

CSR TODAY

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Climate change has made India vulnerable



Rajesh Tiwari
Publisher
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Severe impacts were recorded in both countries – with heat exposure warnings issued, schools closed, power grids destabilised and working hours lost to extreme conditions.

The heatwave – responsible for at least 90 deaths across India and Pakistan, as well as wheat crop failures, power outages and forest fires – was also made 1C hotter by human-driven warming, according to the findings.

The results, from an international team of climate scientists at the World Weather Attribution initiative, also show that such heat could become a further 2-20 times more likely if global temperatures reach 2C above pre-industrial levels, the upper limit of the Paris Agreement.

To examine the role of climate change in the heatwave, the researchers first looked at records of maximum daily temperatures in north-western India and south-eastern Pakistan to see how they have changed with global temperature rise. (Global temperatures have already risen by around 1.2C since the start of the industrial era.)

Climate change is not only raising temperatures and making India's heatwaves hotter, but is also changing weather patterns that further drive dangerous heat extremes, according to experts.

Among the effects are that the cooling Western Disturbance (WD) is being disrupted, making anticyclones more dominant, Arctic heatwave and weird persistence of El Niño/Southern Oscillation (ENSO) phases, according to details compiled by Climate Trends.

It may be mentioned, WDs drive the weather and govern the wind pattern over the region that includes both mountains and plains. In fact, they are very crucial in the summer season as they are known to suppress heat wave conditions in the Indo-Gangetic plains. WD infuses moisture laden winds over the landlocked northwest region. This further interacts with the humid easterly winds from Arabian Sea, triggering the formation of weather systems such as cyclonic circulations and trough, resulting in rain and thunder-shower activities.

However, climate change has led to dynamic changes in the pattern of WDs. Although the frequency of WDs has increased, those have not translated to the precipitation associated with them.

According to A P Dimri, Director, Indian Institute of Geomagnetism, Mumbai, "Global warming can be held responsible up to an extent. WDs are getting lighter by virtue of increasing heat, as it decreases the moisture content. Subsequently, these Western Disturbances are now moving across higher elevation due to heat and are reaching up to Karakoram range. Climate change has made some dynamic changes in the pattern of WD."

North-Western plains too saw mercury soaring, paving way for heatwave-like conditions. Hot weather conditions were also felt across the hilly states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand, where earlier we used to see snowfall during March as well. As per state run India Meteorological Department (IMD), heatwave in plains, coastal areas and hilly regions is declared when the maximum temperatures are above 40°C, 37°C and 30°C, respectively and are above the normal average by 4-5 degrees. It is termed as 'severe heatwave' if it is above 5-6 degrees, according to a note by Climate Trends.

"Absence of any weather system and presence of any anticyclone over Rajasthan and adjoining Pakistan had been pushing hit winds across North and Central India. March is going to end on a hotter note with no respite till the beginning of April. Light winds and dry weather will once again increase the temperatures over Northwest India leading to heat wave conditions. Gradually, the heat wave will engulf parts of north Madhya Maharashtra and Vidarbha as well. Pre monsoon activities will only commence around mid-April across Northwest India, which may give some relief from intense hot weather conditions," said Mahesh Palawat, AVP-Meteorology and Climate Change, Skymet Weather. 📺

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CSR NEWS

Lighthouse Learning partners with Maharashtra Government for Project Adarsh Anganwadi to upgrade Anganwadis in the state

Lighthouse Learning Group, (formerly known as EuroKids International), a leading early childhood & K-12 education organization, has signed a MoU with the Maharashtra Government - Women

Prajodh Rajan (Co-founder & Group CEO), Mr KVS Seshasai (CEO), Dr Anita Madan and Tushar Shrotri were present on this occasion. With over 20 years of experience in early childhood education

be taken to other major parts of Maharashtra. Lighthouse Learning will also help to ensure that each Anganwadi has hygienic and safe surroundings for children to play and learn in.

While signing the MOU, Thakur said: "We are happy to partner with Lighthouse Learning for the upgradation of Smart Anganwadis to help support the education of young children. They will start with re-vamping a few existing Anganwadis in Mumbai immediately. We look forward to Lighthouse Learning taking this initiative to other parts of Maharashtra so that every child will soon have access to safe and hygienic centres to study and play in."

Prajodh Rajan, Co-founder & Group CEO - Lighthouse Learning said, "We are delighted to support the Maharashtra Government's mission to develop quality Anganwadis under the Project Adarsh Anganwadi. Our vision is to support and upgrade one Anganwadi for each Pre-School we have in the state. Research has conclusively proven that the first five years of a child's life is the most important as it sets the foundation for a strong growth and development journey. It is our privilege to partner with the ministry of WCD and look forward for deeper collaborations in the future."



and Child Development (WCD) Department to implement the Project Adarsh Anganwadi. The signing happened in the office of Yashomati Thakur, Minister for Women and Child Development and in presence of I A Kundan, Secretary – WCD and Rubal Aggarwal, Commissioner – ICDS and Vijay Kshirsagar Dy Commissioner - ICDS.

and care, Lighthouse Learning aims to transform some existing Anganwadis, expanding its infrastructure, bringing in high quality content and curriculum, teaching aids, as well as conducting several training sessions to enhance the skills of the staff.

This project would commence from Mumbai city and would

PepsiCo Foundation partners with WaterAid India to promote sustainable access to clean water and sanitation facilities in West Bengal

PepsiCo Foundation in partnership with WaterAid India has initiated the 'Access to Safe Water' project with 45 Gram Panchayats (GPs) in West Bengal aims at providing clean water access to high-water-risk communities in the districts of Purba Bardhaman, Bankura, and Hooghly. The project endeavours to positively impact the health, security, and hygiene of local residents.

The prime objective of this project is to benefit close to 200,000 people directly and indirectly, by mid-2024. Initiatives that are planned over the coming months include providing adequate access to safe drinking water in households; improved hygiene and sanitation practices; reduced groundwater depletion through water conservation and recharge and establishing suitable water quality monitoring systems. Besides this, the project also aims to ensure significant awareness of water, health, and sanitation (WASH) issues, scaling up and replication of models outside the project villages/ communities, etc.

Through this partnership, WaterAid India aims to provide communities with sustainable access to safe & clean drinking water and to facilitate the adoption of better hygiene practices.

Key achievements to date:

Access to safe drinking water at the household level - 30 piped water supply systems installed in 800+ households in West Bengal, providing access to safe and reliable drinking water to over 3,500 people.

Hand-pumps are one of the main drinking water sources for communities in villages in West Bengal.



Mr. Karim Mohamed, PepsiCo Foundation Lead, South Asia & MENA, and Ms. Juhi Gupta, Head, CSR & Sustainability, PepsiCo India along with Jyotirmoy Pal, District Coordinator, Purba Bardhaman, WaterAid India interacting with community members as part of access to safe water project interventions area in Jhikrer Bagan, Chhoto Dhamas, Debipur Gram Panchayat, Purba Bardhaman in West Bengal.



Mr. Karim Mohamed, PepsiCo Foundation Lead, South Asia & MENA, and Ms. Juhi Gupta, Head, CSR & Sustainability, PepsiCo India inaugurating a mini piped water supply at Jhikrer Bagan, Chhoto Dhamas, Debipur Gram Panchayat, Purba Bardhaman in West Bengal.

Over 100 hand pumps (across three districts) have been restored and retrofitted with a platform, drainage, and soak pits. This has directly benefitted approximately 8,000 people with improved access to safe drinking water. Additionally, water user committees have been formed as part of establishing robust operation and maintenance systems.

Inclusive access to WASH - Inclusivity is a key component of the project. Over 100 people who are differently-abled have been identified to understand the specific requirements of persons with disabilities (PWDs) for making design modifications in the toilets. Improved hygiene and sanitation practices in target communities – More than 200 people have gained access to 50+ functional toilets in their homes.

Sharing his thoughts on the progress of the initiatives, VK Madhavan, Chief Executive, WaterAid India said, “Safe and assured drinking water in the household or close to it has to be the reality for every family. This will not just improve the health and quality of life of families but more importantly, it will reduce the drudgery of women and adolescent girls. This partnership with the support of the PepsiCo Foundation can transform the lives of families engaged as part of the supply chain of PepsiCo by providing them with adequate access to safe water, clean toilets, and good hygiene. Success, is not merely the provision of these basic services but if communities can manage and maintain these on their own in the future.”

Ahmed ElSheikh, President, PepsiCo India added, “Guided by the philosophy of ‘Winning with pep+’, PepsiCo through its Foundation has been working towards bringing safe water access and better hygiene practices and sanitation to the underserved communities. Our partnership with Water Aid India to provide safe access water to marginalised farmer communities is inching us



Mr. Karim Mohamed, PepsiCo Foundation Lead, South Asia & MENA, and Ms. Juhi Gupta, Head, CSR & Sustainability, PepsiCo India meeting community members outside a retrofitted twin-pit toilet.



Mr. Karim Mohamed, PepsiCo Foundation Lead, South Asia & MENA, and Ms. Juhi Gupta, Head, CSR & Sustainability, PepsiCo India with Subhajit Ray, District Coordinator, Hooghly, and Raj Paul, District Coordinator, Bankura, WaterAid India on a visit to Jhikrer Bagan, Chhoto Dhamas, Debipur Gram Panchayat, Purba Bardhaman in West Bengal.



An adolescent volunteer performing water quality testing at Alipur Sashir Bagan, Durgapur Gram Panchayat, Purba Bardhaman.



Ms. Juhi Gupta, Head, CSR & Sustainability, PepsiCo India interacting with members of the WaterAid India team at the intervention area in Alipur Sashir Bagan, Durgapur Gram Panchayat, Purba Bardhaman.

closer towards our goal of providing 100 million people globally with safe water access by 2030. We are positive that the inclusivity of this project will improve the health, hygiene of local farmers and communities and accelerate the process of achieving the long-term goal of improving water security in the region.”

A need assessment study was conducted by WaterAid India in the identified villages in these three districts of West Bengal to understand the pressing challenges faced by families. This assessment will serve as a baseline to guide efforts and to be able to track change during the course of this project. The findings from the baseline study further revealed that across all three districts, almost 58.8 percent people fetched water from far-off sources for their daily needs during lean & peak summer months and about 19.5% of households had access to safe drinking water at home. In terms of access to basic sanitation facilities, nearly 20% of families didn't have access to toilets and about 18.5% of families had shared toilets.

The “Access to Safe Water” project is not just about providing water and sanitation facilities to farmers and the community. Hygiene promotion messaging among adolescent girls and women has been a key component for this project. About 550 adolescent girls and women have been trained on sustainable menstrual hygiene management. Community-level hygiene promotion sessions on personal hygiene; environmental hygiene; water and food hygiene have been regularly organised in all the intervention villages. About 6,300 people were reached through this exercise between mid-2021 to date. This number included 3,800 children. Training and awareness programmes have been organised to make WASH programmes more accessible and inclusive for everyone in the community. To improve hygiene and sanitation practices toilets are being retrofitted.

UNICEF-Radio4Child honour radio professionals for promoting children's routine immunization and COVID-19 messaging

Multi-Grammy Award winning music composer, environmentalist and UNICEF Celebrity Supporter, Ricky Kej, felicitated over 80 radio professionals from all over India at an event organized by Radio4Child, an initiative by UNICEF India to engage radio professionals with thought-provoking programming on child and maternal health.

The two-day Radio4Child workshop felicitated radio professionals, from private FM and All India Radio across the country, for their commendable work during the COVID-19 pandemic as well as for children's Routine Immunization. Radio professionals re-affirmed to focus on the issue of Routine Immunization.

Zafrin Chowdhury, Chief of Communication, Advocacy and Partnerships, UNICEF India, said, "We sincerely appreciate the engagement with radio professionals and RJs through the Radio4Child platform across the challenging years of the pandemic, which consistently brought forth issues that affected children. Radio, with its power of voice, brings alive stories, issues and situations that connect effectively with its listeners. I am very happy that today we also have with us a creative giant and multi-Grammy Award winning music composer and UNICEF Celebrity Supporter, Ricky Kej to felicitate and acknowledge this collaboration."

"Our work, however, is not yet over. As we know while India's immunization coverage of children has improved substantially across the country, there are still gaps in immunization coverage, especially from marginalized communities in



urban and rural areas," she said. Thanking the radio professionals and RJs, for their dedication and commitment to create a better tomorrow for every child, UNICEF Celebrity Supporter, Ricky Kej, said, "Media is a powerful force that can contribute to all children getting vaccinated, living a healthy life, and reaching their full potential. We need to continue the excellent work done during the pandemic in building awareness and countering rumours. The RJs ability to creatively reach its audience with relevant information is a game changer and allows for effective messaging that counter vaccine hesitancy among parents."

During the pandemic, Radio4Child engaged with over 2,000 radio professionals from all over India through capacity building workshops/sessions and one-on-one communication to sensitize and encourage creative programmes around COVID-19, vaccination and impact on children.

The COVID-19 pandemic disrupted essential immunization services due to multiple reasons, it has increased the possibility of un/partially vaccinated children being exposed to the risk of vaccine-preventable diseases (VPD). The Government of India launched the Intensified Mission Indradhanush (IMI) 4.0 programme earlier this year to focus

on geographic areas where improvement in Routine Immunization coverage is required. Dr Sachin Desai, State Immunization Officer, Government of Maharashtra, giving an update on IMI 4.0 said, “It costs more to control an outbreak than to prevent it. The opportunity costs of not vaccinating all children are staggering, particularly for over-stretched health systems. Our work

to provide children and communities with essential health services including vaccination is more critical now than ever. The Government of India is committed to provide essential health services for children in preventing and containing further disease outbreaks.”

Rajeshwari Chandrasekar, Chief of Field Office, UNICEF Maharashtra, stressed on the need to spread

the message of vaccine equity. “Narrowing the immunization gaps among the poor, marginalized, uneducated groups in all geographic locations – rural and urban – must be a priority. We must close the immunization gap in every state, in every district and in every community to ensure that children have life-long protection from vaccine preventable diseases,” she said.

Fairfax and Quess commit up to INR 300 crores to set up a 350 bed Speciality Paediatric Centre at CMC Vellore

Fairfax Financial Holdings Limited along with Quess Corp Ltd, India's leading business services provider, announces the signing of a MoA with Christian Medical College (“CMC”), Vellore, to set up a paediatric specialty centre at its Kannigapuram campus. The proposed centre, which will be called the ‘CMC Vellore Paediatric Specialty Centre’, will have 350 beds covering a range of paediatric specialties.

Fairfax and Quess have pledged up to INR 300cr towards setting up this centre, with the vision to provide leading state-of-the-art paediatric medical and surgical services. In addition to treatment, the centre will also focus on education, training and research. This will help meet the medical needs of patients coming not only from different parts of India but across the globe for consultation and treatment.

Research suggests that over 7% of India's population is pushed into poverty every year due to healthcare costs. Even though the Indian government has committed to increase healthcare spending to 2.5% of the GDP by 2025, it will remain much lower than the global average necessitating meaningful philanthropy from private institutions to help



Dr. J.V. Peter, Director of CMC, Mr. Prem Watsa, Chairman and Chief Executive Officer of Fairfax, and Mr. Ajit Isaac, Chairman of Quess at the MoA signing ceremony.

democratize access to affordable quality healthcare.

CMC, a renowned medical college of international repute, attracts patients from all economic backgrounds and plays a pivotal role in providing access to affordable quality healthcare. The Fairfax-Quess partnership aims to support CMC's culture of caring for the poor and vulnerable and maintaining a fine balance between providing quality treatment while being inclusive and minimizing the financial burden on patients.

The centre, upon completion, will be located in a building named the ‘Fairfax-Quess Block’ and will add to the existing capacity of the

well-renowned multi-specialty medical institution in Vellore. It will also support the development of programs, services and resources that are scalable and transferable for potential expansion to future sites across the country.

The MoA also outlines the formation of a ‘Project Implementation Committee’ that will be set up for the guidance, supervision and management of the project during the planning, construction and operational phases. The committee will be chaired by the Director of CMC Vellore and will consist of members nominated by CMC Vellore, Fairfax and Quess.

Fujifilm India donates TB Detection Machines to District TB Officers in Anguri, Kutch and Wayanad

To strengthen the government efforts in eradicating Tuberculosis in India, Fujifilm India Pvt Ltd, a leader in diagnostic imaging and medical system technology, recently donated one Truenat machine in Kutch, 1 CB NAAT Machines in Waynad, and 1 CBNAAT machine in Amguri, for detection of TB to the district TB officers of Kutch (Gujarat), Wayanad (Kerala), and Amguri (Assam).

Along with the devices, Fujifilm also provided nutrition support through Rice, Salt, Daal, Gram (legumes), and Oil in the Wayanad district of Kerala. The company intends to raise TB awareness and help identify those with TB symptoms among the most disadvantaged and underprivileged people in society.

Every year, hundreds of patients abandon their TB treatment regimen due to concerns about TB medicine side effects and the loss of pay when they miss work due to side effects. With the support of a dry ration, some patients will reconsider going back into treatment. The dry ration will be primarily provided to chosen TB patients from low-income families in need of nutrition assistance. Rice, dal, gram, oil, salt, and other staples are intended to be included in a monthly dry ration kit, which will be altered from location to site based on community preferences. This monthly donation will be made for a period of six months after the project begins, along with their medicines, during the patients' follow-up at the district TB centre. TB is a completely curable disease. However, a delay in diagnosing it increases the chance of death and spreads the disease. TB is a severe disease but can



Fujifilm India donates TB Detection Machines to District TB Officers in Anguri, Kutch and Wayanad



Donation of nutrition support through Rice, Salt, Daal, Gram (legumes), and Oil in the Wayanad district of Kerala



Donation of CB NAAT Machine in Waynad



Donation of CB NAAT Machine in Amguri

be cured completely if treated for at least six months with the approved four-drug combination.

Koji Wada, Managing Director, Fujifilm India Pvt Ltd said, "We at Fujifilm have always been committed to contributing to the well-being of the society, and with this donation, we are strengthening our focus on making India a TB-free country. People living in remote areas and without access to healthcare are adversely affected because of misconceptions around TB. Our aim is to reach and provide aid to those who need and help eradicate the disease in line with the NTEP. With this initiative, we are taking one step forward towards our mission of 'TB Haarega, Desh Jeetega'."

Fujifilm India, through its NEVER STOP Campaign's TB Drive, has

covered 27 cities over the course of nine months. The NTEP will assist with TB testing and distribute TB medicines in accordance with the programme parameters through its existing lab network. Fujifilm's TB van has visited Delhi, Dadri, Dehradun, Haridwar, Haldwani, Rudrapur, Agra, Pata, Mainpuri, Gwalior, Kanpur, Raebareli, Varanasi, Patna, Farakka and Sankrail since August 2021. The van will continue to cover cities such as Chandigarh, Ludhiana, Bhilwara, Nalagarh, Kolkata, Indore, Haldia, Jalandhar, Jaipur & Bhatapara over the coming weeks.

Fujifilm's aim is to Never Stop providing the best healthcare technologies and innovations to contribute to making the world a better place.

Burman Hospitality Supports Sesame Workshop India to Empower Early Childhood Education across 1,000 Anganwadi Centers in Uttar Pradesh

Burman Hospitality Private Limited (BHPL), the master franchisee of Taco Bell in India believes in giving back to society and contributing to early childhood education. In line with this philosophy, BHPL has joined hands with Sesame Workshop India, an educational non-profit committed to meet the early developmental needs of young children, to empower Early Childhood Education (ECE) in Uttar Pradesh through its program "Learn. Play. Grow".

Taking a step towards providing young children quality and accessible early learning, Burman Hospitality Private Limited's (BHPL) grant will support Sesame Workshop India strengthen the early childhood education in 1,000 Anganwadi Centres in Uttar Pradesh. The program that's currently positioned to reach 1.5 lakh children across 7 states, will deliver

a holistic educational opportunity for additional 35,000 children between 3-6 years and enable beneficial learning and developmental outcomes for them. The intervention will deliver a wholesome program for cognitive, physical and motor, socio-emotional development and the growth of communication, early language, literacy, and numeracy for children. Children will develop school readiness skills and become ready for formal school by age 6. Furthermore, 1000 Anganwadi workers will gain better understanding of Early Childhood Education concepts and importance of foundational learning through trainings that will be provided as part of the "Learn. Play. Grow" program.

Educational content for the Anganwadi worker, children and caregivers will be developed which will be aligned with the

state Integrated Child Development Scheme (ICDS) curriculum framework and will cover whole child curriculum domains such as language and literacy, cognition, physical well-being, social and emotional wellbeing.

Talking about this initiative, Gaurav Burman, Director, Burman Hospitality, Taco Bell's Master Franchise Partner in India said, "I have had the honour of serving on Sesame Workshop India's Advisory Board and have seen first-hand the amazing work they are doing in India. We at BHPL are delighted to make this contribution and hope it will be the start of a long-term partnership, whereby we can continue giving to help Sesame Workshop India grow their operations. At BHPL, we are passionate about childhood education and hope that we can continue to give to this cause."

GRAB Launches Livelihood on Wheels

Tech-enabled last-mile logistics company, GRAB (GRAB a Grub), announced the launch of the 'Livelihood on Wheels' project. This initiative aims to provide livelihood opportunities for differently-abled candidates.

In this agreement, GRAB has collaborated with Youth4Jobs and NeoMotion Assistive Solutions Pvt Ltd. Youth4Jobs is an NGO that will help GRAB to identify the candidates depending on the job role and level of impairment faced by the candidate. The NGO will understand the job role and remuneration defined by GRAB and explain the same to the candidate during the identification stage, acting as a middle man between the two ends. In this partnership, NeoMotion Assistive

Solutions Pvt Ltd is the mobility provider and will provide mobility equipment to the candidates employed by GRAB.



NeoMotion will train the candidates on the safe usage of the equipment provided to them. NeoMotion will be providing low-cost battery-operated wheelchair vehicles to the candidates. These candidates will cover up to 10 km for delivering groceries, pharma and food products. To begin with the project will pilot 10 candidates for this.

Nishant Vora, co-founder and director of GRAB said, "From the time of inception, GRAB has always believed in promoting inclusivity in its work culture. We are proud to initiate the 'Livelihood on Wheels' project to support members from the differently-abled community and empower them with financial independence above all."

HCL and UNLEASH Partner to Develop Solutions for Aquatic Ecosystem Conservation

The HCL Group and UNLEASH, a global innovation program for the UN Sustainable Development Goals (SDGs), announced a year-long collaboration to mobilize youth and develop innovative solutions to promote aquatic ecosystem conservation.

These solutions will aim to tackle challenges from Source (mountains & glaciers) to Sink (oceans and seas) and their links to terrestrial ecosystems.

Nature and ocean conservation play a critical role in our survival. Terrestrial and aquatic ecosystems provide us with food, water, oxygen, energy, and medicines. They regulate our climate, provide pollination to crops, and reduce the impact of natural hazards.

Despite the vital importance of our planet's ecosystems, we are experiencing a human-caused deterioration of our natural habitats: human activity has altered almost 75% of the Earth's terrestrial surface, squeezing wildlife and nature into an ever-smaller corner. Furthermore, ocean heat is at record levels and every year up to 12 million metric tonnes of plastic enter the ocean, damaging ecosystems around the world. Without maintaining healthy and biodiverse terrestrial and aquatic ecosystems, the progress on the remaining United Nations' SDGs is at critical risk.

To tackle such challenges, UNLEASH and HCL will collaborate to establish a year of youth-led action. Specifically, the partnership will allow youth to develop solutions encompassing SDG 14 (Life below water) and SDG 15 (Life on land), and explore synergies with other SDGs as well. During the process, they will be guided by industry

experts and receive hands-on support to ensure that solutions are relatable to the context and feasible in practice.

HCL Group with its large presence in business through HCL Technologies, HCL Infosystems and HCL Healthcare; and its social development organizations including the philanthropic Shiv Nadar Foundation and The Habitats Trust, and its CSR arm – HCL Foundation, has been tackling real on-ground issues related to the SDGs. The Group with its breadth of experience across different sectors and its holistic and powerful sustainability charter is the perfect partner for UNLEASH to successfully push its SDGs innovation efforts.

"Innovation, entrepreneurship, humanity and a people-centric culture are part of HCL's core, and it is important to us that our progress is reflected in the development of a better world. Our various entities have already been driving important projects to help create a positive impact for the people and the planet. HCL's collaboration with UNLEASH in bringing innovation to the SDGs, and specifically to the preservation of nature and ocean conservation is an essential step in our overall sustainability efforts", said Roshni Nadar Malhotra, CEO of HCL, Chairperson of HCL Technologies, Trustee of Shiv Nadar Foundation & Founder of The Habitats Trust.

With HCL's continuous support on the thematic track From Source to Sink, UNLEASH Talents will have the opportunity to work on localized challenges through joining an UNLEASH Hack at the Shiv Nadar University, Delhi NCR (part of the HCL Group).

18 youth of Hindustan Zinc Skill Centre got selected as Security Guards at Rajiv Gandhi Airport Hyderabad

Hindustan Zinc, India's only and the world's second-largest integrated zinc-lead-silver producer, is providing youths with the opportunity to take training from Kaushal Kendra. It is operated by the company at Gulabpura near Rampura Agucha Mines. 18 local village youths from the surrounding area of Rampura Agucha left for their training in Hyderabad to accomplish new endeavours.

Apart from the training at the Kaushal Kendra, these youth were provided with the opportunity to work as Security Guards at Rajiv Gandhi Airport Hyderabad by GMR Group. Initially, they will be paid Rs. 16,000 per month with additional benefits such as food, lodging, and transportation. These youths are among those who confronted educational, employment, and economic barriers in rural locations. However, the Hindustan Zinc's Kaushal Kendra has exceeded the youth's aspirations.

The youths were school and college dropouts who were trained at the centres for 45 days. At Hindustan Zinc's Gulabpura Skill Development Center, 1100 individuals have been trained as Security Guard, Retail Sales Associate, Assistant Electrician, and Data Anti Operator, with 900 trained at Maruti Suzuki, Secure Meter, Reliance Tend, and 108 Ambulance. This centre in Gulabpura was inaugurated in December 2018 as part of Hindustan Zinc's CSR programme in collaboration with Ambuja Cement. Presently, Zinc Skill Development Center has employed 30% women and 70% men.

Tata Motors and Tata Power Join Hands to Install 7 MWp Solar Rooftop Expansion Project in Pune

Reaffirming Tata Group's commitment towards sustainable manufacturing, Tata Power and Tata Motors have joined hands for the development of a 7 MWp solar rooftop project at Tata Motors' Passenger Vehicle Plant in Chikhali, Pune. This is the third phase of a joint 17 MWp on-site solar project developed by the two companies, of which a 10 MWp has been installed earlier. With this latest installation, the Tata Motors PV manufacturing unit, installed by Tata Power, will become home to India's largest on-site solar project. Tata Motors and Tata Power have recently inked a Power Purchase Agreement (PPA)

for this solar project. A significant step towards building a resilient and sustainable future, the installation is collectively expected to generate 23 million units of electricity, mitigating 5.23 lakh tonnes of carbon dioxide. This will be equivalent to planting 8.36 lakh trees over a lifetime.

Commenting on the project, Rajesh Khatri, Vice President, Operations, Tata Motors Passenger Vehicles Ltd., said, "Tata Motors has been working towards reducing greenhouse gas emissions to achieve Net Zero Emission goal. With fresh agreement to install an additional Roof Top solar plant of 7 MWp in our Pune plant in association with Tata

Power, we will move closer to our goal of 100% Renewable Energy. Post commissioning of this capacity, we will become the largest onsite solar installation in India."

Speaking on the project expansion, Gurinder Singh Sandhu, Chief – New Business Services, Tata Power said, "India's largest on-site solar project at Tata Motors' Pune plant is a testament to our shared goal of being green in our businesses. The project reinforces Tata Power's position as one of India's top renewable energy players, offering considerable value to its partners through its project execution capabilities and technical expertise."

India Inc improving ESG disclosures gradually

CRISIL's environmental, social, and governance (ESG) risk assessment of 586 Indian companies across 53 sectors, based on fiscal 2021 data, indicates an improvement in the ESG scores of a majority of them compared with the previous year, driven by better disclosures and improved performance on various parameters.

This is visible especially in renewable energy consumption, gender diversity and Board independence.

On comparing the same set of 225 companies analysed last year, 14 showed a significant positive deviation (more than 5-point increase in score) and three a notable negative deviation (more than 5-point decline in score). As many as 199 were relatively stable.

Overall, the latest assessment placed only 14 companies in the 'leadership' category, 108 in the 'strong' category, and as many as 73 in the 'below average' and 'weak' categories.

Says Amish Mehta, Managing Director and CEO, CRISIL Ltd, "Leaders on ESG have demonstrated a clear commitment towards sustainability, and have consistently delivered superior performance. In contrast, those in the 'weak' and 'below-average' categories have poor disclosures and inadequate ESG risk-management practices. The uptake of

sustainability in decision making is very piecemeal in India Inc because of a lack of stewardship, and fiduciary persuasion to improve the ESG quotient. For ESG to truly be embedded and practiced in spirit, all stakeholders have to work collaboratively and create a favourable environment for ESG in India. In addition to focussing in the near-term on targeted actions such as decarbonisation, a mindset shift is necessary to transform from merely complying to creating value and structurally mitigating risk."

Says Suresh Krishnamurthy, Senior Director, CRISIL Research, "Governance remains the cornerstone of not just ESG, but overall corporate performance. This is amply clear from the fact that the absolute operating profit of the top 10 companies on the 'G' parameter saw a 23% compound annual growth rate (CAGR) between fiscals 2019 and 2021, whereas that of the bottom 10 logged a negative 7% CAGR. The top 10 'G' scorers also outperformed their respective industry operating profit growth by a solid 900 basis points (bps). As many as 6 out of 10 companies outdid their respective industries. Conversely, the bottom 10 'G' scorers underperformed by a negative 1,200 bps, with 7 out of 10 companies underperforming their respective industries."

The Shikhar Dhawan Foundation completes its biggest on-ground educational event Youngistaan

To mark the occasion of the World Athletics Day on 7th May 2022, Shikhar Dhawan Foundation celebrated the occasion as – Youngistaan, Ek Kadam padhai ki ore, Ek Kadam Uchai Ki Ore on 8th & 9th May with various schools & non-profit organizations around the country. The vision for this initiative is to fulfill basic requirements of education supplies for underprivileged students and to provide them with zeal & enthusiasm towards learning, so that no child is held back from achieving greater heights.

Through this campaign, The Shikhar Dhawan Foundation aims to provide underprivileged children with access to the path of learning & sports. The Shikhar Dhawan Foundation will equip the partnering organizations and children from underprivileged backgrounds with educational supplies. We have partnered with following groups & schools across India to impact 2100+ kids:

1. HCRA (Harmonious Children's Rehabilitation Association), Delhi
2. Sunshine School
3. GoodDeed foundation relief
4. Sapna Sikshayala
5. Sukoon Foundation
6. Shantidevi Charitable Trust (SDCT)
7. Welfare Home for Children
8. Kiran Foundation
9. SMS or Srijanatmak Manushi Sanstha
10. Bharat Swaraj Foundation

In these locations there will be multiple distribution of educational supplies, art & craft items, classroom materials and sports supplies & various other needs of special kids' supplies to the tune of around total 21,000+ products & articles.



The Shikhar Dhawan Foundation aims to work with the Government of India, State Governments and UT Administrations to implement similar programmes in future as well. The organisation's strategic investment in Impact 11 NGOs and resource mobilisation over next 1 year will be the major pioneer

breakthrough in the social cause sector & the target is to grow and develop the sports potential of children & youth of the country.

Under the Youngistan campaign, meritorious players in field of sports like Taekwondo, Cricket, Tennis, Basketball etc are being helped & sponsored. Making this campaign

more inclusive, our support will also extend to para-athlete players as well. The support will cover finances towards equipment, training, academy fees and other logistics expenses for them.

Shikhar Dhawan, Founder, quotes, "My passion is to create a deeper and sustainable impact in people's lives. We act as an enabler by building the capacities of the NGOs and civil society organizations. Education campaign ki taraf humara pehla onground kadam hai aur fir hum aage badhte jaenge, bacho se interact karke virtually bahut acha laga, aur sabhi ko humara ye initiative pasand aaya. Main aur meri team aap sabke support aur aashirwad se aage bhi isko aur bada banake desh ke har chote bade jagah pe leke jaenge."

Dr. Kanika Dewan, Director-Impact and Strategy, Shikhar Dhawan Foundation quotes, "the Foundation is working relentlessly

to fulfill basic requirements of education supplies for underprivileged students, and I believe that such initiatives can actually bring about a change in people's lives. Actions speak louder than words. We have the resources and the network, so helping kids in need is our responsibility. We are feeling very strong about the cause & yes, the change is here to stay—you don't have to sustain it, it's going to stay. Soon we will be floating invites to take entries to bring in 11 NGOs to nurture them; these NGOs which are spread throughout India are working on a number of social causes. This allows us to work pan India cutting across regions and states to cover the breadth and depth of India. We want to be remembered for providing outstanding services to the society."

Amitesh Shah, CEO, Da One 42, also states that, "Youngistaan is a massive success initiative for us in the field of education & sports. The

distribution was featured live on Shikhar's IG platform, we also did live streaming of the distribution to showcase how pan India distribution works across various states. We also want to thank our Vocal Partner- Fever FM & RJ Sharat for being a part of this initiative."

The Shikhar Dhawan Foundation is planning to adopt 11 NGOs soon & will be opening entries for registration through a designated process which will be announced soon. Foundation is working on campaigns to spread awareness & create impact regarding issues related to providing quality education, hunger eradication, job creation, poverty, eradication of illiteracy, and other issues. Strategic measures will be adopted for the upliftment of the communities and their welfare. The Shikhar Dhawan Foundation is established with an aim to bring change and helps prevent social issues and would be devoted to the common good.

Huntsman provides learning kits to over 1,000 children in Padra villages

Huntsman Textile Effects, the leading global provider of high-quality dyes, chemicals, and digital inks for textile related industries had provided customised learning kits to 1,028 children in the villages of Umraya and Luna, in Padra near Vadodara, Gujarat. This initiative is part of its annual flagship school enrichment programme in support of the education of children in these rural areas.

This year, the customized kits were put together, and each kit was carefully curated to fit the needs of each education grade. The kit comprised of a school bag, notebook, stationery pouch, drawing book and notebook binders.

To inculcate the importance of education by laying its foundation in rural areas, Huntsman also organized a programme with the support of the village community. The programme marked the success story of a local boy Pragnesh, who previously received an Industrial Training Institute scholarship from Huntsman. He has now been employed by Huntsman as an apprentice at our manufacturing unit in the region. Pragnesh's story has inspired and

encouraged many young students to pursue education and become self-reliant individuals.

Speaking about the initiative, Rayomand Sabawalla, Head CSR, and Finance Director, Huntsman International (India) said, "Education and primary healthcare are regarded as two of the biggest issues in rural areas of the country. A key reason is the lack of resources and awareness about the lifelong benefits associated with a good education. Through our annual flagship programme, we aim to uplift young minds and bring about a resounding change in the lives of both the parents and children of these villages."

Kavishwar Kalambe, Site Director, Huntsman Textile Effects, added, "At Huntsman, we are committed towards improving the livelihoods of communities, and we believe that education paves the way for a bright future. We have conducted several activities to provide educational support to students in the villages of Luna and Umraya, and will continue to map out key focus areas that can be developed in the region."

RPF signs MOU AVA for a trafficking free nation



With a view to work together with a common goal of making the nation trafficking free, Sanjay Chander, DG/RPF had initiated detailed deliberations with Rajni Sibal, CEO of Kailash Satyarthi Children's Foundation (KSCF) in presence of Kailash Satyarthi last month. The deliberations were taken forward with signing of MoU wherein both RPF and AVA (also known as Bachpan Bachao Andolan) pledged to work together to share information, build capacity of RPF personnel and railway employees to work against Human Trafficking, increase sensitization and create awareness and also help each other in identification and detection of cases of Human Trafficking. A joint action by both stakeholders under the framework of MoU will definitely enhance the scale, reach and effectiveness of "Operation AAHT" (Action against Human Trafficking) launched by RPF across the nation.

Railway Protection Force is entrusted with the responsibility of security of railway property, passenger area and passengers. It has been discharging responsibility as mandated by the Standardized Operating Procedure for rescue of children issued by Ministry of Railways and

working with other stakeholders to rescue more than 50,000 children since 2018 under "Operation Nanhe Farishte". It has recently launched "Operation AAHT" to take stringent action against human trafficking through rail and has been rescuing victims of Human Trafficking from the clutches of traffickers. In course of its action against traffickers, it has rescued more than 1400 minors including 298 minor girls from the clutches of traffickers. RPF has also set up Anti Human Trafficking Units (AHTUs) at more than 740 locations across India instructed to take action against Human Trafficking in coordination of other agencies in this field.

Association of Voluntary Action also known as Bachpan Bachao Andolan, associated with Kailash Satyarthi Children's Foundation was founded in 1979 under the leadership of Nobel laureate Mr. Kailash Satyarthi with the mission

to eliminate all forms of violence against children and to create a world where all children are free, safe and healthy and receive quality education. AVA aims to achieve this mission by collaborative actions, strengthening national & global policies, building capacity of duty bearers, identifying and replicating best practices in the implementation of the policy or regulatory framework relating to child protection. It is a crucial stakeholder with a large network of dedicated field agents and volunteers spread across the nation. The BBA has been sharing information against child trafficking with police/RPF and assisting in arrest of traffickers/rescue of victims and has gathered domain knowledge and expertise in the field of action against child trafficking.

The Indian Railways is the primary transporter for the nation and therefore is a major route for human traffickers for transportation. The RPF personnel deployed at railway stations and trains are strategically positioned to intercept the trafficking before the victim reaches the destination and the exploitation starts. With its strategic positioning and its pan India reach, RPF can supplement the nation's efforts to curb Human Trafficking.



Goldman Sachs Launches '10,000 Trees' Initiative in Bengaluru

Goldman Sachs has launched "10,000 Trees" initiative in India, a pledge to plant one tree around Bengaluru for every India employee by 2025 to help restore city's green cover. Launched in collaboration with Bruhat Bengaluru Mahanagara Palike (BBMP), this commitment is one of several green initiatives undertaken by the firm's Bengaluru office that advances its environmental sustainability focus.

The initiative was launched by Arvind Limbavali, Member of the Karnataka Legislative Assembly, Mahadevapura constituency, through a tree planting ceremony at Sadaramangala Lake in Bengaluru. Several government officials including R. Venkatachalapathi, Joint Commissioner, BBMP, Hanumanthappa Patil, Range Forest Officer, BBMP, together with Ravi Krishnan, chief administrative officer of Goldman Sachs Services, participated in the event where 200 saplings were planted.

Limbavali said, "The rapid rate of infrastructure projects in Bengaluru to support growth, has impacted our city's well-known pleasant climate. Goldman Sachs' 10,000 trees program demonstrates the critical role that companies can play in rebuilding the garden city's green heritage."

Gunjan Samtani, Head of Goldman Sachs Services in India, added, "In continuation of the firm's efforts to reduce global carbon footprint, our Bengaluru office is planting 10,000 trees to further sustainable development in the city of Bengaluru. This is in addition to increasing renewable energy use, incorporating recycling and water efficiency systems and converting our vehicle fleet to electric vehicles (EVs) in our office. Addressing the impact of climate



change on our business and our own climate impact remains an imperative for us." Over 2,000 native tree species of Karnataka state, such as Neem, Jamun, Dhuma and Peepal, will be planted this year around the surrounding areas of Sadaramangala Lake, Chikkabanahalli Lake and Hoodi Lake in Mahadevapura. All the trees will be maintained for the next three years, in collaboration with BBMP, to ensure maximum survival of saplings.

In addition to today's commitment, Goldman Sachs announced the inclusion of 150 EVs in its employee

transport this year, and launched free shuttle bus services for employees residing within five kilometers from its Bengaluru office campus - Helios Business Park, Outer Ring Road. This will reduce the carbon emissions and further help de-congest the traffic situation in the area, amid construction of Bengaluru Metro. The 10,000 Trees initiative in Bengaluru will also contribute towards the afforestation efforts around Outer Ring Road, where a significant number of trees are impacted from the ongoing Metro construction.

Maruti Suzuki Driving School celebrates new milestone of 500 driving schools across 240+ cities

Scientifically-designed training courses | Expert and qualified trainers | Digitally connected: Mobile app and website for customer convenience

Car and SUV maker Maruti Suzuki last month announced the milestone of 500 Maruti Suzuki Driving Schools (MSDS) in the country. India's leading professional driving training school now has presence across 242 cities with 500 state-of-the-art driving training schools. Launched in 2005, MSDS has imparted driving training to more than 1.7 million customers.

Speaking on the milestone, Shashank Srivastava, Senior Executive Director (Marketing & Sales), Maruti Suzuki India Limited, said, "Maruti Suzuki Driving Schools were launched with the core objective of imparting safe driving training and road behaviour among customers to make Indian roads safer. Over the years, it has introduced global standards for imparting quality driving training and setting new benchmarks through its advanced training methodology. The MSDS network has around 1500 certified and qualified expert trainers, who have been imparting safe driving training. By 2025, we aim to expand the Maruti Suzuki Driving School network and train over 2.5 million people on quality driving skills."



MSDSs are set up by Maruti Suzuki in partnership with its dealers. The driving schools are equipped with state-of-the-art driving simulators that replicate the Indian driving conditions and facilitate quality training through a hybrid curriculum that includes on-road driving situations, and classroom training by expert trainers. The overall driving course is carefully designed with practical & theory courses based on international best driving practices. The curated training sessions educate customers on appropriate road behaviour, defensive driving, good samaritan law, traffic rules & regulations and a holistic knowledge overview on basic vehicle maintenance and emergency handling techniques amongst others.

MSDS also offers customised courses to suit the individual learning need of each customer. Apart from running various programs for

individual customers, MSDS also collaborates with various corporates, fleet owners, NGOs and jointly conducts program to suit their varied needs. The customers are also given value-added services such as assistance in getting license subject to RTO norms and training in their personal vehicles.

In line with the shift towards digitization, an exclusive Maruti Suzuki Driving School website and mobile app were also launched to provide an enhanced experience to tech-savvy customers. An industry's first online theory content, which will help customers to take theory lessons from the comfort & convenience of their homes, will also be soon introduced at Maruti Suzuki Driving Schools.

MSDS works closely with RTOs, traffic police, various NGOs and self-help groups to sensitize people and help reduce road hazards.

Kapil Dev, Founder and Chairperson of KHUSHII welcomes celebrated television actress Shivangi Joshi as the youth ambassador

Shivangi Joshi, an acclaimed actress and public figure from the Indian Television Industry, famous for the serial 'Yeh Rishta Kya Kehlata Hai', agreed to pledge her wholehearted support to the holistic goals of KHUSHII, a national level, independent Not for Profit organisation founded in 2003 by the Cricket legend Kapil Dev and his philanthropic partners.

Shivangi's passion for helping the underprivileged and her country is the sole reason that she accepted the role as KHUSHII's Youth Ambassador.

"My desire to give back to my nation and to evolve as a human being is as important as succeeding in my career. I am totally inspired by Kapil Dev sir. Not only is he a legend, but he has taken the time out to serve the less privileged by educating them and helping them fulfil their dreams. I am honoured to be a part of KHUSHII as the Youth Ambassador," said Joshi.



Welcoming the ambassador, the iconic cricketer Kapil Dev expressed his thoughts on how Shivangi's inspirational leadership will bring hope to the hundreds and thousands of underprivileged children reeling under the effects of the pandemic. As we know that COVID-19 has pushed back our children, and the resultant



learning gaps and economic conditions are driving children away from continuing their education and overall development. Shivangi will be instrumental in reaching out to more and more people inspiring them to come forward and support the cause with whatever contributions they can make to help KHUSHII's social impact grow from 45,000 beneficiaries to 250,000 by 2025.

"I am very pleased to say that young children like Shivangi have empathy towards our nation's needs and are lending support towards education and overall development of children. I am delighted to welcome her to the KHUSHII family," he said.

KHUSHII presently works in 12 states across India, with 48 governmental schools and learning centres supporting 45,000 children. As a self-implementing direct-to-beneficiary organisation, KHUSHII has been both effective and efficient in helping a child's holistic development by addressing learning gaps, ensuring good mental & physical health, imparting life skills, and providing vocational training courses and skill-building opportunities for ensuring sustainable development of children. Since 2003 KHUSHII has positively impacted the lives of 1.5 million children and community members.



Industry experts and artists look forward to the launch of 'Gaana for Artists', set to give real-time insight to audience preferences like never before

Gaana, India's favourite music app, has just launched Gaana for Artists - to help artists understand their audiences and performance of content better. The app would enable artists to track audience data in real-time from Gaana's 180 million-strong user base across the country.

'Gaana for Artists' is the brand's undertaking to enrich the engagement of artists and bring transparency in audience data as artists can also view which of their songs are being played on Gaana and the cumulative streams during a particular time period.

Gaana for Artists will allow music creators to track data from the top 8 cities where their music is most-streamed from. The other primary features of Gaana for Artists include data on real-time performance of latest releases, overall top-performing songs, top playlists featuring songs and many more comprehensive metrics of analyzing preferences of the audience.

Gaana, always being ahead in innovation with thought leadership, is bringing all music experiences together on the platform exclusive for its audience with Gaana Live which live streams buzzing hot events or Happy Hours with interesting content with the most popular artists.

With innovations like this Gaana is taking forward its deep commitment to create superior products for the entire music community and enhancing the listening experience

for its users at the same time.

Such initiatives are part of Gaana's continuous efforts to create innovative features & experiences which will benefit the creators and the audience.

Commenting on the launch of the app, Sandeep Lodha, CEO of Gaana, said, "The idea of Gaana for Artists germinated from the thought to enable Indian music artists & emerging talent with data on audience preferences a click away from their phones. This is going to be a revolutionary step in the music industry as artists can now access these insights in real-time and do not need to wait for weekly or monthly charts to gauge how their music is performing. Due to the PAN-India reach and market share of Gaana, the available data is going to be comprehensive."

The idea of Gaana for Artists germinated from the thought to enable Indian music artists & emerging talent with data on audience preferences a click away from their phones.

Renowned Bollywood composer Salim Merchant of the Salim-Sulaiman fame, said, "This new app from Gaana is going to address a big gap in the music industry with respect to audience data and I am very excited to use it and gather real-time credible insights on how my songs are performing across the country. The data from Gaana for Artists is going to be of immense help for established artists and also for upcoming singers and composers who will be able to understand audience behavior immediately after releasing a track. Gaana has done a great service to the Indian music artists' community by launching this app."

Commenting on the features, acclaimed Haryanvi singer Renuka Panwar, said, "With the industry being so dynamic, it is very critical for us to get real time performance of our latest releases all in one go at one place. Gaana for Artists app does exactly that and is a great futuristic step for all artists in the industry, be it budding or established artists. We create for the love of our audiences and it is an opportunity for us to see real time insights of their response and see how our songs performed in the last day, week, month and year."

On the homepage of the app, users will be able to see an overview of how their songs are performing overall with insights on top playlists and top cities, among others. The music section of the app will provide a complete in-depth analysis of a song and the number of streams for

each, including the cities where they are being streamed. This tab also has a quality parameter graph which gives a bifurcated analysis of the streams in terms of minutes played. Very soon the app will also enable artists to connect directly with their fans, create live sessions, sell merchandise, promote their songs and showcase their unheard tracks.

Popular indie musician Anumita Nadesan was ecstatic about the app and had this to say: "This is crazy and the musician in me is very excited about Gaana for Artists app. What I love most is the sharp and clear insights we get out of this. Be it the top playlist that is featuring my songs or the skip rate of songs, directly from the audience which is

rarely available to us. As an artist, this adds value to our vision and work as well and Gaana is doing great work to build this holistic music community for artists and audiences together."

Gaana for Artists is now available as a progressive web app and can be accessed via desktop and mobile by users.

Chennai Based 'Thaagam' Foundation Quenches the Thirst and Hunger of Thousands of Poor and Vulnerable Families in Srilanka

In an endeavour to mitigate and eradicate hunger in our society, the Chennai based NGO, 'Thaagam Foundation', has been providing food to the poor, needy, homeless and the abandoned, by uplifting their livelihood, since 2018. After playing a significant role in providing food assistance to the underprivileged, needy and hungry during the COVID 19 crisis in India, the foundation, now lends a helping hand to the poor and vulnerable families in the Island Nation of Srilanka.

The inspiring journey of compassion - From Chennai to Colombo!

A young, dynamic, compassionate and daring to go Law Student from Chennai and the Founder CEO of Thaagam Foundation, Raja Monsingh, has traversed miles together on a mission, to provide for the poor, homeless and hungry with daily grocery kits worth 10 lakhs in the last 18 days, organized through crowdfunding.

Travelling about 4500 km in the first 10 days, including the Northern Province that was gravely affected



Chennai based 'Thaagam' Foundation Quenches the Thirst and Hunger of thousands of poor and vulnerable families in Srilanka

by the crisis, the ground reality hit him hard, because of which he decided to set up a Thaagam Foundation office in Srilanka. He began work on the processes and legal formalities in right earnest and his wholehearted efforts bore fruits, with a functional office for Thaagam Foundation being approved by the Srilankan Government, at World Trade Centre, Colombo to continue

the noble work. Sharing his first-hand experience from the crisis-ridden island, Raja said, "The first ten days was an overwhelming experience, where I witnessed the worst of poverty and hunger, especially amongst the underprivileged young children and old people. As I delivered the grocery kits, the joy and gratitude they expressed is inexplicable. Our small gesture meant a great timely help to so many poor people, who battled the repercussions of a National Economic Crisis. This is when I de-

cided to further extend my stay here in Srilanka, to provide more help for these people and contribute to their everyday food needs and livelihood, till they find their feet in these challenging times. Going forward too, I am sure Thaagam Foundation will touch and transform many such lives, eventually playing a big role in eradicating hunger, not only in India but across the world too."

IIT Madras partners with Power Grid Corporation of India to provide scholarships to economically weaker students

This contribution of Rs. 10.5 crore from Power Grid Corporation of India, as part of its Corporate Social Responsibility, is the single largest CSR funding received by IIT Madras in the last financial year for scholarships

The Indian Institute of Technology Madras is partnering with Power Grid Corporation of India to launch a scholarship programme for meritorious B. Tech students from economically weaker sections. The Power Grid Corporation of India is contributing Rs. 10.5 Crore towards creating a scholarship fund as part of its Corporate Social Responsibility (CSR) initiatives. This fund would support deserving students at IIT Madras, covering their tuition fees through merit-cum-means scholarships. This is the highest single contribution that IIT Madras has received for scholarships under CSR in the financial year 2021-22

Speaking on this occasion, Prof. V. Kamakoti, Director, IIT Madras, said, "IIT Madras' motto is to be an 'Institute for all.' Initiatives like the BSc degree programme and scholarships for deserving students, have made IIT Madras more accessible for everyone. The institute records its sincere thanks to POWERGRID. IIT Madras is also planning to expand such scholarships to all technical institutions across the country."



(L_R) Prof. V. Kamakoti (3rd Left), Director, IIT Madras, Mr. V.K. Singh, Director (Personnel), POWERGRID, and Prof. Mahesh Panchagnula, Dean (ACR), IIT-M, with the MoU signed on 7th May.



Prof. V. Kamakoti (Centre), Director, IIT Madras, Prof. Mahesh Panchagnula (3rd Left), Dean (ACR), IIT-M, receiving the CSR cheque from Mr. VK Singh (3rd Right), Director (Personnel), POWERGRID.

A MoU for implementing this CSR-driven initiative was signed today (7th May 2022) by Prof. Mahesh Panchagnula, Dean (Alumni and Corporate Relations), IIT Madras, and Shri. V.K. Singh, Director (Personnel), POWERGRID

Corporation of India, in the presence of IIT Madras Director, Prof. V. Kamakoti.

Lauding this initiative to provide scholarships for students from economically weaker sections, Prof. Mahesh Panchagnula, Dean

(Alumni and Corporate Relations), IIT Madras, said, “We are grateful to Power Grid Corporation of India for this generous support of scholarships for economically weaker students. They are most deserving of this support, since it is by their sheer hard work that they have made it into this institution. Through this initiative, IIT Madras, as an inclusive institution, is glad to enable students—especially girl students, who need financial support the most.”

Speaking about this scholarship programme, Shri. V.K. Singh, Director (Personnel), Power Grid Corporation of India, said, “POWERGRID believes that scholarships can be one of the most direct ways to give back to the community. Due to increasing educational costs, students need financial assistance

more than ever. Our Scholarship scheme demonstrates POWERGRID’s commitment to education and to future of upcoming generations. I believe that this scholarship will make a real, significant impact on the lives of the benefitted students.”

The ‘Power Grid Endowment scholarship’ fund has been created to provide scholarships for B.Tech students from economically weaker sections on a merit-cum-means basis. Every year many meritorious students from economically weaker sections pursue their education at IIT Madras. The Power Grid Endowment Scholarship will help these bright young students to pursue their education without any economical barrier.

This one-of-its kind scholarship programme will carry a special

focus on women students from economically weaker sections with an aim to encourage women in STEM (Science, Technology, Engineering and Mathematics). This scholarship programme helps in amplifying IIT Madras’ principle of being an inclusive institute for students from all economic sections.

Kaviraj Nair, Chief Executive Officer, Office of Institutional Advancement, IIT Madras, said, “This contribution from Power Grid Corporation of India, is the single largest CSR funding that IIT Madras has received in the last financial year for providing scholarships to students. We are happy to deploy the same funding meaningfully, to support meritorious students in the EWS (Economically Weaker Section) category.”

WOTR wins awards from FICCI and TERI-IWA-UNDP for its exceptional contribution in water resource management

Watershed Organisation Trust (WOTR), a globally recognized nonprofit organization bagged two prestigious awards from FICCI and TERI-IWA-UNDP for its contribution to water management and water stewardship. At the 9th Edition of the FICCI Water Awards, WOTR was felicitated with Joint Second Prize in the ‘Water Initiatives by NGOs’ category. With this WOTR was also celebrated with the TERI-IWA-UNDP Water Sustainability Award for ‘Excellence in Participatory Water Management’ for its Water Stewardship Initiative.

Watershed Organisation Trust was rewarded by FICCI for its project ‘Building Adaptive Capacities and Resilience to Climate Change of Tribal and Marginalized Communities’ in Odisha. Launched in 2018, the project was implemented in 11 villages across 4 Gram Panchayats, namely, Jaltar, Kulusing, Puttasing and Tolana in Rayagada district. The project contributed to an improved climate adaptive and resilient livelihood for rural communities and the dissemination of

participative climate change adaptation strategies at the national level too. On the achievements, Prakash Kesar, Executive Director, WOTR said, “We are committed to ecosystem conservation and sustainable development in rural India. The project in rural Rayagada in Odisha helped villagers adopt responsible water management practices for farming and other purposes. It is a moment of great satisfaction that our efforts in this field have been recognized by renowned organizations like FICCI and TERI. All credit goes to our hardworking and committed team members of WOTR who worked dedicatedly for the cause”. WOTR’s Water Stewardship Initiative won the

prestigious TERI-IWA-UNDP Water Sustainability Award for ‘Excellence in Participatory Water Management’ as its Water Stewardship Initiative in Maharashtra. Its project ensured sustainable, equitable and adequate supply of water for various categories of users, through supply and demand management measures at the village and community level in the region.



Narayana Nethralaya and Acer India Team up to build India's first PC & tablet-based software therapy for children suffering from Cortical Visual Impairment

Narayana Nethralaya in collaboration with Acer India has launched the PC + tablet based software, "VisioNova" designed for children suffering from Cortical Visual Impairment (CVI). This initiative by Narayana Nethralaya and Acer India aims at breaking down barriers and providing the patients with better access to treatment. Acer VisioNova, a path-breaking innovation was conceptualized as a mobile alternative to on-site therapy for CVI children that will offer them the standard of care. Narayana Nethralaya as a part of its 'Buds to Blossoms' initiative provides dedicated therapy programs to help children develop and improve motor, cognitive and visual abilities that significantly improve their quality of life.

Cortical Visual Impairment is a condition of bilateral visual loss caused due to injury of visual areas in the brain without significant eye or anterior visual pathway impairment. CVI is currently an emerging cause amongst children across India. With 161 children in every 100,000 born with CVI, India has declared it to be a high priority issue and classified it as one of 30 conditions that all babies must receive mandatory screenings. These children with CVI have great difficulty in performing visually guided activities and these therapies rely on machines that are bulky, expensive and require the child to be in the hospital for the entire duration of six-to-nine-month therapeutic process. In order to address this, Acer provided PC



Harish Kohli President & MD Acer India, Dr. K Bhujang Shetty Chairman & MD Narayana Nethralaya, Retd. Grp. Capt. S K Mittal VSM, CEO of Narayana Nethralaya.



Parents presented with Acer's tablet installed with VisioNova software



Patients trying the VisioNova software

and 100+ tablets under CSR to kick-off this noble cause. Acer has also further intent to supply around 2000 tablets for patients where patients can pay the hospital a small, refundable deposit and receive the tablet for use from the comforts of their home and still continue treatments even with COVID disruptions.

The tablet will offer CVI patients exercises that can benefit and help them develop and improve their deficient skills and visual abilities that significantly improve the quality of life. Also, since a number of specialised therapies that are deployed require expensive equipments that need the child to be present at the

center for the entire duration of the treatment, this tablet will allow remote therapy under the mentorship of Narayana Nethralaya' CVI experts, making this treatment accessible to the outreach.

On the occasion of this launch, Harish Kohli, President & Managing Director, Acer India said, "It is a matter of pride for us to join this innovative collaboration with Narayana Nethralaya where technology helps break barriers to improve lives. Acer VisioNova engineered the overall solution, comprising both the

software and the hardware. At Acer, we always believe in closing the gap between people and technology and to meaningfully improve clinical outcomes and reduce the systemic cost of healthcare, VisioNova will help patients with timely access to care when they need it.

"With Buds to Blossoms and Acer India initiative, we are aiming to make differently-abled children independent and integrate them to the normal stream of society. This collaboration is important for us to help integrate the CVI patients. Acer

VisioNova is a next-gen software which is a dedicated solution to help over hundreds of visually impaired children from their homes," said Dr. Bhujang Shetty, Founder & Chairman, Narayana Nethralaya Eye Institute, Bengaluru.

With Acer Visionova and 'Buds to Blossoms' initiative, today is even better poised to help improve the lives of these innocent children. Buds to Blossoms and Acer are proud to be by their side and enable them to live a life full of joy and independence.

Mahindra & Mahindra deliver over 500 Bolero Pik-ups in J&K under 'Project Mumkin'

Mahindra & Mahindra Ltd. (M&M Ltd.), one of India's leading automotive companies, announced handover of over 500 Bolero Pik-up vehicles in Jammu and Kashmir under the 'Project Mumkin'. 'Project Mumkin' is a customized livelihood generation program by the J&K administration. The Mission Youth J&K, and the Vehicle Manufacturers are providing financial assistance to the youth in the region to acquire new small commercial vehicles (SCVs) to create avenues for sustainable livelihood.

The Mahindra Group has always stood for serving the customers' needs and driving positive change in the lives of the stakeholders under the company philosophy of 'Rise'. By participating in 'Project Mumkin', M&M supports the J&K youth with entrepreneurial opportunities to earn a livelihood, promote business ownership and strengthen their trade practices.

Bolero Pik-ups have been the market leader for over two decades with their unique product offering and value proposition. The company

continues to delight the customers in this segment by constantly updating product offerings based on customer insights, needs, and market trends.

Mission Youth, J&K is implementing the Scheme through district-level committees constituted for the purpose. Under this initiative, the Mission Youth, J&K, is offering a special incentive of Rs.80,000 or 10% of the on-road price of the small commercial vehicle (whichever is lower). Additionally, the vehicle

manufacturer is offering a discount, matching the incentive as contributed by Mission Youth, J&K. The move will help revive the Agri produce-daily needs market as these vehicles are primarily used for intercity goods transportation.

Interested youth between the ages 18 and 35 can avail of the scheme by applying and registering with the required documents at the J&K Government's official website <https://www.jk.gov.in/jammukashmir/>.



Fundraiser to provide shelter and education to sex workers' children in Pune finds widespread support



A fundraiser by Swadhar Institute for Development of Women & Children, Pune, in association with GiveIndia to scale its residential programme for children of commercial sex workers in the city's Budhwar Peth area is off to a flying start. The fundraiser on the GiveIndia platform aims to raise Rs 1 crore and has reached the halfway mark within a few weeks.

Swadhar IDWC-Pune has been working to stop second-generation prostitution in the city's red-light area, Budhwar Peth. Under its 'Project Mohor,' Swadhar provides the children of sex workers with shelter, nutrition, healthcare and education in its center in the Budhwar Peth area of the city. The fundraiser will help the organisation from running out of funds to rescue more children from being abused and ending up in the same profession as their mothers.

"Right from cleaning, bathing, feeding, medical care, seeing that the child is ready for school - all of it is taken care of here, which is impossible in a brothel. We have rescued hundreds of children so far. Most



Sanjivani Hingne, Secretary, Swadhar IDWC-Pune.

of them are now pursuing higher education or have finished school with flying colours," said Sanjivani Hingne, Secretary, Swadhar IDWC-Pune.

Swadhar's facility comprises a kitchen that provides free nutritious meals throughout the day, a pre-school, an e-learning centre and a crèche for infants. It also helps children to enrol into schools, colleges and vocational courses for a bright future.

Talking about the fundraiser, Priyanka Prakash, Director, Head - Online Giving & Marketing, GiveIndia, said: "A sex worker's life is limited to the red-light area, and the children born to them grow up in the same environment, exposing them to harsh life, and many of them may grow up thinking that prostitution is their fate as well. Data shows that many girls in red-light areas get abused at an early age and may end up as sex workers without proper guidance. Swadhar's 'Project Mohor' has been doing stellar work to stop second-generation prostitution. GiveIndia's fundraiser for Swadhar has found tremendous support, and we hope more people will donate generously and provide a better future for the children of sex workers."

Project Mohor ensures children do not fall into a generational cycle of sex work and crime by prioritising care and protection. Their emotional and mental well-being follows this. Educational activities and other programmes to secure the children's future with long-term goals are implemented later.

CSR INDIA UNITED

Mankind Pharma donates 3 Lakhs to Padma Shri Mohammad Sharif Chacha

Mankind Pharma, a pharma company, believes in serving people, and acknowledging the efforts of those who have supported the society. The company's ethos is about appreciating the change-makers and real heroes of society.

This time the brand has donated Rs. 3 Lakh to Mohammad Sharif, who performed the last rites of more than 25,000 unclaimed bodies over three decades.

Mohammad Sharif who is popularly known as Sharif Chacha belongs to the Faizabad district of



Uttar Pradesh. Sharif Chacha lost his son 27 years ago and got to know about it a month later. Ever since, Sharif Chacha has taken it on himself to cremate unclaimed bodies. For such humanitarian efforts to serve society, Sharif Chacha has

been felicitated as Padma Shri by the President of India. Mankind Pharma salutes his spirit of humanity and thereby facilitates him with a small amount of token money. Being a responsible organization, Mankind Pharma with time-to-time has come forward to support such people. The organization believes in giving back to society through its CSR activities and thereby lending a helping hand to the ones in need.

Talking about the initiative, Rajeev Juneja, Managing Director and Vice-Chairman of Mankind Pharma, said, "In the last two years, not just India but the entire world has gone through a difficult time. People have lost their loved ones, and during those tough times, everyone has realized how unpredictable life can be. As we always believe in the philosophy of acknowledging the efforts of these heroes, I feel Sharif Chacha is a true hero. The initiative taken by him is commendable and for his bravery, we would like to reward him. This is a small initiative by Mankind Pharma to ease down his situation in any way. We are amazed by the sense of responsibility he has shown for society."

Schoolnet partners with Rajasthan Government to provide Geneo and ReadToMe® to 6,500 schools

Schoolnet, a unique and leading EdTech company that provides technology-based education services to schools, has announced a partnership with the Rajasthan Government to provide Geneo, ReadToMe®, and teacher training services in 6,500 government schools across all 33 districts of Rajasthan. Under this, over one million students from across the state can enjoy access to digital learning technologies and teachers will be trained in digital pedagogy, with the support of Google for Education. Geneo is a flexible and affordable online learning platform that is available for both in-school and after-school. It uses the digitized version of the school's textbook, mapped to which is provided a plethora of multi-sensory learning content to promote high engagement and application.

ReadToMe® is an AI-powered technology using a text-to-speech function that enables multisensory reading of curriculum prescribed in English.

With this, Schoolnet, and the Government of Rajasthan aim to provide quality learning solutions to students across societal strata.

Commenting on the partnership, RCM Reddy, MD & CEO, Schoolnet India Ltd. said, "At Schoolnet, we are committed to delivering technology driven learning experiences to students across the country. The partnership with the Government of Rajasthan is a step in that direction. We are hopeful that with this, we will be able to elevate the quality of education imparted to students and drive digital transformation across schools in the state."

INDIA'S COAL CRISIS EXPOSES PITFALLS IN POWER SECTOR

In less than a year, India has faced its second coal sector crisis that has led to nationwide power supply issues, writes **Manish Kumar**, Mongabay.com



A labourer is seen working at a diesel-powered crusher in front of a wind turbine in Tamil Nadu.
Image: Land Rover Our Planet, CC BY-SA 3.0, via Flickr.



ashank Pathak owns a photocopy shop in one of the busiest markets of Ranchi, Jharkhand's capital city. His small-scale business needs regular power to run his machines. But since the onset of the heatwave in the region, erratic power supply has been troubling him and many other traders in his area. Tired of the power outages, Pathak and many others have shifted to diesel generators to fulfil their power needs.

Across the country, domestic and industrial power users have similar tales of alternative arrangements for electricity as they face load-shedding that is allegedly linked to the shortage of coal in the country.

Around 1,300 kilometres away from Ranchi, in India's capital, Delhi, erratic power supply is common too. The Delhi government recently said that despite having no pending dues, the coal stock availability was only enough for a day.

On May 12, Delhi reported a peak electricity demand of 6,780 Megawatt (MW), which is the highest ever in the month of May. On the national level, India recorded its highest ever peak demand of 201.06 gigawatts (GW) in April, even as several coal-based power stations were reeling under the severe shortage of coal.

The Indian government said that with this record, India surpassed 2021's maximum demand of 200.539

GW (July 7, 2021) and that the demand is expected to reach about 215-220 GW in the May-June period. Government data as of April also indicates that 106 out of 173 coal-fired power stations fell short of coal stocks and were declared 'critical' as the stock fell below 25 per cent of the quantity these stations need for power production.

There is a mix of reasons that have led to the coal situation, according to power sector experts: the rising global price of coal, lack of management of stockpiles at thermal power stations, the poor financial health of power distribution companies (DISCOMs), the impact of the Russia-Ukraine war, and a sudden hike in power demand.

COAL TRANSPORTATION NEEDS ATTENTION

India is the world's second-largest producer and consumer of coal. The

Indian government recently claimed that there has been an increase in coal production over the past few years due to policy reforms and imports have decreased. But despite the increased domestic production, the country has witnessed a second coal shortage crisis in less than 10 months, with the last one being in October 2021.

The severity of the situation could be measured with the fact that despite the stockpiling norm of the Central Electricity Authority (CEA) mandating thermal power stations to ensure 15-30 days of coal stocks, based on their distance from the coal mines, several coal-fired coal stations were left with only a few days of coal supply for generating power.

Domestic coal in India is mainly transported from coal-rich states such as Jharkhand, Odisha and Chhattisgarh to different parts of

the country. But experts note that the Indian railways often struggle to transport coal to thermal power stations during the peak season.

January to March is considered the peak supply season of coal to thermal power stations for maintaining adequate stockpiles of coal for the anticipated high power demand during summers. Government data suggests that the production of coal also increases around 25 per cent more during such a period to cater to the energy demands.

Experts advocate for reforms in the railway sector to scale up the transportation capacity during critical times and ensure a smooth supply from coal mines to thermal power stations. Abhishek Nath, Sector Head (Energy and Power) at the Centre for Study of Science, Technology and Policy (CSTEP) told Mongabay-India that there is a need for major policy reform for the development of dedicated freight corridors on the critical coal passages for faster transportation.

“To double the transportation capacity, electrification of these corridors should be considered with the height of overhead supply lines above 7.5 meters. This will allow transportation of double-stacked

“
The problem is that our planning framework does not consider sudden shock due to climatic factors. If you compare the last October crisis and the current coal crisis, both are linked to climatic factors.

VAIBHAV CHATURVEDI,
Researcher, Centre for Environment,
Energy and Water

increased to the existing fleets and upsurge their carriage capacity,” he emphasised.

The majority of coal produced in India is mined by the state-owned Coal India Limited (CIL) and its subsidiaries such as MCL (Mahanadi Coalfields), CCL (Central Coalfields Ltd), ECL (Eastern Coalfields Ltd) and others. The CIL plays a crucial role in forging agreements with power companies and ensuring the delivery of coal.

“Frequent reviews and assessments of the coal allocations and costing to individual power plants should be conducted. The scope of coal reallocation and rerouting needs to be explored based on the long-term coal demand from critical thermal power stations located distantly from their allocated coal mines and import dockyards,” Nath further explained.

Experts also pointed at other issues in the power sector and one among them was related to the poor financial health of many DISCOMs in the country. In the current power generation agreements, coal is transported from mines to the thermal power plants which sell the power to DISCOMs.

However, several thermal power stations are cash strapped due to non-payment of dues from DISCOMs. This leads to supply issues. In fact, according to official data, by the end of April 2022, power generation companies had dues worth Rs 1.07 lakh crores (Rs. 1.07 trillion) from the DISCOMs.

IS IT A CLIMATE-INDUCED CRISIS?

In addition to the logistical and financial issues, some experts high-

January to March is considered the peak supply season of coal to thermal power stations for maintaining adequate stockpiles of coal for the anticipated high power demand during summers. Government data suggests that the production of coal also increases around 25 per cent more during such a period to cater to the energy demands.

containers and make the transportation more efficient for coal as well as other essential goods. If bauble stacking of containers is not possible for specific corridors, then the number of coal wagons can be

Nath advocated for revisiting the existing fuel supply agreements between CIL and the power generation companies to include conditional flexibility from the coal allocation stage to supply.

light that the power sector crisis is also due to a lack of vision of the government and other stakeholders as they failed to take into account the climatic factors. Vaibhav Chaturvedi, a researcher at the New

Delhi-based Centre for Environment, Energy and Water (CEEW) who has been studying coal-related policy issues in the country, said the sudden onset of extreme weather conditions often bypasses the preparedness of the coal sector leading to increased crisis besides the normal logistic and other managerial issues which are also linked to such a situation.

“The problem is that our planning framework does not consider sudden shock due to climatic factors. If you compare the last October crisis and the current coal crisis, both are linked to climatic factors. In October 2021, we experienced post-monsoon rains which hampered coal transportation from mines and this time the sudden onset of a severe heat-wave after March 12 led to the surge in power demand,” Chaturvedi told Mongabay-India.

The government in a desperate measure to tackle the issue, imposed Section 11 of The Electricity Act 2003, a rare event. It mandated all coal-fired power plants to work to their full capacity and allowed the idle imported-based coal plants to resume operations to manage the crisis. The railway department also cancelled several passenger trains to increase the freight movement to transport coal from mines to thermal power stations besides ordering more wagons.

The Union Power Minister R.K. Singh recently told the media that the emergency provisions could be extended beyond October 2022 and also hinted that the burden of increased imports could cost the consumers with an increase in tariff.

CAN RENEWABLE ENERGY BE A SOLUTION?

According to the CEA data, of the total installed capacity of 401 GW, 51 per cent comes from coal-powered power plants while renewable power plants account for 28 per cent.

Researchers claim that renewables can be part of the solution in

Researchers claim that renewables can be part of the solution in the short run, even if they aren't 'firm' or dispatchable power. “Solar has a PLF (Plant Load Factor) of only around 25 per cent with some variations. It includes no production for 12 hours during night and variable production in the day.

the short run, even if they aren't 'firm' or dispatchable power. “Solar has a PLF (Plant Load Factor) of only around 25 per cent with some variations. It includes no production for 12 hours during night and variable production in the day. When compared to coal, the outcome of solar power is low. But even then whatever energy is getting produced from the solar it is getting into the grid and is sharing the load. Thus, we need to be realistic when it comes to the base load issue, grid stabilisation and other issues,” Rahul Tongia, Senior Fellow at the Centre for Social and Economic Progress (CSEP), Tongia told Mongabay-India. PLF refers to the ratio of power produced by any plant against the maximum power that could be produced from that plant at any given time.

Meanwhile, Sunil Dahiya, an analyst at the Centre for Research on Energy and Clean Air (CREA), told Mongabay-India that, “For improving the power capabilities of states we need to enhance decentralised renewable sources across states in and around the consumption centres.”

“While few states like Rajasthan, Gujarat, and Tamil Nadu have greater renewable energy potential, infrastructure upgrades both in terms of storage capacity and grid up-gradation are needed to utilise the full renewable potential of such states.”

“If we can grow more renewables at consumption centres within our states, we can also reduce the transmission losses incurred through the transfer of power from one state to another (mostly from central India to north and west) which is often in the range of 15-16 per cent. If we want a sustainable and energy secure future decentralised renewable energy with accelerated growth is the only option India has and it has to give up on its huge reliance on the dirty fuel of past, i.e. coal,” he said.

Dahiya claimed that there is no shortage of coal production in the country but most of the recent coal crisis was because of poor management of the whole demand-supply chain and failure in forecasting such a crisis during critical months when the demand is generally on the higher side.

A recent report by the World Economic Forum (WEF) said urgent action is required by both private and public sectors to ensure a resilient transition as the world faces the most severe energy crisis since the 1970s. ■

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(Source: <https://www.eco-business.com/news/indias-coal-crisis-exposes-pitfalls-in-power-sector/>)



India's Choices & Challenges

India's Energy Security in
Shifting World Order

By Pooran Chandra Pandey

Indian Prime Minister, Narendra Modi, is currently on a three-day tour to Europe and has the Ukraine war and impending energy security issues on his agenda. During his visit, Modi will chair the 6th round of Indo-German Inter-governmental consultation in Berlin with the German chancellor as a co-chair to discuss bilateral, regional, and global issues arising in wake of Russia's war on Ukraine besides holding meetings with the Nordic Forum in Copenhagen. While on his way back home, he will arrive in Paris to meet with the French President to exchange perspectives on the ongoing war in Ukraine, reiterate India's position, and discuss energy security issues including free trade agreements that have mutually enforcing incentives embedded bilaterally to plan out future pathways of democratic values and visions and build in process 'a principles-based robust coalition of willing democracies' to repel aggressive behavior of autocratic and authoritarian regimes in the world. India is set to play a pivotal role in the current crisis as the country assumes the presidency of G-20 next year and the ground for decisive dialogue and diplomacy is being laid with the Indian Prime Minister's visit to major European capitals besides meeting with the US president in Japan in next month to discuss QUAD priorities with China firmly on agenda. India is also expected to attend the upcoming G-7 meeting in June in Bavaria.

Russia's War on Ukraine

Amid Russia's ongoing war in Ukraine, a flurry of dialogues and diplomatic activities have been doing the rounds with state visits undertaken by heads of state back and forth to amplify, articulate, and enunciate their positions on bilateral relations with Russia, position Ukraine and wider collaborations and partnerships with Europe and

EU as a block overvalues and visions for emerging world order. At the heart of it, all lie the energy security, food crisis, inflationary pressures, and reset in global energy security including emergent security architecture, potentially pivoted around energy flow from Russia and efforts of Europe to wean off its long-standing dependence on Russian energy and Moscow's efforts to diversify its energy supplies more towards south Asia and southeast Asia.

As a result of the ongoing Russia's war on Ukraine, India's long-standing bilateral relations with Moscow has been under pressure from all quarters including Germany and France in particular and the EU in general. US as India's relatively new partner and Japan as the country's long-standing

New Delhi has though abstained away from security council resolutions against openly criticizing Moscow for its act of war and stated that security council resolutions are a strong indication of the will of the international community which as not being binding and vetoed by Russia as a P5 member would have little ice to cut in being effective to the point of stopping the war.

India has also been suffering due to oil and gas supplies and prices hitting the sky due to a sharp price hike in the international market continuing to benefit from highly discounted oil and gas prices supplied to it by Moscow without being in violation of sanctions imposed by Europe led by the USA. It is also worth mentioning that rising oil and gas prices have likely the potential

As a result of the ongoing Russia's war on Ukraine, India's long-standing bilateral relations with Moscow has been under pressure from all quarters including Germany and France in particular and the EU in general.

partner (also being QUAD partners) have also been ramping their efforts to impress upon New Delhi to move away from its dependence on Moscow in view of its unprovoked war against a sovereign and independent Ukraine, a value that democracies hold dear.

India has however made its position clear at multiple forums that it calls for an immediate cessation of Russia's war on Ukraine and dialogue and diplomacy should prevail in finding a solution to the crisis.

to upset the domestic politics of countries potentially serving as a template for anti-incumbency factors for those political parties that are in power. Therefore, Russia's war on Ukraine will likely play out in a number of areas and issues and pivoted by the energy dependence of Europe on Russian oil and gas including in South Asia and Southeast Asia, the emerging world order is widely believed to be reshaping up and would likely redraw geopolitical boundaries much beyond

regions with the immediate impact of Russia's war on Ukraine.

Consider India's Oil and Gas Industry

The oil and gas industry in India dates back to 1889 when the first oil deposits in the country were discovered near the town of Digboi in the state of Assam. The natural gas industry in India began in the 1960s with the discovery of gas fields in Assam and Maharashtra (Bombay high). As on 31 March 2018, India had estimated crude oil reserves of 594.49 million tonnes (MT) and natural gas reserves of 1339.57 billion cubic meters (BCM).

India imports 82% of its oil needs and aims to bring that down to 67% by 2022 by replacing it with local exploration, renewable energy, and indigenous ethanol fuel. India was the second top net crude oil (including crude oil products) importer of 205.3 Mt in 2019.

Natural Gas Landscape in India

By March 2021, India's domestic crude oil production output fell by 5.2% and natural gas production by 8.1% in the FY2021 as producers extracted 30,491.7 Thousand Metric Tonnes (TMT) of crude oil and 28670.6 Million Metric Standard Cubic Metres (MMSCM) of natural gas in the fiscal. In August 2021, crude oil production decreased by 2.3%, but there was a 20.23% increase in home-grown natural gas production.

India held 43 trillion cubic feet (Tcf) of proven gas reserves as of 2017, ranking 22nd in the world, accounting for over 1 % of the world's total natural gas reserves of 6,903 (Tcf). The country thus has proven reserves equivalent to 22.1 times its annual consumption, meaning that India has about 22 years of gas left at current consumption levels, excluding unproven reserves.

In summary, the following are the highlights:

- India consumed 1,957,546 million cubic feet (MMcf) of natural gas per year as of the year 2017-18.
- India now ranks 14th in the world for natural gas consumption, accounting for about 1.5% of the world's total consumption of 132,290,211 MMcf.
- India consumed 1,462 cubic feet of natural gas per capita every year (based on the 2017-18 population of 1,338,676,785 people), or 4 cubic feet per capita per day.

SUMMARY TABLE

Variability	Million Cubic Ft (MMcf)
Gas Reserves	50,398,000
Gas Production	1,113,364
Gas Consumption	1,753,143
Yearly Deficit	-619,778
Yearly Imports	659,331
Yearly Exports	9,535
Net Imports	649,796
<i>(Data shown in the summary table above is 2016-17, the latest year with complete data in all categories)</i>	

Context of natural gas in India's industrial development

The commercial sector contributes to India's growth, development, and industrialization use in a variety of sectors and industrial activities ranging from heating buildings and water to operating refrigeration and cooling equipment, to cooking, drying clothes, and providing outdoor lighting. Some consumers in the commercial sector also use natural gas as a fuel in combined heat and power systems. Natural gas thus from a usage point of view in India can be categorized as the most important source of energy source in sectors such as fertilizer, power, refinery, petrochemicals, residential, energy, and transport sectors, accounting for more than 80 % of the total consumption, contributing approximately 30 % in country's

gross national product employing around 20 % of the total workforce in the country.

Natural gas and Carbon Emissions

The rise in temperature is a cause of major concern across the globe. Some studies have attempted to project the corresponding carbon dioxide emissions and temperature variation in India using the Auto-Regressive Integrated Moving Average Model on the past 44 years' data for predicting the future

demand for petroleum oil, coal, and natural gas in India, anticipating the total demand for petroleum products to double by the year 2020 growing at a rate of 3.5 percent per year. The consumption of coal has witnessed an annual growth rate of 2.6 percent and the growth of natural gas is likely to be the highest among all at 5.1 percent. In

total, fossil fuel consumption seems to grow at 4 percent per annum. This may have caused the CO₂ level to rise to one and half times by the year 2020 in comparison to that of the 2008 level thus causing an increase in the surface temperature by 0.0008 percent per annum. However, the level of carbon dioxide emission and the increase in temperature can be controlled by replacing the petroleum oil and coal consumption with natural gas as a transition fuel in a bid for the country to be able to cut its emissions by 50 % by 2030 before going net-zero by 2070 as per country's renewed climate pledge made at the COP 26 in Glasgow.

India's Hydrocarbon Vision, 2025

India retained its spot as the third-largest consumer of oil in

A SUMMARY TABLE BELOW DEMONSTRATES THE DISTRIBUTION OF NATURAL GAS CONSUMPTION IN 2021 BY SECTORS

Sectors	Distribution of natural gas consumption (In percentage)
Fertilizer Industry	29
Power	18
Local Natural Gas Distribution Network Including Road Transport	15
Refinery	13
Miscl.	08
Petrochemical	05
Internal Consumption for Pipeline System	01
LPG Shrinkage	01
Industrial and Manufacturing	01
Sponge Iron	01

Source: Statista, 2021 (<https://www.statista.com/statistics/1126695/india-natural-gas-consumption-share-by-sector/>)

the world as of 2021. The Government has adopted several policies to fulfill the increasing demand. It has allowed 100% Foreign Direct Investment (FDI) in many segments of the sector, including natural gas, petroleum products, and refineries, among others. Natural gas in India is emerging as the preferred fuel of the future in view of it being an environmentally friendly economically attractive fuel and also a desirable feedstock. An increased focus needs to be given to this potential sector. (India's Hydrocarbon Vision 2025, Ministry of Petroleum, Government of India), also available at <http://petroleum.nic.in/sites/default/files/vision.pdf>).

New Delhi's Climate Pledges and Choices

As India continues to grow economically with a major thrust on the country's accelerated industrial activities, it finds natural gas a long-term solution while it pushes for cutting down on coal usage from supply chains and going all out for renewables. The country has progressive policies on the use and deployment

of natural gas in a bid to cut both emissions and also fulfill its renewed climate pledge announced at COP 26 in Glasgow. India has realized that the country will have to find its own foothold in its push for clean energy and cutting emissions and going net neutral as the developed nations have failed poorly in honoring their binding commitment to support developing economies such as India and those in the global South both with USD 100 billion financial sup-


It would indeed be worth a wait to watch out for how energy prices would likely influence shifting geopolitics and geo-economics within and beyond regions.

port and transfer of clean technologies promised as a part of Paris Climate Agreement, 2015.

Natural gas in India is poised to act as a substitute for coal in the short to medium term and likely be leveraged as a transition fuel in the long term before fully aligning with clean energy elements through renewable sources and innovative energy mixing, going forward.

What's in the making?

It is in this context that New Delhi is currently reviewing its energy security issues, figuring out a new pathway on a pragmatic need to balance its collaborations with liberal democracies with its long-standing bilateral relations with Moscow, a tight rope walk that India will have to tread arising out of Russia's ongoing war on Ukraine. India's dependence though on Russian energy is minuscule in comparison to its EU partners, however, given that Europe in the medium-term has committed to weaning off its dependence on Russian energy sources – on gas, in particular, Moscow has, in turn, made it clear that it would diversify its energy supplies out of Europe into south Asia and south-east Asia at enormously subsidized rates. India, upon being offered alternative energy sources by the Western partners, has made it clear that other energy alternatives are too expensive. It would indeed be worth a wait to watch out for how energy prices would likely influence shifting geopolitics and geo-economics within and beyond regions.

One thing though, going forward, that seems certain is that energy issues would likely pivot the changing world order and reset the security architecture largely triggered by cheap energy supplies to new emergent markets, potentially in lead up to new power realignments between the East and the West in the aftermath of Russia's war on Ukraine. 

Locals in the town of Shoranur in Kerala, India bathe in the River Nila.
Image: Mike Finn, CC BY-SA 3.0, via Flickr



WHY INDIA'S HEATWAVE HAS TURNED OUT THE LIGHTS

As people across the country crank up the AC, the grid is struggling to cope: a peek into a future in which climate change drives more extreme weather, writes **Lou Del Bello**, thethirdpole.net

The heatwave currently bearing down on the Indian subcontinent has made headlines around the world for the threat it poses to the health and livelihoods of millions of people, with doctors reporting a rise in heatstroke symptoms and warning that prolonged exposure to such extreme conditions can be deadly.

But what is also being exposed is a lesser-known vulnerability: that of an energy system that quickly

gets strained beyond its maximum capacity when there is a dramatic rise in demand for power to keep ACs, fans and fridges going in homes and hospitals when it's too hot outside.

Temperatures touching the mid-to-high 40s (degrees Celsius) are not usually seen in north India and Pakistan before May, but this year they started in the second week of April, stretching the hot season by weeks. The unseasonal heat has alarmed scientists, who say it carries the

footprint of climate change. Mariam Zachariah, a climate scientist at the Grantham Institute at Imperial College London in the UK, says that the temperatures in South Asia at the moment are "uncanny."

The footprint of climate change

With her team, she examined the heatwave spell that occurred from the first week of April, finding that such temperatures are now roughly a one-in-four year event in the current climate. They compared this with a computer-generated model planet, with lower greenhouse gas emissions in the atmosphere, and found that without climate change such events would have been very

rare, occurring just twice in a century. “Following this pattern, we can expect heatwaves with hotter temperatures to become more common in the future, until net emissions [emissions of greenhouse gases above net zero] are halted,” Zachariah says.

As the mercury went up across north and central India, the power started going out just when it was needed the most – not just to cool homes, but also to keep agricultural pumps going so they can draw underground water and irrigate parched crops in the states of Haryana and Punjab, the country’s breadbasket.

The pollster LocalCircles surveyed 21,500 households across 322 rural and urban districts, finding that two out of three respondents have faced power outages during the heatwave, and one in three experienced power outages that were over two hours long. Data from the national load dispatch centre (POSOCO) records power shortages in various states.

What happens to the grid

Power cuts happen when energy demand exceeds what grid operators were expecting and had planned to dispatch at a certain time, explains Chandana Sasidharan, a senior researcher with the think tank Alliance for an Energy Efficient Economy (AEEE). Last week, India registered an unprecedented 207,111 MW peak power demand, nearly tipping the energy system out of kilter.

“[The grid] works on a system of balance, supply needs to match demand at any given time,” she explains. “Now, when you have any climate extreme event, just like a heatwave, how do you prepare for that? You would look at what happened last year in the same month, and you’ll also look at what happened in the previous week [to gauge energy consumption patterns].”

Energy planners know the demand is going to increase, “but

what you don’t have control over is the scale of this increase. Demand has a lot of behavioural aspects, and you really can’t predict it with too much granularity.”

“The stumbling block in this situation was poor planning by the power distribution companies,” says the policy lead at one of India’s leading renewable energy companies, who asked to remain anonymous. “No one anticipated such a rapid increase in peak demand at the back of the heatwave conditions, but had there been proper planning there’s enough capacity in the system,” the expert says. “My experience shows that demand estimation so far is manual and Excel-based, devoid of scientific techniques, not using weather prediction models in any way.”

Private distribution companies fared better, the expert adds, because they use more sophisticated tools to work out how much energy will be needed at any given time.

An urgent and complex energy transition

Climate change and the need to move away from coal are adding to the challenge. With increasingly severe heatwaves the need for air conditioners and fans will grow, but as long as this additional energy is procured via fossil fuels, it will contribute to the problem in the long term. “This persistent heatwave shows climate change is real and therefore decarbonisation of the grid is imperative,” says the policy lead, adding that the push towards manufacturing of solar cells and modules, batteries and now hydrogen can also help make India more energy secure in the face of geopolitical turmoil.


Renewables will bring a paradigm shift in the way energy planners operate, Sasidharan says. “With fossil fuels such as coal you could fully control your energy flows, all you had to do was to increase coal power capacity [to produce the exact amount of energy needed].” When

dealing with solar “you have no control over the input”, because energy production will fluctuate with the weather and stop at night.

One short-term intervention for a power sector under stress is to identify critical infrastructure such as hospitals and focus on avoiding interruptions there in case of extreme weather, Sasidharan says. But in the long term, there is a need for a more holistic approach which involves managing demand too, incentivising people to use their energy more efficiently – for example keeping the air conditioner at 26C degrees instead of 18C.

Heatwaves may only make the headlines once a year, but adapting to the impacts of a warming planet is now a year-round challenge. According to the UN, heatwaves are going to cost India 34 million jobs by 2030, particularly in the construction and agricultural sector, the backbone of the country’s labour market.

Abinash Mohanty, programme lead with the Delhi-based Council on Energy, Environment and Water (CEEW), says that preparing for extreme temperatures requires a wide range of hyper-local interventions, including designing roofs that absorb less light and retain less heat, improving early warning systems and implementing nature-based solutions such as restoring tree cover as much as possible.

These measures will in turn reduce the need for electric cooling, helping save energy and protecting those who can’t afford fans or air conditioners. “Fast-tracking heat-wave action plans will ensure the climate-proofing of India’s economy as well as improving quality of life for its citizens,” he says. 

This story was published with permission from The Third Pole.

(SOURCE: <https://www.eco-business.com/news/why-indias-heatwave-has-turned-out-the-lights/>)

The hot weather has not just burnt a hole in the Indian farmers' income, but is pinching consumers globally. India is the world's second-largest wheat producer.

Image: Jason Wallis/Flickr

HEATWAVE SCORCHES INDIAN FARMERS' BUMPER WHEAT CROP HOPES

Scorching weather is hurting the wheat crop in India, which is pinching a global supply already under strain from the Ukraine war. The heatwave is a warning for India's agricultural sector to adapt quickly to climate impacts, experts say.

Farmer Raghubir Singh was expecting to reap a rich crop of wheat in his 20-acre patch of land in the northern Indian state of Haryana's Karnal this year, but his hopes were dashed when summer arrived a month early in March and shrivelled the grains.

"I will have no savings this year from wheat. My yield is 15-20 per cent less than what I expected," says Singh. His plight is similar to thousands of farmers across India's breadbasket northern region, where an unprecedented heatwave has cut short the spring season during which the grains ripen. The temperature rise since March has shattered

a more than century-old record — a phenomenon that scientists attribute to global warming.

The blazing weather has not just burnt a hole in the Indian farmers' income, but is pinching consumers globally. Stung by the heat spell, the world's second-largest wheat producer, India, suddenly imposed an export ban last weekend, days after fresh estimates showed that the wheat output will drop by 5.7 per cent below initial estimates to 105 million tonnes this year.

Global wheat prices have shot up to a record US\$453 per tonne following India's export curb as nearly a dozen nations were hoping for supplies from the South Asian

country to compensate for shipments disrupted by the war between top producers Russia and Ukraine.

Climate scientists say that this year's bitter experience with the wheat crop is a loud and clear warning for India's agriculture to adapt quickly to climate change. The stakes are especially high for the country as nearly half of its workforce is employed in agriculture.

"Over the last three decades, we have seen an incremental increase in average temperature every decade. We have to adapt to the situation," says D.S. Pai, director at the Institute for Climate Change Studies, who is based out in the southern Indian state of Kerala.

Looming threat of more heatwaves

The indications are that the heat waves will only increase in the future. The number of heatwave days in India, which is defined as

temperature remaining above 40 degrees Celsius, rose to 600 between 2011-20, up from 413 between 1981-90, according to a study by the Indian Meteorological Department.

“Heatwaves are going to impact India’s jobs, growth and sustainability plans. India is projected to lose over 3 million full-time jobs in the agriculture sector (by 2030) owing to heat stress,” says Arunabha Ghosh, CEO of New Delhi-based Council on Energy Environment and Water (CEEW), a public policy research institute. Farmers from the northern Indian states of Punjab, Haryana and Uttar Pradesh have reported losses between 20-60 per cent for the winter-down wheat harvest, says CEEW.

India will need to map a heatwave landscape across the country and then coordinate with multiple agencies to tailor an effective response to mitigate the impact, says Ghosh. A stronger ability to accurately predict erratic weather patterns must go hand in hand with smart agriculture practices such as planting climate-tolerant hybrid varieties and planning the sowing and cultivation in sync with the changing weather pattern, say scientists.

“Those farmers who planted wheat on time in November did not suffer much loss, unlike other farmers who delayed the sowing until end-December,” says R.S. Paroda, former director general of the Indian Council of Agricultural Research, the country’s premier agriculture institute.

Embracing climate change

Indian farmers would also need to tap into a rich pool of climate-tolerant crops that it has already developed, besides improving the state-run India Meteorological Department’s forecast of medium and long-term weather to better predict weather extremes, says Paroda.

To be sure, drought-resistant rice varieties such as Pusa 1121 — a type

“
India is projected to lose over 3 million full-time jobs in the agriculture sector (by 2030) owing to heat stress.

ARUNABHA GHOSH
CEO, Council on Energy Environment and Water

of basmati rice that requires less water and matures early — have helped farmers better cope with erratic rainfall and contributed significantly to propelling India to be the world’s top rice exporter. But agriculturists say that climate-hardy varieties of other crops, such as lentils and oilseeds, need to be more widely used as well.

Indian farmers say that often many climate smart technologies do not reach rural areas due to a lack of coordination among state agencies.

“The innovation remains in the laboratories. There is some degree of improvement (in developing climate-resistant varieties, but the benefits do not (always) percolate down to the grassroots level,” says Binod Anand, president of the Rashtriya Kisan Progressive Association, a representative body of 1.3 million farmers.

Besides, Indian state authorities need to encourage farmers to grow crops that are more suitable to climate conditions in different provinces. For instance, farmers in the water-stressed northern state of Punjab grow rice as the main summer crop because of high minimum purchase prices offered by the government, says Binod.

If the current heat spell prolongs, it could also pose a danger to the summer-sown rice crop, because

it could dry up the ground water, say analysts. Ajay Kakra, managing partner of JU Agri Sciences, which provides funds for early stage start ups in food and agriculture, says that water tables in farms will need to be actively monitored because of climate change.

Techniques such as the direct seeding of rice plants — which saves water compared to the traditional method of transplanting seeds from a nursery — will also need to be vigorously practiced, Kakra adds.

There could be some relief from the heat wave as the India Meteorological Department predicts that monsoon rains will arrive about a week earlier than normal over the southern state of Kerala on 27 May, and the total rainfall volume will be normal through the June-September season.

But much will also depend on how the rainfall gets distributed, as in the past it has often been uneven with flash floods in certain parts and drought-like conditions elsewhere. Erratic monsoons could be an even bigger spoiler than wheat, because India is the world’s top rice exporter.

Monsoon rainfall in the northern and north eastern regions of India have declined over the past 30 years, according to a report of India Meteorological Department.

Power cuts of up to eight hours in many northern rural provinces due to high urban demand for electricity to cool homes and offices is already posing a worry for farmers as most depend on grid supplies to pump underground water to cultivate their summer crops.

“We are keeping our fingers crossed that the monsoon is normal. We don’t want another crisis like in wheat,” says Vijay Setia, a leading rice exporter, who is based in the northern state of Haryana. 🟩

(Source: <https://www.eco-business.com/news/heatwave-scorches-indian-farmers-bumper-wheat-crop-hopes/?sw-login=true>)

Flying FoxA Flying Fox native to Malaysia, Indonesia, and Southeast Asia hangs out in an enclosure at the Oakland Zoo.

Image: kqedquest, CC BY-SA 3.0, via Flickr.



Climate change ‘already’ raising risk of virus spread between mammals

Mammals forced to move to cooler climes amid global warming are “already” spreading their viruses further – with “undoubtable” impacts for human health, a new study says, according to **Daisy Dunne**, Carbon Brief

The research, published in *Nature*, uses modelling to map how climate change could shift the geographic ranges of 3,100 mammals species and the viruses they carry by 2070.

It finds that climate change is increasingly driving new encounters between mammal species, raising the risk of novel disease spread. The world’s “biodiversity hotspots” and

densely populated parts of Asia and Africa are most likely to be affected.

The findings suggest that climate change could “easily become the dominant [human] driver” of cross-species virus transmission by 2070, the authors say.

The research comes in the third year of the Covid-19 pandemic, a disease passed from animals to humans that has so far killed more than six million people across the world.

In their study, the scientists “caution against overinterpreting our results as explanatory of the current pandemic”, but add the “ecological transition” they have identified will “undoubtedly have a downstream impact on human health and pandemic risk”.

Reshuffling nature

Climate change is shifting where species live. As temperatures increase and rainfall changes, some species are being forced to seek out new areas with climate conditions they are able to tolerate. (Species that are not able to move could face extinction.)

In 2008, a scientific review of 40,000 species across the world found that around half are already on the move as a result of changing climate conditions.

In general, species are seeking cooler temperatures by moving towards the Earth's poles. Land animals are moving polewards at an average rate of 10 miles per decade, whereas marine species are moving at a rate of 45 miles per decade, according to the review.

As species migrate to new areas, they carry their viruses with them. The new study says there are “at least 10,000” viruses that have the capacity to infect humans, but “at present, the vast majority” of them “are circulating silently in wild mammals.”

The research specifically examines how climate change could affect the likelihood of species coming into contact with each other for the first time as they move into new areas.

This is because new encounters between species are a key element for a “zoonotic spillover” – the passing of harmful pathogens from animals to humans, explains study co-lead author Dr Colin Carlson, a global change biologist at Georgetown University in Washington DC. He tells Carbon Brief:

“Species are going to show up in new combinations because of climate change and, when they do, that’s an opportunity for them to share viruses with each other.”

In addition to pathogen sharing, first encounters between species also provide a platform for viruses to evolve, he explains:

“The best analogy that exists is thinking about wildlife markets. One of the reasons that people are so concerned about spillover risk in markets is that, if you have a bunch of animals in poor health in close proximity, it’s not just a chance for animals to contact humans, it’s also a chance for viruses either to evolve or to jump through a stepping

We are living in the Anthropocene. We are living in an era where our impact on natural ecosystems is going to lead to more pandemics.

DR COLIN CARLSON
Global Change Biologist,
Georgetown University

stone host to get to humans. We’ve seen this over and over again with coronaviruses.”

The results show that any amount of future global warming is likely to drive an unprecedented increase in first encounters between mammal species, he adds:

“What we find is the level of change that species will experience because of climate change will basically leave the host-virus network unrecognisable. That makes sense because ecosystems are going to be recognisable. But it’s at a scale that I think is quite stunning.”

(There are many factors that can determine whether a zoonotic spillover turns into a pandemic. For a full breakdown, see Carbon Brief’s explainer on climate change and pandemic risk.)

Viral hotspots

For the study, the researchers used modelling to map changes to the geographic ranges of 3,100 mammal species under various future scenarios.

This includes a scenario where future land use is sustainable and the world is successful in meeting the Paris Agreement’s goal of keeping global temperature rise below 2C above pre-industrial levels (“SSP1–RCP2.6”).

It also includes a scenario with “continued fossil fuel reliance” and “rapid land degradation”, where temperatures are likely to exceed 4C (“SSP5–RCP8.5”).

The research focuses on mammals over other animal groups because they have “the highest proportion of [known] viral diversity” and hold the “greatest relevance to human health,” the authors say.

The scientists used these projections to identify where species are likely to encounter each other for the first time in the future.

In addition, they used a “viral sharing model” to predict the probability of cross-species virus transmission. The results show that “the vast majority of mammal species will overlap with at least one unfamiliar species somewhere in their potential future range, regardless of [the] emissions scenario.”

Under either future emissions scenario, this “would permit over 300,000 first encounters” between species, the study says.

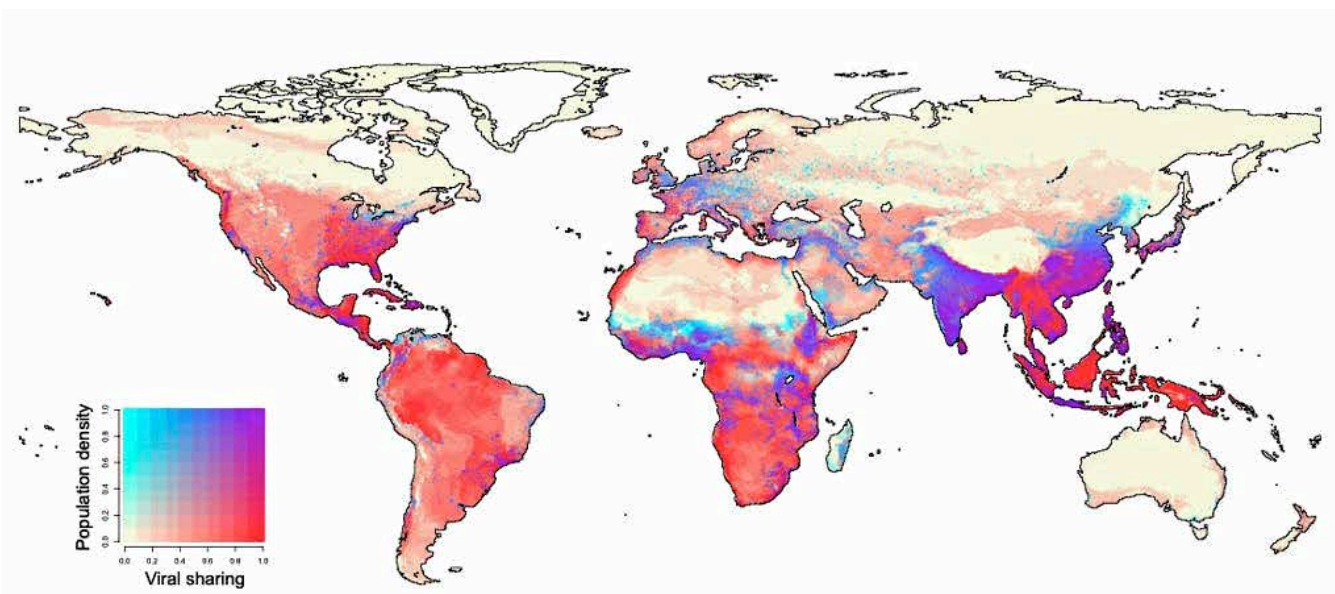
These first encounters between species are projected to lead to at least 15,000 cross-species transmission events of at least one novel virus – “but potentially many more,” the authors say.

These findings suggest that climate change could “easily become the dominant [human] driver” of cross-species virus transmission by 2070, the authors conclude.

By mapping the likely locations of these cross-species transmission events, the authors found that they are likely to be concentrated in bio-diverse and highly populated parts of Africa and Asia, Carlson says:

“We think that this process is most likely to impact human health in south-east Asia, east Asia and parts of central Africa – but there are also hotspots in the US and Europe.”

The map below, taken from the study, indicates where viral sharing events are likely to occur by 2070, under the low greenhouse gas



Where novel mammal viral sharing events are likely to overlap with high population density (purple) under a low-emissions scenario by 2070.

Credit: Carlson et al. (2022).

emissions and sustainable land use scenario (“SSP1-RCP2.6”).

On the map, purple indicates where a high number of viral sharing events is likely to overlap with high population density.

In addition to examining the likely location of viral sharing events, the authors also explored which types of mammals are most likely to be involved in pathogen transmission.

The results show that, among mammal species, bats “account for the majority of novel viral sharing.”

One major reason for this is because bats are one of the only mammals able to fly – allowing them to easily migrate to new areas in response to warming, Carlson tells Carbon Brief.

‘Ecological transition’

One major takeaway of the new research is that an unprecedented increase in virus sharing between mammals is expected under both a low- and a high-emissions scenario – suggesting accelerated action to tackle climate change would do little to alleviate the risks, the authors say.

In fact, the global migration of species in response to global warming to date suggests that

the “ecological transition” identified in the study “may already be underway,” the authors say. Carlson tells Carbon Brief:

“We are living in the Anthropocene. We are living in an era where our impact on natural ecosystems is going to lead to more pandemics.”

The findings suggest there is an urgent need to invest in measures to monitor and respond to the emergence of new diseases from wildlife, says study co-lead author Dr Gregory Albery, a disease ecologist at Georgetown University. He told a press briefing:


“The main message is this: this is happening. It is not preventable, even in the best-case climate change scenario and we need to put measures in place to build health infrastructure to protect animal and human populations.”

“Critically, this bolstered infrastructure needs to be paired with active surveillance of wild animals, their movements and their diseases to ensure we can keep our finger on the pulse of global change,” he continued.

The results represent “a critical first step” in understanding how climate change and land use change may raise the risk of “the next

pandemic”, says Prof Kate Jones, an ecologist at University College London, who was not involved in the research. She tells Carbon Brief:

“This is an important study, focusing on where the twin pressures of future climate change and land conversion will increase the likelihood of viruses being shared across mammals. However, predicting the risk of viral jumps from mammals into humans is more tricky as these spillovers take place in a complex ecological and human socioeconomic environment.”

“So although this study provides an excellent basis for understanding potential viral exchange hotspots under future change, the actual risk might be mitigated by many other factors. [This may include] an inability for wild species to successfully track changes in climate and land use, viral incompatibilities preventing spillovers into humans – or an increase in investment in health care provision to prevent initial spillovers,” he concluded. 

This story was published with permission from Carbon Brief.

(Source: <https://www.eco-business.com/news/climate-change-already-raising-risk-of-virus-spread-between-mammals/>)

First of its kind project launches new tools to combat wildlife trafficking in India's airports

TRAFFIC's "HIGH FLYING: Insight into wildlife trafficking through India's airports" analysis found the trafficking of over 70,000 native and exotic wild animals, including their body parts or derivatives (weighing around 4000kg) in 141 wildlife seizure incidents at 18 Indian airports between 2011-2020. Forty-six per cent of seizures were reptiles, including the Vulnerable[1] Indian Star Tortoise, in which traffickers clearly disregard the international rules[2] prohibiting its trade to protect the species.

"TRAFFIC's study of wildlife seizures at Indian airports between 2011-2020 reinstates the need to strengthen enforcement efforts to curb the exploitation of the airline sector for conducting illegal wildlife trade," said Dr Saket Badola, Head of TRAFFIC's India Office, the lead agency responsible for developing and implementing new awareness and capacity building tools.

"We thank UNEP and our partners for their support in launching a first of its kind project in India focused on working with enforcement officials to detect and deter wildlife trafficking through airports", adds Dr Badola.

Developed by TRAFFIC and UNEP (United Nations Environment Programme) in collaboration with WCCB (Wildlife Crime Control Bureau) and WWF-India, the capacity-building tools are accessible via a new online knowledge hub (www.IWTKnowledgeHub.in) and include:

- Two online courses on how to

- curb wildlife trafficking and relevant laws and regulations
- An informative video highlighting wildlife trafficking through airports
- Checklists for enforcement officials to use in their day to day operations.
- Posters and standees offering vital information about commonly trafficked wildlife species

"Illegal wildlife trade through airports is a major conservation threat magnified by the growth in the airline sector. It is important for enforcement agencies to prioritise bringing an end to wildlife trafficking. We are pleased to have partnered with TRAFFIC, WWF-India, Customs, CISF and WCCB to design and implement a dedicated programme that will help strengthen the detection of illegal wildlife trade at airports," adds Atul Bagai, Head of the United Nations Environment Programme Country Office in India.

Tilotama Varma, Additional Director, WCCB, said, "Airports have emerged as a popular mode for transporting wildlife contrabands due to the shorter travel time and extensive reach. Traffickers smuggle wildlife and their derivatives through checked luggage and personal baggage, by concealment of wildlife contraband within passenger clothing, footwear, and other wearables and through the wrong declaration of protected species, all of which makes detection cumbersome for enforcement agencies. The newly developed resources under the project will prove useful for bridging such gaps".

The new awareness and capacity building tools developed under the project- Deterring and Disrupting wildlife trafficking in the air transport sector in India- were launched at an event on 25 March 2022 at NACIN (National Academy of Customs, Indirect Taxes & Narcotics), Faridabad.

To utilise the coming together of agencies, the launch event also included a Training of Trainers where over 40 officials from various NACIN academies across India, Customs, CISF (Central Industrial Security Force), WCCB, and partner organisations attended the training and also joined through online mode.

Yogendra Garg, Additional Director General, NACIN adds, "Customs need to continuously acquire new skills to keep pace with the latest trends in smuggling. Training tools and resources are thus crucial for upscaling their skills to detect crime. Also, there is a dire need to create awareness about emerging issues like wildlife crime from time to time. We at NACIN are really glad that a dedicated effort for curbing wildlife trafficking through airports has been initiated through this project".

Ravi Singh, Secretary-General & CEO, WWF-India said, "Wildlife needs our support more than ever due to the ever-increasing threats due to human interventions, climate change and illegal wildlife trade. The new project engages with nodal agencies at airports and helps to increase the awareness and prevention of illegal wildlife trade". 📌

STATE OF THE CLIMATE: START OF 2022 IS THE FIFTH WARMEST ON RECORD

After a slightly cooler 2021 on the Earth's surface, the world is on track for 2022 to be somewhere between the fourth and eighth warmest year since records began in the mid-1850s, according to **By Zeke Hausfather**, Carbon Brief



Three women make use of their time stuck in traffic on an open-air bus in the heat and humidity of Manila, Philippines. Image: Wayne S. Grazio, CC BY-SA 3.0, via Flickr.

It is very unlikely to be a record warm year due to moderately strong La Niña conditions in the early part of the year that are projected to continue for at least the next six months.

Not every year is expected to set a new record for the surface – and 2022 annual temperatures will likely end up well in-line with the long-term warming trend that the world has experienced over the past five decades. The first four months of 2022 were the fifth warmest start to a year on record so far. March 2022 saw record warmth over China and

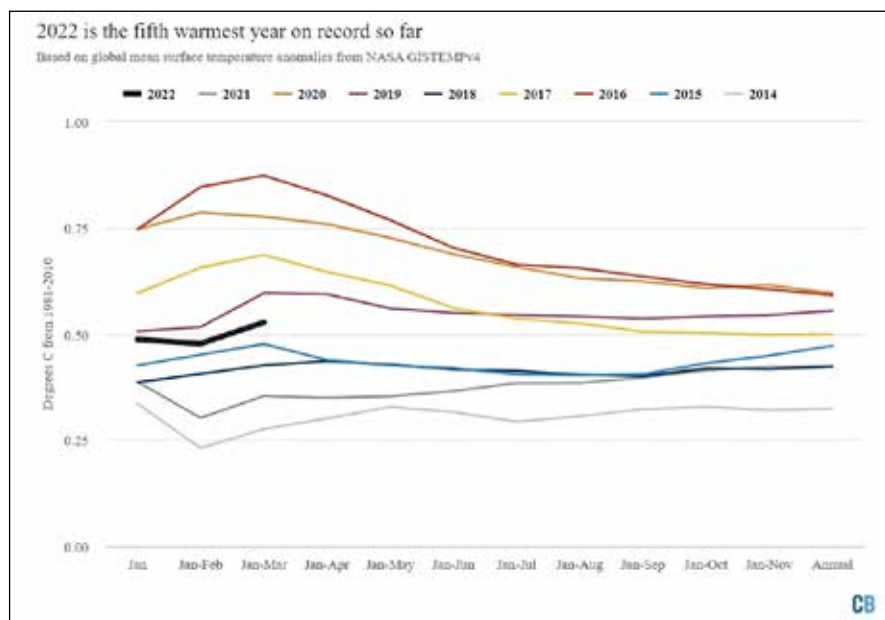
large parts of southern Asia, as well as exceptionally high temperatures in the Arctic. In Antarctica, a March heatwave saw temperatures nearly 40C above normal in the eastern part of the continent.

Arctic sea ice currently is on the low end of its historical range, while Antarctic sea ice saw the lowest sea ice extent on record in late February.

Fifth warmest year on record so far

Global surface temperatures are recorded and reported by a number

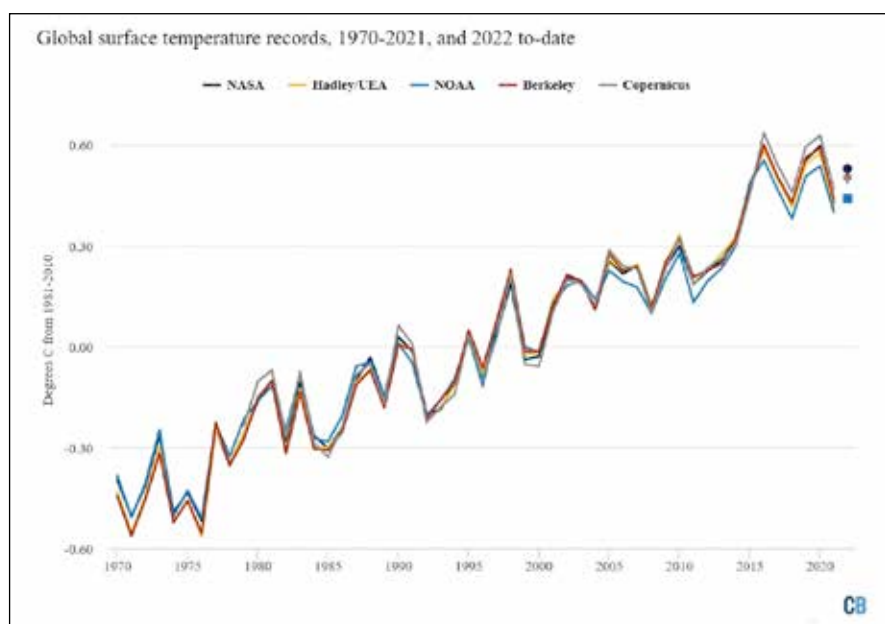
of different international groups, including NASA, NOAA, Met Office Hadley Centre/UEA and Berkeley Earth. Copernicus/ECMWF also produces a surface temperature estimate based on a combination of measurements and a weather model – an approach known as “reanalysis”. The temperatures in the first three months of 2022 were the seventh warmest first quarter of the year on record, behind all of the past six years – but warmer than every year on record prior to 2015. The figure below shows how temperatures to-date compare to



Year-to-date temperature anomalies for each month from 2014 to 2022 from NASA GISTEMP. Anomalies plotted with respect to a 1981-2010 baseline. Chart by Carbon Brief using Highcharts.

	NASA	Hadley/UEA	NOAA	Berkeley	Copernicus
Jan	6th	6th	6th	6th	6th
Feb	6th	9th	7th	8th	6th
Mar	5th		5th	5th	5th

Rankings of 2022 temperatures by month across different datasets. Note that Hadley and Berkeley go back to 1850, NASA and NOAA go back to 1880, and Copernicus/ECMWF is only available since 1979.



Annual global mean surface temperatures from NASA GISTEMP, NOAA GlobalTemp, Hadley/UEA HadCRUT5, Berkeley Earth, and Copernicus/ECMWF (lines), along with 2022 temperatures to-date (January-March, coloured dots). Anomalies plotted with respect to a 1981-2010 baseline. Chart by Carbon Brief using Highcharts.

prior years in the NASA dataset. It shows the temperature of the year-to-date for each month of the year, from January through to the full annual average.

The table below shows the ranking of months in 2022 compared to the same month in all prior years since records began.

January and March were the sixth and fifth warmest, respectively, across all the datasets. February was a bit cooler, coming in at somewhere between the sixth and ninth warmest on record.

The chart below compares the annual global surface temperatures from these different groups since 1970 – or 1979 in the case of Copernicus/ECMWF. The coloured lines show the temperature for each year, while the dots on the right-hand side show the year-to-date estimate for January to March 2022.

Values are shown relative to a common baseline period – the 1981-2010 average temperature for each series. Surface temperature records have shown around 0.9C warming since the year 1970, a warming rate of about 0.19C per decade.

Year-to-date values are not yet available from Hadley/UEA due to reporting delays for March. The values in this chart will be updated when that data becomes available.

El Niño and La Niña events – collectively referred to as the El Niño Southern Oscillation, or ENSO – are the main driver of year-to-year variation on top of the long-term surface warming trend. ENSO events are characterised by fluctuations in temperature between the ocean and atmosphere in the tropical Pacific, which help to make some years warmer and some cooler.

The La Niña conditions seen in the early part of 2022 are likely to continue through the remainder of the year, though most models show a slight weakening of La Niña and the possibility of a “neutral” ENSO by the end of the year.

This can be seen in the figure below, which shows a range of ENSO forecast models produced by different scientific groups, with the average for each model type shown by thick red, blue and green lines. Positive values above 0.5C indicate El Niño conditions, negative values below -0.5 show La Niña conditions and values between the two represent ENSO neutral conditions.

Global temperatures tend to lag behind ENSO conditions by a few months, so the current cooler global conditions may persist even after the La Niña event has ended.

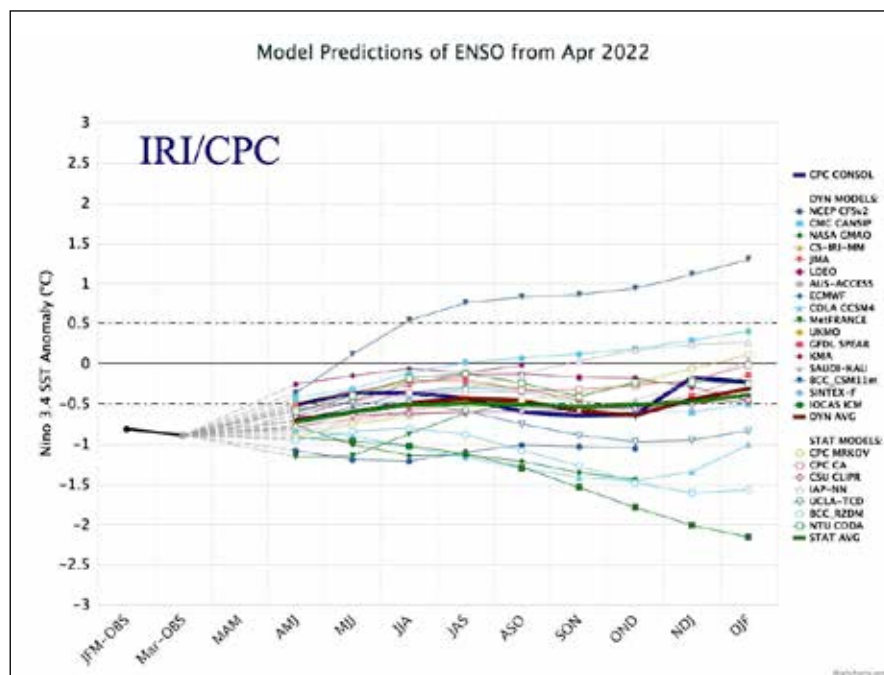
Exceptional warmth in some regions

Despite only being the fifth warmest year on record to-date, 2022 has seen exceptional warming in a number of regions in the first quarter of the year, including record-setting heatwaves in both poles. As the map below illustrates, much of Asia, the Arctic and parts of the Antarctic saw particularly warm conditions in March.

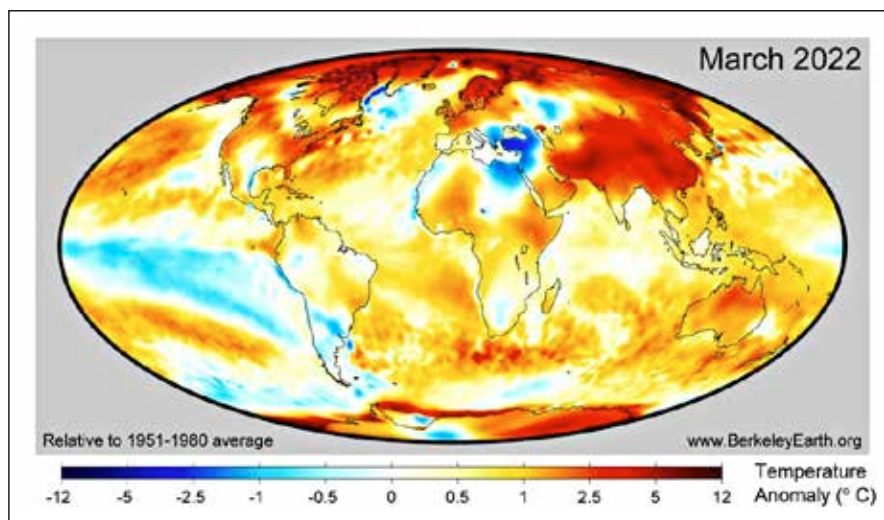
Portions of southern Asia – including much of China and India – experienced record warmth in March 2022. According to analysis by Berkeley Earth, 4.2 per cent of the Earth's surface had the hottest March on record, while 79 per cent was warmer than during the 1951-80 baseline period used by Berkeley Earth. No location on Earth saw a record-cold March.

The most remarkable climate event of the first quarter of the year occurred in East Antarctica in March, where some regions experienced temperatures nearly 40C above normal for the time of year. The Dome C temperature station in Antarctica set a world record for the largest temperature excess above normal ever measured at a weather station, as shown in the figure below.

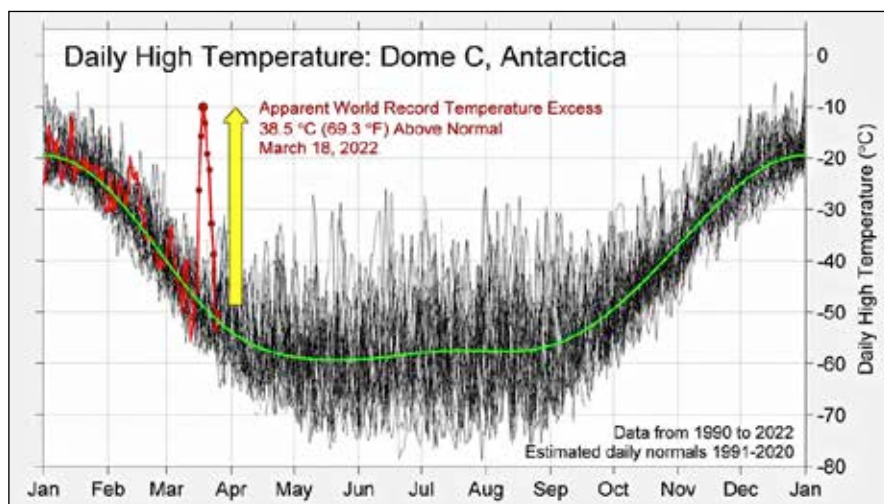
This event also coincided with record-low Antarctic sea ice cover



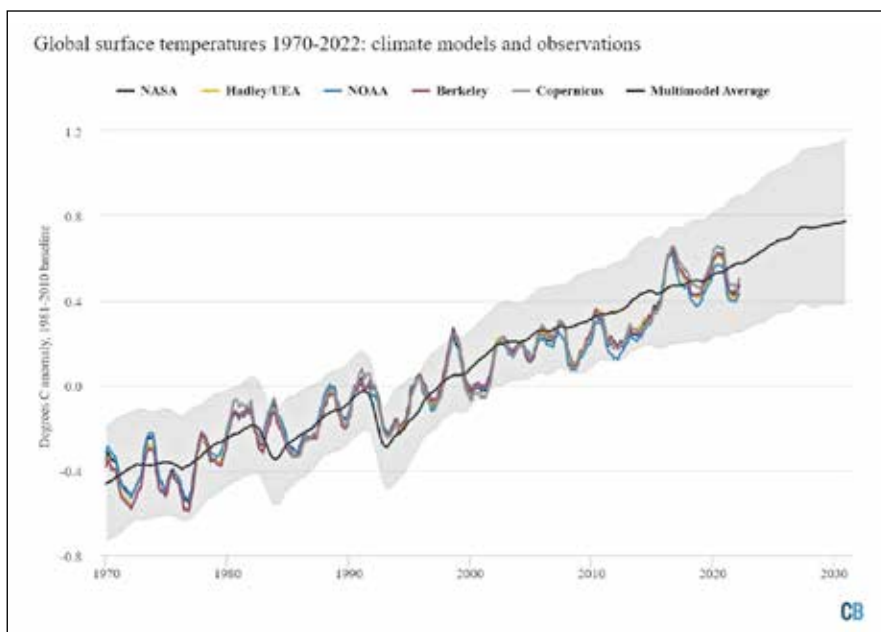
El Niño Southern Oscillation (ENSO) forecast models for three-month periods in the Niño3.4 region (March, April, May - MAM - and so on), taken from the IRI/CPC ENSO forecast.



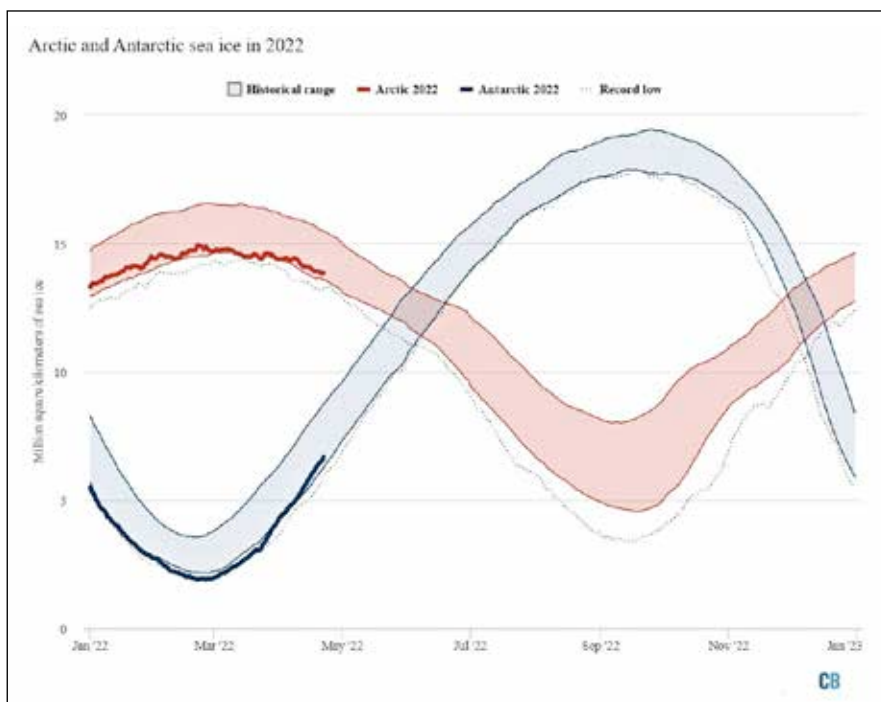
Distribution of global temperature anomalies in March 2022, relative to a 1951-80 baseline period. Figure from Berkeley Earth.



Daily temperatures at Dome C, Antarctica, from 1990 through 2022, with the exceptional heat wave during March 2022 shown by red dots. Figure from Berkeley Earth.



Twelve-month average global average surface temperatures from CMIP5 models and observations between 1970 and 2030. Models use RCP4.5 forcings after 2005. They include sea surface temperatures over oceans and surface air temperatures over land to match what is measured by observations. Anomalies plotted with respect to a 1981-2010 baseline. Chart by Carbon Brief using Highcharts.



Arctic and Antarctic daily sea ice extent from the US National Snow and Ice Data Center. The bold lines show daily 2022 values, the shaded area indicates the two standard deviation range in historical values between 1979 and 2010. The dotted black lines show the record lows for each pole. Chart by Carbon Brief using Highcharts.

and an ice shelf in East Antarctica the size of New York City collapsed into the ocean.

Climate models and observations

Climate models provide physics-based estimates of future warming

given different assumptions about future emissions, greenhouse gas concentrations and other climate-influencing factors.

The figure below shows the range of individual model forecasts featured in the IPCC's AR5 – known collectively as the CMIP5 models –

between 1970 and 2030. The black line and grey shading indicate the average projection and spread, respectively, across all the models. Individual observational temperature records are represented by coloured lines.

The latest generation of models – CMIP6 – are not compared to observations in this state of the climate report. The most recent report from the IPCC's sixth assessment report (AR6) has changed the way that the ensemble of models is used.

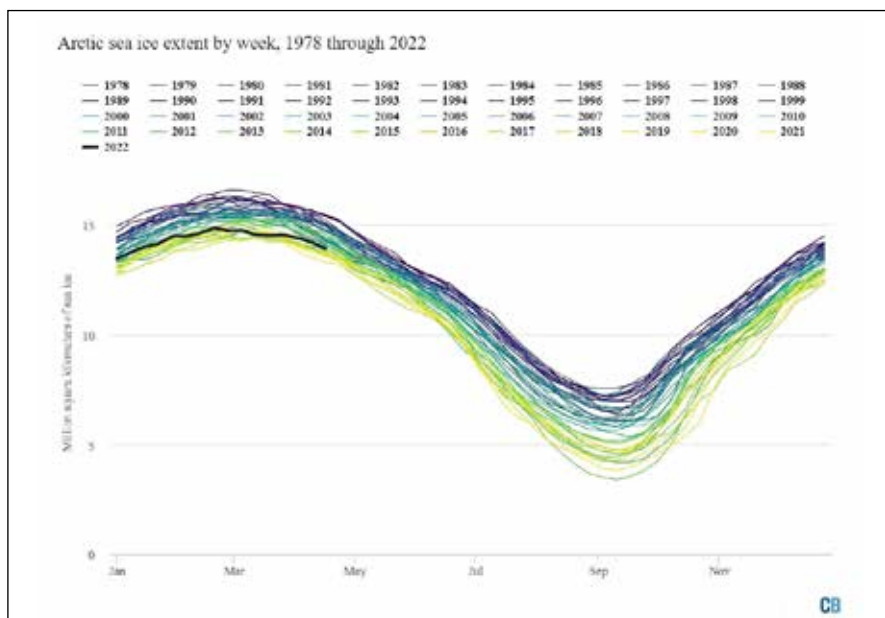
Rather than simply taking the average of all the models (and their range) – as was the case in previous IPCC reports – the IPCC decided to use a weighted subset of models that agreed well with historical observations. This also reflected a narrowing of climate sensitivity in the most recent IPCC report – such that a number of new models fall outside the “very likely” sensitivity range.

While the IPCC AR6 provided a new set of future “assessed warming” projections, these start in the year 2015, which makes comparisons with observations over such a short period not very informative. Carbon Brief will have more on this subject soon, including a discussion of how to best use CMIP6 model data consistent with the AR6 approach.

Sea ice

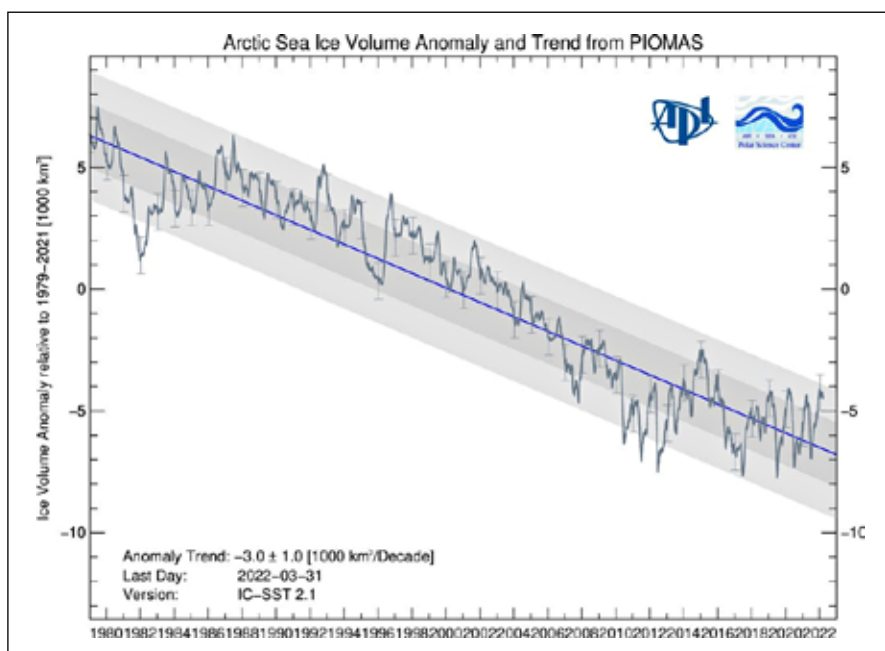
Arctic sea ice extent spent much of early 2022 at the low end of the historical 1979-2010 range, but only came close to setting a new record daily low in early March. There is generally less variability in year-to-year Arctic sea ice extent in the winter than in the summer, as cold winter temperatures refreeze large portions of the Arctic even in a warmer world.

Antarctic sea ice, on the other hand, was at or near record lows for all of 2022 to date. Late February saw the lowest Antarctic sea ice extent since records began, though the degree to which this was driven



Arctic and Antarctic daily sea ice extent from the US National Snow and Ice Data Center. The bold lines show daily 2022 values, the shaded area indicates the two standard deviation range in historical values between 1979 and 2010. The dotted black lines show the record lows for each pole. Chart by Carbon Brief using Highcharts.

Climate models provide physics-based estimates of future warming given different assumptions about future emissions, greenhouse gas concentrations and other climate-influencing factors.



Arctic sea-ice volume anomalies from 1979 through April 2022 from PIOMAS.

by climate change remains unclear given the lack of a clear long-term trend in the region – unlike in the Arctic, where sea ice declines are clearly driven by warming.

The figure below shows both Arctic and Antarctic sea ice extent in 2022 (solid red and blue lines), the historical range in the record

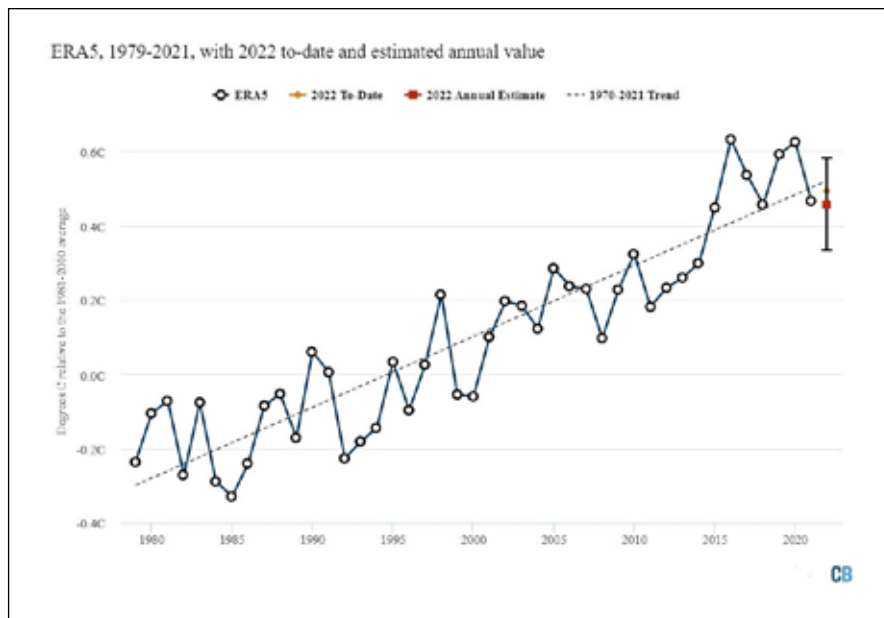
between 1979 and 2010 (shaded areas) and the record lows (dotted black line). Unlike global temperature records (which only report monthly averages), sea ice data is collected and updated on a daily basis, allowing sea ice extent to be viewed through to the present. The summer Arctic sea ice minimum

is a somewhat iconic figure and recent years have yet to drop below the record low set in 2012. While Arctic sea ice is on the low end of its historical range, it is still too early to know where the 2022 minimum will fall as winter extent is not a clear indicator of the summer minimum.

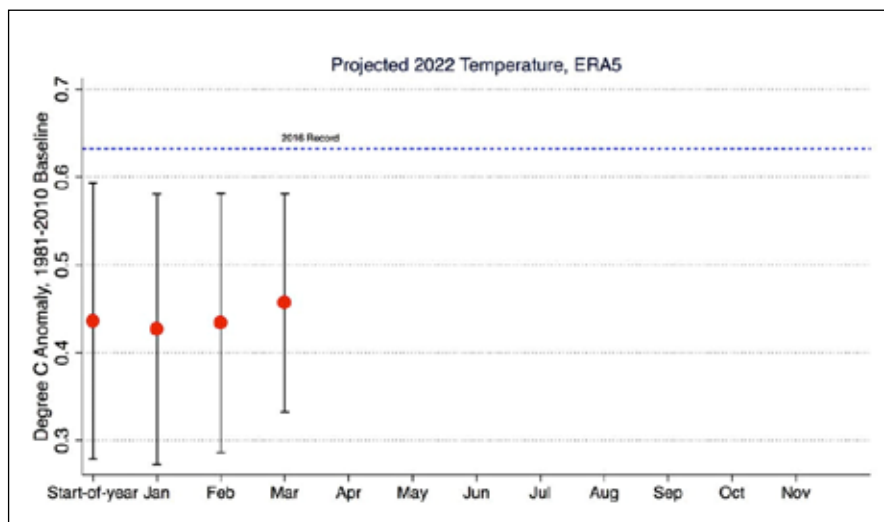
The chart below shows the average Arctic sea ice extent for each week of the year for every year between 1978 and 2021, with 2022 to-date highlighted with a thick black line.

Finally, it is worth noting that sea ice extent only tells part of the story. In addition to declining ice extent, the sea ice that remains tends to be younger and thinner than ice that used to cover the region. The figure below, using data from the Pan-Arctic Ice Ocean Modeling and Assimilation System (PIOMAS), shows the Arctic sea ice thickness for every year between 1979 and 2022.

While sea ice volume is currently above its 2021 values, it is still well in-line with the long-term downward trend.



Annual global average surface temperature anomalies from Copernicus/ECMWF plotted with respect to a 1981-2010 baseline. To-date 2022 values include January-March. Estimated 2022 annual value based on relationship between the January-March temperatures and annual temperatures between 1970 and 2021. Chart by Carbon Brief using Highcharts.



Carbon Brief projections of likely 2022 annual temperatures based on the Copernicus/ECMWF dataset at the start of the year, and after each month of data is available.

Where will 2022 end up?

The first three months of 2022 can give some sense of what to expect for the entire year. By looking at the relationship between the first quarter and the annual temperatures for every year since 1970 – as well as ENSO conditions for the first three months of the year and projected conditions for the remaining months – Carbon Brief has created


a projection of what the final global average temperature for 2022 will likely turn out to be. The analysis includes the estimated uncertainty in 2022 outcomes, given that temperatures from only the first third of the year are available so far.

The projection suggests that 2022 has the best chance of ending up as somewhere between the fourth and eighth warmest year on record.

There is generally less variability in year-to-year Arctic sea ice extent in the winter than in the summer, as cold winter temperatures refreeze large portions of the Arctic even in a warmer world.

Annual temperatures are likely to be a tad below what would be expected based on the long-term warming trend since 1970 – which is shown by the dashed line in the figure.

Carbon Brief provided a similar estimate of where 2022 temperatures would end up at the start of the year, prior to any 2022 monthly temperature data becoming available. The figure below shows this initial estimate, as well as ones made when January, February and March data were available.

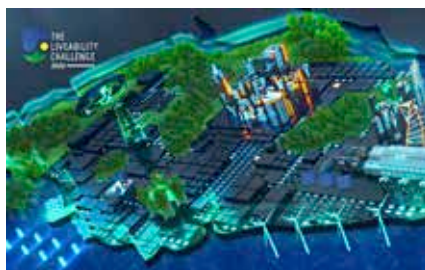
While it seems very unlikely that 2022 will be a record warm year for the world as a whole, it still may have many regional climate extremes in store. Not every year will set a new record due to short-term natural variability driven by La Niña and El Niño events, but the long-term warming trend marches on at around 0.19C warming per decade. 

This story was published with permission from Carbon Brief.

(Source: <https://www.eco-business.com/news/state-of-the-climate-start-of-2022-is-the-fifth-warmest-on-record/>)

Who made the cut for The Liveability Challenge 2022?

From cultivated meat to carbon measurement, sustainability innovation competition The Liveability Challenge 2022 attracted more than 400 applications from more than 60 countries. This year's finalists are from Asia and Europe.



Back for its fifth year, The Liveability Challenge is presented by Temasek Foundation and organised by Eco-Business, and provides a platform for connecting investors and sustainability entrepreneurs. Image: Eco-Business

The finalists have been selected for the 2022 edition of The Liveability Challenge (TLC), a global sustainability innovation competition now in its fifth year.

From a field of more than 400 entries from 60 countries, six ideas to make Southeast Asia's cities more liveable and resilient have been selected by TLC's judges, from three different themes; helping cities speed up decarbonisation, meet increasing demand for food, and conserve our planet's natural ecosystems.

All of the finalists are from Asia Pacific or Europe, with contenders from Singapore, United Kingdom, Belgium, Japan, New Zealand and Germany making the final cut.

The ideas that made the shortlist ranged from carbon capture to cell-based fish fat.

The grand prize winner will receive S\$1 million in project funding from Temasek Foundation, the philanthropic arm of state investor Temasek, which is presenting the event with Eco-Business.

Contenders also stand to gain a minimum of S\$100,000 investment

each by Amasia, Silverstrand Capital, Quest Ventures, PlanetRise and Purpose Venture Capital.

Decarbonisation finalists

- Team: Red Dot Analytics (Singapore)
- Solution: Low-energy data centres through artificial intelligence and digital twin technology
- Team: CQUESTR8 (United Kingdom)
- Solution: Permanent utility-scale CO2 sequestration for cities and industry

Food & agritech finalists

- Team: Wasna (Belgium/Singapore)
- Solution: Making cultivated meat affordable through a low-cost universal serum
- Team: ImpacFat (Japan/Singapore)
- Solution: Enhancing nutrition and taste of alternative meats with cell-based fat

Nature-based solutions finalists

- Team: Fairventures Social Forestry (Germany)
- Solution: Sustainable land man-


agement and livelihood improvement through a scalable social forestry model incorporating blended finance

- Team: GAIT (New Zealand/Singapore)
- Solution: Measuring carbon flux in real-time for monitoring of carbon

The winner will be announced after a live judging event on 9 June 2022, in partnership with Ecosperity Week 2022, Temasek's annual sustainability event.

The judges include Patti Chu, co-head of impact investment, Silverstrand Capital, Steve Melhuish, impact investor at Planet Rise, and Lim Hock Chuan, head, programmes, Temasek Foundation.

At a panel discussion for the launch of TLC in January, entrepreneurs said that breakthrough innovations in sustainability should look beyond trending topics to have more impact. Paul Santos, managing partner of venture capital firm Wavemaker Partners, noted that vehicles contribute to about an eighth of Southeast Asia's carbon emissions, but over 60 per cent of venture capital in the region goes on low-carbon transport solutions like electric vehicles.

Winners of past editions of The Liveability Challenge include a replacement for single-use plastic straws using a biodegradable biopolymer, a lab-grown alternative to cow's milk, and sustainable plant protein made from microalgae. 

(Source: <https://www.eco-business.com/news/who-made-the-cut-for-the-liveability-challenge-2022/>)

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