CSR TODAY

RNI NO. MAHENG/2013/48866 ■ VOLUME 13 ■ ISSUE 10 ■ MAY 2026 ■ PRICE ₹100 ■ TOTAL PAGES: 52

WHOSE WATER IS AI DRINKING IN INDIA?

CSR OPINION
China Stands to Gain if Iran Controls the Strait of Hormuz

CSR FUTURE
Asia leads global shift toward sustainable investing, survey finds

CSR INITIATIVE
How growing up with climate change is shaping the next generation of innovators

CSR TODAY

RATE CARD

ADVERTISEMENT SIZE	DIMENSIONS		1X RATE
	Non-Bleed	Bleed	
Inside Front Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹1,00,000
Inside Back Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹1,50,000
Outside Back Cover	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹2,00,000
Full Page (Colour)	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹75,000
Half Page - Vertical (Colour)	85 mm (w) x 250 mm(h)	-	₹30,000
Half Page - Horizontol (Colour)	180 mm (w) x 120 mm(h)	-	₹30,000
Quarter Page (Colour)	85 mm(w) x 120 mm(h)	-	₹25,000
Full Page (B/W)	185 mm (w) x 250 mm (h)	225 mm (w) x 290 mm (h)	₹40,000
Half Page - Vertical (B/W)	85 mm (w) x 250 mm(h)	-	
Half Page - Horizontal (B/W)	180 mm (w) x 120 mm(h)	-	₹25,000
Quarter Page (B/w)	85 mm(w) x 120 mm(h)	-	₹20,000

Bleed Advertisement charges: *20% extra for all sizes.*

INDIAN CENTRE FOR CSR

For More Information:

INDIAN CENTRE FOR CSR
106, Nirman Kendra, Dr. E Moses Road,
Mahalaxmi Estate, Mumbai-400 011
Ph: 9930139352

Indians face heat threat hidden in the monsoon

Rajesh Tiwari
Publisher
rt@iccsr.org

Moist heat waves, measured by wet-bulb temperature, which captures both heat and humidity, are deadlier than dry heat because when the air is already saturated with moisture, the body's primary cooling mechanism, the evaporation of sweat, slows or fails entirely.

Every summer, India braces for the dry heat. Thermometers climb, advisories go out, and people learn to fear the sun. But the deadliest heat risk India faces does not arrive in the summer; it is cloaked in monsoon clouds and disguised as relief. It is humid, invisible, and it can kill faster than any dry heatwave, because the body has no defense against it: sweat cannot evaporate, the skin cannot cool, and within hours, the consequences can be fatal.

Until now, no one fully understood what drives it during the monsoon, when it will strike, or where it will land next.

Scientists have for the first time identified what drives India's most dangerous form of heat during the monsoon season and shown that the risk can be forecast up to four weeks in advance, according to a study published in the journal Climate Dynamics earlierer this year.

The research, by scientists at the University of Reading working with institutions in the UK and India, found that a single large-scale monsoon pattern can raise the likelihood of a moist heatwave in northern India by 125 per cent above normal.

Moist heat waves, measured by wet-bulb temperature, which captures both heat and humidity, are deadlier than dry heat because when the air is already saturated with moisture, the body's primary cooling mechanism, the evaporation of sweat, slows or fails entirely. Core temperature rises, the cardiovascular system is strained, and heatstroke can follow within hours. The temperature on a thermometer may look unremarkable; the physiological effect is not.

The study maps out a clear geography of risk. During active monsoon phases, the densely populated Indo-Gangetic Plains of northern India, home to hundreds of millions of people, face sharply elevated danger, as sudden surges of monsoon moisture push humidity to physiologically harmful levels even as rainfall continues nearby. When the monsoon weakens or breaks, the risk moves south and east, into peninsular India and along the eastern coast, where absent cloud cover allows heat to build over an already moisture-laden atmosphere.

The populations most at risk are those with least ability to take shelter: farm workers in Uttar Pradesh and Bihar, construction labourers in Delhi and Mumbai, the elderly without air conditioning, and the urban poor in areas where concrete retains heat through the night. A four-week warning window, researchers say, could allow hospitals to adjust staffing, city authorities to open cooling centres, schools to alter hours, and power utilities to prepare for increased grid demand.

The study was led by Dr Akshay Deoras at the University of Reading's National Centre for Atmospheric Science and Department of Meteorology, alongside colleagues from the University of Leeds, the UK Met Office, and the Indian Institute of Tropical Meteorology. Researchers analysed 84 years of atmospheric data (from 1940 to 2023) drawing on ERA5, the European Centre for Medium-Range Weather Forecasts' global reanalysis dataset, and rainfall records from the India Meteorological Department. Across that period, the team identified 261 active monsoon events and 188 break episodes, tracking how moist heat wave risk shifted before, during, and after each. The study used wet-bulb temperature as its core metric, a measure that reflects both heat and humidity and directly captures the body's ability to cool itself, rather than air temperature alone.

"We often find people being more aware of dry heatwaves in India, given the scorching summer season, but moist heat remains less known and is therefore more dangerous," said Dr Deoras. "Because we can forecast these monsoon patterns weeks ahead, this creates real opportunities to prepare and protect people."

Contents

CSR TODAY
MAY 2026 | VOL. 13 | ISSUE 10

PRINTER AND PUBLISHER: Rajesh Tiwari

EDITORIAL
Chief Consulting Editor: Kingshuk Nag
Consulting Editor: M Bose
Executive Editor: Devasia P. Devasia

INDIAN CENTRE FOR CSR
ADVISORY BOARD
Pankaj Pachauri, Ted McFarland, Mag. Martin Neureiter, Chandir Gidwani, Lou Altman, Kingshuk Nag, Toby Webb, Anil Bajpai, Rajesh Tiwari, Satish Jha, Jitendra Bhargava, Kapil Dev, Dr. Kamal Kant Dwivedi, Suhel Seth, Pradip Shetty, Sagar Adhikari

PRODUCTION, CIRCULATION AND LOGISTICS
Harish Rathod

HEAD OFFICE
CSR Today
106, Nirman Kendra, Dr. E Moses Road, Mahalaxmi Estate, Mumbai - 400 011
E mail: support @ iccsr.org,
Website: www.iccsr.org

REGIONAL OFFICES
NEW DELHI
Regional Directors: V. Chopra, Pratap Bhanu Singh

MUMBAI
Executive Vice President: Sangita Jha

Printed, Published and Edited by Rajesh Tiwari on behalf of Indian Centre For Corporate Social Responsibility. 106, Nirman Kendra, Dr. E Moses Road, Mahalaxmi Estate, Mumai-400 001

Editor: Rajesh Tiwari

9-Year-Old EuroSchool Student Conquers Everest Base Camp

Arya Godbole, a Grade 6A student of EuroSchool, one of India's leading K–12 school networks, has completed the Everest Base Camp (EBC) trek, one of the world's most challenging high-altitude expeditions, along with her parents.

At just nine years old, Arya's achievement is nothing short of extraordinary. Reaching an altitude of 5,364 meters (approximately 17,300 ft), she completed the demanding 13-day journey spanning 128 km, arriving at the Everest Base Camp. Notably, she was the youngest participant on the trail.

The trek was a significant milestone that tested Arya's physical endurance and mental resilience. Facing high altitude, extreme cold, and demanding terrain, she showed remarkable strength, composure, and determination throughout the journey. With the support of experienced Sherpas, Arya took on each challenge with courage. Her inspiring journey also reflects the value of Social-Emotional Learning in shaping children with the confidence, resilience, and mindset to navigate challenges with strength. With Social-Emotional Learning being a part of the EuroSchool curriculum, students are encouraged to develop these qualities in meaningful ways from an early age.

Her journey is a powerful testament to resilience, perseverance, and the indomitable spirit of young achievers. It reflects how stepping beyond comfort zones can shape confidence, strength, and character from an early age.

← Arya Godbole, a Grade 6A student of EuroSchool, one of India's leading K–12 school networks

Speaking about Arya's remarkable accomplishment, Geeta Agarwal, Principal, EuroSchool Airoli, said: "We are proud to see Arya's achievement. This feat is not just a test of physical strength, but also of emotional resilience. Arya has grown into a well-rounded individual and has demonstrated commendable emotional strength through this journey. At EuroSchool, Social-Emotional Learning is an integral part of the student experience, nurturing confidence, resilience, self-awareness, and the ability to navigate challenges with composure. Arya's achievement of completing the Everest Base Camp trek at such a young age reflects these qualities in action. Her determination and courage through a physically and mentally demanding journey are truly inspiring, and we are immensely proud of her accomplishment."

Arya's accomplishment highlights the importance of holistic development through experiential learning and outdoor exposure. Such experiences not only build resilience and help overcome fears but also nurture confidence, independence, and emotional strength. They foster a deeper connection with nature while equipping young learners with essential life skills that complement academic learning and contribute to their overall growth.

HDFC Mutual Fund Turns a Dying Lake into a Lesson in SIPs through Nurture Nature 4.0

HDFC Mutual Fund has concluded a first-of-its-kind campaign under its long-standing initiative, Nurture Nature, reimagining how India understands Systematic Investment Plans (SIPs) by turning a complex financial concept into visible, real-world impact.

The campaign linked every new SIP registered during the initiative to water restoration, with each SIP registration contributing to the revival of the dying Nayanamkunta Lake in Hyderabad. Thousands of individual SIPs which got registered, helped channel a small portion of the funds into a large-scale ecological effort that helped restore a lake in partnership with the renowned environmentalist Anand Malligavad, bringing a fragile ecosystem back to life. Speaking on the initiative, Navneet Munot,

Managing Director & CEO, HDFC Asset Management Company, said "This campaign is a testament to the idea that small steps, taken consistently, can lead to extraordinary outcomes. Just as SIPs help build financial security over time, collective action can restore and sustain our environment. We are proud to have created a platform where every investor could contribute to a larger social cause."

Beyond awareness, the campaign aimed to inspire genuine behavioural change. By drawing a parallel between the discipline of regular investing and the compounding power of collective action, the initiative shows how small, sustained contributions financial or environmental can create lasting transformation.

The campaign marks a significant milestone for HDFC Mutual Fund, not just in investor outreach, but in reimagining the role a financial brand can play in driving ecological and behavioural change.

Minimal Impact of Governance in ESG Factors on Credit in 1Q26

India Ratings and Research (Ind-Ra) opines governance (G) factors led, even as the overall impact of Environmental (E), Social (S), and Governance (G) factors on credits was minimal, across the 109 issuers rated/reviewed in 1Q26. Three entities had a G factor which was 'Relevant'; no entity had relevant E factors and S factors.

G Factors Remain Dominant: G factors namely 'Management Strategy', 'Group Structure', and 'Governance Structure' were found 'Relevant' for three rated entities, indicating that it either has minimal impact or is being actively managed. These ESG issues were one of the key rating drivers in conjunction with other factors. Management Strategy was found 'Relevant' in two credits due to delays in project implementation, and consistently weak financial and operating parameters. Group Structure was found 'Relevant' with one credit where there are high related-party transactions. Governance Structure was found 'Relevant' in one credit due to delay in financial disclosures. E Factors Yet to Show Any Relevance to Credit: The report highlights that no credit ratings were driven by E factors in 1Q26. Overall, the exposure to E factors was not a material rating driver to the entities.

S Factors Yet to Show Any Relevance to Credit: No credit ratings were driven by S factors in 2026. Emerging data breaches and privacy concerns, along with rising labour unrests, customer welfare, product safety, and consumer preferences drive investor decisions, making S factors increasingly important in the longer term.

ESG Issues Could Become Relevant in Medium Term: The impact of ESG issues on credit ratings remained low in 2026, with only three entities among the rated/reviewed 109 having ESG issues as a factor which was 'Relevant' to the credit rating. However, Ind-Ra expects ESG issues to take the centre stage in the long term and play an increasing role in impacting.

3M Foundation Signs MoU with Govind Sagar Block Level Federation to Empower Rural Women and Youth

M3M Foundation has taken a significant step towards strengthening rural livelihoods under its flagship initiative "Payal@40" by launching a focused programme to support and empower rural women and youth in Bangana Block, District Una, Himachal Pradesh.

A Memorandum of Understanding (MoU) was signed on 2 April 2026 at the Block Office, Bangana, between M3M Foundation and the Govind Sagar Block Level Federation (BLF) for the operation of the Rural Livelihood Centre (RLC), Bangana, under the Himachal Pradesh State Rural Livelihoods Mission (HPSRLM). The partnership aims to deliver structured training, capacity building, and livelihood support to Self-Help Groups (SHGs), along with skill development opportunities for local rural youth.

Through this collaboration, more than 800 beneficiaries per year are expected to benefit from SHG-based training programmes, livelihood enhancement activities, and skill development initiatives designed to improve income generation and create sustainable livelihood opportunities in the region.

The MoU was signed by Dr. Aishwarya Mahajan, Managing Trustee & President, M3M Foundation, and Ms. Rajni Devi, President, Govind Sagar Block Level Federation (BLF), Bangana, who also oversees RLC Bangana.

Sharing her message, Dr. Payal Kanodia, Chairperson and Trustee, M3M Foundation, stated, "Payal@40 is not just an initiative, but a commitment towards dignity, self-reliance, and sustainable livelihoods for rural women. Announced in Banaras (Varanasi), this initiative aims to empower 40,000 women across the country. By working closely with Self-Help Groups (SHGs) and rural youth in regions like Bangana, we are dedicated to driving meaningful change at the grassroots level. This partnership will not only create livelihood opportunities but will also lay a strong foundation for the social and economic empowerment of rural families."

M3M Foundation Signs MoU with Govind Sagar Block-Level Foundation to Empower Rural Women and Youth in Una, Himachal Pradesh

Speaking on the occasion, Dr. Aishwarya Mahajan reiterated M3M Foundation's commitment to empowering rural communities through focused interventions in women's empowerment and youth development. He emphasized that this partnership for operating RLC Bangana under "Payal@40" will create long-term social and economic impact by strengthening grassroots institutions and promoting skill-based livelihood opportunities. He also expressed gratitude to the Himachal Pradesh State Rural Livelihoods Mission, and all officials and representatives for providing this opportunity.

Block Development Officer (BDO) Shri Kishori Lal Verma and Ms. Rajni Devi expressed their appreciation to M3M Foundation and stated that this collaboration will significantly enhance the capacity of SHGs and rural youth, enabling them to become self-reliant and economically independent.

This MoU marks an important milestone in advancing inclusive development and ensuring sustainable livelihood opportunities for rural families in Bangana Block, District Una. Under this initiative, M3M Foundation is committed to creating livelihood opportunities for more than 2,500 women across Bangana Block over the next three years.

Walmart Vriddhi Partners with Maharashtra Directorate of Industries to Empower MSMEs

Walmart Vriddhi signed a Memorandum of Understanding (MoU) with the Directorate of Industries, Government of Maharashtra through its program partner, Ideas to Impact Foundation.

This partnership is designed to create new growth opportunities for micro, small, and medium enterprises (MSMEs) across Maharashtra. By providing digital learning resources and business tools, the initiative aims to help MSMEs grow, scale, and thrive in both domestic and international markets. The MoU, formalized on April 1, 2026 in Mumbai, Maharashtra, marks a significant milestone in Walmart Vriddhi's mission to empower 100,000 MSMEs across India by 2028.

Through this collaboration, MSMEs in Maharashtra will gain access to free Walmart Vriddhi training and digital tools to strengthen their entrepreneurial capabilities and boost competitiveness. The Directorate of Industries will extend the program's reach via its District Industries Centres (DICs), ensuring that Walmart Vriddhi's training and capacity building efforts benefit entrepreneurs across the state. The program will focus on key industries such as textiles, handicrafts, agro-processing, leather goods, ready-made garments, silk, furniture, jewellery, confectionery, and brass metal products. The rollout will begin in districts including Mumbai, Thane, Pune, Nagpur, Nashik, and Chhatrapati Sambhaji Nagar.

"MSMEs are the driving force behind Maharashtra's economic progress, contributing significantly to industrial growth, employment generation, and the entrepreneurial spirit that defines our state," said P. Anbalagan, Principal Secretary Industries, Government of Maharashtra. "Our collaboration with Walmart Vriddhi reflects the Government of Maharashtra's commitment to foster a future-ready MSME ecosystem and equip small businesses with the tools they need to compete in today's markets."

"The MSME sector remains one of India's strongest engines of economic growth, fuelled by the ingenuity and determination of its entrepreneurs", said, Jason Fremstad, Senior Vice President, Sourcing & Procurement, Walmart. "Through this partnership, Walmart Vriddhi is empowering MSMEs to unlock their potential. By offering digital tools, business training, and market access, the program enables local enterprises to enhance their competitiveness and transform local impact into national and global opportunities."

Entrepreneurs across Maharashtra are leveraging Walmart Vriddhi to modernize their businesses, strengthen digital capabilities, and access broader markets. Success stories from the state highlight the program's tangible impact. For example, Harshal Gada, co-founder of Online Becho, a fast-growing digital retail company, utilized Walmart Vriddhi to refine brand positioning, streamline supply chains, and scale digital retail operations. Personalized mentorship helped to optimize inventory and expand manufacturing, positioning the company to bring quality Indian products to global markets.

Ecoserve India, led by Anindita Chaudhuri, is a sustainable, women-led enterprise creating eco-friendly handcrafted products from natural fibers and responsibly sourced materials. Founded on the belief that businesses should give back more to nature than they take, Ecoserve India benefited from Walmart Vriddhi's support in refining its vision into a scalable strategy. The program enhanced the company's

understanding of digital channels, product positioning, and operational efficiency, enabling its artisans—90% of whom are women—to confidently reach wider markets.

Launched in 2019, Walmart Vriddhi is a supplier development program tailored to empower MSMEs in India to modernize, scale, and achieve their domestic and international ambitions. Combining Walmart's global supply chain expertise with Flipkart's nationwide eCommerce reach, the program offers MSMEs free training, mentoring, and business advice on finance, marketing, workforce management, logistics, and more. Since its inception, Walmart Vriddhi has successfully trained over 70,000 MSMEs in India.

Google and ChangeX launch the Google Udaan India Fund to empower communities in Visakhapatnam

ChangeX, the community engagement platform, and Google have come together to launch the "Google Udaan India Fund", designed to nurture the spirit of community across the Visakhapatnam Metropolitan Region.

This collaboration is set to activate up to 100 grassroots organizations, providing the essential spark for initiatives that strengthen the social and economic fabric of the communities Google calls home. Together, we are not just supporting projects; we are investing in the ingenuity of local changemakers to ensure the journey toward a sustainable future is one we take side-by-side.

The partnership will roll out across Asia, with initial community funds launching in India, Thailand, and Malaysia. Calls for applications will open over the coming months

This fund, which is managed by ChangeX, represents a belief in the people of Visakhapatnam, positioning Google as a true neighbor and partner dedicated to turning local vision into reality. By empowering communities to lead on workforce skilling, digital literacy, and climate action, Google is investing in the neighborhoods it calls home. This partnership provides a toolkit for progress, allowing families and local organizations to breathe life into proven ideas that sustain their communities. This fund is dedicated to moving from hope to tangible action in Visakhapatnam by supporting high-impact initiatives in the following areas:

- Funding AI-powered labs, vocational upskilling, and digital literacy programs to build future-ready career pathways.
- Support to strengthen local small businesses and community-led entrepreneurship.
- Investing in solar energy, rainwater harvesting, and watershed protection to ensure long-term sustainability.

To ensure every project flourishes, these initiatives are supported by a dedicated partner organization that works hand-in-hand with schools and community groups to implement the project.

Recognizing that the most powerful solutions are born from those who live them every day, the fund also serves as a catalyst for local expertise, giving local organizations the opportunity to apply for funding for their own projects.

The new strategic partnership between Google and ChangeX reflects a shared belief in the power of communities to drive meaningful, lasting change.

"Through this partnership, we look forward to working with communities across Visakhapatnam, and other communities in Asia, to build practical skills and deliver sustainable initiatives in areas like water stewardship and energy affordability," said Utaukwa Allen, global head of economic development & data centers at Google. "We are excited to partner with ChangeX, which brings deep experience in supporting community-led action."

Niamh McKenna, co-founder and head of impact, ChangeX, said: "Together with Google, we're backing community-led action in Visakhapatnam: drawing on proven ideas, while giving local changemakers the freedom to respond to local needs."

Any organisation that meets the eligibility criteria for one of the proven ideas on offer through the fund can apply to start that idea, including schools and community groups. Registered organizations with valid FCRA eligibility are invited to apply for funding for their own unique projects with funding of up to Rs 1,400,000 available.

IIT Guwahati Develops Smart, Naturally Cooling Bricks for Sustainable Architecture That Reduce Indoor Temperatures and Energy Use

The Indian Institute of Technology Guwahati have developed energy-efficient bricks designed to keep buildings naturally cool, offering a promising solution for sustainable construction.

The findings of this research have been published in the prestigious Journal of Energy Storage in a paper co-authored by Prof. Pankaj Kalita, Associate Professor, along with Dr. Pushpendra Singh, Post Doctoral Fellow, and Bitupan Das and Urbashi Bordoloi, recipients of Prime Minister Research Fellowship, School of Energy Science and Engineering, IIT Guwahati.

In modern architecture, most infrastructures rely on air conditioning systems to maintain indoor temperatures, especially during the summer. While these systems are effective, they consume substantial electricity and contribute significantly to carbon emissions and environmental degradation. With a global focus on sustainable living and climate-responsive architecture, researchers worldwide are working towards finding alternative solutions to reduce indoor temperatures without relying on energy-intensive systems.

As a significant amount of heat enters the infrastructure through its roof and walls, researchers at IIT Guwahati focused on addressing this challenge by redesigning conventional bricks to minimise heat gain. For the same, Prof. Pankaj Kalita, along with his research team, applied Phase Change Materials (PCMs), a type of material that can absorb and release heat during phase transitions.

(L to R) Mr. Bitupan Das, Prof. Pankaj Kalita, and Ms. Urbashi Bordoloi

For example, materials such as wax absorb heat as they melt and release it upon solidification. Similarly, when embedded in building components, these PCMs absorb excess heat during the day and release it when the temperature drops. This way, the indoor temperature remains stable throughout the day.

Among the various PCMs tested, the research team found OM35 to be the most suitable for the research. This material melts at around 35 degrees Celsius, making it particularly suitable for hot, humid regions where temperatures range from 28 to 38 degrees Celsius.

Research team with the developed brick

Speaking about the use of PCMs in developing climate-responsive infrastructure, Prof. Kalita said, “The developed biocomposite-filled Autoclaved Aerated Concrete (AAC) brick is highly stable in shape and offers adequate mechanical strength in hot and humid conditions, making it suitable for infrastructure development.”

While PCMs have proved to be a suitable choice for developing infrastructures for sustainable living, one primary challenge is their leakage during the melting phase. To address this, the research team developed a composite material by integrating the PCM with biochar. Biochar is a carbon-rich material that serves as a supporting matrix, holding the molten PCM in place

and preventing leakage while enhancing thermal conductivity.

The bio-composite PCM-filled AAC brick is very convenient to use in construction work. The AAC brick is known for their lightweight and better insulating properties. The integration of biocomposite PCM into AAC bricks further improves the building's thermal performance.

Highlighting the key difference in conventional bricks and PCM-embedded bricks, Prof. Kalita said, "PCM-embedded bricks are capable of better thermal management in terms of temperature reduction, as they can absorb and store heat during the day and release it gradually when the temperature drops, helping maintain more stable indoor conditions compared to conventional bricks."

To ensure optimal design of the developed bricks, the research team used advanced computer simulations to track heat transfer through AAC bricks with different PCM configurations. Based on this, the researchers found that the developed bricks can reduce indoor wall temperatures by approximately 3 degrees Celsius. This reduction in indoor temperature can result in a 10 to 20 per cent decrease in cooling energy demand, depending on building design and usage patterns.

The estimated cost of the developed bricks is in the range of Rs. 115 to Rs. 130 and is expected to decrease with mass production. As the next step, the research team plans to take this innovation to the commercial stage, likely by setting up a startup.

The developed innovation has significant implications for energy savings, especially in hot and humid climates, where cooling accounts for a major share of electricity consumption. The new materials can reduce overall energy consumption and peak electricity demand by reducing reliance on air conditioning.

The new method further improves climate sustainability by reducing greenhouse gas emissions from excessive energy use and by fostering energy-efficient, climate-sensitive buildings. Additionally, it supports the global initiatives of low-carbon construction and the sustainable urbanization of cities.

Kotak BizLabs Season 2 Picks 71 Startups, Expands Funding Beyond Metros

Kotak Mahindra Bank Ltd has announced the selection of 71 startups for Season 2 of Kotak BizLabs Accelerator Programme, with 60 startups set to receive structured grants of up to Rs 30 lakh each under the programme.

The new cohort also reflects a decisive shift in India's startup geography. Fifty three percent of the selected startups are from non-metro locations, signalling growing entrepreneurial momentum beyond traditional hubs. The final cohort spans startups from 13 states across 12 sectors, including AI, deep tech, agritech, sustainability, clean energy, edtech and healthcare.

Season 2 of Kotak BizLabs attracted 3,088 applications, an 80% increase over the first season, with more than 80% of applications coming from outside the four metros. The six-to-nine-month programme will culminate in a Demo Day connecting founders with investors and corporate partners.

The first season of Kotak BizLabs, which concluded recently, delivered encouraging outcomes. Several startups from the Season 1 cohort have stabilised revenue models with growing client bases, while a few have gone on to secure funding and achieve meaningful revenue growth. "We have redesigned Season 2 of Kotak BizLabs Accelerator Programme to support founders as they scale," said Himanshu Nivsarkar, Head of CSR & ESG, Kotak Mahindra Bank. "Along with enhanced funding support, the programme now brings a wider network of incubation partners and a stronger community framework. Our focus is on helping startups build models that can sustain and grow."

Rohit Bhasin, President and Chief Marketing Officer, Kotak Mahindra Bank, said: "The quality and diversity of applications this season tells us that India's entrepreneurial ambition is geographically broad and commercially serious. Kotak BizLabs Accelerator Programme Season 2 is about building a platform that meets founders where they are and helps them scale from there."

Season 2 of Kotak BizLabs Accelerator Programme is anchored by institutional incubators including IIM A Ventures, NSRCEL, T-Hub and FITT–IIT Delhi, with FITT–IIT Delhi joining this season to extend the programme's reach in North India. The programme also pilots the Kotak BizLabs Community Platform, designed to connect startups from both seasons to curated resources, mentors and peer networks beyond the formal acceleration window.

Kotak BizLabs Accelerator Programme is a CSR initiative of Kotak Mahindra Bank Limited.

Agewell Foundation Calls on UN Chief for Urgent Global Action to Protect Older Persons

Agewell Foundation has issued an appeal to António Guterres, Secretary-General of the United Nations, and the wider international community, urging immediate and visible action to protect older persons who are increasingly bearing the hidden burden of global conflicts, instability and rising anxiety. The organisation, in Special Consultative Status with the United Nations ECOSOC since 2011 and associated with UN-DPI-NGO, has urged global bodies to take note and move swiftly towards concrete action.

In a communication addressed to His Excellency Mr António Guterres, Secretary-General of the United Nations, the Foundation highlighted the urgent need to move beyond policy discussions and ensure real-time protection for older persons affected, directly and indirectly, by ongoing crises worldwide.

Himanshu Rath, Chairman, Agewell Foundation, said, "The world cannot remain silent as older persons bear the invisible burden of conflict and anxiety. The generation that built our modern world deserves immediate security, dignity and respect. A future legal instrument will lose meaning if the international community fails to protect older persons in the present crisis."

According to the Foundation, older persons in conflict zones continue to face severe challenges including disrupted access to healthcare and medicines, food insecurity, mobility constraints, trauma and isolation. At the same time, older persons outside conflict zones are also experiencing heightened psychological distress, helplessness and anxiety driven by relentless global news cycles.

The Foundation noted that while global conversations around the rights of older persons have gained momentum in recent years, including the adoption of United Nations Human Rights Council Resolution 58/13 and the establishment of the Intergovernmental Working Group in early 2026, a serious disconnect remains between advocacy and action. It further expressed concern that despite repeated calls for a UN Convention on the Rights of Older Persons, the specific suffering of older adults in present-day crises remains largely invisible in humanitarian assessments, aid distribution systems and protection frameworks.

Older persons in conflict zones continue to face severe challenges including disrupted access to healthcare and medicines, food insecurity, mobility constraints, trauma and isolation.

Through this appeal, the Foundation has urged all stakeholders to close the gap with immediate, concrete measures. It called on UN bodies and agencies to embed the specific needs of older persons into all humanitarian and conflict-response mandates, implement age-disaggregated data collection and ensure meaningful participation of older persons in emergency planning and response frameworks. It also called on human rights bodies and mechanisms to issue timely and prominent statements on rights violations affecting older persons and to highlight present-day protection failures beyond broad convention discussions. Governments and member states have been urged to prioritise elder-inclusive humanitarian aid, maintain essential services during crises and contribute practical national insights to the Intergovernmental Working Group.

Further, the Foundation appealed to NGOs and humanitarian organisations to embed older persons' rights into rapid-response systems, design age-sensitive psychosocial support programmes and strengthen mechanisms for remote family connections and social support. Emphasising the dignity and contribution of senior citizens, the Foundation underscored that older persons are not passive recipients of future rights but are reservoirs of wisdom, resilience and lived experience whose rights must be protected immediately. With decades of direct engagement with older persons across India and global advocacy platforms, Agewell Foundation reiterated its readiness to collaborate with governments, UN bodies, civil society and humanitarian organisations to convert commitments into tangible action.

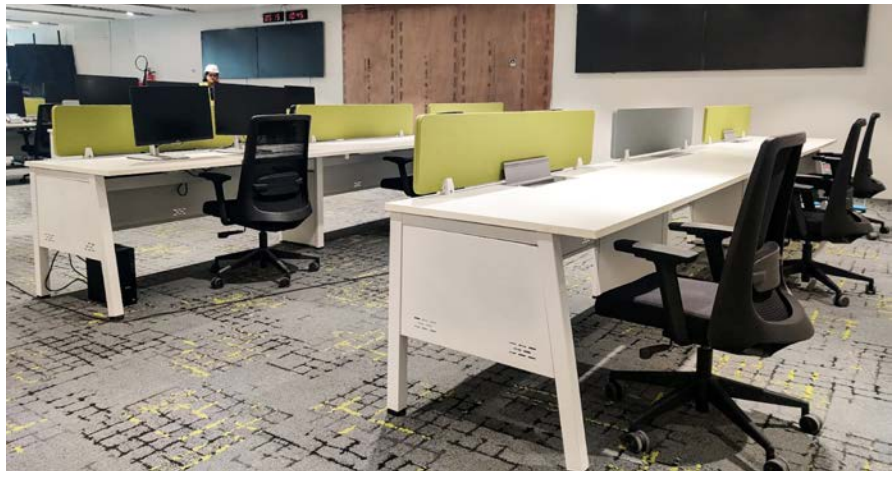
Jewar Airport Among First In India To Deploy Low-Emission Furniture At Scale

AFC's IAQ-friendly designs install 6,000+ recyclable furniture systems for travellers and operational staff

Noida International Airport (Jewar Airport) has emerged as one of the first airports in the country to use low-emission certified furniture and workstations across its 1,00,000 sq m terminals and back office areas. AFC Furniture Solutions deployed 6,000+ furniture systems in an extensive low-emission design and fit-out across the Indian airport ecosystem.

Made from low-emission materials, the furniture ranges from public seating and lounge systems to modular workstations, control desks, and specialized installations. The airport boasts workstations that are 66 percent recyclable and carry a 115.43 kg CO2e cradle-to-gate carbon footprint – critical to serve the airport's expected 12 million annual passengers.

Built using eco-friendly emission-reducing materials, the deployment directly supports NIA's ambition to be India's first net-zero airport through clean energy, efficient design, and low-impact operations.



"The Jewar airport is not just a project of scale, but one of intent. Every element is designed to perform consistently, sustainably, and under pressure. Notably, the low-emission furniture contributes to a large chunk of the airport's net-zero ambition, reducing the emission from a standard 20% to less than 5%," said Maanoj Tomar, founder of AFC Furniture Solutions. "The project aligns with infrastructure-scale timelines while meeting stringent compliance and sustainability benchmarks."

NIA marks a concrete shift from conventional airport fit-outs, where sustainability features are often limited to building design. Completed in two zero-delay phases, the 5 lakh sq. ft. project consists of 6,000-plus furniture units and specialized

installations involving precision manufacturing and parallel execution. Designed by a global consortium of Nordic, Grimshaw, Haptic and STUP, the airport design reflects a blend of Swiss efficiency and Indian hospitality, with architecture inspired by local elements such as ghats and havelis.

For operational teams in control rooms, screening zones, administrative offices and staff workspaces, the airport has modular workstations and ergonomic control desks designed for high-frequency use and endurance, enabling continuous use while maintaining comfort, efficiency and safety in high-pressure environments. Travellers at the airport will get tech-enabled seating and lounge environments built to balance comfort with efficiency. Seating and lounge solutions are engineered for rapid turnover and minimal downtime, ensuring a seamless experience across waiting zones, cafés and transit areas.

"The airport's design draws from local culture and architecture capturing Uttar Pradesh's ghats and havelis. NIA has already earned India's first IGBC-certified green airport campus tag. We are proud that our furniture manufactured in an IGBC Gold-rated facility, verified through ISO 14064-aligned GHG inventories, and backed by third-party-verified LCAs meets that same bar. This project reinforces that net-zero infrastructure demands net-zero thinking at every touchpoint, including the furniture," added Tomar.

Lack of regulation of space activity is a major challenge as researchers work to understand potential impacts of launching and decommissioning satellites. *Image: NASA's Marshall Space Flight Centre, CC BY-SA 3.0, via Flickr.*

RACE TO DEPLOY AI DATA CENTRES IN SPACE RAISES SAFETY CONCERNS

Recently announced plans by companies and nations to send AI data centers into space come as experts warn of a perilous situation developing in Earth orbit as thousands of new satellites are launched, orbit the planet, risk collision, and burn up on reentry, writes **Sean Mowbray**

Plans are afoot to launch large mega-constellations of AI data centres into Earth orbit. That ambition, pursued by multiple space industry leaders, coincides with a warning from scientists of potentially "catastrophic outcomes," as the likelihood of satellite collisions in orbit increases.

If all the satellites currently in low Earth orbit were suddenly unable to manoeuvre to avoid each other — a problem that could be triggered by a massive solar storm — then a poten-

tially catastrophic collision would likely occur in just under four days, researchers say.

That's the latest finding from the CRASH Clock, a tool developed to monitor the timeframe during which a low Earth orbit satellite collision is likely to happen during a major solar event. Such events are difficult to predict and come with limited warning; solar activity peaks roughly every 11 years. The CRASH Clock assesses the sustainability of space operations, explains Sarah Thiele, first author on the paper and a PhD student at Princeton University.

"The paper demonstrates how reliant we are on the continuous successful active management of satellites in orbit, and how the margin for error in these operations is decreasing over time," she writes in an email to Mongabay.

In 2018, the CRASH estimate stood at a comfortable 164 days. But that margin of safety shrank rapidly as the proliferation of satellites surged, and was shortened to 5.5 days by June 2025, while a calculation using orbital data from January 2026 cut it to 3.8 days.

"This just shows how reliant we are on perfect operations in orbit," Thiele writes. The outcomes of a collision could range from a few satellites being knocked out of commission to larger-scale destruction or even triggering a chain reaction as fragments hit and destroy others.

This troubling orbit collision projection coincidentally coincides with announced plans to launch hundreds of thousands of new satellites to feed growing demand for AI data centres in space — which is not a pie in the sky sort of plan.

Major players in the space industry, including SpaceX, Google, Blue Origin, the Chinese space program and the EU space program, are aggressively looking to space as a means of boosting computing power while also sidestepping the community resistance and environmental problems arising from terrestrial data centre proposals.

> **The number and distribution of active satellites in orbit need to be better regulated. Right now [low Earth orbit] is largely a Wild West due to regulation lagging behind its rapid commercialisation.**
>
> **–SARAH THIELE**
> Researcher, Princeton University

Google, through Project Suncatcher, aims to commence tests as early as next year. Elon Musk's SpaceX is seeking approval from the US Federal Communications Commission to launch up to 1 million satellites to build an orbital data centre.

"Having a million satellites is completely unsafe for collisions," says Samantha Lawler, a co-author on the CRASH study and an astronomer at the University of Regina in Canada. But, she adds, launching AI data centres into space is just one facet of an incredible surge in traffic as the public and private space industry grow at light speed with little regulation or environmental oversight.

"Satellites have a huge environmental footprint. We're just ignoring it," Lawler says.

The addition of countless AI data center vehicles will up the statistical chances for catastrophic collisions, with some scientists warning that multiple satellites crashing into each other and fragmenting could theoretically result in an ongoing chain reaction of collisions at 18,000 miles per hour, a consequence known as the Kessler Syndrome — threatening the operation of vital low Earth orbit communication, weather, transportation, defense and research satellites and potentially impacting modern civilisation in unimaginable ways.

A hunk of burning satellite falls from the sky

Around 14,000 active satellites currently orbit Earth, alongside several thousand pieces of space junk. By some estimates, the number of satellites could grow to more than 60,000 or even above 500,000 by 2040, though those estimates were made before orbiting data centre plans were announced.

But what goes up must come down — which means pollution, potentially lots of it.

When satellites and other spacecraft debris burn up, they release aluminium oxide and other metals and elements, which can eventually contaminate the atmosphere, land and water.

There are three main risks associated with this pollution, explains John Plane, professor of atmospheric chemistry at the University of Leeds in England: Changing the Earth's radiative balance, harming the ozone layer and releasing toxic elements, such as mercury and cadmium, which can rain down and pollute freshwater ecosystems.

A 2025 paper found there may be enough alumina deposited in the stratosphere by satellites by 2040 to alter wind speeds in Earth's polar regions, increase temperatures in the mesosphere (50-85 kilometres or 30-50 miles above the planet's surface), and damage the ozone layer. That's based on a volume of space junk falling from the sky equivalent to around 150 space shuttles burning

up in the atmosphere every year. Adding AI data centres, and thousands of other satellite types, to this orbiting traffic jam will not only greatly increase the volume of reentries over time, but also possibly introduce new pollutants with unknown effects, experts say. Data centres operate using tens of thousands of microchips, which contain multiple toxic substances, including PFAS forever chemicals.

"When one breaks down the currently used materials [in orbital vehicles] into their chemical elements, we found that today, 24 elements are dominating over the atmospheric injection from meteoroids," Leonard Schulz, geophysicist at the Technical University of Braunschweig in Germany, writes in an email. "A lot of them are transition metals like copper, titanium, or niobium, which are known to be great catalysts in chemical reactions, meaning small amounts could be sufficient to induce measurable changes in the atmosphere."

Researchers are only just initiating studies to explore how these elements introduced by space launches and reentries are affecting the atmosphere.

"The more satellites put into orbit, the more impacts on the atmosphere one can expect," Schulz says. "Unfortunately, it's just too early to tell what the exact impacts are."

"We are already able to detect the effect of our current level of space activities in Earth's atmosphere," adds Robin Wing, at the Leibniz Institute of Atmospheric Physics in Germany.

His team recently tracked a large plume of lithium in the atmosphere and traced it back to a SpaceX Falcon 9 rocket burning up upon reentry. "I think there's sufficient evidence to be concerned and we should do the work of making measurements now and into the future to see if there are long-term trends." Unlike past unforeseen environmental crises — as occurred with the DDT pesticide in the 1960s or the current problems with PFAS forever chemicals — scientists are trying to use the precautionary principal to predict and prevent harm before it happens, even as big tech companies and governmental programs rush into space.

Not so clear trade-offs

Back on Earth, AI data centres already have a massive, ever-growing footprint. Often built in dry climates, they consume huge amounts of water, while sucking up every kind of energy (including oil, gas and renewables) and generating a range of pollutants, including greenhouse gases. Launching such facilities into space is unlikely to be a panacea for these Earth-bound ills, experts say.

"Data centres are [likely] doing some pretty terrible things to the Earth," notes Ann Thresher, an assistant professor at Northeastern University; in her view, the purported benefits of launching these facilities into space are far from clear-cut.

"There's much less nuanced conversation about the actual environmental cost of putting things in space, maintaining them and decommissioning them, which is very extensive and not well understood at this point," she says.

The rapidly growing space industry already has a large environmental footprint. Sending a rocket into space is heavily polluting, emitting greenhouse gases, black carbon (known as soot, a major particulate pollutant and public health hazard), while also potentially damaging the ozone layer as launch numbers escalate.

Spaceports, meanwhile, tend to be sited around the equator and near coastlines, abutting biodiversity-rich regions and often protected areas with the potential to cause tropical deforestation and harm to endangered species. The Cape Kennedy spaceport is already known to have contributed to global species extinction, helping send the Dusky seaside sparrow (Ammodramus maritimus nigrescens) into oblivion.

A major issue today revolves around the lack of regulation space activities. For Lawler, that's exemplified by Reflect Orbital, a US startup that plans to launch satellites able to beam sunlight to Earth, providing sunlight "on demand" to power solar panels, provide streetlighting and more. It's an idea causing concern among scientists.

"A million satellites is a ridiculous number, but even one satellite can have huge effects on astronomy and on ecology," Lawler says.

"The number and distribution of active satellites in orbit need to be better regulated. Right now [low Earth orbit] is largely a Wild West due to regulation lagging behind its rapid commercialisation," Thiele says.

Researchers argue that a thorough understanding of the sustainable use of Earth orbit needs to happen before any further massive deployment of satellites. "I think this shouldn't happen until we have a very clear idea of how much space activity the atmosphere can tolerate without affecting the ozone layer and also the radiative balance," Plane says. Impacting the incoming energy from the sun and outgoing energy from Earth could have unknown impacts on the planet's already destabilised climate.

"I don't want to say that we shouldn't be doing data centres in space," Thresher says, yet she agrees there needs to be a thorough assessment of the environmental impact of plans to do so. "We can't sacrifice the Earth in the pursuit of space."

This story was published with permission from Mongabay.com.

(Source: https://www.eco-business.com/news/race-to-deploy-ai-data-centres-in-space-raises-safety-concerns/)

A handout picture provided by the Iranian Army's official website on Sept. 11, 2020, shows an Iranian Ghader missile before its launch during the second day of a military exercise in the Gulf, near the strategic strait of Hormuz in southern Iran. *(Image: AFP PHOTO / HO / Iranian Army website/via Getty Images)*

CHINA STANDS TO GAIN IF IRAN CONTROLS THE STRAIT OF HORMUZ

By **Venus Upadhayaya**

More than a month into the U.S.-Israel war against Iran, the conflict has expanded beyond direct strikes to include Iranian drone attacks across the region. While all sides continue to frame the war in terms of battlefield success, attention is increasingly turning to its geopolitical consequences — particularly for China, as Beijing prepares for a high-stakes summit between President Donald Trump and Chinese leader Xi Jinping.

Analysts who spoke with Vision Times say the ultimate beneficiary of the conflict may depend less on the immediate military outcomes than on control of a critical chokepoint: the Strait of Hormuz. Through this narrow passage flows roughly a fifth of the world's oil supply, making it central not only to the regional balance of power but also to China's long-term strategic interests.

"If Iran manages to preserve its survival and establish a new security regime in the Strait of Hormuz—while charging transit fees in yuan for oil tankers and maritime traffic in general—this would represent the greatest benefit for China," said Hamid Bahrami, a Europe-based international affairs analyst of Iranian descent.

Iran's Islamic Revolutionary Guard Corps (IRGC) moved early in the war to disrupt shipping through

the strait, triggering volatility in global oil markets. At the same time, Tehran reportedly allowed preferential passage for countries such as China, Russia, and India, underscoring the geopolitical leverage that comes with control of the waterway.

Beijing's posture on the war

Despite its stakes in the region, China has maintained a cautious posture. On March 31, Beijing and Islamabad jointly issued a five-point peace proposal calling for an immediate ceasefire, renewed negotiations, protection of civilians, secure navigation through the Strait of Hormuz, and a United Nations-led peace framework.

The proposal reflects China's desire to balance ties with both Iran and Gulf Arab states while avoiding direct military entanglement.

"The recent China–Pakistan statement on the war suggests that China continues to pursue its familiar hedging approach, trying to balance between sides," Bahrami said.

Pooran Chandra Pandey, professor and director at the Climate Centre at South Asian University in New Delhi, views the initiative more pragmatically. By emphasizing secure navigation through Hormuz, he argues, Beijing is primarily safeguarding its own economic interests.

China remains heavily dependent on Middle Eastern energy flows. Since signing a 25-year strategic partnership with Iran in 2021 — reportedly involving up to $400 billion in planned investments across energy, infrastructure, and manufacturing — Beijing has deepened its economic stake in keeping the region stable.

"In this context and during ongoing conflict in the Middle East involving US allies in the region and American assets, China stands to gain much on account of energy supplies, fertilizers, aluminium and among commodities through the straight of Hormuz which in turn can help China maintain supplies and keep domestic prices under check, an important aspect in its internal politics," Pandey told Vision Times.

POORAN CHANDRA PANDEY

Iran is likely to retain control, citing its geographic position and influence over islands at the mouth of the strait. In this scenario, China would gain full access to the strait and receive "a seamless supply of energy, goods, commodities and fertilizer and aluminium.

Preparing for the Trump-Xi summit

The war's trajectory is also shaping expectations ahead of the Trump-Xi summit in Beijing. According to Pandey, recent signals from Washington—including indications that the U.S. may not insist on reopening the Strait of Hormuz as a precondition for ending the conflict—suggest that Iran will feature prominently in bilateral discussions.

"This is much anticipated," Pandey said. "Iran would benefit from the summit in terms of a reference point for escalation and a solution on opening up of the Strait."

China, he added, is likely to position itself as a mediator while quietly seeking assurances that it will not be drawn into future regional conflicts. Such an outcome could align with broader efforts by Beijing, Moscow, and Tehran to counterbalance U.S. influence.

He also believes that the war could end up strengthening what is currently a loose partnership between Iran, China, Russia, and potentially North Korea — to the detriment of the United States and Israel.

The Strait as strategic prize

The war's outcome, and specifically who controls the Strait of Hormuz, will influence geostrategic losses and gains globally.

"Iran's defeat in this war would amount to a long-term setback for the development plans of both China and India, as control over Persian Gulf oil would fall into the hands of the United States—an actor that has no interest in the advancement of its rival powers," Bahrami said.

Pandey believes Iran is likely to retain control, citing its geographic position and influence over islands at the mouth of the strait. In this scenario, China would gain full access to the strait and receive "a seamless supply of energy, goods, commodities and fertilizer and aluminium," he noted.

According to Bahrami, Chinese policymakers are prepared to tolerate short-term disruptions in energy supply if the broader strategic picture shifts in their favor.

"Observing that Iran has preserved its survival, that the United States is preoccupied, and that pressure on China has correspondingly eased, Beijing seems content to allow the situation to continue while providing limited support, such as intelligence assistance," he said.

He added that if Iran believes it has triumphed in the war, it could attempt to establish a new security regime over the Strait of Hormuz and beyond.

Venus Upadhayaya is a senior journalist and a 2025 MOFA Taiwan Fellow

WHOSE WATER IS AI DRINKING IN INDIA?

AI has epoch-making potential, but its data centres are being built on the thirst of those who already have the least, academics argue, write **David Sathuluri, Mukul Sharma**, Dialogue Earth

India's AI data centre boom is intensifying water stress in already scarce regions – raising concerns over equity, governance and the prioritisation of resources. *Image: National Centre for Atmospheric Science, CC BY-SA 3.0, via Flickr.*

Every tech giant in the world is interested in building AI data centres in India. Late last year, Microsoft, Amazon and Google committed tens of billions of dollars to doing so. This year, the Adani Group pledged US$100 billion, bringing the combined first wave to US$167.5 billion.

India is now confronted with a question societies need to field time and again as technologies evolve. It is not whether the country should embrace AI, but on whose terms and at what cost.

Technologies do not arrive as neutral instruments. They come as forces – creative or destructive, liberating or dispossessing – shaped by the interests and ideologies of those who deploy them. The steam engine inaugurated industrial capitalism and facilitated colonial extraction. The Green Revolution fed millions and indebted millions more. Artificial intelligence carries similar epoch-making potential, but India is welcoming it at a peculiarly fraught moment.

The country is simultaneously one of the world's most ambitious technology adopters and one of its most unequal societies, beset by deepening environmental stress, caste-based discrimination and resource scarcity. In early 2026, it hosted a high-profile international summit on AI governance, signalling its aspiration to be a rule-setter rather than merely a rule-taker in the global AI order.

However, the current trajectory of AI infrastructure investment in India is a deeply political allocation of a scarce common resource. How water is being shared is systematically disadvantaging society's most vulnerable.

A government press release indicates that India's data centre IT capacity has quadrupled, from 0.4 gigawatts (GW) in 2020 to 1.5 GW by 2025, with consultancy firm Deloitte projecting 8-10 GW more to be built by 2030.

Every large data centre requires enormous quantities of water to cool its servers. A single 100-megawatt facility can consume roughly two million litres of water per day. India's data centres collectively consumed about 150 billion litres in 2025. That is projected to more than double, to approximately 358 billion, by 2030.

Where in India are these facilities being built? Mumbai, Bengaluru, Chennai, Hyderabad, Delhi-NCR – major hubs already confronting acute water shortages or inequities.

Bengaluru's data centres alone consume over 26 million litres each year, even as the city recently experienced what was described as its "worst water crisis" in nearly five centuries. Hyderabad faces a projected water deficit of 870 million litres per day by 2027, yet Amazon continues to expand its facilities there. Chennai, which experienced its own "Day Zero" in 2019 when the city's main reservoirs ran completely dry, remains among the most sought-after destinations for server farms. Much of the investment is, in other words, heading into water-stressed places.

The social geography of water

Access to water in India has always been saturated with relations of power – caste, gender and class structures – which dictate who receives it, who is denied it and who is punished for claiming it.

Caste remains the most pervasive determinant. Dalits have been systematically excluded from accessing water sources for centuries. In the Mahad Satyagraha of 1927, B. R. Ambedkar led Dalits to drink from a public tank that caste custom forbade them to touch.

It was a watershed moment in modern Indian history precisely because it named water access as a fundamental question of human

dignity and political equality. That battle is not over. Dalits continue to be denied access to wells, taps and water distribution systems in villages across the country; in some regions, when they fetch water from areas frequented by the dominant caste, they are subjected to violence, social boycott or both.

Class also mediates access in urban India in particularly sharp ways. In cities like Bengaluru, water has become a commodity distributed through informal tanker networks whose prices spike dramatically during shortages. During the 2024 Bengaluru water crisis, residents in peripheral areas reported steep increases in private tanker prices.

Older core urban districts with piped supply were comparatively better protected, whereas rapidly growing peripheral neighbourhoods and many commercial developments – including in the city's tech corridors – depended on borewells and tankers and experienced the sharpest price shocks. The urban poor, lacking the capital to stockpile or to purchase from private suppliers, absorb the most severe impacts of water scarcity; in this sense, the informal economy of water operates as a regressive tax on poverty.

Ambedkar's argument at Mahad was simple and devastating: "We are not going to the Chavadar Lake merely to drink its water. We are going to the lake to assert that we too are human beings like others. It must be clear that this meeting has been called to set up the norm of equality."

Applied to the age of AI, this assertion on the norm of equality requires little modification. When 342 million Indians still lack access to safe drinking water, the decision to prioritise the cooling of AI servers, operated by some of the most profitable corporations in human history, is not a technical policy choice. It is a political one. It is a choice about whose consumption matters and whose deprivation is acceptable collateral damage. The latest UN water report's warning is stark: diverting water from agricultural and household use can mean unemployment, social unrest and cascading humanitarian consequences.

In the Indian context, this is already happening at the margins, and the current scale of data centre investment will push it to the centre. The communities most likely to bear the cost are those already most water-insecure: Dalits, Adivasis, women in water-scarce districts, the urban poor living outside the formal supply grid.

Hierarchies of sacrifice

The standard corporate response to these concerns is a set of technocratic pledges: recycled wastewater, air cooling technologies, "water-positive" commitments, and efficiency star ratings. These deserve scrutiny. Only about half of data centre operators globally tracked their water usage in 2020; just 10 per cent did so across all their facilities. Google's global water consumption increased by 17 per cent in 2023 alone.

Microsoft, the New York Times found, has internally projected "that water use at its data centres will more than double by 2030 from 2020, including in places that face shortages". Globally, roughly two-thirds of all new data centres built since 2022 have been in water-stressed regions, and only five of 15 Indian state data centre policies contain any sustainability parameters.

The so-called solutions on offer are, in this light, technocratic adjustments to a fundamentally flawed premise: that this scale of expansion is inevitable and desirable. They tinker at the margins of the problem while accepting its structural cause. The efficiency metric improves, the water still disappears, and the communities downstream still go without. This is not sustainable development; it is the optimisation of extraction.

The defenders of this model will argue that AI is critical national infrastructure, that data centres create employment and tax revenue, and that India cannot afford to be left behind in the global AI race. These arguments deserve engagement, but they cannot be engaged with honestly without acknowledging what they elide: that critical infrastructure, historically in India as elsewhere, has often been built on the dispossession of those with the least political voice.

The AI revolution need not be a resource-injustice revolution. But averting that outcome needs more than corporate sustainability pledges and efficiency metrics. It requires a binding national framework aligning data centre siting and water consumption with hydrological realities.

It requires mandatory disclosure of water usage, enforceable targets and genuine penalties for non-compliance. It requires environmental clearance for large-scale digital infrastructure to incorporate water-equity assessments that centre the rights of Dalits, Adivasis, women and the poor – not merely the interests of investors. India's aspiration to be an AI power is legitimate. But it will be hollow, and ultimately unstable, if it is built on the thirst of those who already have the least.

Technologies are, in the end, social choices. The choice before India today is whether its AI infrastructure will deepen existing inequalities or help to dismantle them. That choice must be made not only in the server rooms of Bengaluru or Hyderabad, but equally importantly in the laws, regulations and political priorities that govern whose water, and whose future, is considered worth protecting.

This article was originally published on Dialogue Earth under a Creative Commons licence.

(Source: https://www.eco-business.com/news/whose-water-is-ai-drinking-in-india/)

Dr. Animesh Sarkar, with his Research Team in the Dept of Horticulture, Nagaland University

NAGALAND UNIVERSITY STUDY FINDS RICH GENETIC DIVERSITY IN WILD BANANAS IN NORTH EAST WITH MAJOR CLIMATE-RESILIENCE POTENTIAL

Musa sikkimensis, commonly known as 'Darjeeling banana' or 'Sikkim banana', is a wild-seeded banana species that serves as a vital genetic reservoir for disease resistance, stress tolerance and climate adaptability

Nagaland University researchers have conducted an extensive study on the genetic diversity of Musa sikkimensis, a wild banana species native to the Eastern Himalayas and Northeast India, highlighting its importance for climate resilience, food security and sustainable agricultural development.

Musa sikkimensis, commonly known as 'Darjeeling banana' or 'Sikkim banana', is a wild-seeded banana species that serves as a vital genetic reservoir for disease resistance, stress tolerance and climate adaptability traits essential for future banana improvement programmes. Although not widely cultivated for edible fruit, the species plays a crucial role in strengthening crop resilience and ensuring sustainable production.

Dr. Animesh Sarkar, Assistant Professor, Department of Horticulture, Nagaland University

The research team found that local banana germplasm exhibits strong adaptive potential across diverse environmental conditions, reinforcing its importance for conservation and future breeding initiatives.

Nagaland, located within the Indo-Burma biodiversity hotspot, hosts a rich diversity of indigenous banana genotypes. However, increasing anthropogenic activities, environmental pressures and deforestation have placed many wild genotypes at risk of decline and possible extinction, making conservation research critical.

The research titled 'Exploring the Genetic Diversity of Musa sikkimensis Land Races in Nagaland, India' underscores the urgent need to conserve endangered banana germplasm in one of the world's richest biodiversity regions.

The findings were published in Flora and Fauna (https://doi.org/10.33451/florafauna.v31i1pp15-22), a peer-reviewed scientific journal that publishes research on plant and animal biology, biodiversity, ecology, and environmental conservation. The paper was co-authored by Nagaland University Research Scholars K. R. Singh and Dr. S. Walling and Dr. A. Sarkar.

Highlighting the need for such research to conserve the rich biodiversity of the North East, Prof. Jagadish K. Patnaik, Vice-Chancellor, Nagaland University, said, "I am pleased to announce a significant scientific breakthrough achieved by researchers of Nagaland University, who have successfully developed a biodiversity corridor to conserve the indigenous banana germplasm which was facing the risk of extinction. This pioneering initiative reflects our University's deep sense of accountability and responsibility toward safeguarding the wild flora of the hilly terrains of Northeast India. It also highlights our commitment to scientific advancement rooted in local genetic resources and traditional ecological wealth. In the climate changing scenario, this research will pave the way for future crop improvement programmes by strengthening genetic resilience, enhancing adaptability, and ensuring nutritional security".

The study builds on a series of postgraduate and doctoral research projects conducted under the supervision of Dr. A. Sarkar, Associate Professor, Department of Horticulture, Nagaland University, focusing on banana biodiversity, germplasm mapping, characterisation of wild species and evaluation of genetic resources in the state.

Highlighting the role of this research in addressing conservation challenges and safeguarding local germplasm, Dr. Animesh Sarkar, Associate Professor, Department of Horticulture, Nagaland University, said, "We aimed to address challenges in identifying and conserving local banana genotypes growing in remote forest regions of Nagaland. Through collaboration with banana experts from North East and South India, our research team successfully identified and documented several previously unclassified genotypes."

Dr. Animesh Sarkar added, "Field exploration presented significant challenges, including difficult ter-

Dr Animesh Sarkar, with his Research Team in the Dept of Horticulture, Nagaland University

rain, limited accessibility to remote forest areas and low awareness among farmers regarding the importance of germplasm conservation. Our study also highlights a growing shift among farmers toward hybrid and tissue-culture banana varieties, which may accelerate the loss of traditional and wild genotypes."

Climate resilient agriculture

The findings demonstrate the potential of wild banana genetic resources to contribute to climate-resilient agriculture, food security and socio-economic development. Researchers noted that wild banana species could support the development of high-yielding, disease-resistant varieties and new value-added products such as fibre-based materials and health beverages.

The study also highlights the significant ethnobotanical value of wild bananas among indigenous communities in Nagaland. Different plant parts are traditionally used for food, fibre, medicine and cultural practices, with reported medicinal properties including treatment for dysentery, ulcers, diabetes and microbial infections.

To strengthen conservation efforts, Nagaland University has established a Banana Biodiversity Corridor at its Department of Horticulture. The corridor functions as a living field gene bank, linking in situ and ex situ conservation approaches while supporting genetic and molecular research, climate-resilient breeding programmes, student training and national germplasm security initiatives. The initiative aims to protect fragmented banana diversity, strengthen local value chains and support future agricultural development.

Dr. Animesh Sarkar has also established a network for exploration of banana biodiversity and its biotechnological research in Nagaland, funded by the Department of Biotechnology (DBT), Gov. of India. The collaborating Institutes include Dr. K. K. Sabu, Principal Scientist, Jawaharlal Nehru Tropical Botanic Garden & Research Institute, Kerala, Dr. S. Debnath, Asst. Professor, AICRP on Fruits, Bidhan Chandra Krishi Viswavidyalaya, West Bengal, Dr. Moaakum, Asst. Professor, Dept. of Botany, Kohima Science College, Prof. S. Banik, Department of Plant Pathology, Nagaland University.

As extreme heat intensifies in Indian cities, practical and affordable cooling solutions are needed – particularly for vulnerable urban communities. *Image: Li Lin, CC BY-SA 3.0, via Unsplash*

TO HELP PEOPLE ADAPT TO HEAT, FOCUS ON THE SAVINGS

City policies should stress practical outcomes and lower electricity bills rather than emission reductions, writes **Zubair Shaikh** & **Shravya Garuda** of Dialogue Earth.

Sometimes called an invisible disaster, extreme heat is increasingly affecting how people live in Indian cities.

About 57 per cent of Indian districts, home to over three-quarters of the population, are now considered at high to very high risk. Urban populations are particularly exposed due to the urban heat island effect which makes cities hotter than the nearby countryside.

For many households, living conditions exacerbate heat. Asbestos roofs, poor ventilation and overcrowding increase indoor temperatures. While outside, there may by a lack of access to shade or open spaces. Health consequences and deaths are rising as climate change drives temperatures up. But talk of emissions reduction often does little to motivate change. We need to talk about adaptation with a different emphasis. For policymakers, the goal may be saving lives or reducing emissions. But for someone buying an air conditioner (AC), the priority is usually comfort and cost.

Fixing the buildings

The urban residents who are contributing most to heat islands are those who have access to ACs, refrigerators and other household devices. Often, they are not cooling themselves in efficient ways.

Today, the dominant solution is individual ACs. Costs and emissions can be cut through systems that serve entire buildings or clusters, such as heating, ventilation and air conditioning (HVAC) and district cooling systems. But these are capital-intensive, requiring upfront investment at the construction stage. In India as elsewhere, developers want to sell fast and exit.

In commercial buildings, energy efficiency has gained traction because high-value corporate tenants now demand it. But in residential buildings, buyers tend to focus on price and location, and energy efficiency is rarely on the checklist. Developers have little incentive to absorb higher upfront costs. When consumers understand long-term savings, they begin to demand efficiency. That can push developers toward better cooling solutions.

India's ongoing greenfield development offers a window of opportunity. The country is expected to add millions of square footage of built-up area in the next few years, with developers such as Prestige, Hiranandani and Puravankara working on projects ranging from semi-affordable for the middle class to ultra luxury.

Seeking solutions

Though it's not perfect, retrofitting for efficiency can also provide benefits. Significant improvements can be made by using appliances with higher ratings for energy efficiency, integrating renewables like rooftop solar, and replacing conventional fans with brushless versions which reduce waste heat.

In some cities, if energy-efficiency measures are implemented in residential developments and quantified, housing societies can receive property tax rebates and residents in turn get reduced electricity bills. Even simple steps, like motion-sensor lighting in parking areas and communal toilets, can generate noticeable savings.

In Hyderabad and Chennai, some residential projects have installed central chiller systems. Back in 2015, developers of a Hyderabad residential society piloted a community cooling plant, avoiding the need for individual AC units on exterior walls. Flat owners were initially hesitant, but agreed to adopt the system, and cooling bills have remained stable for nearly a decade. This was a collective win-win. Real savings drive adoption.

A dedicated department for energy-efficient cooling within the Bureau of Energy Efficiency could further accelerate change.

Not forgetting the most vulnerable

For vulnerable communities facing extreme heat, there remain very limited solutions. Their contribution to emissions is only a fraction of the total, yet they are often the ones who suffer the most from surging temperatures. Most people in low-income settlements must rent. Because they don't own their homes, they have no ability to change them, which means no ability to alter windows or doors and install ventilation systems to improve thermal comfort.

They also face cramped living conditions. In the greater Mumbai city of Mira Bhayandar, up to eight people often live in 150 to 200 square feet spaces – equivalent to a small studio apartment – with low ceilings. Fans may not provide enough relief in such circumstances, and many people end up going to gardens or sitting under trees to rest as indoor conditions become unbearable.

Parts of Tamil Nadu and Kerala have piloted the use of passive cooling measures such as coir roofing systems and cooling paint, with good results. But in large cities such as Mumbai, slums are densely populated, with houses built informally, meaning most retrofitting is a challenge. Homes in some slum areas have structurally weak roofs, for instance, making it difficult to implement any measures beyond lightweight additions.

Most low-income families also prioritise rent, food, education and healthcare. Heat-resilient housing upgrades naturally fall very low on their list because upfront costs are unaffordable, even if the benefits are clear. Financing cannot be the responsibility of these households alone. The primary responsibility should lie with government and city authorities, supported by climate funds, development agencies and private sector partners. Implementation can happen through housing societies and community groups like bachat gats (microfinance self-help groups).

Importantly, vulnerable households do have agency. They are already adapting in small ways and are willing to invest when presented with affordable and trusted solutions.

For instance, in Mira Bhayandar, we saw that some people had put thermocol sheets – low-cost polystyrene panels – under their roofs to keep the heat out. And where interventions such as wood wool panel ceilings were installed, some households improved heat resilience further by adding LED lights, which emit less heat than older bulb types.

Clearly, communities are aware of heat-related issues and receptive to solutions, particularly when they are pragmatic and yield measurable benefits such as lower indoor temperatures and electricity bills. The use of these kinds of solutions can grow if more people know about them, can access them and can afford them.

And when communities can pool resources, access government incentives and clearly see the return on investment, upgrades become possible. What is needed is a financing system that is simple, accessible and designed around their realities. People respond to monetary benefits more than to technical jargon. Instead of emphasising carbon reductions in abstract terms, we must focus on practical outcomes: saving money and living better. That is what brings people on board.

(Source: https://www.eco-business.com/news/to-help-people-adapt-to-heat-focus-on-the-savings/)

A plastics recycling centre in Bali, Indonesia. Higher oil and fuel costs, more volatile ocean freight, and more cautious procurement behaviour have stifled Asia's plastics recycling market, industry-watchers say.
Image: Robin Hicks / Eco-Business

IRAN WAR RIPS THROUGH ASIA'S PLASTICS MARKET, BOOSTING DEMAND FOR RECYCLED RESIN

A "huge" increase in demand for recycled plastic as virgin prices spike is complicated by stock availability, rising freight costs, and pressure on the informal sector, writes By **Robin Hicks**

The ongoing fallout from the Iran War is beginning to reshape Asia's plastics landscape, with the region's recycling sector facing mounting energy and freight cost pressures and uncertainty despite a welcome surge in demand for recycled plastic, market watchers say.

The conflict has pushed up oil prices and affected the global petrochemicals value chain – the blocking of the Strait of Hormuz has choked supplies of naphtha, a key feedstock for plastics production – which has lowered the price difference between virgin and recycled plastics, which are more expensive.

The price spread between virgin and recycled polyethylene terephthalate (PET) has narrowed to around US$200 per tonne, down from over $400 per tonne in previous years, as recyclers report a surge in demand in the wake of the Middle East oil crisis. Rob Kaplan, chief executive of Circulate Capital, which invests in recycling firms in South and Southeast Asia, said his portfolio companies had seen a "huge" increase in demand for recycled plastic as buyers scramble to lock in supply.

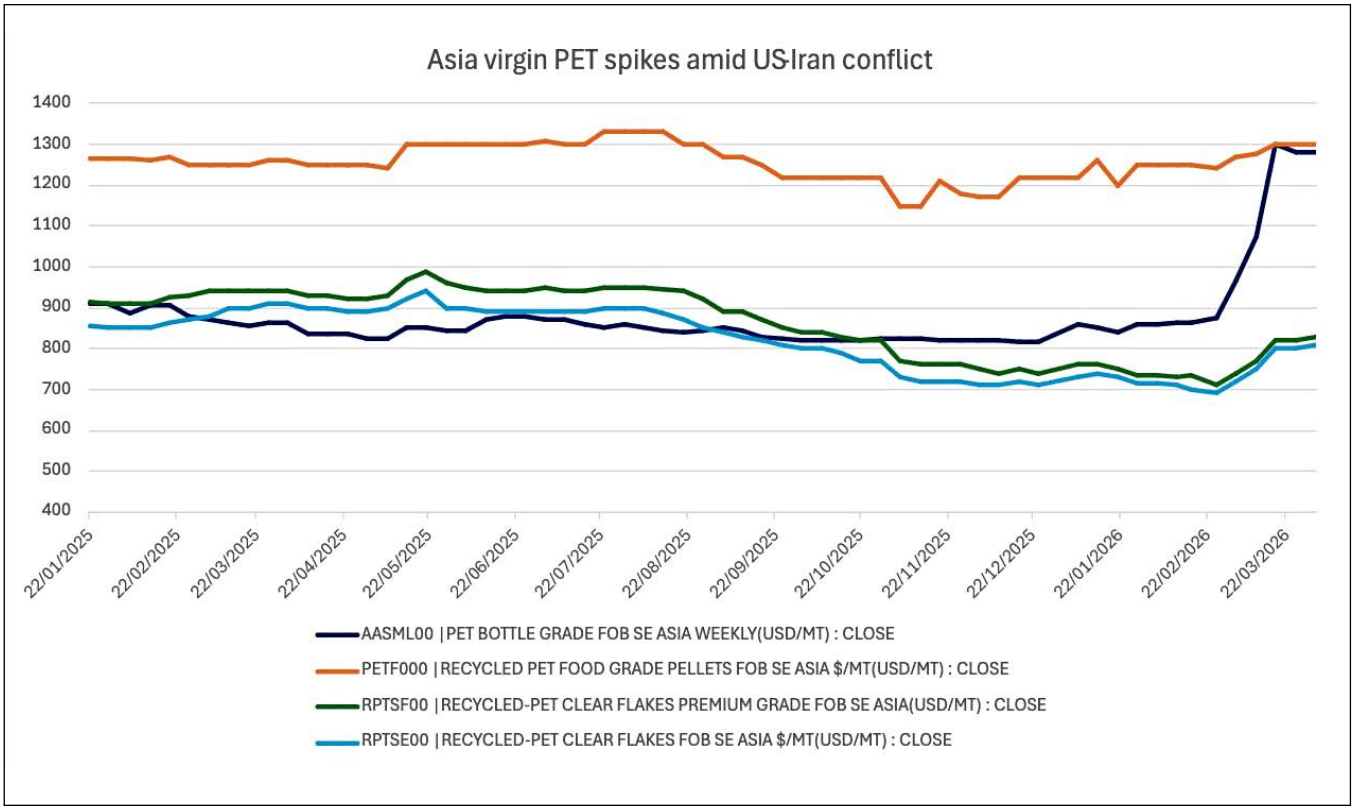
> **A higher oil price can improve the competitiveness of recycled resin versus virgin – but only to a point.**
>
> **–ALVARO AGUILAR**
> Head of Operations,
> Prevented Ocean Plastic

"It's not just about pricing, it's availability," said Kaplan. "With oil prices going up and choke points [in the Strait of Hormuz] reducing access to the building blocks for virgin plastic, there has been a significant increase in demand for recycled plastic."

Ganesha Ecosphere, a recycled plastic firm in India, said this week it was supplying bumper volumes of recycled resin to companies looking for a replacement to virgin plastic amid a supply squeeze.

Recycled plastic markets have struggled in recent years, undercut by a prolonged period of cheap virgin resin.

The trade war instigated by the Trump administration in early 2025 contributed to a drop in oil prices, further eroding the competitiveness of plastics recovered from the environment for recycling.



Virgin plastic prices have spiked since the breakout of the Iran war, increasing the competitiveness of recycled plastic.
Source: S&P Global Energy / unit: $/mt

Feedstock supply cannot be increased overnight, as it depends largely on the informal sector. This creates a lag between rising offtake demand and the ability to secure sufficient feedstock to meet that demand.

Kaplan noted that low oil prices over the past six months have meant that recyclers have a lot of inventory, which is now being cleared, although there are rumours that collection networks are hoarding material to keep prices high.

The demand squeeze has placed growing pressure on the informal waste collection sector, which is responsible for recovering the vast majority of the region's post-consumer plastic.

"Feedstock supply cannot be increased overnight, as it depends largely on the informal sector. This creates a lag between rising offtake demand and the ability to secure sufficient feedstock to meet that demand," Kaplan said.

Alvaro Aguilar, head of operations for Bali-based recycler Prevented Ocean Plastic, said PET bottle collection and local fundamentals are relatively stable in Indonesia, however logistics friction and margin pressure are building across the value chain as the crisis drags on.

"Higher oil prices can improve the competitiveness of recycled resin versus virgin, but only to a point – if volatility persists, many buyers slow down commitments and wait for clearer pricing direction," he said.

"The main effects [of the Iran war] are coming through three channels at once – higher fuel costs, more volatile ocean freight, and more cautious procurement behaviour," Aguilar said.

The major buyers of recycled plastic are multinational brands with commitments to use more recycled material in their packaging, such as Coca-Cola, Unilever and Danone.

Recycled plastic – a hedge against supply shocks

Recycled plastic should present buyers with greater stability and lower exposure to external shocks, Aguilar said.

"In that sense, recycling acts more as a supply chain hedge than just a pricing alternative," he said.

Higher oil prices can improve the competitiveness of recycled resin versus virgin, but only to a point – if volatility persists, many buyers slow down commitments and wait for clearer pricing direction.

However, despite the shifting market dynamics, procurement teams have yet to adjust their strategies in a way that see recycled plastic as a buffer against supply shocks.

Most continue to operate on a "just-in-time" basis, prioritising short-term price optimisation over supply security, he said. Aguilar argues that recycled materials should be evaluated not only on cost, but as a risk-managed supply option.

Regional recycling supply chains offer advantages such as reduced exposure to energy price swings, fewer dependencies on long-distance shipping, and insulation from export restrictions or feedstock disruptions.

While some early adopters are beginning to integrate these considerations into sourcing strategies, Aguilar said the broader market has been slow to adapt.

"The recycling supply chain can actually offer more predictability in this global context," he said. "But buyers need to adjust how they evaluate risk and sourcing strategies to fully capture that value."

The plastic supply crunch has also led to an increase in demand for reusables in some jurisdictions, with the Taiwan government pushing to promote reuse schemes after disruptions to petrochemical feedstocks triggered panic buying.

(Source: https://www.eco-business.com/news/iran-war-rips-through-asias-plastics-market-boosting-demand-for-recycled-resin/)

MAJOR BLIND SPOT IN OCEAN CARBON RESEARCH COULD UNDERMINE GLOBAL CLIMATE PREDICTIONS

A new report by the Intergovernmental Oceanographic Commission (IOC) of UNESCO reveals a critical lack of understanding of how the ocean absorbs and stores carbon.

This glaring uncertainty about our planet's largest carbon sink threatens to skew current climate predictions, and hamper our ability to develop effective mitigation and adaptation strategies in the coming decades. The report also lays out a roadmap to bolster international cooperation, strengthen ocean carbon monitoring and update climate models accordingly.

The ocean is storing around 25 per cent of global CO_2 emissions. But according to the new report coordinated by IOC-UNESCO, major blind spots remain in our scientific understanding of this process, with variations large enough to considerably affect how governments plan climate mitigation and adaptation strategies.

Climate models built on incomplete data

The Integrated Ocean Carbon Research Report finds that scientific models differ widely in estimating how much carbon the ocean absorbs, with discrepancies of 10-20 per cent globally and even greater in certain regions.

These differences stem from limited availability of long-term data, and gaps in understanding how key processes respond to climate change. This means quantifying how changes in ocean warming and circulation affect carbon uptake, how shifts in plankton and microbial life influence long-term storage, and how coastal and polar regions exchange carbon with the atmosphere. Industrial activities today, and the risks associated with climate engineering in the future may also alter the ocean's natural ability to absorb carbon.

Major implications for climate targets and adaptation

All of this indicates that we are making climate decisions without knowing how the ocean will behave. If the ocean absorbs less carbon in the future, more CO_2 will remain in the atmosphere and accelerate global warming. This would have a direct impact on future emissions targets and national climate plans.

Greater uncertainty in ocean carbon uptake also complicates adaptation planning, especially for coastal communities already vulnerable to storms, sea-level rise and warming waters. Decisions about potential carbon removal strategies and ocean-based climate interventions must also be grounded in more robust scientific evidence.

From uncertainty to action

Prepared by 72 authors across 23 countries, the Integrated Ocean Carbon Research Report offers the most comprehensive synthesis to date of the uncertainties affecting the ocean carbon sink.

Beyond identifying research needs, the report also lays out a coordinated roadmap to strengthen monitoring, modelling and international cooperation so that ocean carbon science can more directly inform climate policy.

To close these knowledge gaps, the report calls for a global ocean carbon observing system, combining satellites, autonomous platforms and sustained measurements from the surface to the deep ocean – while improved ocean and climate modelling should also include stronger capacity development in underrepresented regions to ensure truly global monitoring coverage.

Reducing carbon emissions remains the only long-term solution to protect the ocean and the climate. But without a clearer understanding of how the ocean carbon sink is changing, global mitigation and adaptation strategies risk being built on incomplete information.

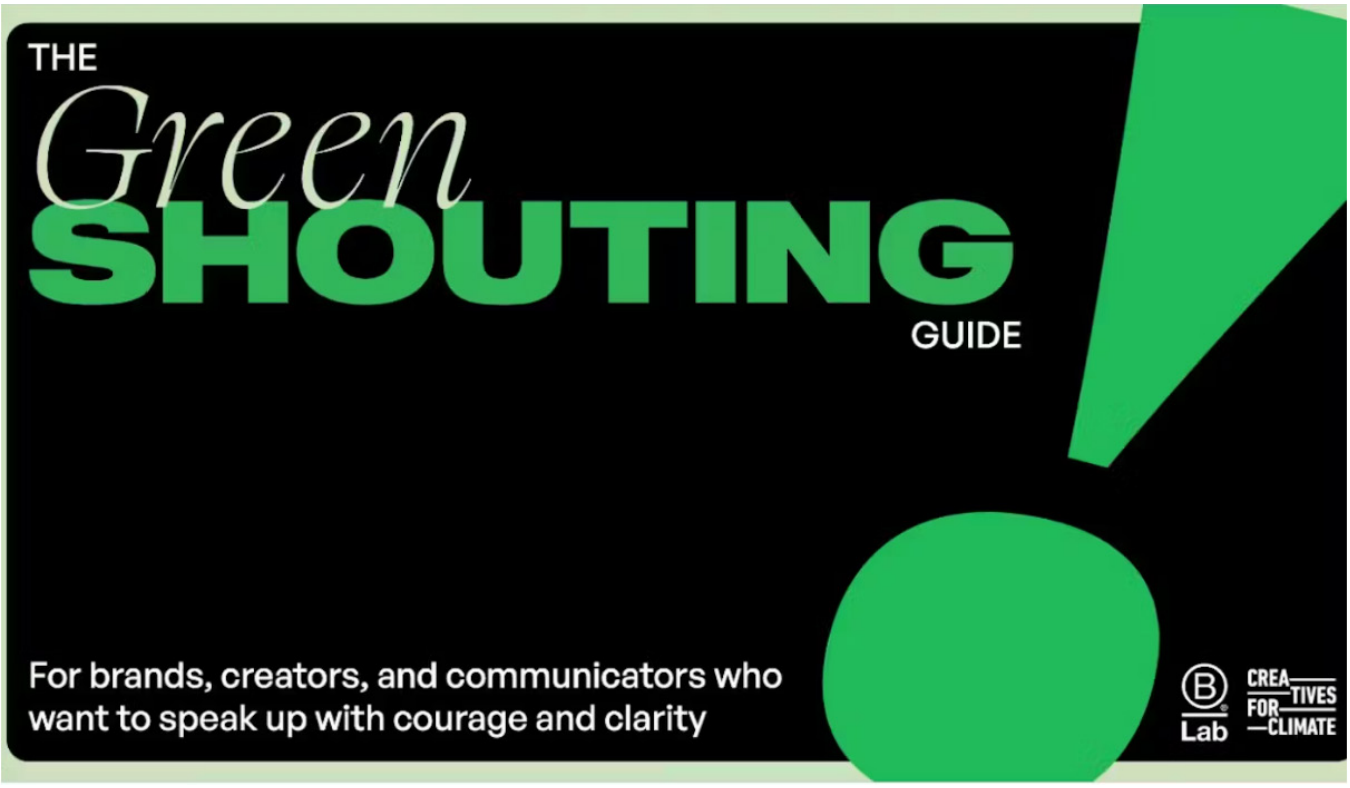
Since the start of the UN Decade of Ocean Science for Sustainable Development (2021–2030), IOC-UNESCO has launched more than 500 projects worldwide and mobilised over one billion dollars to advance ocean knowledge and transform it into measurable action.

From strengthening global ocean observing systems and advancing seabed mapping to improving early warning for coastal hazards and supporting ecosystem-based climate solutions, IOC-UNESCO is helping build the scientific foundations required to protect ocean biodiversity and enhance climate resilience worldwide.

(Source: https://www.eco-business.com/press-releases/major-blind-spot-in-ocean-carbon-research-could-undermine-global-climate-predictions/)

SILENCE IS A CLIMATE RISK – BRANDS URGED TO TRUMPET SUSTAINABILITY PROGRESS BY 'GREENSHOUTING'

As experts warn that "greenhushing" risks undermining climate progress and enabling misinformation, a new guide calls on companies to "openly, accurately and courageously" talk about their sustainability credentials, writes **Robin Hicks**



The greenshouting framework guides companies through sustainability commsThe greenshouting framework is particularly relevant in Asia, where companies have been integrating sustainability into products and operations but have been reluctant to communicate progress, says Andy Wilson, founder of Singapore-based consultancy Early Majority and former sustainability lead at Ogilvy Asia. *Image: The Greenshouting Guide*

A new communications guide is urging companies to speak more openly about their sustainability efforts, as experts warn that a growing trend of "greenhushing" risks undermining corporate climate action.

Launched by advertising network Creatives for Climate and non-profit business network B Lab, the "greenshouting" guide aims to help brands communicate sustainability progress confidently and credibly at a time when many firms are pulling back from public disclosures. The guide comes amid rising concern that corporate silence is allowing misinformation to spread and slowing momentum on sustainability.

"When responsible voices go quiet, less credible narratives fill the space," said Maria Correa, strategic advisor at Creatives for Climate, during a webinar marking the launch.

Corporate sustainability communications have faced increasing scrutiny in recent years, driven by concerns over greenwashing – where companies overstate environmental claims. This has distorted markets, delayed meaningful action and eroded public trust, Correa said.

But speakers argued that the pendulum may now be swinging too far in the opposite direction. After years of a "purpose boom", some companies are opting to say less about sustainability to avoid criticism – a trend known as greenhushing.

Correa warned this is creating a "doom loop": reduced communication lowers public awareness, weakens the perceived value of sustainability, and ultimately dampens investment and impact.

"That silence is creating a void where misinformation spreads faster than truth," she said. "It transfers power, dismantles accountability and quietly stalls systemic change."

This retreat is happening despite pockets of progress. Around 85 per cent of the world's largest companies are still expanding sustainability efforts, while 89 per cent of people globally want stronger corporate climate action, figures shared during the webinar showed. Separately, Eric Lim of United Overseas Bank said last year that talk of an "ESG backlash" has not slowed the growth of sustainable finance in Asia.

> **We cannot claim to be a sustainable company. The best we can do is to be responsible.**
>
> **–CORLEY KENNA**
> Chief Impact and Communications Officer, Patagonia

Greenhushing to greenshouting

The guide introduces "greenshouting" as a tool to overcome greenhushing, defined as communicating efforts "openly, accurately and courageously", said Sarah Schwimmer, co-lead executive at B Lab.

"If greenwashing is saying more than you are actually doing, and greenhushing is doing a lot without talking about it, then greenshouting is simply telling compelling stories about what you are doing right now," she said.

The guide includes case studies, legal guidance and tools to help companies navigate sustainability communications while avoiding exaggerated claims.

Schwimmer suggested that sustainability communication is becoming as important as policy or innovation in driving climate action.

"From now until 2030, pro-climate narratives will matter as much as policy or innovation. This [greenshouting] is so much more about a communication choice. It's a collective influence and resilience strategy," Correa said.

Andy Wilson, founder of Singapore-based consultancy Early Majority and former sustainability lead at Ogilvy Asia, said the greenshouting framework is particularly relevant in Asia, where companies have been integrating sustainability into products and operations but

The sustainability 'doom loop' – reduced communication lowers public awareness, weakens the perceived value of sustainability, and ultimately dampens investment and impact

GREENSHOUTING 'DIALS'

Tom Tapper, co-founder of United Kingdom-based creative agency Nice and Serious, outlined various "dials" of greenshouting, or methods for communicating sustainability effectively. These include:

SIMPLICITY
Avoid technical jargon. Clear, accessible language builds trust and engagement.

ABUNDANCE
Focus on what sustainability enables – better products, experiences or value – rather than what consumers must sacrifice.

CULTURE
Align messages with current cultural moments to increase relevance and reach.

DISRUPTION
Challenge industry norms where appropriate, especially when offering tangible solutions.

have been reluctant to communicate progress.

"It shifts the dialogue from future commitments like net zero 2050 to tangible progress," Wilson said, adding that the guide should encourage brands that have made real progress to communicate their wins with confidence.

However, he cautioned that the term "greenshouting" could be misinterpreted by businesses as encouraging over-claiming. "From a marketing perspective, 'shouting' might be seen as over-credentialising," he told Eco-Business, noting that this could deter more cautious firms in the region.

The best way to communicate "green" in Asia is to deliver products and services that really perform, he added. There is still work to be done to persuade business leaders in Asia that "green is good for business", while consumers will only buy green if these products are seen to make their lives better, he said.

Vulnerability cuts through

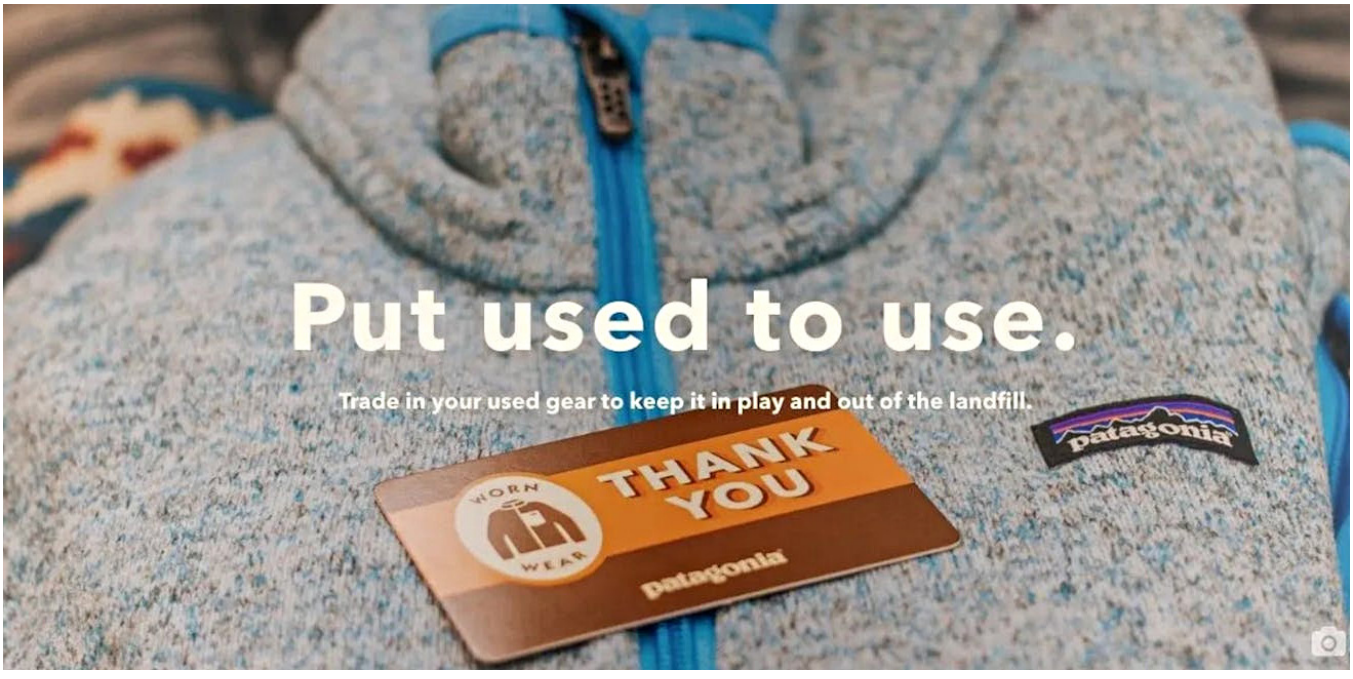
Case studies shared during the webinar highlighted honesty and transparency as a strategy to cut through the risk of greenwashing.

Companies that communicate both progress and shortcomings, such as outdoor gear brand Patagonia, tend to build stronger credibility, experts said. This includes publishing detailed impact reports, sharing data and acknowledging criticism.

Patagonia's head of impact and communications Corley Kenna noted that imperfection is part of its communications approach.

"We are a complicated and messy company – and we are the first ones to say that. But being open, honest and humble about where we've missed the mark is an important part of what makes us a little bit better."

"It's also how we help to push our



Patagonia's "Worn Wear" campaign encourages customers to trade in their used garments. *Image: Patagonia*

Patagonia's 'Don't buy this jacket' campaign listed the environmental impacts of buying the garment. *Image: Patagonia*

industry and the business community forward," she said.

Patagonia is seen as a benchmark for how brands communicate sustainability, building a reputation around transparency, activism and consistency between claims and action.

The company, which famously urged its consumers 'Don't buy this jacket' in a campaign in 2011, regularly uses its platform to advocate for environmental causes. Last Black Friday sales season in November, it donated 100 per cent of its sales to environmental groups. It also campaigns for the protection of public lands in the United States.

Kenna suggested that speaking openly about sustainability is not a risk for brands with credible claims. "Greenshouting is good business," she said, arguing that customers increasingly expect brands to take visible, values-driven positions.

At a time when consumers feel systems are failing them, companies going quiet on climate only deepens scepticism rather than protects reputations, she said.

Another brand that is well known for its sustainability communications is snack brand Tony's Chocolonely, which claims to be "an impact company that makes chocolate".

The company's sustainability lead Chris Oskum said the brand tackles heavy topics – poverty, child labour and deforestation in the cocoa supply chain – but avoids dry or overly technical messaging. It's 'There's fight in every bite' commercial shows how the brand is tackling exploitation in the cocoa supply chain, in a lighthearted way.

Key to its communications is its "Fair Report," which combines financial performance, data and progress against impact goals. Oskam said that even this detailed, "nitty gritty" report is designed to be engaging and on-brand, rather than dense and inaccessible.

While transparent about challenges in the cocoa sector, Tony's Chocolonely avoids overly negative framing. Its approach combines transparent reporting, positive storytelling and a sense of agency, showing audiences how they can contribute to its mission of ending exploitation in the cocoa supply chain.

(Source: https://www.eco-business.com/news/silence-is-a-climate-risk-brands-urged-to-trumpet-sustainability-progress-by-greenshouting/)

SATELLITE IMAGERY GUIDES FASTER RECOVERY IN CRISIS ZONES

When crises hit, the first 48 hours can determine how quickly communities recover. Which areas get help first, which roads and hospitals reopen, and how services are restored all depend on accurate, early data. The United Nations Development Programme (UNDP) and the United Nations Satellite Centre, hosted at the United Nations Institute for Training and Research (UNITAR), deliver that critical information within just two days. UNDP and the United Nations Satellite Centre have long supported rapid crisis analysis. A new framework signed between UNDP and UNITAR now streamlines that work, combining satellite imagery and on-the-ground assessments to produce integrated damage reports up to 30 per cent faster than before. This

data speeds up the transition from emergency response to recovery for affected communities.

"Faster data means faster recovery," said Shoko Noda, UNDP Crisis Bureau Director. "The sooner we identify the most affected communities, the sooner governments can restore services, reopen clinics, and help families return to normal life."

Under the new framework, satellite analysis will feed directly into UNDP's systems for tracking damage, affected populations, and vulnerability. Field teams will validate the satellite findings, improving accuracy over time and helping avoid duplicated effort across response partners.

"Satellite imagery and geospatial analysis become transformative when it informs concrete planning and programming decisions in an early and dynamic manner," said Michelle Gyles-McDonnough, UNITAR's Executive Director. "As a core common service for the entire development and humanitarian system, the United Nations Satellite Centre's support to partners like UNDP, enables faster, evidence-based decisions when crises strike. In the context of UN80, this collaboration shows how shared capabilities can strengthen efficiency, reduce duplication, and ensure limited resources are directed where they are needed most."

With humanitarian funding under growing strain, both organisations emphasised that using reliable data to direct assistance to the areas of greatest need is critical in accelerating early recovery and reducing prolonged dependence on emergency aid.

"Better data helps us prioritise the most vulnerable and direct recovery where it matters most. The earlier we start our early recovery efforts, the sooner livelihoods and services are restored. This reduces reliance on humanitarian assistance and allows communities to get back on their feet," said Shoko Noda, UNDP Crisis Bureau Director.

"Reliable, timely geospatial analysis is essential for effective humanitarian response and for mobilising the resources required to support it. Through the United Nations Satellite Centre, UNITAR provides the international community with objective satellite-based information that allows partners and donors to clearly understand the scale and location of damage following a crisis. In the context of the Gaza emergency response, for example, the United Nations Satellite Centre's accurate mapping of debris and damage has been instrumental in informing debris-management planning and supporting evidence-based funding appeals to address urgent humanitarian needs," said Michelle Gyles-McDonnough, UNITAR's Executive Director.

The agreement builds on years of joint work in crisis settings worldwide. After the 2025 earthquake in Myanmar, combined satellite and field analysis helped authorities rapidly identify damaged infrastructure, estimate debris volumes and concentration zones, assess population exposure, and estimate recovery needs. Following Tropical Storm Rafael in Colombia in 2024, enhanced geospatial mapping supported flood-affected communities in remote areas. Similar approaches have guided assessments and response planning in Afghanistan, Libya, Gaza and Equatorial Guinea.

Through this framework agreement, UNDP and UNITAR aim to institutionalise rapid, evidence-based crisis analysis, ensuring that partners receive accurate information within the critical first 48 hours. By combining satellite-derived data with field verification, the collaboration is expected to accelerate early recovery, optimise resource allocation, and strengthen the resilience of affected communities. Ultimately, the agreement reinforces a shared commitment to more efficient, timely and data-driven humanitarian and development response worldwide.

Under the new framework, satellite analysis will feed directly into UNDP's systems for tracking damage, affected populations, and vulnerability. Field teams will validate the satellite findings, improving accuracy over time and helping avoid duplicated effort across response partners.

(Source: https://www.eco-business.com/press-releases/satellite-imagery-guides-faster-recovery-in-crisis-zones/)

Surveys by the National Youth Council consistently show that environmental sustainability ranks among the top five concerns for young Singaporeans, but many struggle to turn that interest into action due to limited access to guidance, resources and opportunities. *Image: EB Impact*

HOW GROWING UP WITH CLIMATE CHANGE IS SHAPING THE NEXT GENERATION OF INNOVATORS

Through a $50,000 sustainability education grant, students are turning personal experiences of environmental change into real-world projects, writes **Rhick Lars Albay**

For 19-year-old Nathania Frida, climate change is not an abstract warning or a future risk. It is a shoreline that she's seen first-hand disappear.

"Growing up in Jakarta, I saw the impacts of climate change not as distant concepts, but as part of everyday life," said Frida, a student at the National University of Singapore (NUS). "A beach I used to walk along with my dad [as a child] is now submerged below sea level, and the roads near my home back then were often damaged by saltwater erosion during the rainy season."

Those memories – of land slipping away and infrastructure quietly corroding – shaped her decision to study environmental engineering and seek out breakthroughs that are practical, lived and shared.

"When it came time to choose my degree, I knew I wanted to pursue sustainability so I could better understand these issues and contribute to real, long-term solutions," she said.

Frida is not alone. Across the region, young people are growing up on the frontlines of climate change.

In Singapore's east coast, Ng Kao Jing remembers a childhood framed by mangroves, beaches and coastal ecosystems in Pasir Ris – and the steady pressure bearing down on them.

"Over time, this exposure also made me more aware of the pressures these spaces face, such as waste pollution and urbanisation," said the NUS student and research assistant. "That awareness sparked a desire to better understand how these green (and blue) spaces function, why they matter, and how sustainability initiatives can play a role in protecting and restoring them for the long term."

Singapore's National Youth Council (NYC) sentiment surveys have consistently shown that young Singaporeans prioritise environment and sustainability within their top five key concerns needing greater focus. However, turning that enthusiasm into meaningful action can be challenging, as some may not have access to the right guidance, resources, or opportunities to develop their ideas further.

> **"I would encourage other young people to resist the idea that sustainability has only one 'correct' pathway. Some of the most impactful sustainability work happens quietly – through relationship-building, translation and care.**
>
> **–KOH YING XI**
> Grantee, 2025 ComfortDelGro–EB Impact Sustainability Education Grant

The ComfortDelGro–EB Impact Sustainability Education Grant was established to help bridge this gap. With $50,000 in funding, the programme supports passionate tertiary students who are eager to make a difference through practical solutions. By providing mentorship, learning opportunities, and structured support, the grant helps young people transform their observations of everyday challenges into innovative projects that contribute to a more sustainable future.

From lived experience to leadership

Launched in 2024, the grant is now in its second year, supporting a total of 20 grantees across two cohorts. Beyond financial support, it offers mentorship and professional opportunities designed to help young people integrate sustainability into diverse career paths – from engineering and transport to education, community organising and storytelling.

"It exposed me to a wide range of marine conservation topics, including mangrove research, community-based tourism, shark fisheries, women's empowerment, coral restoration, megafauna surveys and more," said Ng, one of the programme's grantees in 2024.

The grant allowed Ng to pursue his Global Experience (GEx) field course in Bali and Lombok Island in Indonesia, where he saw how marine degradation is impossible to ignore.

"Effective and lasting marine conservation cannot be a purely top-down process. Local communities are not just stakeholders, but rather they are key actors with deep ecological knowledge and lived experience," he added.

That lesson now shapes his work with plastic credits, urban and beach clean-ups, and the social enterprise Jalan Journey as advisor – creating immersive learning journeys centred around marginalised communities and environmental issues in Singapore. In his spare time, he volunteers as an intertidal tour guide of Singapore's shorelines at low tide.

Making sustainability tangible

For 2025 grantee Koh Ying Xi, now pursuing a double degree in anthropology social sciences and environmental engineering, the challenge has been translating complex environmental systems into something people can touch and understand.

Recipients and mentors of the ComfortDelGro-EB Impact Sustainability Education Grant come together for the first time, facilitated by the EB Impact team at the Youth Innovation Hub. *Image: EB Impact*

"During my internship with Werms.inc [a start-up insect farm that turns food waste into insect protein for pet feed and fertiliser], I translated hard-to-digest environmental concepts into engaging, hands-on workshops," said Koh, adding that his student engineering projects during a recent exchange semester at Purdue University were grounded in real-world constraints. "Together, these experiences strengthened my belief that tangible, experiential learning is most effective when it comes to learning about the environment and how to better care for and make use of it."

He sees education as a catalyst for action.

"Education is a powerful catalyst for change when it is participatory and empowering. When people feel a sense of ownership over what they are learning, sustainability shifts from being an obligation to a conscious choice," he said, underscoring why participatory design matters most in communities already bearing the brunt of environmental change.

Effective and lasting marine conservation cannot be a purely top-down process. Local communities are not just stakeholders, but rather they are key actors with deep ecological knowledge and lived experience.

For 2025 grantee Frida, impact happens quietly – at home. Her move towards a zero-waste, circular lifestyle rippled through her family.

"One especially meaningful moment was when my parents noticed that I was choosing to use items we already had at home instead of buying new ones," she said. "That experience made sustainability feel very real and shared."

She has also seen how youth leadership can deliver concrete results. Through a student-led project, her team Project Oceanus raised funds to install solar-powered lighting and water systems in a village in Laos.

"Witnessing the direct impact of our work in Na Xath village reinforced the importance of aligning leadership, environmental respon-

sibility and social impact," she said.

Investing in the next generation

By backing students like these, ComfortDelGro and EB Impact are betting on a simple idea: that solutions in sustainability are strongest when shaped by those who live closest to the problem.

As a leading global transport operator with over half its fleet made up of cleaner energy vehicles, ComfortDelGro aims to uplift the transport industry by supporting the education of the next generation in sustainability and sustainable mobility. EB Impact, a Singapore-registered charity focused on educating and bridging communities for sustainability, anchors the programme in public-interest outcomes – linking learning directly to environmental and social change.

For the grantees, the path forward is not singular. "I would encourage other young people to resist the idea that sustainability has only one 'correct' pathway," Koh said. "Some of the most impactful sustainability work happens quietly – through relationship-building, translation, and care."

As seas rise and coastlines erode, these young leaders are proof that climate education, when paired with trust and resources, can turn lived loss into lasting action.

About EB Impact

EB Impact is a Singapore-registered charity that educates and bridges communities for sustainability. Guided by our vision of empowering individuals to create a positive impact for the planet and people, our mission is to make sustainability accessible and relatable by equipping people with the knowledge and skills to take meaningful action in their daily lives. Through education, community engagement, and partnerships, we aim to build a more compassionate, connected, and sustainable society in Singapore.

THE 2025 COMFORTDELGRO-EB IMPACT SUSTAINABILITY EDUCATION GRANT BENEFICIARIES:

YANG WEN HU THOMAS
Bachelor of Applied Science – BASc, Business Analytics, Singapore University of Social Sciences (SUSS)

AMY WOON SHU LING
Bachelor of Environmental Studies (Hons), prospective minor in Management and GIS, National University of Singapore (NUS)

ANDRES NEO BO JUN
Bachelor of Environmental Studies, National University of Singapore

KOH YING XI
Double Degree Programme in Bachelor of Social Sciences and Bachelor of Engineering (Environmental Engineering) National University of Singapore (NUS)

NG ZHENG YANG
Bachelor of Laws with Minor in Environmental Sustainability, National University of Singapore (NUS)

JOEL TENG WEN JIE
Master of Science (Environmental Management), National University of Singapore (NUS)

HONG YUET LING
Bachelor of Integrative Studies, Singapore Management University (SMU), Singapore

NATHANIA FRIDA
Environmental Engineering undergraduate at the National University of Singapore (NUS)

AISHA PUTRI SAFRIANTY
Undergraduate Program in Social Welfare, Universitas Indonesia

GALIH GERHANA
Business Administration; International Programme, IPMI International Business School

About ComfortDelGro Corporation

ComfortDelGro is a leading multi-modal transport operator offering a comprehensive suite of transportation solutions. Our extensive network spans public transport including buses and rail, point-to-point transport with taxis and private hire cars as well as business-to-business mobility solutions. Every day, millions rely on our services across 13 countries including; Singapore, Australia, the United Kingdom, New Zealand, China, Ireland, Sweden, France, Malaysia, Spain, Portugal, Greece, and the Netherlands.

As a global operator, we play an important role in steering the transition towards a low-carbon economy. With over 60 per cent of our owned fleet consisting of cleaner energy vehicles, we support governments and cities in enabling inclusive and sustainable transport systems. For our efforts, ComfortDelGro has been included in the Dow Jones Best-in-Class Indices since 2019, the only Singaporean transport company in the index.

(Source: https://www.eco-business.com/news/how-growing-up-with-climate-change-is-shaping-the-next-generation-of-innovators/)

Globally, sustainable issuances totalled US$1.557 trillion in 2025, about 6.7 per cent lower than the US$1.669 trillion raised in 2024, according to research by banking group ING. *Image: Eco-Business*

ASIA PACIFIC A BRIGHT SPOT FOR SUSTAINABLE FINANCE IN 2026: ING

Financial institutions and corporations drove strong growth in green bonds and loans in 2025, the banking group said, forecasting a potential rebound for transition bonds in the region this year, writes **Samantha Ho**

Despite global political and economic volatility, sustainable finance in Asia Pacific has held steady over the years – a trend that global financial institution ING expects to continue in 2026.

The region is emerging as an important contributor to the world's sustainable finance flows amid increasingly divergent trends in other markets, the Netherlands-headquartered banking group said in its Sustainable Finance Pulse report published today.

In 2025, Asia Pacific recorded strong growth in green bonds and green loans year-on-year, while sustainability-linked loans and transition bonds experienced a small dip.

This trend was largely driven by financial institutions and corporations, while activity from governments, supranational firms, as well as sovereign funds and agencies declined modestly, ING said.

"In 2026, we expect to see more growth from Asia Pacific and potentially a pick-up in transition issuance as policy frameworks continue to develop across the region," said Martijn Hoogerwerf, head of ING's sustainable solutions group in Asia Pacific. The region could potentially see a rebound in transition bond debt this year, the report added.

The bank saw record high sustainable finance volumes in Asia Pacific in 2025, driven by strong deal activity, ING's report showed. This was driven by strong performance in the first three quarters of the year and leading roles in structuring deals as the sustainable finance coordinator on the majority of its transactions.

ING's clients in the region are "prioritising practical, bankable green and transition financing solutions, highlighting the growing importance of structuring expertise in delivering credible decarbonisation pathways," said Anand Sachdev, country manager for ING Singapore and head of South & Southeast Asia.

"The resilience of Asia Pacific's sustainable finance market is increasingly underpinned by real-economy demand in areas such as energy, infrastructure and digital capacity," Sachdev added.

Globally, sustainable issuances totalled US$1.557 trillion in 2025, about 6.7 per cent lower than the US$1.669 trillion raised in 2024.

"For 2026, we expect a rise once more, with issuance landing around US$1.621 trillion," ING said.

Although the region of Europe, the Middle East and Africa (EMEA) is likely to remain the largest source of sustainable finance in 2026, growth will be driven by governments and financial institutes, while corporate issuances are seeing a notable dip, ING said.

This is partly due to the accessibility of conventional debt issuances, which are not linked to environmental, social and governance factors.

"Additionally, EMEA is already a well-established market for corporates with ESG frameworks, but the momentum has been softening," the report added, describing sustainability-linked debt as a weak spot.

Conversely, sustainable issuances in Central and Eastern Europe are booming, ING said, recording 40 per cent growth year-on-year in 2025 led by sovereigns and state-owned companies.

Despite the shifts in momentum across regions and product choices, ING said that it still sees ample reasons for future growth in the sustainable finance sector. "We have already seen a relatively strong start to the year with US$257 billion coming to the market in the first two months," it said, although March has witnessed a slowdown due to market volatility induced by the conflict in the Middle East.

ING's clients in the region are "prioritising practical, bankable green and transition financing solutions, highlighting the growing importance of structuring expertise in delivering credible decarbonisation pathways.

(Source: https://www.eco-business.com/news/asia-pacific-a-bright-spot-for-sustainable-finance-in-2026-ing/)

Office buildings in Tokyo, Japan.
Image: Nopparuj Lamaikul on Unsplash

ASIA LEADS GLOBAL SHIFT TOWARD SUSTAINABLE INVESTING, SURVEY FINDS

Nearly four in five regional asset owners integrate sustainability factors, outpacing Europe and North America as climate risks and supportive policies drive adoption, acccording to FTSE Russell survey.
Taejun Kang analyses the issue.

Asset owners in Asia-Pacific are increasingly embracing sustainable investment strategies, outpacing peers in Europe and North America as climate concerns intensify and supportive regulatory developments gather pace, according to FTSE Russell's 2025 global survey.

The FTSE Russell Sustainable Investment Asset Owner Survey is an annual global study of institutional investors – such as pension funds, insurers, sovereign wealth funds and other asset owners – on how they incorporate sustainability and climate factors into investment decisions, providing a snapshot of global trends, priorities and challenges in sustainable investing.

Some 79 per cent of Asia-Pacific respondents said they are implementing sustainability considerations in some form, compared with 74 per cent in Europe and 71 per cent in North America, the survey of 415 asset owners across 24 countries found. The region accounted for 31 per cent of participants, slightly more than North America's 29 per cent.

Historically, Asia lagged Western markets due to weaker regulatory frameworks and a focus on industrial growth. But large-scale clean energy investments in China, Japan's Green Transformation Strategy that aims to mobilise over JPY150 trillion (US$1 trillion) toward carbon neutrality by 2050, and new disclosure regimes in financial hubs such as Singapore and Hong Kong have shifted investor attitudes.

Asia's leadership is also evident in debt markets. Regional green bond issuance reached US$180 billion in 2025, up 29 per cent from 2024. China issued its first sovereign green bond listed in London, while Japan has introduced sovereign transition bonds, with US$3.6 billion issued so far.

Globally, climate change remains the top concern. Around 85 per cent of asset owners placed themselves in the "most concerned" category about climate risk, compared with 76 per cent a year earlier.

Overall, 80 per cent of respondents are incorporating sustainability or climate considerations into strategic asset allocation, and 73 per cent are implementing sustainable investment products in portfolios – a level that has remained steady despite a backlash against sustainable finance.

Financial performance and risk management were cited as the primary motivations for sustainable investment, by 56 per cent and 54 per cent of respondents respectively. About one in four asset owners are still assessing whether to adopt such strategies, with concerns about greenwashing, data quality and regulation acting as barriers.

Regional trends diverge sharply. Europe's market appears to be plateauing after years of rapid growth, with two-thirds of funds already classified under the European Union's sustainable fund rules. Investors there increasingly view complex regulation as a constraint, with 34 per cent saying it hinders market growth compared with 20 per cent who see it as supportive.

In the United States, sustainable investment adoption lags other regions, with 67 per cent of asset owners pursuing such strategies. Environmental, social and governance (ESG) has become politicised in recent years, although concern about climate risk remains high among investors. Despite regional differences, the study found growing convergence in investor behaviour worldwide. Many asset owners are focusing on strategies that can enhance returns or reduce risk, rather than pursuing sustainability objectives for their own sake.

Participants included pension funds, insurers, sovereign wealth funds, endowments and family offices. Nearly a quarter managed assets of US$100 billion or more.

Asia's leadership is also evident in debt markets. Regional green bond issuance reached US$180 billion in 2025, up 29 per cent from 2024. China issued its first sovereign green bond listed in London, while Japan has introduced sovereign transition bonds, with US$3.6 billion issued so far.

(Source: https://www.eco-business.com/news/asia-leads-global-shift-toward-sustainable-investing-survey-finds/)

WHY THE WORLD'S WATER CRISIS IS INCREASINGLY AN URBAN CHALLENGE

As the international community prepares for the 2026 UN Water Conference and the thirteenth session of the World Urban Forum (WUF13), a growing body of evidence shows that the global water crisis is increasingly concentrated in cities.

Recent reporting by The Guardian, drawing on multiple data sources, highlights the scale of water stress affecting major urban centres worldwide, with extreme stress observed in cities such as Beijing, New York, Los Angeles, Rio de Janeiro, and Delhi.

According to The Guardian, half of the world's 100 largest cities are already experiencing high levels of water stress, with water withdrawals for public supply and industry approaching or exceeding available resources in many cases.

The findings reflect a wider pattern. Urban water stress is shaped not only by climate pressures, but also by how water is managed, distributed, and governed as cities grow. Changes in water availability are uneven, with some urban areas experiencing long-term drying trends and others becoming wetter, underscoring the complexity of water security in an urbanising world.

A recent UN report notes that in some regions, water systems are no longer merely "stressed" or in "crisis" – they have entered a state of "bankruptcy," where past baselines can no longer realistically be restored. This framing underscores the urgency of sustainable, long-term water management and equitable access.

The human implications are significant. About 1.1 billion people live in major metropolitan areas located in regions experiencing strong long-term drying, compared with around 96 million people living in and around cities in regions showing strong wetting trends. Many of the cities facing the most pronounced drying signals are also among the fastest-growing, raising concerns about how future water demand will be met.

Urban growth and rising demand

These pressures are intensifying as urbanisation accelerates. Today, 55 per cent of the world's population lives in cities, a share projected to reach 68 per cent by 2050. Urban areas are expected to absorb nearly all future population growth, with 96 per cent of this growth occurring in Asia and Africa – regions that already face major water and sanitation deficits.

As cities expand, demand for water is expected to rise sharply. Urban water demand is projected to increase by 50–70 per cent over the next three decades. By 2050, around 1.9 billion urban residents are projected to experience seasonal water shortages, placing unprecedented pressure on water resources and on the systems that deliver water and sanitation services.

About 1.1 billion people live in major metropolitan areas located in regions experiencing strong long-term drying, compared with around 96 million people living in and around cities in regions showing strong wetting trends.

At the same time, water stress is closely intertwined with inequality. More than 1.1 billion people currently live in slums worldwide, a number expected to increase by 2 billion over the next 30 years – or 183,000 people every day. In many cities, residents of informal settlements face the greatest barriers to accessing safe and affordable water and sanitation, while urban populations continue to grow.

Cities at the centre of the global water agenda

These realities are already shaping global discussions on water. Earlier this week in Dakar, at a high-level preparatory meeting for the 2026 UN Water Conference, UN-Habitat and partners underscored the need for a stronger and more central role for local governments and public water operators in achieving Sustainable Development Goal 6 on water and sanitation.

In parallel, UN-Habitat is mobilising the urban development community through the World Urban Forum. The thirteenth session of the Forum, to be held in Baku in May 2026, will bring together urban experts, local leaders, and practitioners to examine how cities can strengthen water and sanitation services, improve local service delivery, and ensure inclusive access – particularly in rapidly urbanising contexts.

A practical focus of these discussions is how to support the frontline institutions that keep cities running, including water and sanitation utilities. Around 285,000 utilities worldwide are central to delivering SDG 6, yet many remain under-resourced and increasingly exposed to climate shocks.

One proven approach is to scale what already works, such as Water Operators' Partnerships. Facilitated by UN-Habitat through the Global Water Operators' Partnerships Alliance, these non-commercial, solidarity-based peer partnerships enable utilities to work together on a "do with, not for" basis, translating commitments into operational improvements and more resilient services.

Taken together, these discussions highlight a central message for WUF13: progress on housing, urban resilience, and equity is inseparable from universal access to safe water and sanitation.

(Source: https://www.eco-business.com/press-releases/why-the-worlds-water-crisis-is-increasingly-an-urban-challenge/)

Fish market in Kuching, SarawakA fish market in Kuching, east Malaysia. Despite stronger pledges to seafood tracability by Asia's biggest seafood companies, reporting on how these commitments will be implemented remains limited, according to a FAIRR report. *Image: Robin Hicks / Eco-Business*

ASIAN SEAFOOD GIANTS STEP UP TRACEABILITY, BUT PROGRESS TO CURB DESTRUCTIVE FISHING REMAINS SLOW

Despite rising commitments from Japan and Thailand's seafood companies, few firms have implemented the robust traceability systems required to manage escalating environmental and social risks, an investor assessment finds, writes **Robin Hicks**

Asia's largest seafood companies are pledging to trace the origins of their fish, but few have the digital systems, audits or concrete plans needed to curb illegal fishing, overfishing or human rights abuses in their supply chains, according to a new investor-focused review.

The second phase of the Seafood Traceability Engagement, led by food sector investor risk non-profit FAIRR, assessed seven global seafood majors with a market capitalisation of US$146 billion and found that four firms – Japanese players Maruha Nichiro and Mitsubishi, and Thai firms Thai Union and CP Foods – now have what investors consider robust group-level traceability commitments, an improvement on the previous study.

Corporate action is critical as Asia dominates global seafood production, processing and trade, yet the region is home to some of the most complex and opaque supply chains – and destructive practices. Asean countries experience over US$6 billion in annual economic losses from illegal, unregulated and unreported (IUU) fishing, with Indonesia and Vietnam the hardest hit.

> **"The challenge for Japanese companies in particular is that they source so many species – but lack a fundamental understanding of what many of these species actually are.**
>
> **–LAURE BOISSAT**
> Manager, Research and Engagements, Oceans, FAIRR

Corporate seafood commitments generally acknowledge the role traceability plays in addressing environmental and social risks – from IUU fishing and overfishing to habitat conversion and labour abuses – and in some cases reference alignment with the Global Dialogue on Seafood Traceability (GDST), a mechanism for improving sustainability through digital traceability. Two companies now explicitly cite GDST standards in their commitments, up from just one last year.

But despite stronger pledges, reporting on how these commitments will be implemented remains limited. No company provides a comprehensive, time-bound roadmap for rolling out full-chain digital traceability, finds the report, which was compiled in collaboration with conservation group WWF-US, United Nations Environment Finance Initiative, the World Benchmarking Alliance and Planet Tracker.

Progress is often patchy and limited to specific species. Thai Union has detailed plans for tuna and shrimp, while Mitsubishi is starting with tuna before expanding. Maruha Nichiro has pledged electronic traceability for selected species by

	1.1. Acknowledgement of material risks	1.2. Traceability commitment	2.1. Quality of the traceability commitment	2.2. Implementation plan	3.1. Monitoring and reporting	3.2. Third-party verification
Charoen Pokphand Foods PCL	Partial disclosure	Lead	Limited disclosure	Limited disclosure	Partial disclosure	Limited disclosure
Marubeni Corporation	Partial disclosure	Limited disclosure	Limited disclosure	No disclosure	Limited disclosure	Limited disclosure
Maruha Nichiro Corporation	Partial disclosure	Lead	Limited disclosure	Limited disclosure	Limited disclosure	Limited disclosure
Mitsubishi Corporation	Lead	Lead	Partial disclosure	Limited disclosure	Limited disclosure	Limited disclosure
Nissui Corporation	Partial disclosure	Limited disclosure	Limited disclosure	No disclosure	Limited disclosure	Limited disclosure
Nomad Foods Ltd	Partial disclosure	Partial disclosure	Partial disclosure	Partial disclosure	Partial disclosure	Limited disclosure
Thai Union Group PCL	Lead	Lead	Partial disclosure	Limited disclosure	Partial disclosure	Limited disclosure

How do the world's top seafood companies fare against FAIRR's traceability framework?
Source: FAIRR analysis of company disclosures, including annual and sustainability reports, press releases and webpages.

2027, but without a disclosed plan. Others – including Nissui, Marubeni and Nomad Foods – still lack robust traceability commitments altogether, relying heavily on certifications.

Digital traceability lags behind commitments

Across the industry, adoption of GDST-aligned digital systems is still low. Companies cite the same structural barriers: fragmented datasets, product mixing during handling, a largely paper-based documentation culture, and in Asia's mature seafood industries, an ageing workforce that slows digital uptake.

Sustainable finance nonprofit Planet Tracker estimates that only 29 per cent of global seafood production can currently adopt full traceability systems under existing governance and sustainability conditions. Even where companies commit to traceability, the majority do not disclose how they will achieve interoperability with other data frameworks or ensure the quality and veracity of data.

Independent verification also remains rare. Only two companies have engaged in third-party audits of their traceability systems beyond certification-related checks. Most companies verify only through sustainability certifications, which provide limited "one step up, one step down" assurance but not end-to-end visibility.

Every company in the engagement uses sustainability certifications such as Marine Stewardship Council (MSC), which certifies wild-caught fish, or farmed fish certifier Aquaculture Stewardship Council (ASC), and the report notes that their traceability-related standards are improving.

ASC's TraceASC platform digitally tracks certified seafood batches using GDST-aligned data, while MSC has been a GDST partner since 2024 and is working toward a fully digital chain of custody system by 2030.

WHAT SHOULD REAL SEAFOOD TRACEABILITY LOOK LIKE?

Traceability systems should have the following traits, according to FAIRR's assssment of the current literature:

SCOPE:
Cover 100 per cent of seafood, including feed ingredients in the case of fish farming.

DEPTH:
"Full chain", meaning that the products can be traced through the value chain back to the vessel, farm, or feed source.

BREADTH:
Collect sufficient data about seafood products at each stage of the value chain and align with standards such as GDST.

FORM:
Use data in a format that is digital and interoperable, so actors in the supply chain have full access.

Source: Seafood Traceability Engagement

However, certification coverage varies widely, and companies emphasised that certification demand in Asian markets remains weak, although a recent study by MSC signalled growing demand for sustainable fish in Singapore and Malaysia. For many product lines – including squid and marine feed ingredients – certification remains difficult or commercially impractical. Investors caution that certifications should complement, not substitute for, robust digital traceability.

Japanese firms lead without full traceability

Japanese companies are frontrunners in adopting the Taskforce on Nature-related Financial Disclosures (TNFD), with four firms publishing TNFD-aligned reports. These disclosures help identify biodiversity risks at species or site level, but companies still lack the full supply chain traceability needed to verify sustainability claims. Marine resource surveys used by Maruha Nichiro and Nissui cannot replace independently verified supply chain data, and Nissui continues to source critically endangered species, the report said.

Laure Boissat, manager, research and engagements, oceans, FAIRR, noted that Japanese companies like Nissui source more than 300 marine species, but about 17 per cent of this catch – which is mainly used for fish meal and fish oil – cannot be identified. "The challenge for Japanese companies in particular is that they source so many species – but lack a fundamental understanding of what many of these species actually are," she told Eco-Business.

With Europe, the US and Japan tightening biodiversity and due-diligence rules, companies without verifiable supply chain data face risks to both market access and financial performance, the report noted.

"Traceability is a financially material issue for the seafood sector. Beyond its environmental and social importance, robust seafood traceability is essential for safeguarding assets, ensuring continued market access, and sustaining investor and consumer trust," it said.

(Source: https://www.eco-business.com/news/asian-seafood-giants-step-up-traceability-but-progress-to-curb-destructive-fishing-remains-slow/)

ABC

Assotech Business Cresterra

Sector - 135, Expressway, Noida

1. Integrated Intelligent IT Park Complex
2. 1.8 Million SQFT Mixed Use Development
3. LEED Gold Certified Green Building Complex
4. Market Leading Floor Efficiency of 83% [+-2%]
5. 70% leased out of Phase - I

OFFICE SPACES

SERVICED APPARTMENTS
Phase - I

RETAIL
Phase - I

ASSOTECH
www.assotech.in
Assotech Realty Pvt. Ltd.
46, First Floor, Janpath, New Delhi - 110001
Ph: +91 - 8010821111
info@assotech.in

Our Leasing Partners
CBRE

SAVE LIVES GIVE SMILES

Every Year, **35,000+** children are born with cleft lip and palate in India. Untreated clefts lead to difficulties in eating, breathing, hearing and speaking. The children often face social stigma and drop out of school.

Cleft treatment can change this. Forever.

OUR LEGACY & REACH:

640,000+ cleft surgeries since 2000

150+ partner hospitals

30+ states and UTs

300+ cleft medical professionals

Smile Train empowers local medical professionals with training, funding, and resources to provide free cleft surgery and comprehensive cleft care to children across the country. We advance a sustainable and scalable global health model for cleft treatment, drastically improving children's lives, creating both an immediate and long-term impact.

Let your CSR Program transform lives and create lasting impact.

Join us to change India, one smile at a time.

Contact us:

Email ID: csrindia@smiletrain.org

Address: Plot No. 3, LSC, Sector C Pocket 6&7, Vasant Kunj, New Delhi 110070 Ph: 011 47856300

www.smiletrainindia.org

SmileTrain
Changing India One Smile At A Time

National Cleft Helpline – 1800 103 8301