

# Human-centric globalization: Taking G20 to the Last Mile, leaving none behind



Vasudhaiva Kutumbakam – these two words capture a deep philosophy. It means ‘the world is one family.’ This is an all-embracing outlook that encourages us to progress as one universal family, transcending borders, languages and ideologies. During India’s G20 presidency, this has translated into a call for human-centric progress. As One Earth, we are coming together to nurture our planet. As One Family, we support each other in the pursuit of growth. And we move together towards a shared future – One Future – which is an undeniable truth in these interconnected times.

The post-pandemic world order is very different from the world before it. There are three important changes, among others.

First, there is a growing realization that a shift away from a GDP-centric view of the world to a human-centric view is needed.

Second, the world is recognizing the importance of resilience and reliability in global supply chains.

Third, there is a collective call for boosting multilateralism through the reform of global institutions.

Our G20 presidency has played the role of a catalyst in these shifts.

In December 2022, when we took over the presidency from Indonesia, I had written that a mindset shift must be catalyzed by the G20. This was especially needed in the context of mainstreaming the marginalized aspirations of

developing countries, the Global South and Africa.

The Voice of Global South Summit in January 2023, which witnessed participation from 125 countries, was one of the foremost initiatives under our presidency. It was an important exercise to gather inputs and ideas from the Global South. Further, our presidency has not only seen the largest-ever participation from African countries but has also pushed for the inclusion of the African Union as a permanent member of the G20.

An interconnected world means our challenges across domains are interlinked. This is the midway year of the 2030 Agenda and many are noting with great concern that the progress on SDGs is off-track. The G20 2023 Action Plan on Accelerating Progress on SDGs will spearhead the future direction of the G20 towards implementing the SDGs.

In India, living in harmony with nature has been a norm since ancient times and we have been contributing our share towards climate action even in modern times.

Many countries of the Global South are at various stages of development and climate action must be a complementary pursuit. Ambitions for climate action must be matched with actions on climate finance and transfer of technology.

We believe there is a need to move away from a purely restrictive attitude of what should not be done, to a more constructive attitude focusing on what can be done to fight climate change.

The Chennai High-Level Principles for a Sustainable and Resilient Blue Economy focus on keeping our oceans healthy.

A global ecosystem for clean and green hydrogen will emerge from our presidency, along with a Green Hydrogen Innovation Center.

In 2015, we launched the International Solar Alliance. Now, through the Global Biofuels Alliance, we will support the world to enable energy transitions in tune with the benefits of a circular economy.

Democratizing climate action is the best way to impart momentum to the movement. Just as individuals make daily decisions based on their long-term health, they can make lifestyle decisions based on the impact on the planet's long-term health. Just like yoga became a global mass movement for wellness, we have also nudged the world with Lifestyles for Sustainable Environment (LiFE).

Due to the impact of climate change, ensuring food and nutritional security will be crucial. Millets, or Shree Anna, can help with this while also boosting climate-smart agriculture. In the International Year of Millets, we have taken millets to global palates. The Deccan High Level Principles on Food Security and Nutrition is also helpful in this direction.

Technology is transformative but it also needs to be made inclusive. In the past, the benefits of technological advancements have not benefited all sections of society equally. India, over the last few years, has shown how technology can be leveraged to narrow inequalities, rather than widen them.

For instance, the billions across the world that remain unbanked, or lack digital identities, can be financially included through digital public infrastructure (DPI). The solutions we have built using our DPI have now been recognized globally. Now, through the G20, we will help developing countries adapt, build and scale DPI to unlock the power of inclusive growth.

That India is the fastest-growing large economy is no accident. Our simple, scalable and sustainable solutions have

empowered the vulnerable and the marginalized to lead our development story. From space to sports, economy to entrepreneurship, Indian women have taken the lead in various sectors. They have shifted the narrative from the development of women to women-led development. Our G20 presidency is working on bridging the gender digital divide, reducing labor force participation gaps and enabling a larger role for women in leadership and decision-making.

For India, the G20 presidency is not merely a high-level diplomatic endeavor. As the Mother of Democracy and a model of diversity, we opened the doors of this experience to the world.

Today, accomplishing things at scale is a quality that is associated with India. The G20 presidency is no exception. It has become a people-driven movement. Over 200 meetings will have been organized in 60 Indian cities across the length and breadth of our nation, hosting nearly 100,000 delegates from 125 countries by the end of our term. No presidency has ever encompassed such a vast and diverse geographical expanse.

It is one thing to hear about India's demography, democracy, diversity and development from someone else. It is totally different to experience them first-hand. I am sure our G20 delegates would vouch for this.

Our G20 presidency strives to bridge divides, dismantle barriers and sow seeds of collaboration that nourish a world where unity prevails over discord, where shared destiny eclipses isolation. As the G20 president, we had pledged to make the global table larger, ensuring that every voice is heard and every country contributes. I am positive that we have matched our pledge with actions and outcomes.

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# Carbon Capture and Delay



As long as coal plants are still operating, it is a good idea to require them capture their carbon dioxide emissions. But those designing policies to hasten such practices must tread carefully, lest they unwittingly extend the life of dirtier energy sources.

NEW YORK – In May, the US Environmental Protection Agency proposed new power-plant rules that would effectively require every existing coal- or gas-fired plant in the United States either to capture and store most its carbon dioxide emissions, or to switch to burning low-emissions “green hydrogen.” Yet it would be cheaper to replace America’s more than 200 coal-fired plants with new solar or wind facilities, and then to do the same with its gas plants soon thereafter.

This claim will surely be met with cries of: “It’s not that simple! You also have to account for the Earth’s rotation, cloud cover, and a lack of wind.” Indeed, one also must acknowledge ever-present NIMBYism, long-term energy contracts, and other complexities that stand in the way of immediately swapping coal for solar. But nobody is seriously suggesting shutting down every fossil-fueled power plant everywhere all at once. The transition will take time.

Time, of course, is relative. Even the new EPA rules would be phased in gradually, with the real bite coming only in the next decade. But we can’t wait for the EPA’s rules to bite and force the changes, nor should we. And the “we,” in this case, includes everyone from consumers to local energy regulators to utility executives and banks planning their investment decisions.

Carbon capture and storage (CCS) is a godsend, and green hydrogen has the potential to be one, too. But, looking to the

next decade and beyond, we also will be deploying many other advanced climate-tech solutions, from better batteries to smarter grids. Given the urgency of the climate crisis and all the new technologies coming down the pike, it makes little sense to wait for the EPA's new rules to force changes years from now.

Power-plant economics are changing fast. In 2019, the think tank Energy Innovation published its first "coal cost crossover" report, which found that 62% of US coal plants were more expensive to run than to replace with local solar or wind generation. By 2021, that figure had risen to 72%; and as of earlier this year, it was 99%. With the exception of one coal plant in Wyoming, it would be cheaper to produce electricity with solar or wind, plus battery storage, than to keep the existing coal fleet up and running.

While the 2023 figure accounts for the expanded solar and wind tax credits under the Inflation Reduction Act, it does not include additional incentives like those provided by the IRA's loan program, which utilities can tap to help finance renewables. More to the point, it came before the new EPA proposals, raising the question of what effects these rules might have.

For the most part, the EPA's rule changes are standard regulatory fare, reflecting the need to pass muster with a Supreme Court that is intent on curtailing federal regulators' powers. Instead of allowing for flexibility in achieving carbon-reduction goals, the EPA is taking a more direct approach, essentially mandating that existing coal plants capture and store their released carbon. But especially in connection with generous IRA subsidies for CCS technology, US policymakers may be unwittingly throwing a lifeline to coal plants that would otherwise be economically unviable.

When considered in isolation, the EPA rule is clearly good for the environment and for public health, since it would

significantly decrease particulate matter and ozone pollution. But assessments of CCS tend to get murky fast. Lest we forget, Donald Trump and his advisers were big fans of the technology, which they saw as a way “to help coal and still help the climate.”

Since combining CCS with coal will always be more expensive than burning coal outright, mandating CCS, in theory, should indeed make coal even less competitive than it already is. But CCS mandates do not operate in a vacuum.

In practice, operating licenses for coal plants are not issued by the same people writing federal rules. These decisions are made at the state and local level, primarily through state-level public utility commissions that have many competing priorities. Even if they are committed to decarbonizing, one important goal is to keep the lights on. That goal, in turn, has all too often been interpreted as keeping current generation capacities profitable. When faced with new CCS mandates and accompanying subsidies, they may simply see an opportunity to maintain coal-plant profitability for longer.

How can federal policymakers get around this problem? Broadly speaking, the focus should be on pushing cheaper solar and wind power into the system, as that will force coal- and gas-plant operators' hands. We also need better, nimbler planning and investment processes, to allow for grid-connection rights to be reassigned from coal plants to renewables that would be built in their stead. As matters stand, most US states do not give consumers a choice about how their electricity is generated. That needs to change.

As long as coal plants are still operating, it is a good idea to make them capture their CO<sub>2</sub> emissions. But that does not mean it is a good idea to be helping them continue to operate. The sooner that coal is replaced by renewables, the better it will be for the planet, consumers, and even utility companies.

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# Climate science beats climate fatalism



The Paris climate agreement's goal of limiting global warming to 1.5C is in the headlines again. According to the latest projections from the World Meteorological Organisation, "There is a 66% likelihood that the annual average near-surface global temperature between 2023 and 2027 will be more than 1.5C above pre-industrial levels for at least one year." A supercharged El Niño cycle means that record-breaking temperatures are almost certain.

But, as concerning as these warnings are, it would be even more worrying if one year above 1.5C was taken as a sign that the 1.5C target has been missed. Drawing that erroneous conclusion would lead us to abandon the Paris agreement's goal just when we should be doubling down on it.

The 1.5C goal will not be lost with just one or a few years of extreme temperatures. The Paris goal refers to human-caused temperature increases that are measured over the course of decades. We must keep this firmly in mind to stave off the dangerous climate fatalism that has been gaining momentum in recent years.

Yes, now that the planet has warmed roughly 1.2C above pre-industrial levels, "once-in-a-century" heatwaves, forest fires, and floods are becoming more familiar to us. In some low-lying regions, rising seas are already forcing people to relocate. But there is still a massive difference between 1.2C and 1.5C – let alone between 1.5C and 2C – and the science shows that it is still possible to end this century at or below 1.5C.

Recent climate research has affirmed the importance and

necessity of the 1.5C guardrail. As the Intergovernmental Panel on Climate Change warned last year, extreme weather events, ecosystem collapse, and planetary tipping points can happen at markedly lower levels of global warming than previously thought. Since the IPCC's last reporting cycle in 2014, we have amassed much more evidence to show that even a 1.5C warmer world would be immensely challenging, and that temperature increases above that level would be truly devastating.

With every additional tenth of a degree of warming, more people will be exposed to life-threatening heatwaves, water shortages, and flooding. Worse, various studies show that the likelihood of reaching tipping points, like the potential collapse of the West Antarctic ice sheet, increases exponentially above 1.5C. These represent red lines. The world would not fall off a cliff, but there would be a fundamental shift in which planetary systems start moving irreversibly down the path toward more ice melt, marine-ecosystem change, and rising sea levels.

The only sensible approach is to mitigate that risk by reducing greenhouse gas (GHG) emissions as fast as possible. Though we still might overshoot the 1.5C limit in the short term, we can return to it in the long run. But that will be possible only if we have cut fossil-fuel emissions to zero. This is the crucial first step toward achieving net-zero GHG emissions.

It is no less important to preserve and restore the natural land and ocean systems that absorb and store carbon. And if we distort the Earth's carbon cycle (through the thawing of permafrost, for example), we will undermine our ability to reverse global temperature increases.

Limiting warming to 1.5C this century requires that we halve our emissions by 2030. This is not an arbitrary figure. Only if we halve our emissions this decade will we halve the pace of warming in the 2030s and bring it to a halt in the 2040s. Think of it as the difference between tackling climate change ourselves, or passing a civilisational time-bomb to our

children.

Slowing the warming process also buys us precious time for adaptation. Even a rich country like the United States will be limited in how fast and fully it can adapt to the consequences of climate change. For those in more vulnerable places, the situation is incomparably worse. Disasters like the flooding in Pakistan last year can derail a country's economy and leave it in a downward spiral of rising debt and poverty – all of which will be compounded by future climate disasters for which it could not afford to prepare.

Moreover, many of the net-zero commitments made by governments, companies, and cities around the world are premised on the 1.5C limit. Phaseout plans for coal (such as those in Germany, Vietnam, and the United Kingdom) are based on 1.5C-aligned modelling, which shows that OECD countries need to stop using coal by 2030, and that non-OECD countries need to do so by 2040. Gas must follow shortly thereafter.

With the clock ticking down, these 1.5C-based models are telling us how to prioritise. We must decarbonise electricity first, then electrify as much transportation, buildings, and industry as we can, while also reducing demand. Beyond this low-hanging fruit, we also will need to scale up technologies for carbon removal.

Investments have been moving in this direction. Since the Paris agreement was concluded in 2015, the costs of solar, wind, and batteries have plummeted. Electric vehicles and heat pumps are going mainstream. These are market-driven responses to government incentives. Public policy has been crucial for instilling confidence and supporting clean-energy growth.

To give up and start looking beyond 1.5C would let big emitters off the hook. Rather than instilling confidence, it would signal to everyone that they should expect less – and betray all those who live in places that lack the resources and possibilities to adapt to a warmer world.

If we don't keep pushing for the most ambitious science-based targets, those with vested interests in the status quo will exploit our fatalism. Following a massively profitable year,

owing to Russia's war in Ukraine, BP recently signalled that it will divert much of its intended investments in decarbonisation toward oil and gas.

The best science we have tells us that 1.5C is still feasible, and it tells us how to get there. As the British climate-change diplomat Pete Betts puts it, "If we do go above 1.5C, the message is not to give up. It's to double down." – Project Syndicate

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ABU DHABI – Faced with mounting pressure over planet-heating pollution, Gulf Arab energy giants are turning to humble tech start-ups as they search for ways to remove emissions while keeping oil flowing.

Oil producers have for years touted capturing carbon before it goes into the atmosphere as a potential global warming solution, against criticism from climate experts who say it risks distracting from the urgent goal of slashing fossil fuel pollution.

With little investment and few projects in operation around the world so far, the technology is currently nowhere near the scale needed to make a difference to global emissions.

Now, major players from Saudi Aramco to the United Arab Emirates' state oil and gas firm Abu Dhabi National Oil

Company (Adnoc) say that is about to change, as the UAE hosts climate negotiations this year with a message of cutting emissions rather than fossil fuels.

“For the industry and for countries as well to achieve net zero by 2050, I don’t see us achieving this without embracing carbon capture,” Mr Musabbeh Al Kaabi, Adnoc’s executive director of low-carbon solutions, told Agence France-Presse.

“I would love to see more wind and solar energy, but to be practical and transparent, it’s not going to solve the problem.”

Carbon capture was a hot topic at a recent climate tech conference in Abu Dhabi, UAE’s capital.

Start-ups displayed their advances in carbon capture and storage (CCS), which removes carbon dioxide (CO<sub>2</sub>) as it is pumped from power plants and heavy industry.

There were also companies presenting their plans for direct air capture, a newer technology that extracts CO<sub>2</sub> directly from the atmosphere.

The United Nation’s Intergovernmental Panel on Climate Change (IPCC) says the existing fossil fuel infrastructure – without the use of carbon capture – will push the world beyond the Paris deal’s safer global warming limit of 1.5 deg C above pre-industrial levels.

## **Industrial smokestacks**

The debate between whether to primarily target fossil fuels or emissions is shaping as a key battleground at the COP28 climate talks, which will be held in UAE financial hub Dubai.

Citing the IPCC, the COP28 president-designate, Sultan Ahmed Al Jaber – Adnoc’s chief executive and his country’s climate envoy – last week said it was time to “get serious

about carbon capture”.

But environmentalists are sceptical about the central role that big energy companies are seeking in climate solutions, saying they have a vested interest in maintaining fossil fuel sales.

Greenpeace Mena (Middle East and North Africa) programme director Julien Jreissati labelled it a “distraction”.

Adnoc’s Mr Kaabi, however, argued that the oil giant’s engineering capabilities and deep pockets make them best placed to propel climate tech.

“The world has two options: We could leave it to the small players or have the big players accelerating this decarbonisation,” Mr Kaabi said.

In 2016, Adnoc launched the region’s first commercial-scale CCS project, Al Reyadah, which has the capacity to capture 800,000 tonnes of CO<sub>2</sub> per year.

Globally, there are only around 35 commercial facilities using carbon capture utilisation and storage globally, according to the International Energy Agency, which says even those planned until 2030 would capture only a fraction of the emissions needed.

## **‘We need to move quicker’**

The entrepreneurs at the UAE conference included Omani company 44.01, a winner of Britain’s Earthshot Prize for its technology that permanently removes CO<sub>2</sub> from the air by mineralising it in peridotite rock.

“Climate change is an urgent challenge and for us to be able to tackle that challenge we need to move quicker,” said 44.01 CEO Talal Hasan.

“The oil and gas partnerships help us move quickly,” he told AFP.

Mr Hasan's 44.01 has partnered Adnoc to develop a carbon capture and mineralisation site in Fujairah, one of the UAE's seven emirates – the first such project by an energy company in the Middle East.

“In one tonne of peridotite, you could probably mineralise 500 to 600 kilograms of CO<sub>2</sub>... this means that with the rocks just in this region, you could potentially mineralise trillions of tons,” he said.

For Mr Hasan, energy companies are good partners because “we use a lot of the same equipment, infrastructure, people and resources”.

“That will help us accelerate scaling,” he said, arguing that the speed of execution is “very important”.

State-owned Saudi Aramco, one of the world's richest companies, has invested in Carbon Clean, a British-based company that has developed compact technology that captures carbon from industrial smokestacks.

The company, which has 49 sites around the world, will deploy its latest technology in the UAE this year – its first project in the Middle East.

When asked about the logic of working with big oil, Carbon Clean CEO Aniruddha Sharma said: “If I were a fireman and there was a fire – a big fire and a small fire – where would I go first? Obviously, the big fire.” AFP

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# Climate crisis won't solve on its own: need to walk the talk



We need all governments to step up and agree to phase out unabated fossil-fuel use. We need reforms to make our financial institutions and systems fit for purpose. And we need to take climate action seriously

Last year in Berlin, the great Kenyan long-distance runner Eliud Kipchoge broke the world marathon record, clocking 02:01:09 and beating his previous time by 30 seconds. His success has made him a legend not only in Kenya but globally. It offers a useful lesson for everyone involved in the fight against climate change. Kipchoge's winning strategy is rooted in the science of running (as well as 120 miles of hard work every week), and our own approach to the climate crisis must involve the same level of commitment and focus.

As temperatures keep rising and emissions soar, the planet, too, continues to break (dangerous) new records. But with determination and follow-through, we – together with institutional partners and other governments – can start to run faster to get ahead of the climate crisis. Success will depend on following the latest science and mobilising a joint, broad-based effort of governments and citizens.

In March, the world's top climate experts and governments signed off on the latest Intergovernmental Panel on Climate Change synthesis report. Once again, the IPCC's message was stark: Humans have permanently changed the planet, and global warming is already killing people, destroying nature, and making the world poorer. Though African countries have contributed the least to the problem, they are bearing the brunt of the damage.

According to the International Energy Agency (IEA), Africa

accounts for less than 3% of the world's energy-related carbon dioxide emissions, and 600mn Africans – an outrageous figure – still do not have access to electricity.

Climate change is a shared problem that the global community must solve by working together, especially given the disproportionate burden being placed on those who are least responsible. During his recent visit to Kenya, German Chancellor Olaf Scholz and I held talks on ways to address the climate crisis. Through the Germany-Kenya Climate and Development Partnership, our two countries have committed to deepen our collaboration on climate-resilient development and renewable energy, including by supporting green-hydrogen production and sustainable agriculture.

We are currently a long way from limiting global warming to 1.5C or even 2C, as envisaged by the Paris climate agreement. The climate crisis will not solve itself. On the contrary, we must ensure that global greenhouse-gas (GHG) emissions peak before 2025 at the latest, and then fall by at least 43% by 2030.

This is the year to drive that transformation. The United Nations Climate Change Conference this November-December (COP28) offers an opportunity to accelerate the energy transition, supercharge the growth of renewables, and commit to phase out all fossil fuels – starting with coal.

Kenya is on track to meet these goals. We already generate 92% of our power from clean sources and we have committed to achieving a 100% clean electricity network by 2030. Similarly, renewables generated 46% of Germany's electricity in 2022 and the government has committed to increase that to 80% by 2030. Critically, these commitments will not only ensure clean power and a safer environment; they will also create jobs, attract investment, and make our economies more secure and resilient in the face of volatile oil and gas prices.

But it is important that we run this race as a team. According to the IEA, the global ratio of clean-energy investments to dirty-energy investments must increase sixfold by 2030 (from 1.5:1 to 9:1).

With a strong partnership between Africa, Europe, and the rest of the international community, Kenya, with its abundant resources, can make significant contributions to decarbonisation and the global transition to a net-zero economy. We must unlock climate finance and investment, so that we can harness our potential for green economic growth. But to do that, we will need to fix the current international financial system, which has proven inadequate for dealing fairly with multifaceted global crises, from the Covid-19 pandemic and the climate emergency to debt distress across the Global South.

Next month's Summit for a New Global Financial Pact, in Paris, provides an opportunity for Europe to galvanise support for reforming the international financial system. The international community must recognise our potential to help solve global problems and take steps to ensure win-win outcomes. That means providing access to affordable, adequate, and sustainable financing that is delivered in a timely manner.

As we reduce emissions, we also need to prepare our people and our housing, agriculture, and food systems for rising temperatures and extreme weather events. Meeting the 2021 COP26 commitment to double global climate-adaptation financing by 2025 remains crucial for protecting people and nature. The latest IPCC report is clear: climate change and insufficient adaptation and mitigation efforts are reversing development gains and undermining economic stability.

But we also must remember that adaptation has limits, and that climate change is already threatening millions of peoples' lives today. As the IPCC shows, reducing GHG emissions by 43% this decade and stabilising global warming at or below 1.5C is still our best chance to keep the problem at a manageable scale. Kenya's climate summit in September will provide a key opportunity to showcase the continent's commitment, potential, and opportunities to deal with the climate crisis. We need all governments to step up and agree to phase out unabated fossil-fuel use. We need reforms to make our financial institutions

and systems fit for purpose. And we need to take climate action seriously. In the words of Eliud Kipchoge, the key to success is to “walk your talk.” – Project Syndicate

▪ *William Ruto is President of Kenya.*

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# The Climate Elephants in the Room



May 19, 2023 PINELOPI KOUJIANOU GOLDBERG

As tempting as it is to rely on multilateralism to solve a shared global problem like climate change, the world simply does not have the time for such an approach. A far more pragmatic and effective strategy is to focus on the biggest polluters that contribute disproportionately to total greenhouse-gas emissions.

NEW HAVEN – Now that the falsehoods and obfuscation of climate denialism have finally been silenced, addressing climate change has become the world’s top priority. But time is running out, and the International Monetary Fund warns that any further delays on implementing policies to mitigate global warming will only add to the economic cost of the transition to a low-emissions economy. Worse, we still lack a concrete, pragmatic strategy for tackling the problem. Although economists have made a robust case for why carbon taxes are the best solution, this option has proven politically infeasible, at least in those countries that account for some of the highest emissions (namely, the United States).

Commentators have also stressed that climate change is a shared problem involving important cross-border externalities

that must be addressed through a multilateral approach to global coordination. But, as with carbon taxes, this argument has fallen on deaf ears. And, given the current geopolitical climate and the increasing fragmentation of the global economy, there is little hope that the message will get through anytime soon.

Having committed to assisting developing economies as they confront climate change, the World Bank finds itself limited by the country-based model underlying its financing operations. It is earnestly weighing its options and considering how it could coordinate climate-related financing across borders. But while such efforts are well meaning and consistent with the spirit of multilateralism, they inevitably will delay concrete action. World Bank financing would have to be completely restructured, and coordinating action across multiple countries that have limited financial resources and often conflicting interests seems an impossible task. For example, while some developing economies are rich in fossil fuels, others are starved for energy sources.

Given these limitations, pragmatism dictates focusing on the biggest polluters. Global carbon dioxide emissions are concentrated among only a handful of countries and regions. China, the US, the European Union, Japan, and Russia collectively account for 63% of the total, and none of these top polluters is a low-income country anymore. China, the poorest of the group, represents around 30% of all emissions, making it by far the world's largest current polluter in absolute terms. But its government is taking steps to accelerate the transition to green energy – a winning strategy, given the country's abundance of rare earth metals.

India, the third-largest emitter, currently accounts for approximately 7% of global CO<sub>2</sub> emissions, and its size and growth trajectory imply that it could easily surpass China as the leading polluter, barring stronger climate policies. In

fact, when it comes to helping developing countries decarbonize, considerable progress could be made simply by targeting India alone. The big advantage of this strategy is that it would avoid the paralysis associated with attempts to adopt a multilateral approach in an increasingly fragmented world.

This does not mean that we should eschew projects aimed at climate mitigation or adaptation in other countries. But we would not need to wait until everyone is on board before doing anything. Those insisting on a multilateral approach should learn from the experience of the ultimate multilateral institution: the World Trade Organization. Its requirement that every single provision in every multilateral agreement gain unanimous support has left it increasingly paralyzed, prompting demands for institutional reform.

Of course, India is not low-hanging fruit. It is rich in coal and has little incentive (beyond the health of its citizens) to hasten the transition to green energy. In focusing on India, we would need to employ the carrot, not the stick.

Since the stick generally takes the form of pressure to implement carbon taxation, it is a non-starter. A tax would be ineffective, because it would incite massive domestic opposition (as has been the case in the US). It would also be morally objectionable, because it is unfair to ask a lower-middle-income country to bear the burden of reducing CO<sub>2</sub> emissions when rich countries (like the US) have failed to do the same. Moreover, even if China and India are now two of the world's biggest polluters, they bear little responsibility for the past, cumulative emissions that led to the current climate crisis.

That leaves the carrot, which would come in the form of tax incentives or subsidies to support green energy. When paired with other policies, these can ease firms into adapting to higher environmental standards (such as those associated with

a cap-and-trade program). But such policies are expensive, which means that tackling climate change will require richer countries to help finance them. Whether or not India becomes the new China, it is still in our power to ensure that it does not become the new outside polluter.

<https://www.project-syndicate.org/commentary/climate-change-prioritize-top-emitters-over-multilateralism-by-pinelopi-koujianou-goldberg-2023-05>

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## **Sustainable food – not more of it – needed as global hunger soars**



LONDON – As global hunger swiftly rises – by more than a third last year – curbing it will require not growing more food but rethinking broader systems of trade and aid, farming's heavy reliance on fossil fuels, food waste and meat eating, experts said.

Farmers today grow sufficient crops to feed twice the current population – but nearly a third of food produced globally is spoiled or thrown away, said Philip Lymbery, the chief executive of Compassion in World Farming International.

At the same time, grain that could feed billions of people is instead fed to factory-raised food animals – suggesting a reduction in meat consumption is one clear way to cut hunger, he said at a conference on global food systems in London last week.

In Europe alone, 60% of grain is now grown for animal food, said Tim Benton, a food systems expert at the London-based think tank Chatham House, which raises questions about whether scarce land could be better used.

As global leaders look for ways to keep food available and affordable, and prevent rising hunger, “it’s not about food scarcity because there’s no food scarcity,” Lymbery noted.

## **Surging hunger**

Globally, hunger is surging, with 258 million people in nearly 60 countries facing acute food insecurity last year, a 33% jump from 2021, according to the Global Report on Food Crises 2023, released in March.

Problems are growing not just in traditional aid recipient countries such as Yemen, Somalia and Afghanistan but also in nations from Nigeria to the Democratic Republic of Congo, it showed.

The report, backed by agencies from the U.N. World Food Program to the World Bank, found that climate change impacts – from floods in Pakistan to drought in the Horn of Africa – were key contributors to the surge.

But conflicts – including Russia’s invasion of Ukraine, which slashed wheat exports from Ukraine and drove up the prices of energy and fossil fuel-based fertilizers – also played a major role, particularly in contributing to rising food prices.

“We depend more and more on a small number of countries for production of the major crops we depend on,” said Olivier De Schutter, co-chair of IPES-Food, an international expert panel on sustainable food systems.

That means when climate change slashes production in one or more key producers, or a conflict breaks out in one, “global supply chains are disrupted ... (and) the whole global food

system is impacted.”

In the wake of the Ukraine invasion, food costs also rose as speculators, hedge funds and a handful of big agribusiness companies that control most global food trade made profits, said De Schutter, who is also a U.N. special rapporteur on extreme poverty and human rights.

He suggested that finding ways to wean global agricultural production off its heavy reliance on fossil fuel-based fertilizers could be a key way to protect access to food from volatile oil and gas prices.

Helping poorer countries escape their often heavy debt burdens could also help them shore up their food security, allowing them to focus more on growing food for their own people rather than raising export crops to bring in the cash needed to service debt, De Schutter said.

## **Competing answers**

Benton, of Chatham House, said two very different views of how to achieve future security are now competing.

In the first, the assumption that the world will need 50% more food by 2050 – in part to meet growing demand for meat and dairy as poor countries grow richer – demands much more intensive production from limited agricultural land.

That view assumes agriculture in the future will become much more technological and centralized, with heavy use of drones, satellites and the “internet of things” driving smarter production – and likely resulting in fewer farm jobs.

The second view, however, envisions farmers shifting to more ecologically friendly, smaller-scale and less fossil fuel-intensive agriculture, with food demand not growing significantly because food waste is cut and meat-intensive diets decline.

“Everybody agrees food system transformation is needed” – just not what kind, said Molly Anderson, a food studies professor at Middlebury College in the United States.

Seth Watkins, a farmer in the U.S. state of Iowa, said at last week’s food conference that he had seen first-hand how intensive farming systems were damaging soil health, raising questions about the long-term viability of farming, especially as climate change impacts worsen.

“Often (a focus on) technology holds us back from the sustainable solutions we need to fix our food system,” he said, calling for a switch to more environmentally friendly and low-carbon ways of producing food.

Decisions made now are crucial because “it’s our own regeneration or extinction we’re talking about,” Watkins said.

Susan Chomba, director of the Vital Landscapes in Africa program for the World Resources Institute, said efforts to cut food waste were particularly crucial as key farm resources from available land to water grow scarcer.

“No matter how much we try to produce, if we can’t address what is lost and wasted it’s a counterproductive process,” she said in an interview.

A range of powerful vested interests stand in the way of shifting food systems to effectively manage growing hunger, climate threats and ecological decline, the analysts said.

Worsening disinformation and a rise in authoritarian governments around the world also are acting as a brake on change, they said.

But with hunger growing fast and new challenges appearing – from an expected drought-spawning El Nino weather pattern emerging this June to new conflict in Sudan, adding to humanitarian burdens – public discontent and pressures on

politicians for change are also likely to increase.

“Because we’re not tackling the environmental crisis, the disruptions we see are going to get bigger and bigger,” warned Benton of Chatham House.

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# Climate change continues to cause uncertainties for commodity prices



It can alter rainfall patterns, increase temperatures, and cause extreme weather. Climate played a major role in commodity prices last year and looks like doing so again in 2023.

Scorching heatwaves in the northern hemisphere hit production of wheat in the US and Europe in 2022, and climate change means that catastrophic weather events are becoming more frequent.

These include La Niña, which is stretching into an unprecedented third consecutive year and will be detrimental to maize and soybean production in the first half of 2023, in addition to other crops like sugar and coffee, according to Economist Intelligence Unit (EIU).

Wheat, which was heavily affected by war-related supply disruptions in 2022, faces significant climate risks. In the US large swathes of the southern plains remain under drought conditions, and crops are in unusually poor condition heading into winter dormancy. Extremely dry, occasionally frosty weather in Argentina is causing damage across major producing provinces there, but Russia and Australia are on course for a second consecutive year of bumper crops, which, for the

moment, is alleviating concerns about production in the western hemisphere.

Weather will loom large in energy markets as well, EIU noted. Europe's heatwave drove up demand last summer, causing gas and electricity prices to spike, especially as winds dropped to levels insufficient to generate enough power to meet Europe's electricity needs while drought affected hydropower generation in many countries.

These dry conditions, together with rising water temperatures, also hit nuclear power generation.

In addition, the severity of Europe's current energy crunch depends largely on how cold temperatures fall over the winter, not just in 2022/23 but in 2023/24 as well.

"The colder the winter, the more countries will have to draw down stockpiles built up over 2022. Below-normal temperatures will not only raise the spectre of energy rationing, but also put upward pressure on prices over the summer as Europe scrambles to refill reserves—this time without Russian supplies," EIU said.

Obviously, climate change can have significant impacts on commodity prices by affecting their production, transportation, and demand for various goods.

Climate change can impact commodity prices by affecting crop yields, energy prices, water availability, and transportation costs.

It can alter rainfall patterns, increase temperatures, and cause extreme weather events like droughts and floods, which can reduce crop yields.

This can lead to lower supply and higher prices for commodities like wheat, corn, soybeans, and other agricultural products.

Climate change can also impact energy prices by affecting the production and transportation of oil, natural gas, and other energy resources.

For example, extreme weather events can disrupt oil and gas production and transportation infrastructure, leading to supply disruptions and higher prices.

Changes in rainfall patterns and increased water scarcity due to climate change can impact the availability of water for agricultural production and energy generation. This can result in higher prices for water-intensive commodities like meat, dairy, and processed foods.

Climate change can also affect transportation costs, particularly for goods that rely on sea or river transportation.

Rising sea levels and changes in ocean currents can disrupt shipping routes and increase shipping costs, which can lead to higher prices for imported goods. Weather events like droughts and floods, which can reduce crop yields

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## **In defence of nature-based carbon markets**



Voluntary markets for carbon offsets have recently come under fire, with critics questioning the efficacy of contracts that aim to reduce atmospheric carbon dioxide relative to what would have happened in the contract's absence. The biggest concerns are about “nature-based” projects involving various land-use changes – such as protecting forests, planting new ones (afforestation), and so forth.

But these instruments' imperfections are no secret. For well over two decades, ecologists and foresters have been working to develop more sophisticated methods to satisfy economists' faith in market instruments, and they have made good progress. Though offset schemes are still riddled with complexity, there is no question that they pay for something that matters.

Imagine seeing what the atmosphere sees. The Intergovernmental Panel on Climate Change's Sixth Assessment Report provides an

outline of the planet's carbon cycle, which makes evident the fundamental role of plants' conversion of CO<sub>2</sub> into cellulose and back on a massive scale. Terrestrial photosynthesis alone draws down 113bn tonnes of carbon every year. By comparison, humanity added about 11bn tonnes of carbon to the atmosphere last year.

The problem, of course, is that humans' cumulative contributions go in only one direction, whereas the carbon captured by vegetation is normally balanced by an equal, opposite flow from plant respiration and degradation. By interfering with the climate system, we have thrown this balance off, adding a net flow of about 5.9bn tonnes to the landscape and the ocean every year. In other words, the planet is drawing down only half of what we inject into the atmosphere.

Even a relatively small perturbation in this vast natural cycle can reach an enormous scale. That is why nature is such an attractive climate-mitigation option. Suppose we succeed in eliminating fossil-fuel combustion. Keeping global average temperatures within 1.5C or 2C of pre-industrial levels will still require substantial carbon removal. Estimates vary, but they are on the order of 200-300bn tonnes removed by plants before 2100.

Nor will the story end there. The atmosphere contains about 870bn tonnes of carbon in the form of CO<sub>2</sub> (one-third of which has been added since industrialisation), and the carbon cycle connects that atmospheric stock to vast reservoirs. The largest is the ocean, which holds 900bn tonnes at the surface and another 37tn tonnes deeper below. Terrestrial vegetation and soils also hold about 2.15tn tonnes, and permafrost contains another 1.2tn. As far as the atmosphere is concerned, losses from any of these reservoirs could easily exceed the carbon we burn (from the 930bn tonnes that are sequestered in fossil fuels).

Far from being a secondary concern, managing the stocks and flows of carbon through the planet's ecosystems is essential to keeping the entire Earth system in balance. But to carry

out that task, we will need to think differently about the landscape. Landscapes and seascapes are not just the backdrop to our life. They are public infrastructure, and like all infrastructure, they must be paid for and maintained.

Since the 19th century, however, we have known that paying for infrastructure by rewarding its marginal benefit (as offsets do for nature-based interventions) almost never covers the total cost. Because public-utility infrastructure like a highway or an airport tends not to command a high enough marginal value, taxation must cover the rest. Whom to tax then becomes the most important question.

To illustrate the point, consider Brazil, whose ecosystems contain some 60bn tonnes of carbon in above-ground biomass. One way to estimate how much this stock is worth is to assume that we value carbon at a given price, say, \$50 per tonne (halfway between the price in the regulated European market and nature-based offsets in voluntary markets). In this scenario, Brazil is home to ecosystems worth \$10tn, which is over six times the country's GDP and far greater than the value of its 13bn barrels of oil reserves.

Now, how much should the world pay Brazil to keep that forest in trust for everyone? Assuming a 2% fee on the value of the assets (a reasonable rate for most asset managers), the country ought to receive \$200bn per year. On those terms, Brazil would almost certainly put a stop to deforestation in the Amazon.

But here we run into a sad truth. There is simply no evidence that the international community has any appetite to pay such sums. In 2022, total overseas direct assistance amounted to just \$186bn. For years, rich countries have failed to honour a 2009 pledge of mobilising \$100bn per year to help developing countries adapt to climate change.

By thinking of natural assets not as infrastructure but as service producers, we end up relying on the voluntary payments companies make at the margin in exchange for "offsetting" some other reduction that they cannot or will not carry out. But, for all this mechanism's shortcomings, at least it directs

some money – albeit a drop in the ocean – toward carbon-landscape management.

Of course, additional scrutiny of offsets is welcome for driving improvements. But it would be a fatal mistake to conclude that protecting forests or augmenting Earth's carbon sink is any less urgent than reducing fossil-fuel emissions. Nature-based offsets traded in voluntary carbon markets should be seen as merely a first step. In the end, we will need to do “all of the above”: end fossil-fuel combustion, maintain ecosystems, and augment nature's capacity to draw down carbon, regardless of whether we can prove that such reductions would not have happened anyway.

The atmosphere does not care about our motivations, counterfactuals, or moral hazards. All it sees is carbon flowing in and out. Ecosystems store carbon and draw it from the atmosphere at scales that matter. All of us – taxpayers, consumers, and companies – must pay for this critical public good. – Project Syndicate

- *Giulio Boccaletti, an honorary research associate at the University of Oxford's Smith School of Enterprise and the Environment, is the author, most recently, of Water: A Biography (Vintage, 2022).*

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## Biden's Landmark Climate Bill Lures China's Clean Energy Giants



China's leading renewables firms are joining the rush to open factories in the US after Washington passed a landmark climate

bill that supports local clean energy manufacturing.

Some of the nation's top solar panel makers are involved in setting up American plants, while the Chinese company that makes the world's largest wind turbine, Ming Yang Smart Energy Group Ltd., is exploring whether to establish production and research facilities there.

The building boom underscores how the US has rebuilt its credentials as a cleantech manufacturing hub after last year's Inflation Reduction Act. The bill, a signature achievement for the Biden administration, includes \$374 billion in new climate-related spending. That's drawn the attention of China's world-leading renewables industry despite deepening tensions between the two governments.

"The US is working on low-carbon, green development, has plans, and has introduced many good policies and mechanisms – it is very attractive," Ming Yang Chairman Zhang Chuanwei said in an interview last week at the Boao Forum for Asia on the island of Hainan, an event dubbed as China's version of Davos.

The company hasn't announced any US plans yet, but three of its clean energy peers are in the process of building their presence there: JA Solar Technology Co. in Arizona, Longi Green Energy Technology Co. in Ohio, and Jinko Solar Co. in Florida.

Chinese solar firms dominate global panel production, but have been stymied from shipping to the US because of a series of trade disputes and allegations of human rights abuses, which China has denied. Some of the firms have moved to expand exports from plants in southeast Asia to navigate curbs on US trade.

Biden's climate policy is designed to boost domestic cleantech industries and reduce America's reliance on imports. The bill extends to encouraging foreign firms to set up shop in the US, sparking a wave of new factory announcements since it was

passed in August. But Chinese companies have been reticent about publicizing their investments.

That's due to Washington's increasingly adversarial approach to Chinese firms, according to Li Junfeng, managing director of the China Energy Research Society, a government-affiliated think tank. He cited the scrutiny faced by battery maker Contemporary Amperex Technology Co. over its recent tie-up with Ford Motor Co., as well as the furor linked to national security concerns that has erupted over social-media platform TikTok.

That's left Chinese companies fearing they won't get the same treatment as their South Korean or European counterparts, Li said.

"It isn't enough for the US to just introduce the IRA bill. It needs to give a clear expectation that companies will be treated equally," he said. "If one day it says that solar panels are also national security issues, we won't be able to talk reasonably anymore."

Cleantech is assuming a strategic importance as it becomes the world's biggest source of new energy. China's advantage means that governments elsewhere are trying to chip away at its dominance by carving out their own supply chains. But Beijing is fighting its corner, albeit in ways that could undercut the industry's pleas for fair treatment from US authorities.

The Chinese government has launched its own probe of the CATL-Ford deal, to ensure the battery giant's core technology isn't handed over to the US carmaker. It's also considering an export ban that would help maintain its substantial lead in solar manufacturing.

Li said the proposed solar ban is only a draft, and has met objections from some companies. China has spent over 20 years building the world's best solar industry, but it needs to balance local manufacturing capabilities with maintaining a

robust global supply chain, he said.

China is scared of being cut off from key technologies, but other countries have the same fear, Li said. One answer is to “encourage Chinese companies to build factories abroad.”

## **Trade Barriers**

Trade barriers in countries such as the US and India are raising the cost of clean energy, Gao Jifan, chairman of another Chinese firm, Trina Solar Co., told a panel at the Boao Forum. “We should build a mechanism that makes everybody feel safe, instead of building barriers,” he said.

Clean energy equipment should be manufactured where the cost is lowest, and it should be traded around the globe without any obstacles, Gao said. Trina is also willing to build manufacturing capacity in the US, as well as Europe given the supportive policies there, he said.

Ming Yang’s Zhang said the company could buy parts and equipment from local firms if it does decide to set up in America. And the nation’s infamously hurricane-prone coastal areas will also benefit from deploying its turbines because they’re designed to resist extreme winds.

“The US, like China, is a massive renewable energy market,” he said. “We are willing to enter the US, and we hope that the US will create a fair, inclusive, and predictable environment.”