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ASIAN COUNCIL ON WATER, ENERGY & ENVIRONMENT

OFFICIAL NEWSLETTER

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MESSAGE FROM THE ACWEE CHAIRMAN

Green & Clean Hydro Energy for a Prosperous South Asia

Energy is the second biggest annual cost for any developing country after food. Most of the developing countries are dependent on imported energy, which can be difficult, and may strain a country's foreign reserves. When GDP growth is at a higher percentage, there is a growth of middle class families that leads to a demand for more energy.

The installed capacity of China is above 1,500 GW, whereas South Asia's installed capacity is only 450 GW. It shows that in next one and a half decade, South Asia needs an additional 1,000 GW of energy. With 2025 to 2035 considered the growth decade of South Asia, what can be the sources of this energy supply? India's global position in power pollution is third after US and China. So, South Asia will be very much polluting the environment in the future if they don't opt for green and clean energy.

When you talk green and clean energy, the biggest source is solar. India is the leader of solar energy in the global alliance. It is believed that in the next 10 to 12 years, India will surpass China and become no. 1 in solar energy production. The demand of this energy in Bangladesh is also growing very fast. The installed capacity of Bangladesh is 24 GW, whereas Bangladesh needs 40GW energy by 2040.

Due to space constraints, Bangladesh cannot do much in solar installation, but there is an opportunity here for Nepal, Bhutan and North East India to instead produce more hydropower. The potential of hydropower in South Asia is above 300GW. Additionally, hydropower can provide grid stability.

In South Asia, particularly in India, there is a shortage of irrigation during the dry months, inevitably leading to less agricultural output. Hydropower dams can help supply and mitigate augmented water to North India and Bangladesh, potentially ushering in the green revolution and helping address food security in South Asia.

India's PM Narendra Modi already declared the purchase of 10,000 MW from Nepal in the next 10 years. 900 MW Arun III is going to generate electricity by 2025 and will be exported 100% to India. Different Indian companies are on different stages of construction for a total of

5,000 MW hydropower projects. The export of 1,000 MW at its present price gives back almost 50 billion Nepalese currency, which will be a great value-added export for Nepal and Bhutan.

Bangladesh has likewise decided to buy 9,000 MW from Nepal, and already agreed to invest US$ 1.3 billion in Sunkoshi III. As a token to Bangladesh, Nepal will supply 40 MW through Indian grids, which India, Bangladesh and Nepal power authorities already agreed to and signed an agreement for. Nepal's domestic demand for electric railway, induction cooking, etc will add a demand of 10,000 MW in next 15 years. In this way, Nepal, Bhutan and North East India will become prosperous selling energy and managing water.

Nepal and India are also jointly working on Pancheswor 6,400 MW. This project is meant to supply huge quantities of water to dry and big cities like New Delhi. The excess water will be utilized to irrigate Rajasthan, and then will go to the Narvada river in Gujarat.

Thus, developing multiple hydro projects in Nepal, Bhutan and North East India will surely improve power polluting in South Asia, and change it to Green Clean South Asia for sustainable development.

GYANENDRA LAL PRADHAN
Executive Chairman, Hydro Solutions
Vice President, Nepal-German Chamber of Commerce and Industry (NGCCI)
Chairman, ACWEE

WATER

Waking up to the world's water crisis

By Quentin Grafton, Joyeeta Gupta and Aromar Revi, Project Syndicate

The world is becoming accustomed to the drip-drip of catastrophic headlines following each new climate-driven disaster. Increasingly frequent and severe heatwaves are causing wildfires in California and widespread coral die-offs in Australia. Unprecedented floods have wreaked havoc in Pakistan, Germany, China, and New Zealand. Drought in the Horn of Africa is causing famine for millions. And this list could go on.

The common element underlying all these cataclysms is water. From the forced shutdown of nuclear reactors in France to the heavy snowfall that covered large swaths of North America in December, or the recent cholera outbreak in Lebanon, we are witnessing the symptoms of a mounting global water crisis – either too much, too little, or too dirty.

Yet water remains mostly absent from global discussions. While concerns about the geopolitical order, climate change, and the Covid-19 pandemic have understandably been in the spotlight, water is rarely discussed outside the context of humanitarian responses to local, national, or transboundary floods or droughts. This is a major blind spot: In the World Economic Forum's 2023 Global Risks Report, nine of the ten biggest risks for the next decade have a water-related component.

For at least the last 5,000 years, human communities and civilisations have deliberately regulated water in order to survive. Even today, many people see water as a gift from God – or, in more secular terms, as a key part of a universal cycle that demands our respect and appreciation. However, in most places where water is "controlled" through dams and pipes, and made safe and available around the clock, we have come to take it for granted. And when concerns about access to safe water or exposure to extreme weather events are raised, they are generally ignored or treated as a low priority.

This apathy is no longer tenable. The injustices associated with water-driven disasters are growing, and the global water cycle itself is changing. Human freshwater use has exceeded blue-water capacity (rivers, lakes, and aquifers), creating huge risks for everyone and the planet's ecosystems. Around 20 per cent of global water consumption for irrigation now comes from overuse of groundwater sources, and about 10 per cent of the world's food trade comes from non-renewable groundwater.

Climate change is amplifying these challenges. Global warming increases demand for water as temperatures rise and as water requirements for food increase with the decline in relative air humidity. By 2070, two-thirds of the world's land mass will experience a reduction in terrestrial water storage, and the land area subject to extreme hydrological droughts could more than double to 8 per cent. Southwestern South America, Mediterranean Europe, and North Africa are all projected to suffer unprecedented and extreme drought conditions by 2050.

The UN 2023 Water Conference in March – the first such gathering in almost a half-century – must mark a turning point in our relationship with water and the water cycle. Only by fundamentally re-examining our relationship with water, revaluing its many uses, and treating it as a local and global common good can we achieve a safe and just future.

As the lead experts at the Global Commission on the Economics of Water, we see three areas that require transformation. First, we must consider the entire water cycle and how it is connected with biodiversity, the climate, human well-being, and ecosystem health – all key factors in socioeconomic and ecological prosperity. That means "connecting the dots" and promoting resilient relationships between water and food, water and energy, and water and the environment.

Second, water and the water cycle must be governed as global common goods. The ongoing proliferation of water crises calls for a new economic framework based on a systems approach to the water cycle, societies, and economies. We must develop a better understanding of existing "lock-ins" (including property rights, bilateral treaties, and corruption) and other structural challenges that impede water reallocation for the common good.

Moreover, an inclusive interdisciplinary framework – with a portfolio of new instruments and metrics – is needed to manage the systemic risks associated with the water cycle and its alteration by humans. Creating such a framework must begin by acknowledging water's central role in driving economic, sociocultural, and environmental change.

Lastly, we must bring everyone into the decision-making process – starting with marginalised communities – to develop new strategies for properly valuing water. When nature and freshwater are not valued in the marketplace, we still pay a price for their misuse, which increases dramatically when we cross planetary boundaries.

The UN 2023 Water Conference offers a unique opportunity for the world to respond effectively to a critically important but neglected issue. Confronted with the world water crisis, we can either embark on a sustainable and just pathway or carry on with business as usual. The survival of human civilisation as we know it demands that we make the right choice.

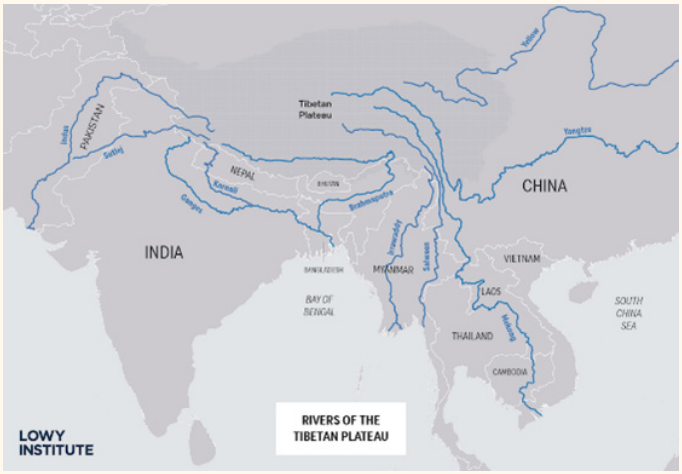
Multilateral cooperation can improve South Asia's water woes

By Genevieve Donnellon-May, The Interpreter

In South Asia, one of the world's most dynamic regions and home to nearly 1.8 billion people, great rivers are the cultural and socio-economic backbone. Fed by glacial melt and annual precipitation, South Asia's aqua stalwarts – the Ganges, Indus, and Brahmaputra – have contributed to the rise and prosperity of some of history's earliest civilisations.

Today, the region's rivers remain the source of livelihood for millions and are also key to economic growth, food and energy security, and sustainable development. Yet as a recent United Nations report notes, the world is facing an imminent water crisis. By 2030, water demand is expected to outstrip the supply of freshwater by 40 per cent.

In recent decades, South Asian rivers have come under considerable pressure from various factors including industrialisation, urbanisation, rapid population growth, and pollution. As the region remains one of the world's most impoverished, each country seeks to maximise its use of (shared) rivers to achieve national and international development



goals as well as ensure water security.

South Asia's water woes are exacerbated by climate change, causing erratic extreme weather events (such as droughts) and shifting monsoon patterns, making the region highly susceptible to floods, droughts and disasters. These challenges are compounded by limited institutional cooperation and poor domestic water management, which has resulted in a "tragedy of the commons" scenario, with competition supplanting regional cooperation.

As a result, it becomes more challenging for governments to make informed, long-term decisions concerning the planning, management and development of transnational river basins. This in turn fuels fears over the implications of increased water scarcity and raises concerns over the potential for future water-related inter and intra-state conflicts.

Water management is undoubtedly a complex issue interlinked with other significant challenges, including energy and food security, agricultural production and livelihoods, and state rivalries, not to mention territorial and border disputes. The notable absence of cooperation at a regional level combined with limited bilateral agreements means navigating climate change-induced impacts and other issues such as increased water demand will become increasingly difficult.

Despite simmering regional tensions and the flaring up of bilateral tensions amid global and regional geopolitical challenges, shared water security concerns offer a chance for riparian countries to seek cooperation over conflict.

While neither basin-wide treaties nor river basin organisations may appear likely at this stage, there are measures that countries can undertake at various levels to improve this situation, simultaneously

reducing rising geopolitical tensions.

First, all countries should make information on mega hydro-engineering infrastructure plans on transnational rivers publicly available in the languages of the other river basin countries. For India and China, in particular, doing so can reduce fears of "dam-building agendas" and intentions to control transnational rivers. To support these efforts, countries can invite stakeholders, including indigenous people and marginalised groups, to inspect the planned sites of hydro-infrastructure projects.

Second, countries could build on existing bilateral agreements to provide each other with real-time year round hydrological data as part of greater efforts for basin-wide cooperation. Given China's past refusal to share data, transparency and a willingness to consistently provide hydrological data, from China in particular, would serve multiple purposes. Aside from reducing concerns about impacts of natural disasters and supporting the planning and management of shared river resources in the downstream region, it could also alleviate suspicion over the downstream region's fears of Chinese and Indian water manipulation.

Third, basin-wide recommendations should also be considered. Despite the lack of basin-wide institutionalised cooperation along with China's mistrust of basin-wide multilateral organisations, China could lead by establishing research initiatives with think tanks, scientists, researchers and their counterparts in the downstream countries to discuss scientific, environmental and technical concerns. Doing so could create a basin-wide platform to discuss shared water challenges and solutions. For downstream countries, this presents opportunities

to speak up about concerns and encourage further collaboration such as multilateral dialogues, potentially paving the way to create a common river management framework to benefit all countries.

Fourth, countries can follow the example of Bhutan and India by considering joint projects or other forms of collaboration. Given carbon neutrality aims, hydropower collaboration and cross-border electricity trade and exportation could be discussed as part of broader efforts to work together in "good faith" to reduce geopolitical tensions. Pakistan, for example, has suggested water resource management and climate change as potential areas of collaboration within the scope of the China Pakistan Economic Corridor.

For countries whose trilateral or bilateral relations are more complex or linked to unresolved borders, such as in the case of India-Pakistan relations, international cooperation may help reduce tensions while also supporting local efforts to obtain long-term, sustainable and equitable water management practices.

The stark reality of increasing water demand means that all riparian states must prioritise cooperation over competition and conflict on water management and related challenges, or risk (greater) political and socio-economic instability, brought on by a scramble for access to and control of water. Although considerable efforts should be made by China, the upstream country and Asia's "hydro-hegemon", it should be noted that the other riparian countries have the responsibility to respond positively to overtures and support bilateral, trilateral and basin-wide collaboration opportunities.

'Sponge cities' to be established for water efficiency

By Meltem Günes, Hurriyet Daily News

The Agriculture and Forestry Ministry of Turkiye is planning to use a new "sponge city" concept that absorbs rain waters within the scope of water efficiency measures on a national scale.

Within this scope, ecological infrastructure and drainage systems will be created in cities, and roadsides or sidewalks will be covered with surface coatings that allow water to pass through.

In the Ministry's Water Efficiency Action Plan covering the years from 2023 to 2033, it is stated that 77 percent of the country's annual water consumption is used in agriculture, while 23 percent is used in drinking-utility water and industrial production.

In order to adapt to the changing climate in Türkiye, it is aimed to reduce the country's 33 percent water loss rate to 25 percent by 2033 and 10 percent by 2040, while individuals will be profiled on water usage.

According to the action plan, a fund will be established to be used for water efficiency practices. In addition, the "sponge city" model will be made widespread in cities. Household water use characterization and regional water use profile of individuals will be determined. A certification system will be established to encourage water efficiency in tourism facilities. Also, water literacy will be included

in primary and secondary education curriculums.

Agricultural irrigation systems will be modernized, and crop patterns will be determined by taking into account the water availability in the region. Vertical farming activities, reuse of irrigation water and treated wastewater in agricultural irrigation will also be expanded.

According to the action plan's statistics section, more than 10 percent of the total water used is wasted while waiting for the water to heat up. In this way, approximately 5.3 liters of water per person is wasted every day. A 5-minute pre-rinse process before putting the dishes to the dishwasher leads to the waste of approximately 45.4 liters of water. Based on the household data, the daily water waste per person is 93 liters.

Indonesia banks on dams to tackle water crisis — but at what cost?

By Asad Asnawi, Thomson Reuters Foundation

Keen to store more irrigation water to shore up food security and protect itself from longer climate change-fueled droughts and extreme rainfall, Indonesia has embarked on a dam-building project that aims to see 57 new dams in place by 2024.

But for those in the path of those building projects, the work has not always brought greater security.

In Indonesia's Central Java province, ongoing work on the 690-hectare Bener Dam has destroyed farmer Gunawan's small durian fruit plot, robbing him of his income.

The 33-year-old said his land in Purworejo district was bulldozed to make way for the dam despite not being earmarked for demolition when the government published its plans for the project.

The 2 trillion rupiah ($132 million) dam is set to be finished in 2024.

"I'm sad and also... angry," Gunawan — who like many Indonesians goes by one name — said in the village of Guntur, adding that he used to make 20 million rupiah ($1,318) a year selling his durian harvest.

Now, he said, he has had little choice but to take on occasional work as a truck driver to make ends meet

"What can we do against the government?"

asked Gunawan, one of thousands of small-scale farmers and other people in the area who say they have been uprooted by the dam project.

Facing worsening water security concerns, Indonesia is building more water retention dams, which it says are needed to supply irrigation, reduce the risk of flooding and provide a source of low-carbon hydroelectric power.

But dam building — as with the Bener Dam — is causing its own new challenges, from upending the lives of local people to new losses of forests and agricultural land, according to residents and campaigners.

Deforestation, in particular, can interfere with rainfall patterns and affect the ability of land to hold water, said Ully Artha Siagian, a forest and climate change campaign manager at the Indonesian Forum

for the Environment (WALHI), a nonprofit group.

The Bener dam "will actually add to the burden of the threat of a clean water crisis in the future," she said. "So, converting forest areas into dams does not answer the problem."

In response to concerns by campaigners, Dwi Purwantoro, an official at the Ministry of Public Works and Housing (PUPR), said by phone that dam building was important not only for boosting water security but also for better controlling floods.

Competing needs

As climate change impacts strengthen, countries including Indonesia are attempting to be proactive in adapting to coming changes and looking for ways to curb climate-changing emissions, such as by installing renewable energy.

But many of the potential adaptations and emissions-cutting efforts put new pressure on limited land, with competing priorities such as protecting nature, boosting food security, mining minerals needed for the green transition and protecting land rights pitted against each other.

In some cases, the choices made could lead to social unrest, especially if communities find themselves uprooted without consent or adequate compensation. They also raise crucial questions about how to strike a balance among competing "good" uses for land.

Indonesia in 2021 published a climate resilience development policy that outlined four priority areas for action as climate change worsens: agriculture, seas and coasts, health and water.

In the country's regions of Bali, Java and Nusa Tenggara, areas facing water scarcity are predicted to rise from 6% in 2000 to 9.6% in 2045, according to a 2019 study by Indonesia's National Development Planning Agency.

Eko Cahyono, a researcher for the Sajogyo Institute, which studies agrarian issues and the environment, said he understood why Indonesia's government wanted to improve water security, but said that should not come at the cost of people's livelihoods and rights.

"If this (Bener Dam project) is indeed part of climate change mitigation and adaptation (efforts), how can the government ensure social, economic and ecological justice, so that there are no more violations of people's rights?" he asked.

Land losses

According to a government land procurement plan and project map published in 2019, the Bener Dam would affect plots of land belonging to at least 3,480 people, covering a total of 600 hectares.

In addition, a quarry being built in the area to mine stone for the dam would impact the garden plots of 617 people and an area of 114 hectares, the document noted.

Some residents like Gunawan say their land was also destroyed despite not having been earmarked in the planning documents. They are now demanding compensation as a result.

Purwantoro, the public works official, said that "regarding several residents' land (being) outside the project map... now we are proposing changes to the map so it will be expanded."

Construction of the Bener Dam was temporarily halted in August 2022 following local protests, according to state-owned construction firm PT Waskita Karya, which is working on the project.

"We still hope that there will be the best solution for the residents," said company spokesperson Setyawan Nugroho, adding that discussions on compensation were ongoing.

The government has offered compensation ranging from about 60,000 rupiah ($4) to 215,000 rupiah ($14) per meter of land depending on the area in question. Several residents said in interviews that they had refused to accept the terms.

Ully of WALHI said the project had led to "social conflict" in Purworejo because many people had lost their sources of food and lost green areas that had been in their families for generations.

There have been clashes between residents and police and soldiers doing land surveying, and

authorities are seeking six suspects accused of vandalizing a dam project office.

The Bener Dam is a national strategic project (NSP), making it a government priority, but critics say declaration of an NSP can result in land being seized or destroyed in the name of development and the public interest.

Dewi Kartika, secretary-general of the Consortium for Agrarian Reform (KPA), urged the government to review its development policy, saying it "has sparked agrarian conflicts in many places."

Last year, 212 such conflicts were recorded by KPA — up from 207 in 2021. They took place in 459 villages, affecting at least 346,00 people, she said.

Outlook for dams

The Indonesian government has cited building dams as a major solution to the country's water security worries but hydrology experts have concerns about its approach.

Gunawan Wibisono, a lecturer at Merdeka Malang University, said Indonesia's dam projects will result in forest losses and their effectiveness in improving water security could be limited as sediment carried downstream fills them up, and given a lack of focus on recharging groundwater in their design.

None of Indonesia's planned dam projects are intended to help boost groundwater reserves, according to Heru Hendrayana, a hydrologist at Gadjah Mada University (UGM).

"The problem is... most (dams) are mostly for the function of collecting, not absorbing, water," he said.

In the village of Guntur, residents such as Gunawan and Miftakhul Hafid are determined to keep protesting against the Bener Dam — a project they feel is bringing them more problems than benefits.

"The government must ensure... that residents' rights are fulfilled," said 28-year-old Hafid, a community leader.

Earth in hot water? Worries over sudden ocean warming spike

By Seth Borenstein, Associated Press

The world's oceans have suddenly spiked much hotter and well above record levels in the last few weeks, with scientists trying to figure out what it means and whether it forecasts a surge in atmospheric warming.

Some researchers think the jump in sea surface temperatures stems from a brewing and possibly strong natural El Nino warming weather condition plus a rebound from three years of a cooling La Nina, all on top of steady global warming that is heating deeper water below. If that's the case, they said, record-breaking ocean temperatures this month could be the first in many heat records to shatter.

From early March, the global average ocean sea surface temperature jumped nearly two-tenths of a degree Celsius, according to the University of Maine's Climate Reanalyzer, which climate scientists use and trust. That may sound small, but for the average of the world's oceans - which is 71 per cent of Earth's area - to rise so much in that short a time, "that's

huge", said University of Colorado climate scientist Kris Karnauskas. "That's an incredible departure from what was already a warm state to begin with."

Climate scientists have been talking about the warming on social media and amongst themselves. Some, like University of Pennsylvania's Michael Mann, quickly dismiss concerns by saying it is merely a growing El Nino on top of a steady human-caused warming increase.

It has warmed especially off the coast of Peru and Ecuador, where before the 1980s most El Ninos began. El Nino is the natural warming of parts of the equatorial Pacific that changes weather worldwide and spikes global temperatures. Until last month, the world has been in the flip side, a cooling called La Nina, that has been unusually strong and long, lasting three years and causing extreme weather.

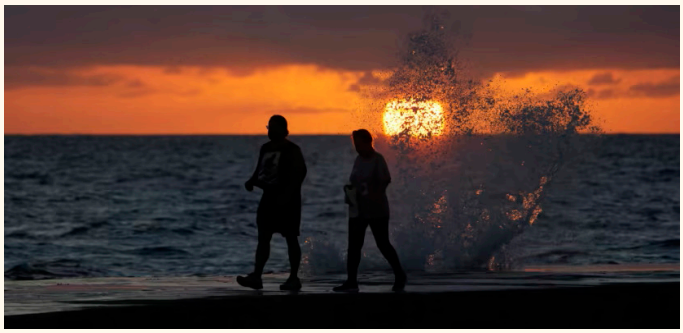
Other climate scientists, including National Oceanic and Atmospheric Administration oceanographer Gregory C Johnson, say it doesn't appear to be just El Nino. There are several marine heat waves or ocean warming spots that don't fit an El Nino pattern, such as those in the northern Pacific near Alaska and off the coast of Spain, he said.

"This is an unusual pattern. This is an extreme event at a global scale" in areas that don't fit with merely an El Nino, said Princeton University climate scientist Gabe Vecchi. "That is a huge, huge signal. I think it's going to take some level of effort to understand it."

The University of Colorado's Karnauskas took global sea surface temperature anomalies over the past several weeks and subtracted the average temperature anomalies from earlier in the year to see where the sudden burst of warming is highest. He found a long stretch across the equator from South America to Africa, including both the Pacific and Indian oceans, responsible for much of the global temperature spike.

That area warmed four-tenths of a degree Celsius in just 10 to 14 days, which is highly unusual, Karnauskas said.

Part of that area is clearly a brewing El Nino, which scientists may confirm in the next couple months and they can see it gathering strength, Karnauskas said. But the area in the Indian Ocean is different and could be a coincidental independent increase or somehow connected to what may be a big El Nino, he said.



"We're already starting at such an elevated background state, a baseline of of really warm global ocean temperatures, including in the tropical Pacific and Indian Ocean. And suddenly you add on a developing El Nino and now we're like off the chart," Karnauskas said.

It's been about seven years since the last El Nino, and it was a whopper. The world has warmed in that seven years, especially the deeper ocean, which absorbs by far most of the heat energy from greenhouse gases, said Sarah Purkey, an oceanographer at the Scripps Institution for Oceanography. The ocean heat content, which measures the energy stored by the deep ocean, each year sets new record highs regardless of what's happening on the surface.

Since that last El Nino, the global heat ocean content has increased .04 degrees Celsius, which may not sound like a lot but "it's actually a tremendous amount of energy," Purkey said. It's about 30 to 40 zettajoules of heat, which is the energy equivalent of hundreds of millions of atomic bombs the size that leveled Hiroshima, she said.

On top of that warming deep ocean, the world had unusual cooling on the surface from La Nina for three years that sort of acted like a lid on a warming pot, scientists said. That lid is off.

"La Nina's temporary grip on rising global temperatures has been released," NOAA oceanographer Mike McPhaden said in an email. "One result is that March 2023 was the second highest March on record for global mean surface temperatures."

If El Nino makes its heavily forecasted appearance later this year "what we are seeing now is just a prelude to more records that are in the pipeline", McPhaden wrote.

Karnauskas said what's likely to happen will be an "acceleration" of warming after the heat has been hidden for a few years.

Singaporeans, Australians top spenders on bottled water: UN study

By Liang Lei, Eco-Business

People in Singapore spend the most on bottled water globally, splashing out on average over US$1,300 per head a year for their refreshments, a United Nations study showed.

The money was used in 2021 to buy over 1,100 litres of water per person, the study said, in a review of the global bottled water industry and its impacts on societies and the environment.

Australia ranked second, at about 500 litres and US$386 per head. This is despite drinking from the tap being considered generally safe in both Singapore and Australia.

Globally, people are spending US$270 billion dollars a year on bottled water, when under half of that sum could ensure clean tap water access for hundreds of millions of people for years, the report found. It said the figures represent "a global case of extreme social injustice".

The report by the United Nations University, the intergovernmental group's think tank, comes as the world remains off track in ensuring universal access to clean water and sanitation by 2030 – a sustainable development goal adopted by countries worldwide in 2015.

Wealthy countries top the list of big spenders. After Singapore and Australia are countries such as Canada, Malta and the United Arab Emirates, based on per capita bottled water sales figures that the UN University authors acquired commercially from a market research firm.

Half of the world's bottled water revenue comes from Asia Pacific, which also houses populous nations like China, India and Indonesia. The North American market contributes another 30 per cent.

Residents of high-income countries could be drawn to bottled water as a luxury good that is healthier and better tasting, the study said. Manufacturers also target their advertising at groups such as pregnant women, children and sports-minded people to boost sales.

In response to queries, Australia's Department of Climate Change, Energy, the Environment and Water (DCCEEW) said it knows Australians consume large volumes of bottled water, but said there is "good and growing" plastic bottle recovery and recycling infrastructure in the country.

The department spokesperson pointed to a multi-million dollar recycling fund launched in 2020 supporting projects that are expected to process over 290,000 tonnes of plastic a year, including polyethylene terephthalate (PET), a common material for drink bottles. Kerbside recycling will be available across Australia by end-2023, the spokesperson said.

In the Global South, bottled water could be the safer alternative to unreliable and unsanitary tap water caused by corruption and chronic underinvestment, the UN University report said.

However, there is "no justification to contrapose bottled water and public drinking water supply sources on the basis of quality", the report said, pointing to documented cases of contamination from both sources globally.

It added that governments should work on changing consumer attitudes to bottled water, and improve on public water quality standards and regulations. Policymakers should also highlight the possible contamination of packaged water, it said.

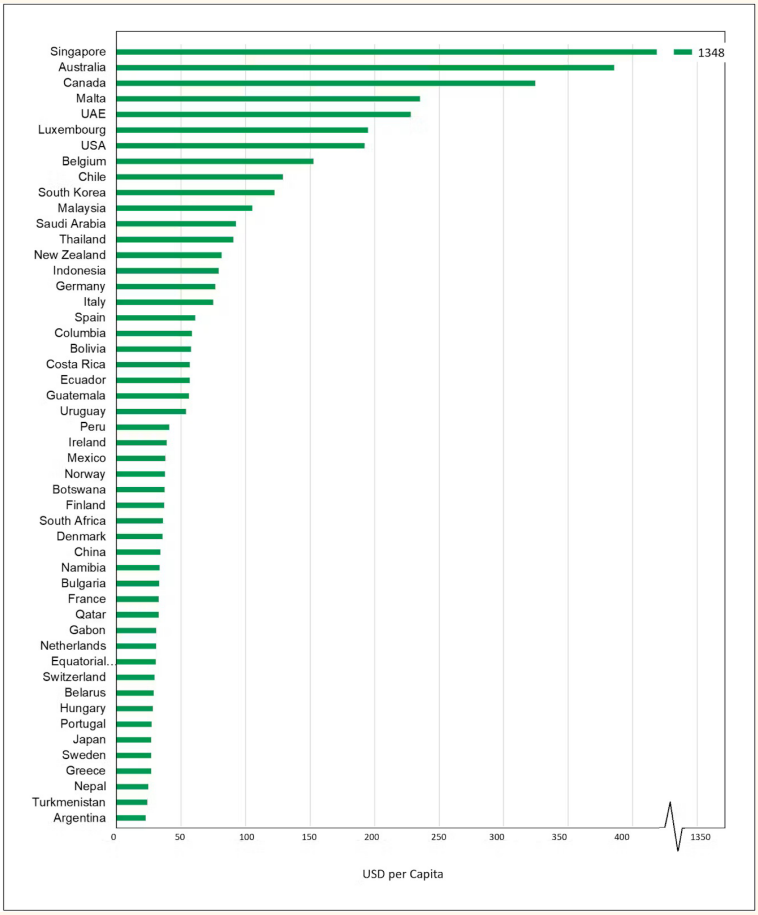
'Hardly compatible' with human right to water

Based on open-source data, the UN University researchers estimated that close to 600 billion polyethylene terephthalate (PET) plastic bottles were

discarded in 2021, resulting in over 25 million tonnes of PET waste – more than double the 12 million tonnes produced in 2000.

They noted that plastic recycling rates remain low globally, and that alternative plant-based or biodegradable materials remain costly.

Dr. Zeineb Bouhlel, research associate at the UN University's Institute for Water, Environment and Health, said that governments could regulate plastic production, improve recycling and channel research to plastic alternatives.



Drawing water from rivers and underground aquifers for bottling could also cause "significant" local impacts, despite the total volume being small in absolute terms globally, the study said, referencing past research into water depletion involving bottled water companies such as Coca-Cola and Nestle.

It added that the commercial nature of bottled water trade makes it "hardly compatible" with the human right to water. As it stands, the industry is projected to almost double in size to US$500 billion between 2025 and 2030.

The expansion of bottled water markets is slowing down progress towards the target by "distracting attention and resources from accelerated public water supply systems development", the report said.

Access to drinking water has improved from 62 per cent globally in 2000 to 74 per cent in 2020, according to the World Health Organisation. But the gap means that two billion people are still left out, and no region in the world is on track to universal water access by 2030, the UN University report noted.

The high sales margins of bottled water provides room for more taxation to reduce inequalities, the report said. Bottled water firms can also contribute to sustainable development through tie-ups with the public sector and investing in the water infrastructure of low and middle-income countries, it added.

The study identified PepsiCo, Coca Cola, Nestle, Danone and Primo Water as the five largest bottled water firms by revenue. They share a quarter of the global sales income between them.

A Danone spokesperson said figures concerning the Évian-les-Bains region in France is incorrect. The report said Danone draws up to 10 million litres of water a day from the area. The spokesperson said the firm works with local communities, follows regulations, does frequent quality tests for its products and works to keep packaging out of nature.

A Nestlé spokesperson pointed Eco-Business to its initiatives listed on its website, such as employing water-saving practices, engaging in reforestation and restoration projects and using renewable energy in manufacturing.

Report co-author Zeineb said that further research is needed on topics such as bottled water's impact on groundwater, good government regulations, and where bottled water contributes to improving water access.

How can we accelerate the green energy transition in Asia-Pacific? 3 leaders weigh in

By Pooja Chhabria, World Economic Forum

The Asia-Pacific (APAC) region plays a central role in the global efforts to reach net-zero and achieve a green energy transition.

The region is home to five of the 10 largest emitters in the world (China, India, Indonesia, Japan, and South Korea) and accounts for about 45% of global greenhouse gas emissions due to its significant population, McKinsey & Company reports.

It's also a diverse region that requires localized solutions. India, for instance, is at a critical decision-making point as it seeks to deliver an unprecedented expansion of energy supplies to satisfy its rapidly growing economy in a way that fulfils the government's 2070 net-zero emissions pledge.

"On one side, India can continue its dependence on oil-rich nations that supply energy fuels and blue hydrogen carriers towards the transition while sometimes exposing itself to crippling international prices," as noted by field experts.

"The alternative route would see India invest heavily in research, development and demonstration to drive down the cost of electrolysis and to complement, and capitalize on, its status as one of the world's lowest-cost producers of solar power." Towards this end, the authors argue, the path to a prosperous, clean energy future in India would lie with green hydrogen, not blue.

As more countries in the region pick up the pace of development and achieve progress against the backdrop of an ongoing energy crisis, so does the urgency to act with effective transition models.

The Asia-Pacific nations experience more natural disasters than any other region. Between 2014 and 2017, countries in this region were affected by 55 earthquakes, 217 storms and cyclones, and 236 cases of severe flooding, impacting 650 million people and causing the deaths of 33,000 people.

Rapid urbanization and inadequate planning make densely populated urban areas more vulnerable to the effects of climate change, particularly near coastal regions and large rivers.

With this context, we asked leaders how the Asia Pacific region can prioritise energy efficiency and renewable energy in the coming year, while focusing on the role of industries.

Here's their vision for accelerating the green energy transition in the region.

Ashok Lavasa, Vice-President for Private Sector Operations and Public-Private Partnerships of the Asian Development Bank (ADB)

"Energy transition is a long, arduous journey that requires cooperation, patience, understanding, and determination"

The Asia-Pacific region contributes significantly to global greenhouse gas emissions from fossil fuels and is home to hundreds of millions of people who do not have adequate access to electricity or clean cooking fuels. Bold and sustained action is needed to address these issues.

And this action must be inclusive.

Energy transition is a long, arduous journey

that requires cooperation, patience, understanding, and determination. It is bound to bring about major changes, and every change could face resistance.

It is important to ensure that all stakeholders are informed, consulted, educated, and involved for achieving an enduring, sustainable, and just transition. The Asian Development Bank (ADB) realizes that to substantially increase the uptake of affordable, clean, modern and reliable energy systems, developing countries will need enabling policies, technology transfers, and additional concessional financing.

In 2021, ADB adopted its new energy policy aimed at helping our developing member countries (DMCs) accelerate the low-carbon transition in Asia-Pacific. The energy policy highlights a wide range of key priorities and technologies that should be considered by our DMCs, particularly in energy efficiency and renewable energy.

ADB is implementing several innovative initiatives to support the energy transition, such as the flagship Energy Transition Mechanism (ETM) to sustainably retire coal power assets early and replace them with clean energy. In 2019, we established the ASEAN Catalytic Green Finance Facility to increase green infrastructure investments in Southeast Asia. With ADB Ventures, we support and invest in start-ups offering impact technology solutions that contribute to achieving Sustainable Development Goals. These are some examples of the initiatives we have in place - there are many more to come.

Peter Lacy, Global Sustainability Services Lead & Chief Responsibility Officer, Accenture

"Is repurposing of coal infrastructure and assets to renewable energy a significant part of the answer?"

As the energy transition gains speed, the transition away from coal to renewable energy sources will play a vital role in accelerating it, especially in Emerging Markets and Developing Economies, which are home to 75% of the world's coal power.

Part of this transition must involve repurposing the oldest and most inefficient coal power plants into renewable energy assets.

The levelized cost of electricity for newly installed renewable energy has been steadily decreasing and, in about 77% of instances, is cheaper than coal power. This figure is expected to increase to 99% by 2030.

The ability to replace capacity on the same site as the decommissioned coal power plant, i.e., repurposing coal power plants into renewable energy plants, brings additional benefits. Examples include Enel and EDP repurposing Teruel and Sines coal plants in Spain and Portugal, respectively. Among these benefits include enabling the reuse of existing land, leveraging existing interconnection lines, re-employing the workforce, and reusing some key equipment assets.

Shunichi Miyanaga, Chairman of the Board at Mitsubishi Heavy Industries

"Taking the diverse needs, natural endowments and differing societal conditions of this enormous region into account is the first step"

The Asia-Pacific region is still home to people crying out for more electricity to improve their lives, and it is a vital source of many of the goods enjoyed worldwide.

Taking the diverse needs, natural endowments and differing societal conditions of this enormous region into account is the first step to pursuing a just and affordable energy transition.

Squaring this circle will require all the deployable technology and sustainable fuels at our disposal: from cleaner use of existing infrastructure such as more efficient gas turbines and CCUS to developing fully-fledged hydrogen and CO2 ecosystems. For example, MHI Group is developing 100% hydrogen-fired gas turbines by 2025 and delivering world-leading CO2 capture systems.

The technology exists. Scaling it up adequately and rapidly enough is the real challenge. Government incentives will need to play a part, but we must also share know-how and best practices, and international cooperation will be key.

I believe it is in our power to restore our environment and create a better future, for Asia and the world.

Asia Pacific emerges as frontrunner in race to harness wind power

By Julie Yoo and Craig Dale, Channel News Asia

Countries are racing to harness the inexhaustible power of wind. Wind farms are popping up onshore and more crucially, offshore, energising millions of households.

They are everywhere from Europe to Asia, which is now a global leader with China a major driver.

"It's very clear that ... Asia Pacific is going to be the largest market by far going forward," said Mr Robert Liew, principal analyst of power and renewables in Asia Pacific at consultancy group Wood Mackenzie.

"In our projection, we see the cost of offshore wind in China almost competing at the level of coal power by the end of this decade. That's incredible," Mr Liew told CNA.

"Japan, Korea, Taiwan – they're looking to kind of slow down nuclear, slow down coal and replace that with offshore wind. So they're going to ramp up too."

Danish multinational power company Orsted is among the firms tapping into the Asia Pacific with a focus on one of the fastest-growing markets, Taiwan.

Importance of Asia Pacific

The firm's president of Asia Pacific business Per Mejnert Kristensen said he believes that the region is very important in terms of the green transition.

"Orsted has a vision to create a world that runs entirely on green energy. And if you want to do that, Asia Pacific is obviously very, very important," he said.

"It's an area where a lot of energy is consumed. It's also an area where we are seeing the effects of greenhouse gas emissions."

He added that the conditions for setting up offshore wind farms are very good, given the wind speeds. Taiwan has the potential to become one of the frontrunners in the transition into renewables, he said.

Wind is the largest and fastest-growing source of renewable power globally. It generated nearly 8 per cent of all energy last year. Combined with solar, it tallies to 12 per cent.

However, fossil fuels are still generating 80 per cent of total energy. Environmental professionals say that even with wind power generation seeing double-digit annual growth, it would not be enough.

Need to Increase Wind Energy

The Global Wind Energy Council said yearly wind energy installations must scale up by four times in this decade to help keep the worldwide average temperature rise below 1.5 degrees Celsius.

Energy think tank Ember said wind power must account for more than 20 percent of global electricity by 2030 if net-zero emissions goals are to be achieved.

Growth may be the only solution for the wind industry, and this requires bigger turbines, bigger blades and bigger farms.

China now boasts the largest offshore wind turbine at more than 250m tall. Its 128m-long blades can sweep an area equivalent to around seven standard football fields.

But while bigger is better, it presents another problem.

The Issue with Large Wind Farms

Giant wind farms are more complicated to install and maintain. They require very specialised and expensive ships, according to Singapore-based fund Seraya Partners.

Last year, the investment firm launched Cyan Renewables, a company that owns, operates, and leases vessels for offshore wind farms.

"We enable wind farms to be built across Asia. And we provide the vessels, specialised vessels, ... to help build and maintain these wind farms," said the fund's chairman and managing partner James Chern.

However, Cyan Renewables is trying to solve a major problem – the demand for their ships far outstrip supply.

"There are only five or six major shippers in Asia, maybe one in Europe. They're still churning out new vessels. And generally, it takes about three years to build new vessels," said Mr. Chern.

"But the demand has increased by tenfold. So, there's a natural mathematical supply-demand gap that cannot be overcome, structurally, at least for the next 10 years."

Wood Mackenzie's Mr Liew said that advanced vessels need to be installed in the oceans but differentiating rules in every country may prohibit foreign vessels from operating within their territories.

"You have that gap where there's not enough specialised vessels, and you have that gap in policy where the government does not allow so many foreign vessels to come in. So that's where the bottleneck is happening," he said.

Are Floating Wind Turbines the Future?

While challenges remain, nothing seems insurmountable for companies such as Orsted. It is also focused on the next frontier – floating wind turbines.

"In the longer term, the world is going to have to transition into also having floating offshore wind. The oceans are vast and wind speeds are very good at the oceans. But you don't have shallow seas everywhere to put up fixed bottom offshore wind turbines," said Mr Kristensen.

In "not too many years", the building of floating offshore wind will take off, he predicted.

"It is a technology that is not yet fully matured. Obviously, there are only a few demo projects in place right now. But Orsted will also be one of the frontrunners when it comes to floating offshore wind and we have a number of projects that we are proceeding with now," he said.

Heat waves in India drive leading clean-energy state back to coal

By Roli Srivastava, Thomson Reuters Foundation

A windy monsoon in Karnataka, India's leading state for clean energy production, last year eased pressure on the local government's three thermal coal-power plants, as humming wind turbines met power demand amid pleasant temperatures.

But to tackle this year's hot, energy-guzzling summer, with city-dwellers ramping up their use of air-conditioners and farmers their water pumps to combat heat waves and above-normal temperatures, the coal-fed plants are now running full throttle.

The south Indian state's maximum day-time temperature has been hovering three to four degrees Celsius above the 36 C to 40 C that is usual at this time of year, weather officials said.

Recently praised by researchers for its preparedness for the energy transition, Karnataka's

situation foretells the challenge facing India as the planet warms: the need to fall back on coal as the only reliable fuel despite a growing clean energy supply.

India has set a target for 500 gigawatts (GW) of renewable energy capacity by 2030 — also the year by which the country's coal demand is estimated to rise by 60%, to up to 1.5 billion metric tons, to meet growing electricity needs.

On April 19, when the top temperature in the state touched 41.5 C, Karnataka recorded its highest-ever power consumption on a single day, at 309 million units, officials said.

Kapil Mohan, additional chief secretary with Karnataka's energy department, described April as the "peak summer month" with record temperatures and high power consumption.

Solar energy production is plentiful during summer, but wind power tends to decrease and hydropower reservoirs go dry, he added.

"Our dependence on fossil fuel in the energy sector is not going to drastically come down," he said. "My energy surplus is not constant and I need to supply power round-the-clock."

He noted that solutions to expand clean energy storage would be required to speed up a transition to renewables.

Karnataka, whose capital city Bengaluru is known globally as India's Silicon Valley, has installed massive solar parks and windmills that have helped the state surpass its renewable capacity target of 14.8GW set by the federal government last year.

In a recent study, the Institute for Energy Economics and Financial Analysis (IEEFA) compared the preparedness of 16 Indian states for an energy transition, rating Karnataka as the top performer and a role model for other Indian states.

"Renewable energy in Karnataka accounts for 48% of its power mix, and with more storage capacity coming in, the dependency on coal as a flexible resource will reduce," said report co-author and IEEFA energy analyst Saloni Sachdeva Michael.

But reliance on coal will continue for some time as the renewable energy supply is still intermittent, she noted.

"We cannot switch thermal off. This will be a gradual transition," she said.

Naranaiah Amaranath, chief executive officer of the Karnataka Solar Power Development

Corporation, recalled a time when solar power was not taken seriously — but three decades on, it has become a major power source.

The Pavagada Solar Park, one of the world's largest in capacity, became operational in 2019.

Power generation at thermal plants dropped soon after, with solar power used during the day and coal-fired plants deployed to meet demand during peak morning and evening hours.

Thanks to solar, farmers started receiving an uninterrupted power supply for up to seven hours — a pipe dream for years — instead of stints of three to four hours, officials said.

"This is a dry land and farmers depend on borewells to draw water to irrigate their crops for which they use water pumps," said Govinda Gowda, who heads a farm science center in Karnataka's Tumkur district. "Frequent power cuts affected productivity as crops were lost for lack of proper irrigation."

With a steadier power supply, yields in the district — where most farmers grow red gram, finger millet and coconut — have improved in the past four years by 10%, noted Gowda.

The state can now run entirely on renewable energy for a few days a year during the peak wind season from July to September.

Globally, the International Energy Agency projects that renewables will account for over 90% of electricity expansion worldwide in the next five years, overtaking coal to become the largest source of electricity by early 2025.

But the reliability of Karnataka's clean energy supply depends on the weather and is being interrupted by temperature spikes, as increasingly hot summers push power demand beyond the level

that renewables can supply in the absence of storage.

The state is investing in pumped storage using hydro — pumping water up to higher levels when power is cheap and releasing it at times of peak demand.

But without sufficient clean energy storage, it still needs to keep coal-fired plants on standby, as thermal capacity is flexible and can be switched on and off as the supply from renewable sources fluctuates, said energy bureaucrat Mohan.

With India's coal use not expected to peak until 2030 to 2035, the government has been reluctant to sign up for a Just Energy Transition Partnership with rich nations, which would hinge on it committing to a more rapid coal phaseout.

The country is instead seeking international funding to strengthen its renewable grid and storage infrastructure, which would help it transition to clean energy faster, according to energy analysts.

The 1,700-megawatt Bellary thermal plant in Karnataka saw demand for its power drop to a rare low in 2020 owing to pandemic lockdowns and the Pavagada solar park coming online.

But last year, the plant's coal consumption shot up to 5.5 million metric tons from 1.9 million metric tons in 2020, and its power generation jumped to about 7 billion units from 3 billion units, data from the plant showed.

Venkata Chalapathi, Bellary's executive director, noted that until 2017-18 the plant operated at 70% to 100% of its capacity, but after renewables kicked in, thermal power generation began to fall. That has now reversed as overall demand rises, he said.

The pattern in Karnataka reflects the wider picture for coal in India, analysts said.

The federal coal ministry last year forecast an upward trend in coal demand, with about 1.45 billion metric tons projected for the 2029-30 financial year, up from 956 million metric tons in 2019-20, to meet peak power requirements.

Sankar Mukhopadhyay, head of the Asia Institute of Power Management, a training and consultancy organization, said India would continue to need coal despite growing renewables capacity, to ensure stable, affordable and flexible power generation. "Unless there is a disruptive technology like hydrogen and it is as economical as coal, we can't think of replacing coal for at least 20 years," he said.

How to mobilize more financing for Asia's energy transition

By Masyita Crystallin and Tomohiro Ishikawa, Nikkei Asia

Climate change looms over the Asia-Pacific region. Of the nine countries worldwide facing the highest climate risks, five are in this region, partly as a consequence of the projected rise of the Pacific Ocean.

This threat is putting the region's long-term prosperity at risk. Climate-related costs could cause the region's gross domestic product to fall by as much as 26.5% by 2050, according to projections by the Swiss Re Institute.

A number of Asia-Pacific countries have pledged to reach net-zero emissions by 2050. However, the region faces a challenge in reducing emissions from high-emitting sectors, particularly energy, which accounts for close to half of carbon dioxide discharges in Japan and Southeast Asia.

Moreover, many of Asia's heavily emitting power plants, which primarily burn coal, are much younger than comparable ones in developed countries. This implies more investment and cost-sharing will be required to phase out these plants and scale up clean energy infrastructure.

Emerging and developing countries in the Asia-Pacific region are facing difficulties in accessing

capital to finance their green transition even as their financing needs grow.

Developed countries earlier pledged to mobilize $100 billion to address climate change in developing countries, but the funding target has not been met. According to the Organisation for Economic Co-operation and Development (OECD), most of the funds allocated have gone to middle-income countries with low risk profiles.

Only a few Asian economies, including China, Hong Kong and Japan, have transition financing available, and they account for most of the outstanding transition bonds that have been issued in the region, which includes the 10 members of the Association of Southeast Asian Nations, China, South Korea and Japan.

Although the volume of outstanding transition bonds tripled to $5.2 billion between December 2020 and September 2022, they still accounted for only about 1% of outstanding sustainable bonds in the region. The rest of the region is just beginning to issue guidelines and explore instruments for transition finance.

We need to create a robust and inclusive financing system for transition projects to facilitate mobilizing capital not only within the Asia-Pacific region, but also from the U.S. and Europe.

The first step to achieving this is to develop "bankable" projects for private banks and institutional investors to finance. A majority of financial market participants say that a lack of commercially bankable projects poses a significant obstacle to transition financing.

Lowering the cost of projects -- or the cost to commit capital -- could help attract investment. Reducing the weighted average cost of capital for coal plant owners from 7% to 3% would significantly accelerate the investment recovery period, making it possible to retire a third of the global coal fleet within a decade, according to analysis by the International Energy Agency.

This cannot be achieved without proactive public sector involvement. Governments and multilateral development banks (MDBs) can reduce the risks involved in financing transition projects. Fiscal policy and concessional finance can "crowd in" private financing by lowering investment costs and decreasing risk through equity or credit enhancements. MDBs can also leverage private capital with innovative approaches, such as equity investment.

The importance of expanding the role of MDBs in climate finance is rising as the global economy faces inflation and higher financing costs as monetary policy tightens. To boost the role of MDBs, Indonesia has emphasized the significance of callable capital and preferred creditor treatment as president of the Group of 20. While MDBs need to scale up their contributions, they should not compete with the private sector.

Aftermath of 2019 floods in Makassar, Indonesia: Asia's developing economies face serious climate change risks. (Antara Foto via Reuters)

At a country level, it is important to have the right policies, regulations and institutions in place. Inconsistent policy frameworks have been cited in OECD surveys as one of the biggest obstacles for transition finance.

Putting a price on carbon can be a game-changing policy for addressing this issue. Unfortunately, the International Monetary Fund calculates that only 30% of global greenhouse gas emissions are covered by carbon pricing requirements and the average global price was only $6 per ton of carbon dioxide as of 2022.

Each country needs to take ownership of its transition to ensure that projects align with national climate policies and strategies, use national systems to increase accountability, and improve engagement with public and private stakeholders. Indonesia, for example, has set up the Energy Transition Mechanism Country Platform to channel blended finance for transition activities from both public and private financial institutions.

At the global level, it will be crucial to strengthen the climate information architecture to catalyze

transition financing, including reaching a consensus definition about transition activities.

When it comes to private finance, financial institutions are hesitant to invest in the gray area between "green" and "brown" projects due to a lack of clarity about what constitutes a transition project. This increases the risk of "greenwashing."

The ASEAN Taxonomy for Sustainable Finance, which was recently updated, marks a significant advance toward providing transparency on transition financing in Southeast Asia. Nonetheless, it remains crucial to align these standards with other taxonomies across the globe to facilitate involvement by private financial institutions in transition projects.

Additionally, credible disclosure and reporting will be necessary to demonstrate the permanence of transition projects and their real contribution to emission reductions. The standards used for disclosure and reporting should employ robust methods with detailed accounting methodologies, and there should be a global baseline for sustainability disclosures.

Finally, it will be indispensable to have an independent verification organization whose assessments under international standards are globally recognized. Standards have to be designed to provide "decision useful" information to help facilitate international comparability and crowd in private flows.

It is important to remember that private financial institutions are facing a dual challenge of reducing the carbon footprint of their lending portfolios to demonstrate alignment with a net-zero trajectory and front-loading investment to accelerate the Asia-Pacific energy transition.

If the world is to keep the global temperature increase to 1.5 C or less, investment has to take place now and the short-term goal must be to mobilize more capital. Policymakers have an important role to play in facilitating capital mobilization across regions. When the world is burning, the amount of capital mobilized matters.

India agrees to power transmission from Nepal to Bangladesh through its territory

By The Business Standard

India on June 1 gave its nod to Bangladesh and Nepal's request to allow them to conduct power trade using its transmission network, reports Business Standard.

The decision was made known during talks between India's Prime Minister Narendra Modi and his Nepalese counterpart Pushpakamal Dahal 'Prachanda', officials said.

"Last year, we adopted a landmark vision document for cooperation in the power sector," Modi said adding, "Taking this forward, a long-term Power Trade Agreement has been signed between India and Nepal today,"

Bangladesh and Nepal held Joint Working Group and Joint Steering Committee meetings in Dhaka on 15-16 May to discuss taking India in a tri-nation agreement regarding power trade.

Nepal can only sell electricity to Bangladesh through India due to the absence of a direct geographical connection between Nepal and Bangladesh.

The proposed transmission routes include Anarmari (Nepal) to Panchagarh (Bangladesh), spanning a total length of 49km. Should this transmission line be constructed, it would require utilizing 24km of Indian territory, as reported by the Power Grid Company of Bangladesh Limited during a presentation.

Another proposed route is from Anarmari (Nepal) to Thakurgaon (Bangladesh), covering a

distance of 83km. Constructing the transmission line along this alignment would necessitate the utilisation of 33km of Indian territory.

Apart from the dedicated transmission lines, Nepal is also considering enhancing the capacity of existing transmission infrastructure to facilitate increased power trade between Nepal and Bangladesh through India.

Why renewable energy must be responsible energy

By Madhur Singh, Eco-Business

Clean electricity and hence renewable energy are the bedrocks of the ongoing – or forthcoming, depending on where you live – energy transition. Yet, the environmental, social and governance (ESG) issues arising out of renewable energy development are not often examined.

From land use changes affecting local biodiversity to labour injustice, renewable power projects can have serious and adverse socio-economic consequences. They risk entrenching energy injustice, since the direct and indirect benefits they generate do not benefit the communities they most impact.

Several organisations including World Resources Institute (WRI) India, Forum for the Future, The Energy and Resources Institute (TERI), Landesa, and World Wide Fund for Nature (WWF) have jointly launched the Responsible Energy Initiative to shine the spotlight on this issue, and are calling for a transition to not only renewable energy but responsible energy.

Saksham Nijhawan is principal strategist, energy and climate change, at Forum for the Future, India.

"Many people are rooting for the rapid deployment of renewable energy (RE) in India, and believe that India can truly become one of the leaders in accelerating the energy transition and moving towards a resilient, low-carbon economy," Nijhawan says. "None of us would like to see RE deployment slow down due to any land, technology, supply chain, workforce, or governance issues."

While some may argue that it is inescapably true that there will be winners and losers when entire industries and economies are remade, Nijhawan emphasises that humanity has an opportunity to learn from the past and proactively put in place mechanisms that ensure that as the RE sector matures, it does so in a way that benefits all communities – including but not only shareholders – and contributes to ecological restoration beyond just conservation.

He admits that "few sectors have been able to do this in the past", but holds out hope for a "truly pioneering" development of the RE sector that considers each person a 'rights-holder' rather than a 'stakeholder', adopts innovations and business models that truly value ecosystem services, and builds in circularity all along the value chain.

In this interview, Nijhawan explains why renewable energy should be responsible energy, and how economies can get there.

Q: Tell us about some of the problems arising out of RE deployment in India.

India is a complex land – cultures, policies,

power dynamics are incredibly nuanced. The RE sector has grown and is now at an inflection point where it is facing issues across social and ecological boundaries. Left unaddressed, the energy transition is on track to being a shallow transition, thus creating or exacerbating social and environmental risks, rather than reducing them.

For example, the race to the bottom on RE tariffs means there is less time and resources available to focus on sustainability, let alone justice and regeneration in the value chain. The search for ever-cheaper renewable energy means cutting costs, which almost inevitably means less scrutiny and transparency in the supply chain and thus a decline in environmental and social standards. Even when done with the best of intentions, rushed community consultations fall victim to structural power dynamics and risk reinforcing negative norms.

The market creation drive has included a relaxing of governance standards including the need for environmental impact assessments (EIAs) for RE projects. There is no shared view of what constitutes a negative impact in many areas, or the threshold for violation. Though many investors are working to improve the situation, accountability mechanisms in the value chain are weak.

The jobs provided by the coal industry and its peripheral sectors are physically not where the renewable energy investment is, so we also cannot rely on a direct swap to avoid joblessness, even if the skills needed were vaguely similar.

Q: What are the ESG implications of RE deployment?

There are quite a few across the RE value chain, the critical concerns being:

- Increased ecological and social vulnerabilities resulting from land-use changes.
- Labour and human rights abuses – particularly in raw material extraction/ mining areas, production and end-of life-stages of RE technologies take place, especially in the informal sector; climate mitigation responses vary based on influence, control and transparency.
- Impacts on local and regional biodiversity during the construction and operation phases of the value chain in particular.
- Risk of energy injustice, where direct and indirect benefits generated from RE systems do not benefit the communities they most impact.
- Rising volumes of non-recyclable and potentially hazardous waste.
- Impacts on livelihoods, culture and local practices and patterns, often unaccounted for and overlooked across the value chain.
- Potential of overlooked long-term land and marine use changes to significantly alter ecosystem services, such as the availability of safe water and food production.

These concerns are not exclusive or limited to the RE sector. Current value chains are incredibly complex and it can be hard to draw boundaries on where the impacts can be associated with RE and where they are associated with other allied sectors. However, this doesn't mean the sector cannot act and set the benchmark.

Q: How does the average consumer distinguish between propaganda from climate solutions deniers, who have vested interest in maintaining the status quo, and verified adverse effects of RE? For instance, are windmills really killing birds? Isn't it perverse to talk up the harms of lithium mining when coal mining is doing much harm too?

I think the biggest giveaway for anti-RE propaganda are statements that do not have enough data and unbiased research behind them, and lack nuance and sensitivity. We all know about the issues associated with extractive traditional sectors, such as their impact on biodiversity and local communities. Countless stories and robust research have brought out the impacts the traditional sector has, along with contributing heavily to carbon emissions.

As a new sector develops, we need to learn

from the mistakes and issues of the past and ensure we have mechanisms in place right from the get-go as the sector rapidly develops; while holding a long-term vision of the value we would like to create.

Traditional sectors like heavy industry and coal are not inherently regenerative, whereas RE began with a mindset of regeneration and abundance. Therefore, it presents an opportunity we haven't had in the last 40 years perhaps to institute the right mechanisms right from the get-go.

Hence, it isn't perverse to talk about the harms of lithium mining – and we need to be conscious that lithium mining issues aren't exclusive to the RE sector. RE might be one of the major markets for lithium and thus, needs to ensure it is done in a responsible manner.

I would also emphasis that coal and traditional mining should continue to be under scrutiny, and more so as we put in place mechanisms for a transition away from fossil fuels. The traditional energy sector has reaped the benefits of minimal regulation for decades, and it now has the opportunity to ensure the transition away from it happens in a way that is just and equitable.

Q: Coming back to responsible energy, you say RE must create value beyond tackling climate change. How?

Contributing to reducing emissions and thus limiting the impacts of climate change is incredibly important and crucial if we are to envision a future that is even remotely similar to the climate we are used to.

However, RE, like any other sector, has multiple engagement points with communities, workforce, and the environment. Hence, there are multiple opportunities to create value in a way that the sector inherently tackles the climate emergency. These could include:

Actively promoting universal rights: It could do this by respecting legal rights, cultural beliefs and traditions; understanding differential impacts on vulnerable groups and communities, and local power dynamics; learning from past mistakes and from other pioneering sectors; and considering each person as a 'rights-holder' rather than a 'stakeholder'.

Nurturing resilient, thriving ecological systems: This would entail embracing innovations and business models that recognise the value of ecosystem services; understanding local biodiversity, traditions, and knowledge; building circular products and manufacturing systems; designing for longevity and adaptation; developing and implementing landscape-level strategies encompassing local and indigenous knowledge to support broader biodiversity and ecological health.

Championing participatory governance principles: For example, by making a commitment to open, accountable, and inclusive engagements with the communities we work with, and to consider the principle of free, prior and informed consent to be a bare minimum where indigenous peoples are affected; and intentionally creating the means for women, local peoples, youth, as well as marginalised communities to participate in collaborative decision-making where our operations and choices (current and future) affect them and their communities.

Building resilient communities and an inclusive workforce: This involves building adaptive capacity in communities and our workforce; creating avenues for sustainable livelihoods, and ensuring value is fairly distributed across our value chains and stakeholders; building trust with communities through inclusive conversations; recognising the agency of each rights-holder; contributing to creating energy justice for all; providing incentives for professional development and encouraging our supply chain partners to do the same. Promotion of universal healthcare and education, and participatory decision-making in the development, disaster prevention and management of the area could help build the adaptive capacity of communities and the workforce. Shared-ownership structures that share risks and benefits fairly could ensure equitable distribution of value.

Q: What would a "just and regenerative" energy system for India look like?

A responsible renewable energy system is

one that goes beyond the traditional boundaries of sustainability of 'do not harm' and 'put back what is taken', towards actively working to renew and restore natural systems. It challenges the notion of 'incremental change' with 'transformational change', to transform power patterns and shift from an extractive economy to a circular economy.

Such a system respects and works with cultural diversity, building on India's rich history of participatory decision making, and contributes to building resilient communities. This means going much beyond ensuring that financial contracts with land-owners are respected, towards planning for the economic resilience of those families.

It also embeds circularity, transparency and fairness in the supply chain right from the get-go, adopting business practices and mechanisms to embed these characteristics in the system, going much beyond compliance and the bare minimum.

Q: What makes you optimistic that such a system can be created, given India's historical inequities of gender, caste, region, religion, ethnicity, and so on, that pervade all social, political and economic activity?

It is important to understand why we are bringing the focus on responsibility in the RE sector. One might argue that there are other sectors with much worse impacts and track record of significant ESG issues. RE has the potential to be good for everyone – it has its basis in regeneration through the sun, wind, and water. It has the potential to be inherently good – while playing a critical role in decarbonisation – and proactively ensuring every citizen benefits from it. The scrutiny on traditional and heavy industries should and will continue.

I am fiercely optimistic because we do not have the luxury of time. As we work hard towards rapid decarbonisation, we are facing increasingly adverse impacts of climate change. Unfortunately, these impacts will be equally adverse on the RE sector (including on the workforce and communities associated with its development) as they will be on any other sector. The RE sector finds itself in a unique landscape, one that other industries haven't faced before: it is being counted upon for rapid decarbonisation and yet, it faces climate impacts. On the plus side, it also has over seven decades of learning from traditional sectors on what can catastrophically go wrong if the right mechanisms are not put in place.

Lastly, the vision of what transformational action can create makes me optimistic, as it brings with it the opportunity for true sustainable development that lasts for all. Transformational action finds alternative development pathways to those built on continuous growth, explicitly dismantling systems of oppression and manifesting profoundly different human-environment relations. Stepping towards that distinctly different system will require significant effort, but the opportunities that will come with a deep transformational transition are vast and too meaningful to be sacrificed in the name of political acceptance or speed.

Q: With the largest investments in RE coming from large corporations, is there a danger of policy and regulatory capture to suit those benefiting from the status quo? What are organisations such as yours doing about this?

Policy and regulation have an incredibly important role to play in not only building a favourable ecosystem for consistent RE deployment, but also to do it in a way that is socially just and environmentally safe.

However, we also know that while there are a lot of expectations from policy and regulations, it is very hard for policymakers to get it right – we want regulations, but not too intrusive; we want progressive policies, but also ones that ensure financial safety; we want rapid change, but have historically not responded well to significant policy change. Consistent engagement with policy makers and regulators, an understanding of the complex systems and expectations that policymakers deal with, and empathy with the mandate of policymakers will be important. We need to demonstrate the direction that policy and regulation can evolve in. Without demonstrating industry action, and with only policy briefs, we can only do so much to support policy and regulation to evolve.

On the point of policy and regulation developing to suit those who benefit from the status quo – it can only be countered by demonstrating pioneering, status-quo challenging and promising action to guide policy evolution. Policymakers in India are incredibly capable and forward-looking, we need to ensure the industry builds confidence to enable the policymakers to evolve the policy landscape.

Q: Please describe some such pioneering actions.

Our partner TERI is working with RE companies in Rajasthan and Madhya Pradesh to develop, test and implement multiple land-use models where communities can use the land on which solar power plants are built for agriculture. Communities will primarily grow cash crops such as herbs, root vegetables, and medicinal plants. This work would include developing participatory ownership, community investment, and benefit-sharing models that could be "retro-fitted" on existing RE plants.

WRI, as part of its 'circularity in RE value chains' initiative, is developing an innovation challenge wherein it will test and incubate solutions to embed innovations in manufacturing and development of RE. Some innovation needs include increasing the recyclability of solar panels to more than 80 per cent, enhanced focus on critical minerals such as lithium, nickel, cobalt, and manganese, and supporting circular domestic manufacturing.

Q: What does your responsible energy campaign expect to achieve – in the next year, in five years, and in 20 years? In India, and globally?

As part of driving action and demonstrating the art of the possible, we are working across six initial areas of the RE value chain to embed responsibility and transparency. We are working with investors and financiers on developing pioneering investment mechanisms to support responsible RE, by working with developers to understand how they can enhance sustainability mechanisms, working with manufacturers and innovators to support innovations to make RE systems circular, and working with procurers of RE, especially for captive plants, to demonstrate circular approaches.

We're also exploring multiple land-use and benefits-sharing models with communities, and are working to develop participatory decision-making methods specific to the RE sector.

The initiative has always had ambition to work

beyond India in regions where RE development is picking up pace, using India as the leading example and embedding responsible RE principles in other regions, too. In 2023, we have launched the initiative in Southeast Asia with the Philippines being the first country. We expect to see path-breaking action in the region, addressing specific regional issues over the next two to five years. We also aim to explore what responsible energy transition in the Northern and Central American region might look like, being conscious of the historical issues of exclusion and racial bias.

Our aim is to see an RE sector that sets the benchmark for other sectors to follow, by being ecologically safe, rights-respecting and socially just, contributing to rapid decarbonisation towards an under-2°C pathway. This will be enabled by a transformation of our individual understanding of what value is, by restructuring markets and challenging traditional power dynamics.

We've talked a lot about 'just transition' as an outcome, but the process of getting there is vital. How is the vision for transition set? Who shapes it? How can we use the opportunity transition brings to build an economy that creates and shares value differently? These are all key questions.

No Happiness without the Trees: Bhutan's Trailblazing Environmental Law

By Sangay Dorjee and Meghan Nalbo, The Asia Foundation

Her Royal Highness Princess Sonam Dechan Wangchuck of Bhutan with Paro Forum speakers and moderators. (The Asia Foundation)

The Kingdom of Bhutan has more than met its 2009 COP15 pledge to remain carbon neutral. While this landlocked Himalayan nation between India and China emits 2.2 million metric tons of carbon dioxide per year, the vast forests that cover nearly three-quarters of the country absorb more than four million tons.

Bhutan has embraced the preservation of this natural inheritance. Its constitution mandates that forest cover be maintained at no less than 60 percent. The nation of roughly 700,000 citizens harbors one of the 10 most biodiverse regions in the world, and its snow-covered peaks are the source of water for one-fifth of the world's population.

But climate change is no respecter of national borders. Even as Bhutan reaches for middle-income status by the end of this year, its growing urban populations remain vulnerable to landslides and flooding from glacial lake outbursts, a particular danger of warming in Asia's high mountainous regions. His Majesty King Jigme Khesar Namgyel Wangchuck, Bhutan's constitutional monarch, has warned that conservation must remain an active commitment in the years ahead. Bhutan's future, he says, will be "interwoven with regional and global developments …that are taking place at a very fast pace." Though Bhutan does not contribute to climate change, it feels compelled to be part of the solution.

In February, Bhutan's Jigme Singye Wangchuck School of Law welcomed nearly four dozen legal and environmental experts from around the world to the inaugural Paro Forum, entitled "Climate Justice for Happiness." The Paro Forum, named for the school's Paro District home, examined how South Asia's youngest national law school, known as JSW Law, could draw on Bhutan's unique resources and experience to help fight climate change and advance environmental law.

The first and only law school in the Kingdom of Bhutan, JSW Law welcomed its first cohort in 2017, nine years after Bhutan became a constitutional monarchy. His Majesty the King established JSW Law to develop and train dedicated legal professionals who would help this newly democratic society to flourish. The unique curriculum of JSW Law reflects key aspirations of Bhutanese society: environmental protection, the rule of law, the preservation of culture and tradition, and the Bhutanese principle of Gross National Happiness.

Gross National Happiness (GNH) is a holistic concept that measures development not just by growing wealth and GDP, but also by a suite of noneconomic indicators such as psychological well-being, health and education, time spent in work and leisure, cultural diversity, good governance, community vitality, and ecological resilience. As measured by GNH, environmental health cannot be discarded for development, because it is intrinsic to development.

The Paro Forum brought together leaders and

experts from Bhutan and around the world to study Bhutan's experience and advance the international dialogue on climate change. The Forum also marked the inauguration of JSW Law's long-envisioned Climate Change and Environmental Law Centre. The Centre seeks to embody the pillars of GNH as it prepares students and faculty to tackle emerging issues in climate law—from local disputes over climate measures, to jurisdictional debates over national climate policy, to international management of transboundary resources such as water.

With its track record of programs addressing climate change and its long experience supporting legal education in Asia, The Asia Foundation is proud to have been invited to support key initiatives of JSW Law's governing body, headed by Her Royal Highness Princess Sonam Dechan Wangchuck, who began envisioning the development of the nation's legal sector by command of the King shortly after the adoption of the 2008 constitution.

Their Majesties' vision, widely shared throughout Bhutan, emphasizes the importance of multisectoral cooperation and collective effort in achieving common goals. JSW Law's Climate Change and Environmental Law Centre, and the Paro Forum, will provide an interdisciplinary platform for communication and collaboration among national bodies and interdisciplinary climate experts from both within and outside Bhutan.

The changing climate is a multifaceted challenge to Gross National Happiness. "In the 'Age of Adaptation,'" as Dr. Adil Najam, dean emeritus and professor of global studies at Boston University, told the Paro Forum, "and especially in developing countries, we need to be focusing on the real lives of real people—especially the poorest and most vulnerable. Let us begin by focusing on how climate impacts affect their lives and livelihoods, and work to reduce the pain of those impacts."

JSW Law will produce a white paper from the Paro Forum highlighting the key areas where the Climate Change and Environmental Law Centre can be effective in Bhutan, regionally, and globally. The Centre and JSW Law have a special role to play as Bhutan and the world work to halt and adapt to climate change.

Asia-Pacific not ready to deal with climate-induced disasters: UN commission

By Subel Rai Bhandari, Radio Free Asia

Most Asia-Pacific countries are "insufficiently prepared" to face extreme weather events and natural disasters, which are growing in intensity and frequency due partly to climate change, according to a new study by a United Nations regional commission.

While the region suffers the worst consequences of climate change, it is also a key perpetrator – accounting for over half of the world's greenhouse gas emissions – said the Bangkok-based U.N. Economic and Social Commission for Asia and the Pacific (ESCAP), releasing its "Race to Net Zero" report.

Over the past 60 years, temperatures in the Asia-

Pacific region have increased faster than the global mean.

"Six of the top 10 countries most affected by these disasters are in the Asia-Pacific region, where food systems are disrupted, economies damaged, and societies undermined," ESCAP said.

The average annual economic losses across the region caused by natural and biological hazards are estimated at U.S.$780 billion, which is forecast to rise to $1.1 trillion in a moderate climate-change scenario and $1.4 trillion in a worst-case scenario, according to Monday's report.

The Asia-Pacific countries lack the sizable financial means to support adaptation and mitigation efforts and the data necessary to inform climate action. At the same time, existing infrastructure and services are insufficiently climate resilient, the report said.

U.N. Under-Secretary-General Armida Salsiah Alisjahbana, executive secretary of ESCAP, said the case for regional climate action in Asia and the Pacific is clear.

"In fact, just last month, the severe heat waves we experienced here in Bangkok and throughout the country have been described as the worst April heatwaves in Asian history," Alisjahbana said at the report's launch.

"These extreme temperatures also affected other countries such as Bangladesh, China, India, and Lao PDR …Climate change puts our region's sustainable development in jeopardy."

The report will guide and inform the 79th session of ESCAP next week, focusing on accelerating climate action for the first time.

According to a March report by the U.N.-related Intergovernmental Panel on Climate Change (IPCC), the Asia-Pacific region accounted for 57% of global emissions from fuel combustion in 2020, three-fifths of which was generated from coal.

The emissions have more than doubled since 1990, driven by the electricity and heating, manufacturing and construction, and transport sectors, ESCAP said.

According to the U.N. report, 85% of Asia and the Pacific's primary energy supply comes from fossil fuels, while 60% of the region's energy-related CO2 emissions come from coal and one-third from gas and oil.

The report said that to limit temperature rises to 1.5°C, oil and gas must be radically phased down by 2050 and coal wholly phased out.

27% of Asia and the Pacific's CO2 emissions are from the transport sector. Overall transport emissions increased by 200% over the past 30 years, while transport demand is forecast to increase by 150% between 2015 and 2050 in the region.

Three-fourths of global emissions in manufacturing/construction are from the region, ESCAP said.

Only six countries have laws to tackle climate challenges

A large majority of 49 countries in the Asia-Pacific region have already made carbon neutrality pledges by 2022, with commitments varying from achieving carbon neutrality or net-zero carbon dioxide, to net-zero greenhouse gas emissions by mid-century.

ESCAP said the sum of countries' actions to cut emissions and adapt to climate change "falls short of the required ambition."

The report said a 16% increase by 2030 in greenhouse gas emissions from 2010 levels is forecast instead of the 45% reduction needed to keep warming within 1.5 degrees.

Sangmin Nam, director of the environment and development division at ESCAP, said the Asia-Pacific region lacked regional cooperation to "really speed up the action" under the Paris Agreement, unlike the European Union or the African Union.

"We don't have such [a] regional party or regional cooperation. So, with this report, we try to identify some areas where regional cooperation, especially that can be supported by ESCAP."

Nam said that while there are hundreds or thousands of climate priorities, "one of the key elements is for the countries to develop policies of

their low carbon or net zero targets."

"While 40 countries have already committed to a low carbon or net zero target, only six countries so far have developed their national laws accordingly," Nam told Radio Free Asia, citing Australia, Fiji, Japan, Maldives, New Zealand, and South Korea.

China, the world's largest greenhouse gas emitter, has committed to a 2060 target for carbon neutrality and has developed "a policy guidance document with no legal provisions."

"It means countries need to develop internal regulations and policies," he said.

Huda Ali Shareef, Maldives' deputy ambassador to Thailand, said climate change impacts on the economies of the Pacific and small island developing states, and other lesser developed countries, are expected to be very high due to their ecological fragility.

"We need to strengthen multi-hazard early warning systems for everyone, and especially the focus on the communities that are most at risk," she said, adding that such a system should facilitate regional cooperation.

Maldives is one of the lowest-lying countries in the world, facing an existential threat due to climate change, even though its contribution to greenhouse gas emissions is only 0.003% in the global share, she said.

"The Maldives is proud to be one of the six Asia Pacific countries, who has adopted a law on carbon neutrality," she said."On energy transition, Maldives will increase renewable energy share to 15% in the energy mix by 2030."

However, she added that Maldives' carbon neutrality pledge by 2030 depends on the level of international support received.

"Least developed countries and small island developing states in the region have received zero climate-related foreign direct investment since 2011," she said.

Project set to help Indo–Pacific region fight plastic pollution

By UNCTAD

The UK's Foreign, Commonwealth and Development Office (FCDO) and UNCTAD have extended to the Indo-Pacific region a joint programme that works with governments, researchers and businesses to reduce manufacturing's environmental footprint in developing countries.

The Sustainable Manufacturing and Environmental Pollution (SMEP) programme, which the FDCO and UNCTAD have been implementing in sub-Saharan Africa and South Asia since 2019, helps countries better align environmental and industrial policies by identifying local raw materials and products that could be used as plastic substitutes.

For example, the programme currently supports the development of biodegradable fishing nets in the Democratic Republic of Congo and alternative mulch films used in the agriculture and food packaging sector in Nigeria.

"The Indo-Pacific region is home to countries that are extremely vulnerable to the consequences of environmental damage and plastic pollution," said Teresa Moreira, officer-in-charge of UNCTAD's division on international trade and commodities.

"But these countries have a strong will to move away from a plastic-intensive economy and are eager to develop the productive capacities needed to do so."

As part of initial activities in the Indo-Pacific region, UNCTAD co-hosted the second Global South Nexus Conference at Curtin University, Australia, where an updated dashboard from the programme was presented. It compares the environmental impact of replacing plastic with several substitutes.

"The updated dashboard will help the region's policy makers assess the trade-offs associated with various plastic substitutes," Ms. Moreira said.

A vast marine region under threat

The Indo-Pacific is a vast marine region of two dozen countries connected and surrounded by water – from the Indian Ocean to the Pacific Ocean's western and central zones. Many of the nations' businesses and people rely on marine resources for trade, food, jobs and income.

Fiji, for example, exported almost $85 million of processed fish in 2020, making it the island nation's second most exported product. About 31 million people work in the fishing sector in the Asia Pacific region.

But the region's manufacturing sectors – along with "floating islands" of plastic pollution arriving from other continents – are harming its marine biodiversity through the widespread use of plastic packaging and products, as well as discarded and lost fishing gear. The impact threatens the fishing industries and hinders the hospitality sector's recovery from the COVID-19 pandemic.

"The examination of plastic management services and material substitutes can offer a sustainable solution for the environment and ocean-based industries in the region," said Jonathan Hassall, lead adviser at FCDO.

"The SMEP programme can provide tangible results, as it works with both policy enablers and experiences from on-the-ground projects."

North-South collaboration

Countries in the Indo-Pacific region have many natural resources that could be used to develop nature-based substitutes for plastics. These include minerals, coconut husks, agricultural residues and algae.

But many companies in the region's developing countries lack the technologies and capacities needed to produce nature-based plastic substitutes at a scale that would make them profitable.

Scaling up the production of such plastic substitutes will depend on strengthening collaboration between developed and developing countries. And this is at the heart of the SMEP programme.

By facilitating policy discussions that could help get technology and funding from the global North to the global South, the programme will help companies in the region overcome the hurdles they face to boost the production of plastic substitutes.

"Intellectual property and productive capacities in the Indo-Pacific region could really benefit from access to markets in the global North, allowing for the expansion of novel solutions invented in the global South," said Atiq Zaman, from the Curtin University Sustainability Policy Institute in Australia, where the SMEP dashboard is used.

As part of the programme's work in the region, UNCTAD plans two studies – one on the services dimensions of plastic pollution mitigation and another focusing on specific sectors where the transition to plastic substitutes is important for the region's developing countries.

Technical assistance is also planned to help governments in the region strengthen their messaging in the UN's Intergovernmental negotiating committee on plastic pollution process and the World Trade Organization Dialogue on Plastic Pollution.

Asia set for supercharged heat as El Niño looms after 'hottest April' ever

By Amy Sood and Kimberly Lim, South China Morning Post

Ika Krishnayanti remembers all too well the last time massive, deadly forest fires swept Indonesia.

Later linked to more than 100,000 premature deaths across the country – as well as in neighbouring Malaysia and Singapore – from the killer haze that engulfed the region, the huge fires of 2015 left devastation in their wake.

They were whipped into a fury by a climate pattern known as El Niño, which prolongs Indonesia's dry season and diverts its seasonal rains – effects that are only made worse as the world warms and its climate changes.

"The fires were very damaging to Indonesia and its farmers," said Krishnayanti, a farmer herself and the Indonesian Farmers Association's international relations officer.

"This year, if El Niño comes, Indonesia needs to be seriously prepared because of the harm that could again happen to our forests and to the farmers."

For the past three years, an opposing weather phenomenon that generally lowers global temperatures slightly, called La Niña, has been in place, but climate scientists are now forecasting the return of El Niño in 2023 – and the hot, dry, fire-prone conditions it causes.

Already, meteorologists are warning of temperature records falling across Asia this year, as the region swelters under brutal heatwaves and is left reckoning with a future that could be too hot to handle.

Temperatures topped a scorching 50 degrees Celsius (122 degrees Fahrenheit) in parts of Thailand last month. In India, at least 13 people died from heatstroke and dozens were hospitalised as the thermometer neared 45 degrees at an awards ceremony near Mumbai in mid-April. And in China, nearly a year on from 2022's severe heatwave and drought, more than 100 weather stations last month recorded their highest temperatures.

Asia's hottest April

Globally, the past eight years have been the warmest on record. Extreme weather events are becoming more commonplace, with experts cautioning that the frequency and intensity of heatwaves and the like will only accelerate as climate change continues to take its toll.

It was the "hottest April in Asia" last month, said Dr. Wang Jingyu, an assistant professor at the National Institute of Education in Singapore who researches climate modelling and land-atmosphere interaction.

He attributed the intense heat to the looming return of El Niño and its effects: reduced rainfall and increased temperatures.

The UN's World Meteorological Organization on Wednesday forecast with 80 per cent certainty that the climate pattern would have emerged by October this year, adding there was a 60 per cent chance it could develop as soon as July.

Meanwhile, an 11-year-old boy in Malaysia died of heatstroke and dehydration in April amid high-temperature warnings across several districts as thermometer readings soared towards 40 degrees, with at least five other people needing medical treatment.

Luang Prabang in Laos reached a record high of 42.7 degrees and temperatures climbed to around 45

degrees in Myanmar.

In Bangladesh, there were reports of road surfaces melting under the glaring heat in capital city Dhaka. In India, state governments closed schools and chief ministers urged children to stay home to avoid headaches and fatigue.

A heatwave of such magnitude cannot be explained by El Niño alone, according to Benjamin Horton, director of the Earth Observatory of Singapore at Nanyang Technological University.

"Something else is happening, too. The Earth is getting warmer, with significantly more moisture in the atmosphere," he said, noting that naturally oscillating climate cycles had not been the sole cause of "the recent number of record-breaking extreme weather events".

Human activities, including the burning of fossil fuels, deforestation and other land-use changes, have driven the climate crisis by releasing increased levels of greenhouse gases into the atmosphere that trap heat and warm the planet.

Global greenhouse-gas emissions continued to rise last year – despite warnings from the UN that they must peak by 2025 to avoid catastrophe – and temperatures are at least 1.1 degrees higher than they were in pre-industrial times.

The record-breaking heat has "disrupted crop production, imposed societal distress, and resulted in peak energy consumption," Horton said.

Heat action plans

Nearly 26,000 people died in heatwaves across India between 1992 and 2020, according to World Meteorological Organization statistics. Recent years have seen an increase in the frequency, duration and intensity of heatwaves, which usually occur in the country from March to July.

This year, India's weather office is predicting above-average temperatures and heatwaves until the end of May, as the prospect of further heat increases from El Niño also looms.

Yet many in the country, including officials, still lack the knowledge of how best to act in extreme heat, while data on heat-related mortality remains spotty at best, according to Dileep Mavalankar, director of the Gujarat-based Indian Institute of Public Health, Gandhinagar.

"The health department as well as the disaster-management authority, I think, have not thought through what the impacts might be to people if the heat worsens later this year," he said.

"If El Niño disrupts India's monsoon season, there will be a deficit of rain and, of course, this will hugely impact agriculture and farming, and, as a result, the economy."

Mavalankar, who put together India's first heat action plan for a city after discovering that 800 people had died in Ahmedabad following a particularly hot week in 2010, said that educating the public was of paramount importance.

His plan for Ahmedabad involved simple solutions such as telling people what to do in case of high temperatures and preparing medical systems to deal with heat emergencies, and resulted in a 30 per cent to 40 per cent drop in total mortality during peak heatwaves.

Efforts have been made to roll out heat action plans to other cities nationwide, but more pressing concerns such as persistently high inflation and food insecurity are often prioritised instead – which could prove disastrous for the country of more than 1.4 billion people.

Water shortages

Concerns about water shortages in the coming months have been reverberating around the region, as high temperatures increase the likelihood of dry weather and drought.

In the Philippines, government agencies have reinforced the importance of staving off a potential water crisis brought on by El Niño to avoid a repeat of 2019, when around 10,000 households in the Metro Manila region lost water supplies as levels in the capital's main reservoirs hit historical lows.

The National Water Resources Board has responded with contingency plans to ramp up

production, with modular treatment plans being commissioned and companies reactivating deep wells.

Thailand issued a warning last month urging the public to save water, as the Office of National Water Resources prepares for a drought that is also forecast to hit the neighbouring Malaysian states of Kedah, Kelantan and Perlis, bringing with it prolonged hot, dry conditions.

Meanwhile, the Royal Malaysian Air Force has been working with the country's meteorological department to seed clouds over Penang in a bid to replenish the supply of water in the island's drying dams.

Fighting fires

The extreme heat currently being felt in parts of Indonesia has not yet been classified as a heatwave, according to Dwikorita Karnawati, head of the country's meteorological agency, who added that daily maximum temperatures had begun to decrease at the end of April.

She said the slash-and-burn methods that were often used to clear land in the country for farming would not be tolerated amid this year's drier weather.

Government warnings in February exhorted farmers and plantation companies to be on their guard against fires in Sumatra and Kalimantan in the

face of an El Niño event.

"We will need to be prepared for even the most extreme conditions," government minister Luhut Pandjaitan wrote in a recent Instagram post, reflecting on the deadly fires of 2015.

"I ask all [related agencies] to start preparing early, taking all the necessary steps required so that the bad experience from eight years ago does not repeat."

Krishnayanti, from the Indonesian Farmers Association, said her greatest fear was that the reckless actions of a few irresponsible people might have dire consequences for everyone.

"The impacts of El Niño may be worsened by irresponsible companies or people that burn land carelessly," she said. "Farmers must have the wisdom to survive during such difficult times."

Asia and Australia target greenwashing as companies risk penalties

By Marianne Bray, Thomson Reuters Foundation

Having pressured South Korean oil giant SK E&S into retracting claims it would produce carbon-free gas, ex-fossil fuel lawyer turned climate advocate Jihyeon Ha now wants tougher action against corporates in a greenwashing crackdown in Asia-Pacific.

South Korea in January became the first nation in East Asia to draft a law that would fine firms for false or exaggerated green claims, as companies in the region face more scrutiny over their environmental credentials and net-zero emissions pledges.

This followed a landmark lawsuit in 2021 by advocacy group Solutions for Our Climate (SFOC) - where Ha is head of legal operations - accusing SK E&S of greenwashing after the oil major said it would produce "CO2-free" liquefied natural gas (LNG).

In March 2022, South Korea's environment ministry warned SK E&S that it needed to base its claims on facts, and the company ultimately changed the wording on its website to say the Barossa gas project off Australia's northern coast was "low-carbon".

"Massive gas projects will have serious, irreversible impacts on the climate, contrary to their 'CO2-free' claims," 35-year-old Ha said in an interview.

"Green fossil fuels are a myth and an oxymoron," added Ha, who was previously legal counsel for S-Oil, a major refiner.

SK E&S did not respond to requests for comment.

South Korea's draft greenwashing law - which includes fines of up to $2,300 - is expected to be passed in the first half of 2023, a spokeswoman for the environment ministry told Context.

Ha said that while the fines are small, the bill signalled a major shift in approach from the government, with regulators having only previously tackled greenwashing by giving "administrative guidance" to oil refiners and steel giants.

"Just as regulating tobacco adverts stopped misleading consumers, the same kind of regulation with the right sanctions will prevent greenwashing," she said. "To achieve net zero by 2050, business practices cannot remain the same."

Globally, greenwashing is in the spotlight, with U.N. experts issuing a warning at last year's COP27 climate summit about its prevalence, and new standards on environmental, social and governance (ESG) credentials currently under consideration by an international body.

In Asia-Pacific, where research shows growing ESG investment and public appetite for environmentally-friendly products, an Australian regulator has launched its first greenwashing case against a pension fund, while Hong Kong and Singapore are vying to be the region's green finance hubs with stricter ESG rules.

"Efforts to tackle greenwashing are not just happening in the U.S. and Europe - some Asian countries may actually be moving faster than the U.S.," said Kathlyn Collins, vice president and head of ESG at investment firm Matthews Asia.

Patchwork of Corporate Disclosure Standards

Trillions of dollars have been poured into funds touting their green credentials via various voluntary disclosures as the world economy seeks to accelerate its low-carbon transition.

More than 90 nations, representing an estimated 80% of global emissions, have pledges that commit to reaching net zero, according to the World Resources Institute (WRI), a think tank.

Despite growing global momentum to curb greenwashing, financial and green analysts say the fact there are several ESG and sustainability standards mean that even defining the problem, let alone finding consensus on it, is difficult.

The European Union and the U.S. have drafted respective corporate disclosure rules, and the G20-backed International Sustainability Standards Board (ISSB) in February announced it would support two sets of rules - one on climate and one on sustainability - to form a "global baseline" beginning in 2024.

Governments will ultimately decide whether to make the standards mandatory, but ESG analysts said this could compel - and incentivise - companies to put climate at the core of their operations, and signal that greenwashing will not go unchecked.

"Companies can't go out and say my product is sustainable, fully recyclable and climate-friendly. The label they put on it needs to be controlled carefully," said Inna Amesheva, director of ESG regulatory research at sustainability data firm ESG Book.

This also applies to banks and asset managers, she added.

"If I'm marketing a climate fund or a climate ETF (exchange traded fund), I need to be able to justify that methodology, rather than a business-as-usual product."

A recent high-profile and first-of-its-kind example

involved pension fund Mercer Superannuation, which was sued in February by Australia's corporate regulator for alleged greenwashing regarding the sustainability of seven of its investment options.

The Australian Securities and Investments Commission (ASIC) said these "Sustainable Plus" options were marketed as fossil fuel-free but in fact had holdings in several companies extracting or selling carbon-intensive fossil fuels.

A Mercer spokesperson said it has cooperated with the ASIC but could not comment further because of the court action.

In a separate development, the Australian Competition and Consumer Commission last month said an online review of 247 companies over potential greenwashing found more than half had made "concerning claims" about their environmental credentials.

In a statement, the watchdog said companies were obliged to back up any green or sustainable claims with evidence including reliable scientific reports, transparent supply chain information and reputable third-party certification.

ESG Regulations and Greenwashing Penalties

Asia's global ESG fund market share doubled to 4% between 2020 and 2022, analysts at Barclays said in January.

And ESG experts say more governments in Asia-Pacific - the world's fastest-growing region and top consumer of fossil fuels - ranging from Hong Kong to India are implementing or working on sustainability, transparency, and anti-greenwashing regulations.

In Asia-Pacific, 57% of investors are concerned about political pressure or legal action if they do not act on climate change and other ESG issues, against 63% in Europe and 40% in North America, a report by fund manager Robeco found last month.

Financial hubs Hong Kong and Singapore have made some ESG disclosures mandatory for companies listed on their bourses, which has kickstarted more proactive measures, said Pat-Nie Woo, partner and head of ESG practice in Hong Kong at KPMG China.

"It started with a pure compliance mindset ... now many companies are striving to receive better ESG ratings as the market takes note," he said.

Nine Asian countries have also devised sustainable finance taxonomies, in addition to a Southeast Asian regional one, giving guidance on what is green and sustainable, ESG Book said.

Amesheva said the region has also started regulating the agencies that give ESG ratings, referring to the situation in the past as the "Wild West" with various methods being used - often resulting in the same firm receiving different ESG scores.

While ESG analysts note that penalties for greenwashing are still rare regionally, such enforcement should rise as more disclosure and regulatory requirements are rolled out, according to a recent report from global law firm Clifford Chance.

"There's been a flurry of activity in Australia as regulators are intent on taking action where companies are not accurately representing their green credentials," Naomi Griffin, a partner at Clifford Chance, said in an interview. "Asia is at a different part of the cycle, but that interest is coming."

Several other ESG experts, including Woo of KPMG China and Anne Copeland, the CEO of sustainability firm Copeland & Partners, agreed that Asia-Pacific will soon up the ante.

"It is only a matter of time before the implications of not being truthful with sustainability-related claims has reputational, business and legal consequences," Copeland said.

Korea, Asian Development Bank to launch climate tech hub in 2024

By Im Eun-byel, The Korea Herald

South Korea and the Asian Development Bank announced that they would launch a joint organization to facilitate climate change talks and networking.

Finance Minister Choo Kyung-ho and ADB President Masatsugu Asakawa signed an agreement to set up the organization called ADB-Korea Climate Technology Hub, or K-Hub, in Seoul next year.

The deal was made during the 56th Annual Meeting of the Board of Governors of the Asian Development Bank, taking place in Incheon's Songdo district.

According to the Finance Ministry, K-Hub will consist of climate experts from the public and private sectors, and function as the base of a global climate change network.

It will support ADB member countries in the Asia-Pacific region as a climate think tank, sharing policies and knowledge related to climate change. It will be the first regional unit of the Manila-based international organization in Korea.

"Korea is proud to help the economies of Asia and the Pacific to meet their development needs," Choo said through the ADB.

"I hope K-Hub will be a platform for governments and companies around the world to explore climate solutions and share climate technology and knowledge."

The ADB viewed Korea to be an appropriate location for the hub as inter-governmental organizations Global Green Growth Institute and Green Climate Fund are both located in the country. It deemed the hub can create synergy with the organizations.

Through K-Hub, member states will be able to access and implement solutions to challenges posed by climate change, the ADB said.

The arrangements follow the previous meeting held by Choo and Asakawa in October. Asakawa visited Korea last year ahead of the annual conference and the two countries agreed to launch a hub to tackle climate change.

The ADB has pledged to raise the quota for climate financing to its developing member countries to a total of $100 billion by 2030, hoping to function as a "climate bank."

Meanwhile, Korea has promised to participate in more ADB-led projects such as the Asia Pacific Project Preparation Facility, ADB Ventures and ADB Frontier Facility.

About the Asian Council on Water, Energy and Environment (ACWEE)

The Asian Council on Water, Energy and Environment (ACWEE) is one of the Product and Service Councils (PSCs) of the Confederation of Asia-Pacific Chambers of Commerce and Industry (CACCI). The PSCs are organized to promote greater business interaction among CACCI members in the product product or service online.

The establishment of the ACWEE was endorsed by the 79th CACCI Council Meeting held in Istanbul, Turkey on March 7, 2011. Mr. Gyanendra Lal Pradhan, Executive Chairman of Hydro Solutions from Nepal, was subsequently designated as Chairman of ACCC.

The ACWEE held its first breakout session on October 3, 2012 in Kathmandu, Nepal in conjunction with the 26th CACCI Conference. Subsequent ones were held annually in conjunction with the annual CACCI Conference held in various member countries.

One of the important initiatives of the ACWEE is the Annual Hydropower and Clean Energy Excellence Award. Launched in 2015, the Award is presented to person or institution that has contributed significantly to the sustainable promotion, support and development of hydropower and clean energy in the Asia Pacific region. Winners of the Award are announced during the CACCI Conference.

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David Hsu, Director General; Amador R. Honrado, Jr. Editor; Abby Moreno, Assistant Editor
7F-2, No. 760, Sec. 4, Bade Road, Taipei 10567, Taiwan; Tel: (886 2) 2760-1139; Fax: (886 2) 2760-7569
Email: cacci@cacci.org.tw; Website: www.cacci.biz