT 'JAY' PANDA, HINDUSTAN TIMES

05 November, 2021

Baijayant 'Jay' Panda is national vice-president, BJP.

Prime Minister Narendra Modi has bucked tradition, offered solutions to the ongoing climate summit in Glasgow

Well before world leaders gathered in Glasgow this week for the Conference of the Parties (COP26) climate summit, there was already a familiar ring to what has become an annual ritual. It involved various actors, including politicians, activists and celebrities, continuing to pose as they have for decades without making real progress. Except that this time there was a twist, with India departing from the script in a significant way.

An essential part of the rituals is the pontification by rich countries, the greatest cumulative contributors to humanity's carbon footprint. Their stance that they could do only so much to alleviate it and that the developing world, especially China and India, had to do much more of the heavy lifting, is by now a well-established trope.

They insist on holding developing nations accountable for their gross carbon emissions, since these are now approaching or exceeding those of the rich countries. But here, too, there are vast differences among such nations. China, for instance, has already been the world's largest emitter of CO₂ for 15 years, and now accounts for more than 25% of global emissions. India, with a similar population of 17% of all humanity, still accounts for only 5% of global emissions. By contrast, the United States (US), with only a fourth of India's population, emits twice as much.

The pressure on developing nations to do more has traditionally been countered with the fundamental equity argument – if each person on earth is equal, then it is the per capita carbon footprints that must be the basis for multilateral commitments on the path forward. If that equity argument were to prevail fully, rich countries would have to far more drastically cut down their emissions to reach an acceptable per capita level, while developing ones would have an easier trajectory towards the same.

Many activists support the former, though not the latter, arguing that giving much leeway to developing nations would lead to catastrophic delays in reining in the earth's rising temperatures. But activists have no panacea to offer the billions of human beings in such nations who are still deprived of some of the basics of modern existence – electricity and running water among them – and are clamouring for them.

An equitable path forward to reaching the vaunted net-zero milestone would require two critical components. First, technology. An example is the global surge in electric vehicles, though still in its infancy, triggered by Elon Musk.

This, and other such major shifts in the global economy powered by new technologies, is key to the road ahead.

Second, and equally if not more importantly, is for developing nations to have access to these technologies and to funding. Without that, no matter how you slice the pie, there is no equitable way for the global poor to avail of basic needs without their per capita emissions skyrocketing.

Rich nations have been found wanting on all the key components of building the road to net-zero – whether it is sticking to their own earlier commitments to cut emissions, prioritising green technologies, or living up to their promises to help developing nations with technology and funding.

Traditionally, India too had stuck to the equity argument, while nevertheless committing to reducing emissions incrementally. There has been a two-fold change in the Narendra Modi era.

ONE, IN HIS FIRST TERM, THE MODI GOVERNMENT SHIFTED GEARS DRAMATICALLY ON GREEN ENERGY. WITHOUT WAITING FOR SIGNIFICANT HANDOUTS FROM RICH NATIONS, INDIA MOVED FROM EARLIER YEARS OF PIOUS INTENTIONS TO A DETERMINED THRUST ON ACTUALLY BUILDING MASSIVE SOLAR GENERATION. IT IS NOW FOURTH IN THE WORLD AND CONTINUES TO GROW RAPIDLY. THAT HAS FORCED A CERTAIN GRUDGING PUBLIC ADMIRATION FROM THE REST OF THE WORLD, FOR INSTANCE BY US CLIMATE CZAR, JOHN KERRY.

The second phase of the Modi years began with partnering the United Kingdom (UK) on the Green Grids: One Sun, One World, One Grid initiative, and is now gradually morphing into India taking on a globally influential leadership role.

This was on full display in Glasgow, with the prime minister committing India to a target of net-zero by 2070, and even more importantly, spelling out a detailed road map for it. This has come in for high praise from experts. For instance Rathin Roy, managing director of the London-based think tank, Overseas Development Institute, has called it “pragmatic, in a COP otherwise marked by bluster and artifice.”

This throwing down of the gauntlet by India is a watershed moment, made all the more stark by China’s leadership not even bothering to grace the

occasion in person. That, along with rich nations' continuing stinginess and irresolution, has pitched India, and especially Modi, as a key influencer among those shaping the global response to the climate crisis.

The climate domain is full of Utopian idealists who advocate radical, immediate changes, without viable transition strategies until there are cost-effective alternatives. Apart from its impracticality, a huge cost in human suffering would ensue. It is also full of hypocritical elites who personally flout every low-carbon footprint rule that they preach and seek to impose on others.

The world needs more pragmatic figures committed to both equity as well as tough but practical changes, with a commitment to specific timelines. India is beginning to show the way towards this.



“

FOR MANY DEVELOPING COUNTRIES, CLIMATE CHANGE IS LOOMING LARGE OVER THEIR EXISTENCE. WE HAVE TO TAKE BIG STEPS TODAY TO SAVE THE WORLD. THIS IS THE NEED OF THE HOUR AND THIS WILL ALSO PROVE THE RELEVANCE OF THIS FORUM. I AM CONFIDENT THAT THE DECISIONS TAKEN IN GLASGOW WILL SAVE THE FUTURE OF OUR FUTURE GENERATIONS, GIVING THEM THE GIFT OF A SECURE AND PROSPEROUS LIFE.

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PRIME MINISTER NARENDRA
MODI AT COP26 SUMMIT IN
GLASGOW, 01 NOVEMBER, 2021



Asia's largest, 750 MW Solar Project in Rewa, Madhya Pradesh inaugurated by Prime Minister Narendra Modi, 10 July, 2020



BHARATIYA JANATA PARTY

6 - A, Pandit Deen Dayal Upadhyaya Marg,
Near ITO, Railway Colony,
Minto Bridge Colony, Barakhamba,
New Delhi, Delhi 110002



United Nations
Climate Change



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