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18 APRIL 2023 [08:00 am]

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AL JAZEERA

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By: Jonathan Mayuga

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By: Kyle Aristophere T. Atienza

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Germany's special envoy for climate has blamed the fossil fuel emissions of rich countries and corporations for climate change, which has been causing more destructive storms.

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[Iraq's ancient treasures sand-blasted by climate change](#)

Iraqi archaeological marvels that have survived millennia and the ravages of war now face a modern threat: being blasted and slowly buried by sandstorms linked to climate change.

[Youth are responsible and have solutions to tackle climate crisis](#)

By: Alya Alawadhi

The climate crisis is seldom framed as a tameable beast. For years, most of the messaging on the current state of climate change has either been one of over-optimism or of absolute and inevitable doom. Either way, this traditional portrayal of the climate

crisis offers little to no incentive for any individual person, institution, or entity to take serious action.

MONGABAY

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By: Abhishyant Kidangoor

It was down to the wire for the GEDI mission, but it now seems like the force may have prevailed.

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[Another 200-MW solar project eyed in Paoay, Ilocos Norte](#)

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Another 200-megawatt solar project is eyed along the vast sand dunes area of Paoay town in Ilocos Norte province.

[E. Samar town distributes 4K 'bayong' to reduce plastic use](#)

By: Lizbeth Ann Abella

Over 4,000 "bayong" or bags made of woven dried leaves have been distributed in 42 villages in Oras, Eastern Samar to minimize the use of plastic that gravely affects the environment.

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[\[Opinion\] Women must be at the forefront of the transition to a low-carbon economy](#)

By: Veronica Mendizabal Joffre and Pinky Serafica

Can we truly reimagine a path to a low-carbon transition and change the climate narrative? This is hard to envision when we witness the unprecedented damage we are inflicting on the planet.

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[Road to sustainable power](#)

By: Ralph Lawrence G. Llemit

The world is changing and so is the way we generate and consume energy. With sustainable energy solutions on the rise, the industry has an opportunity to create a brighter future for the Philippines.

THE MANILA TIMES

[Firms have 'moral' duty vs climate change](#)

By: Agence France Presse

The new chief executive of Mars, maker of M&M's sweets, chewing gum and pet food, says companies have a "moral" duty to reduce their environmental footprint as the world battles climate change.

THE PHILIPPINE STAR

['Big sponge': New CO2 tech taps oceans to tackle global warming](#)

By: Romain Fonsegrives

Floating in the port of Los Angeles, a strange-looking barge covered with pipes and tanks contains a concept that scientists hope to make waves: a new way to use the ocean as a vast carbon dioxide sponge to tackle global warming.

[Expanded coverage of electric vehicles tariff breaks seen as 'game-changer'](#)

A professor of Sociology and Political Science and a fellow for education of a think tank organization urged the government to expand the coverage of tariff breaks for electric vehicles (EVs), saying that it will become a "real game-changer."

Information and Knowledge Management Division

AL JAZEERA

[Air pollution impacts every stage of human life, report finds](#)

Air pollution impacts every stage of human life from foetal development and the cognitive abilities of teenagers to adult mental health, according to a report that synthesises the findings of more than 35,000 studies from around the world.

The Environmental Research Group at Imperial College London published the review on Monday of a decade of scientific studies into air pollution.

The London university team looked at findings from the World Health Organization (WHO), the UK Committee on the Medical Effects of Air Pollution, the Royal College of Physicians, the Health Effects Institute and the International Agency for Research on Cancer.

“The most important new finding is evidence related to both the impact of air pollution on brain health, including mental health and dementia, and early life impacts that could lead to future health burdens within the population,” the report said.

“Both represent significant, but currently unquantified costs to society and the economy,” it added.

The review found links between air pollution and the health of newborns in the first weeks of life, birth weight, miscarriages and stillbirths.

The fetus could be vulnerable because a mother might inhale air pollution particles, leading to adverse effects on development, the report read.

Chemicals associated with pollution can enter a pregnant woman’s blood, altering its flow, which could potentially slow or delay foetal growth.

More than 20 million babies with low birth weights are born every year and more than 15 million are born prematurely, according to the WHO.

But the impact of air pollution on reproductive health is not restricted to the mother. Lower volumes of sperm are also seen in men exposed to air pollution.

Meanwhile, another study mentioned in the report suggests “exposure to particle pollution” increases the risk of developing dementia and accelerates cognitive decline.

Recent studies also showed that air pollution could hamper lung growth in children, affect their blood pressure and impact their cognitive and mental health.

The experts at Imperial said research on 2,000 children aged eight and nine found “on average, a child had lost around 5 percent of their expected lung volume because of the air pollution that they breathed.”

“This effect was most clearly linked with exposure to NO₂ [nitrogen oxide], which is often used as a tracer for the diesel exhaust emissions,” their report said.

The report also found that air pollution causes asthma.

From 2017 to 2019, a study by Imperial College London estimated that London’s poor air quality led to more than 1,700 hospital admissions for asthma and serious lung conditions.

“This was 7 percent of all asthma admissions in children in the capital,” the report said.

The review also showed that exposure to air pollution can increase cardiac death, stroke risk and the development of cardiovascular disease later in life.

A European study considered stroke in nearly 100,000 people over a 10-year period and found some evidence of an association between long-term exposure to PM_{2.5} – which are very small air pollution particles that can pass beyond the nose and throat and enter the respiratory system – and stroke, especially among people over 60.

ARAB NEWS

Muslims around the world consider climate during Ramadan

In the heart of Jakarta, the grand Istiqlal Mosque was built with a vision for it to stand for a thousand years.

The mosque was conceived by Soekarno, Indonesia's founding father, and was designed as an impressive symbol for the country's independence. Its seven gates — representing the seven heavens in Islam — welcome visitors from across the archipelago and the world into the mosque's lofty interior.

But they don't just see the light here. It fuels them.

A major renovation in 2019 installed upwards of 500 solar panels on the mosque's expansive roof, now a major and clean source of Istiqlal's electricity. And this Ramadan, the mosque has encouraged an energy waqf — a type of donation in Islam that continues to bear fruit over time — to grow its capacity to make renewable power.

Her Pramtama, deputy head of the Ri'ayah — or building management — division of Istiqlal Mosque, hopes that Islam's holiest month, when the faithful flock to mosques in greater numbers, can provide momentum to Istiqlal's solar project through donations.

The mosque's climate push is just one example of different "Green Ramadan" initiatives in Indonesia and around the world that promote an array of changes during the Muslim holy month, which has fasting and, in many cases, feasting elements as people gather to break their fasts.

In a month where restraint and charity are emphasized, recommendations can include using less water while performing the ritual washing before prayers, replacing plastic bottles and cutlery during community iftars with reusable ones and reducing food waste. Other suggestions include carpooling to mosques, using local produce, emphasizing recycling and using donations to fund clean energy projects.

For the world to limit the effects of climate change — which is already causing worsening droughts, floods and heat waves — the use of dirty fuels for electricity and transport, petrochemicals to make products like plastics and the emissions from food waste in landfills all need to be drastically slashed, scientists say. Though individual initiatives are just a small part of that transition, experts say growing momentum behind climate goals can have an effect.

Groups taking an Islamic-based approach often highlight environmental understandings of certain Qur'anic verses and sayings and practices of Prophet Muhammad about the earth, water and against wastefulness.

Last year, at a meeting of the Muslim Congress for Sustainable Indonesia, the country's vice president Ma'ruf Amin called on clerics and community leaders "to play an active role in conveying issues related to environmental damage" and asked for concrete action on climate change including through donations to solar projects like those at Istiqlal Mosque.

Muhammad Ali Yusuf, a board member at the faith-based Nahdlatul Ulama's Institution for Disaster Management and Climate Change in Indonesia, said spreading awareness about clean energy is a "shared responsibility" for Muslims, where mosques' own solar panel installations can be catalysts toward a greater transition.

In the United States and Canada, environmental groups that began springing up in Muslim communities in the mid-2000s independently from one another formed "green Muslim understandings" from within their religious traditions, according to Imam Saffet Catovic, a US Muslim community environmental activist.

"In some cases, the mosques were receptive to it," he said. In others, mosque leaders, "didn't fully understand" the drive, he added.

Ramadan offers a "possibility for ecological training that's unique to the Muslim community," Catovic said. "Thirty days allow someone to change their habits."

The Islamic Society of North America website calls on Muslims to be "an eco-friendly community", saying looking after the environment is "based upon the premise that Islam has ordained us to be the stewards and protectors of this planet."

Some mosques and Muslims around the world are heeding such calls, one small step at a time.

Ahead of Ramadan this year, the mosque at Al Ma'hadul Islamic Boarding School in Indonesia received solar panels through Islamic donations, supplying enough energy for the mosque's entire needs. The electricity from the solar panels also lights up schools and roads in the vicinity.

The Nizamiye Mosque in Johannesburg, South Africa, with its towering minarets and spacious interior, has a roof dotted with domes and solar panels that help keep the power on at the mosque and its surrounding schools, clinic and bazaar.

The 143 panels cover over a third of the complex's energy use in a country that has struggled in recent years to provide enough electricity through its strained grid.

In Edison, New Jersey, Masjid Al-Wali, a mosque and community center, has been adopting changes such as selling reusable water bottles to members at cost and installing more water coolers to discourage the use of disposable plastic bottles, said board member Akil Mansuri.

"Preserving the environment is the Islamically right thing to do," Mansuri said. "People accept the message, but adoption is always slower."

Several years ago, Masjid Al-Wali, whose activities include an Islamic school and monthly community dinners, installed solar panels.

Meals this Ramadan for the mosque's community iftars come in plastic pre-packaged boxes for now, Mansuri said. But mosque leaders encourage members to take leftovers and reuse the boxes, instead of throwing them away, he said, adding he hopes alternatives can be found next Ramadan.

In the United Kingdom, Projects Against Plastic, a Bristol-based charity, is leading a plastic-free Ramadan campaign.

"I feel like, as a Muslim, that mosques are the hub of the communities and they should take a little bit more leading role for sustainability and toward recycling," PAP founder Naseem Talukdar said. "During the month of Ramadan is where I've really seen a ridiculous amount of plastic being used and thrown away."

Mosques are urged to raise awareness on plastic pollution and reduce reliance on single-use plastic. Seven Bristol mosques participated in a pilot project last year, with varying results, and a national campaign, with more than 20 participating mosques, was rolled out this year.

Besides education, another challenge is when mosques don't have enough funds to buy reusable cutlery, dishwashers and water fountains.

"We knew we were going to hit some hard walls and some pushbacks, but, to be honest, the engagement that we've seen so far, it was a little overwhelming," Talukdar said. "Even though the progress is slow, but there's a real appetite for this kind of initiative within the mosque."

Ummah for Earth, an alliance-led initiative that aims to empower Muslim communities facing climate change, is urging people to pledge to adopt one eco-friendly practice during Ramadan. Options include asking an imam to address environmental issues, donating to environmental charities and shopping sustainably.

“Many Muslims are not aware that there are environmental teachings in the Qur’an and the sayings of the prophet and that they have a role that they can play to protect the planet,” said Nouhad Awwad, Beirut-based campaigner and global outreach coordinator for the Ummah for Earth project at Greenpeace MENA.

As they work to raise awareness, campaigners often encounter the argument that climate change is “destined” and that “you cannot change God’s destiny,” Awwad said. “We’re trying to change the narrative,” she said. “We have things that we can do on an individual level, on a community level and on a political level.”

BUSINESS MIRROR

[PHL eyes wider access to Germany's international climate change initiative](#)

By: Jonathan Mayuga

The Philippines is eyeing bigger access to Germany's International Climate Initiative (IKI) as the two countries hold a high-level consultation today, Tuesday, to strengthen partnerships for accelerating their respective climate agenda both at the global and national levels.

DENR Secretary Antonia Yulo-Loyzaga and Germany's State Secretary and Special Envoy will lead the 1st PHL-German Consultation on Climate for International Climate Action Jennifer Lee Morgan.

The Philippines is a focus of Germany's IKI being one of the most vulnerable countries in the world.

To date, IKI projects with the Philippines exceeded 63 million euros in funding covering projects on mitigation of greenhouse gas emissions, adaptation to the impacts of climate change, and conservation of natural carbon sinks with a focus on reducing emissions from deforestation and forest degradation (REDD+), and biodiversity conservation.

The IKI is a funding program initiative for climate action and biodiversity conservation established in 2018 by the German government as part of its commitments in the framework of the Convention on Biological Diversity.

At least 700 projects in more than 120 countries are funded by IKI with around 3.9 billion euros.

Loyzaga will be joined in the discussion by senior officials from the member agencies of the Cabinet Cluster on Climate Change Adaptation, Mitigation, and Disaster Risk Reduction, while Morgan will be accompanied by German Ambassador to the Philippines Anke Reiffenstuel and other senior officials at the German Embassy Manila.

The consultation aims to come up with a blueprint on how the two countries can start activating a hotline between their respective environment authorities and other key government agencies to accelerate the implementation of some of the priority environmental programs of the Philippines, including its Nationally Determined Contribution (NDC).

The NDC binds the Philippines to attain an emission or avoidance in its greenhouse gas by 75 percent, which is equivalent to 3,340 million metric tons of carbon dioxide, as part of the country's commitment to the Paris Agreement on Climate Change.

Agenda items also include critical environmental issues of immediate global and national concern, such as the Philippines' environmental priority programs on water security, decarbonization of the Philippine economy through transitioning to renewable and sustainable energy in keeping with its NDC target, and the strengthening of the country's climate adaptation and disaster risk reduction and management capacities.

BUSINESS WORLD

Manila told to boost defense to preserve maritime biodiversity

By: Kyle Aristophere T. Atienza

A SECURITY think tank on Monday called for a stronger maritime defense system to protect the biodiversity in areas claimed by the Philippines in the South China Sea.

“Various security issues on the West Philippine Sea are affecting its biodiversity and marine resources, and have limited tourism opportunities in the area,” Victor Andres C. Manhit, president of Stratbase ADR, said in a statement, referring to areas of the sea within the country’s exclusive economic zone.

The government, in cooperation with scientists and environmentalists, should craft strategies that will “sustain biodiversity and develop Philippine marine resources,” he said.

Mr. Manhit said unlawful land reclamation activities, construction of artificial islands and other intrusions within the Philippines’ exclusive economic zone “cannot continue.”

“We believe that the security in the West Philippine Sea in the traditional, nontraditional and emerging domains must be acted upon through a strategic and responsive inter-agency approach.”

Mr. Manhit cited a 2016 arbitral ruling that voided China’s sweeping claims over the South China Sea. The United Nations-backed court found that land reclamation and construction of artificial islands had caused “irreparable harm to the coral reef ecosystem.”

Despite the ruling, such unlawful practices are still being carried out, causing “severe damage to marine life and ecosystems” of the West Philippine Sea, he said.

He said tourism initiatives would make the area more accessible to Filipinos. “In all these endeavors, the efforts of the national and international community to secure biodiversity and promote tourism must complement and respect the Philippines’ 2016 arbitral victory,” he said.

The Philippines will benefit from Australia’s P3.6-billion investment in maritime and environmental protection, Stratbase said in the statement.

“The marine environment is under threat from pollution, climate change and over-exploitation. And it is more important than ever that we work together to protect it,” Australian Embassy Deputy Head of Mission Moya Collett said in the statement.

“We are proud to support the Philippines in its efforts to preserve the marine environment and become more climate change- and disaster-resilient,” she added.

The Australian government has funded a number of coral restoration projects throughout the Philippines including in Pangasinan, Verde Island Group, Palawan and Zambales.

“Australia highly values its maritime partnership with the Philippines, and we will continue to work together to protect maritime biodiversity, which is so important to the health and prosperity of our two nations,” Ms. Collett said.

Tensions between the Philippines and China have risen in the past months, with the Philippine Coast Guard boosting efforts to expose its neighbor’s expansive activities.

President Ferdinand R. Marcos, Jr.’s decision to widen US access to military bases in the Philippines under their 2014 Enhanced Defense Cooperation Agreement (EDCA) had also angered Beijing, which is also under fire for claiming self-ruled Taiwan.

The US and the Philippines are set to end their biggest joint military exercises on April 18, which were participated in by 17,600 members of the Armed Forces of the Philippines and US military.

The “shoulder-to-shoulder” exercises included live-fire exercises near disputed waters of the South China Sea.

Batangas Rep. Ralph G. Recto said the US and China should work together to help the Philippines contain an oil spill that has affected Oriental Mindoro and nearby areas.

“It is not yet late for the government to turn the Mindoro oil spill as the site of an ‘environmental Balikatan’ where even nations at loggerheads with each other, like the US and China, can work together in fighting a real ecological disaster instead of an imaginary enemy,” he said in a statement.

The Philippines can bank on the “global humanitarian tradition” of helping a nation whose “resources are overwhelmed by the challenges at hand,” the lawmaker said.

The oil spill from MT Princess Empress, which was carrying 800,000 liters of industrial fuel when it sank off the waters of Oriental Mindoro on Feb. 28, had seeped out and destroyed marine life in three regions.

“If this month’s Balikatan in five provinces can mobilize 17,000 troops from three countries for a “mock war,” then even a fraction of the personnel and logistics involved will be a great help in battling a real, not simulated, ecological threat,” Mr. Recto said.

“If Beijing and Washington are competing for our affection, then they should see the Mindoro oil spill as an opportunity for them to show their solidarity with us.”

GMA NEWS ONLINE

[German envoy: Fossil fuel burning by rich nations aided Tacloban flooding](#)

Germany's special envoy for climate has blamed the fossil fuel emissions of rich countries and corporations for climate change, which has been causing more destructive storms.

During her visit to Tacloban City, the hardest-hit province of Typhoon Yolanda in 2013, German State Secretary and Special Envoy for International Climate Action Jennifer Morgan “recognized” her country’s responsibility in contributing to global warming.

“I think the people of Tacloban have suffered tremendously from the impacts of climate change but they haven’t done anything to cause the problem. So it’s the burning of fossil fuel particularly by wealthy nations and wealthy individuals that have caused what has happened here,” Morgan said in JP Soriano’s report on “24 Oras” on Monday.

2019 data from Our World showed upper middle-income countries and high-income countries were the largest contributors to greenhouse gases that cause global warming and climate change.

“Germany recognizes its responsibility for contributing to global warming; for contributing to the destruction of the climate crisis; for waiting too long to act; for listening too long to the voice of the people and communities that are hit the hardest by the climate crisis,” she said.

“I came to Tacloban today to say 'we hear you, the world hears you'...It is an injustice. It is hard to bear and that’s impossible to accept, the world owes something to the people of Tacloban and you people of Tacloban have the right to claim it,” the official added.

Morgan was among the guests in the Climate Talks hosted by the University of the Philippines Visayas Tacloban College. Apart from the school, she visited the Mangrove Eco Park in the city and the memorial site at the San Joaquin Parish in Palo, Leyte where the victims of the supertyphoon were memorialized.

KHALEEJ TIMES

Iraq's ancient treasures sand-blasted by climate change

Iraqi archaeological marvels that have survived millennia and the ravages of war now face a modern threat: being blasted and slowly buried by sandstorms linked to climate change.

Ancient Babylonian treasures, painstakingly unearthed, are slowly disappearing again under wind-blown sand in a land parched by rising heat and prolonged droughts.

Iraq, one of the countries worst-hit by climate change, endured a dozen major sandstorms last year that turned the sky orange, brought daily life to a halt and left its people gasping for air.

When the storms clear, layers of fine sand cover everything -- including the Sumerian ruins of Umm al-Aqarib, "the Mother of Scorpions", in the southern desert province of Dhi Qar.

Sandstorms have slowly begun to reverse years of work there to unearth the temples' terracotta facades and many priceless artifacts, said archaeologist Aqeel al-Mansrawi.

Archaeologists in Iraq have always had to shovel sand, but now the volumes are growing.

After a decade of worsening storms, sand at Umm al-Aqarib now "covers a good part of the site", that dates back to around 2350 BC and spans more than five square kilometres, he said.

In the past, the biggest threat was looting of antiquities at the ruins, where pottery fragments and clay tablets bearing ancient cuneiform script have been discovered.

Now the changing weather and its impact on the land, especially creeping desertification, spell an additional threat to ancient sites all across southern Iraq, said Mansrawi.

"In the next 10 years," he said, "it is estimated that sand could have covered 80 to 90 percent of the archaeological sites."

The fabled land between the Tigris and Euphrates rivers hosted some of the world's earliest civilisations, the remains of which are under threat in modern-day Iraq.

The oil-rich country is still recovering from decades of dictatorship, war and insurgency and remains plagued by misrule, corruption and widespread poverty.

Compounding its woes, Iraq is also one of the five countries most impacted by some effects of climate change, including drought, says the United Nations.

Upstream dams in Turkey and Iraq have reduced the flow of its big rivers, and more water is wasted by Iraq's ancient irrigation system and outdated farming practices.

Summer temperatures topping 50 degrees Celsius (122 degrees Fahrenheit) now often batter Iraq where droughts have parched agricultural areas, driving farmers and pastoralists into crowded cities.

"The sandstorms became more frequent, the wind became dustier and the temperatures increase," said Jaafar al-Jotheri, professor of archaeology at Iraq's Al Qadisiyah University.

"The soil has become more fragile and fragmented because of the lack of vegetation and roots," he explained.

As more farmers flee the countryside, "their land is left behind and abandoned and its soil becomes more exposed to the wind".

Winds pick up "more sediment fragments that reach the archaeological sites", Jotheri said, adding that the "sand and silt cause physical weathering and disintegration of buildings".

The problem is compounded by salinisation, said Mark Altaweel, professor of Near East Archaeology at University College London.

During extreme heat, he explained, water on the land surface evaporates so quickly that the soil does not reabsorb the crystals, which are left behind as a crust.

"When it's hyper dry, the water quickly evaporates and that leaves that salt residue," he said, adding that "you can see it on the bricks".

Jotheri said that salt in the earth carried by sandstorms causes "chemical weathering for archaeological buildings".

Iraqi authorities insist they are tackling the complex and multi-layered problem.

The government "is working to contain the sand dunes", said Chamel Ibrahim, director of antiquities of Dhi Qar province.

He pointed to a plan to plant a "green belt" of trees at a cost of about \$3.8 million.

But Jotheri voiced doubt, saying that to keep the vegetation alive, "you need a lot of water".

When it comes to climate change, he said, "we are the country facing the most and acting the least. We are at the bottom of the list in terms of acting against climate change."

Youth are responsible and have solutions to tackle climate crisis

By: Alya Alawadhi

The climate crisis is seldom framed as a tameable beast. For years, most of the messaging on the current state of climate change has either been one of over-optimism or of absolute and inevitable doom. Either way, this traditional portrayal of the climate crisis offers little to no incentive for any individual person, institution, or entity to take serious action.

An entire generation has come to age since the melting of the Arctic was first detected in 2002, and the rhetoric of climate doom or dismissal has been well ingrained in their cognitive psyches. Yet, it is the same generation that will likely inherit a world that is at least one degree Celsius warmer than pre-industrial levels, where rising sea levels reach a rate that has been unprecedented for 2,500 years, where 90% of disasters are classified as climate-related, where 26 million people worldwide will be forced into poverty and 140 million more displaced by 2050 if matters continue at their current trajectory. Globally, the youth are the most vulnerable to the catastrophic implications of climate change. Thus, it makes sense that, despite all the defeatist messaging, the youth are called upon to champion climate activism – and they are responding.

Across the globe, the youth are vocalizing their concerns about climate change and mobilizing the transition to a more conscious and intentional way of living. In India, Licypriya Kangujam (now 11 years old) made headlines when she protested for climate-change literacy to be mandated as part of the national school curriculum in 2020.

In Mexico, Xiye Bastida (now 20 years old) similarly turned heads while advocating for systemic policy change that afforded Indigenous and immigrant communities more visibility and consideration, and she continues to rally for the same cause. In Canada, an indigenous activist from Wiikwemkoong First Nation, Autumn Peltier (now 17 years old), continues to loudly draw attention to the sanctity of clean water, demanding that access be extended to the Indigenous Peoples across the world. Suffice to say that these are just three examples of the kind of work carried out by countless young climate activists across the world in hopes of enacting a positive change, be it through campaigning for climate literacy in their circles, monitoring their consumption habits, or investing the time to learn more about the problem and the available solutions.

In its Year of Sustainability, the UAE stands as the winner of the bid to host COP-28 – the world's largest climate conference organized annually by the United Nations – due to be held at the end of this year. At the first presidency-hosted and youth-led COP event held at Expo City, Dubai, in mid-March – Road to COP-28 – the importance of youth involvement was emphasized by all the speakers who took the stage, namely Dr. Sultan Al Jaber, President-Designate of COP28, Shamma Al Mazrui, COP28 Youth

Climate Champion, Mariam Al Mheiri, Minister of Climate Change and Environment, and Razan Al Mubarak, UN Climate Change High-Level Champion for COP28 and President of the International Union for Conservation of Nature. The youth-centered climate conversation was clear for all the world to see.

However, the youth – whether visible or not – have always been central to the climate discourse. For one, it is their future that is at stake. And they have been reminded of it in every climate conversation and exposed to news, research, and media on the climate crisis all their lives. If awareness of the dangers was enough, the climate crisis would have been resolved and climate anxiety would not be a reality for the majority of youth globally. What is needed to protect our ecosystem is not awareness; it is action. That is the radical promise of COP28, and the youth are, for the first time, given a seat at the decision-makers' table. As Shamma Al Mazrui indicated in her speech, the youth's involvement in COP28 is designed around four pillars that go beyond awareness of the threats of climate change and into action: Participation, Action, Voice, and Education (PAVE).

This decision becomes all the more cogent when one considers how the Mena region is experiencing a 'youth bulge', with approximately 55% of its entire demographic falling under the under-thirty bracket. The investment in youth by the UAE, which stands as a de facto leader of the region, is a clear mark of the nation's cognizance of both the challenges and opportunities that are peculiar to the region. On one hand, the burgeoning youth bracket means that over 33 million jobs will need to be created by 2030 to sustain the next generation and keep unemployment within 5 percent, according to the latest UNICEF estimates. On the other, the energy of this bracket can and should be harnessed to conceive of creative solutions to global as well as regional climate threats, the most pressing of which is water and food security as dictated by the region's particular geography. Leveraging COP28 as not only an event, but a moment where the climate discourse can finally translate into discernable global action, and the UAE's commitment to enabling the youth to voice their ideas and concerns, is commendable.

As we draw closer to COP28, it will be tempting to lay all the burden on the world's youth. While there is no denying that the demographic of young individuals is rife with talent, ideas, and potential, we would be remiss if we excused other segments of society from also stepping up and pitching in. Yes, the youth will continue to brilliantly champion the world towards a sustainable future, but all members of the global community are equally responsible for keeping global temperatures below the two degrees Celsius limit agreed upon in the Paris Agreement. The climate crisis is a universal issue that needs a comprehensive, cross-cutting, interdisciplinary, and intergenerational solution – one that I am hopeful will arise from the alignment of the various stakeholders, local and global, at COP28. - The writer is a researcher and Head of Consulting section at Trends Research and Advisory

MONGABAY

[Lasers that map forest carbon from space get another chance to shine](#)

By: Abhishyant Kidangoor

It was down to the wire for the GEDI mission, but it now seems like the force may have prevailed.

In a last-minute decision, NASA has decided to extend the GEDI mission (short for Global Ecosystem Dynamics Investigation, and pronounced “Jedi” like in the Star Wars films), which was fated to be jettisoned from the International Space Station, where it has been attached for the past four years, to make way for another, unrelated, mission. But a campaign driven by the scientists involved in the project helped the mission — the first to map Earth’s forests in 3D — get a second life.

NASA now says the mission will take a hiatus for 18 months. The array of lasers that make up the GEDI equipment will be moved into storage on board the ISS, where space for research equipment is at a premium, to make way for a U.S. Department of Defense payload.

“The proposed solution calls for temporarily moving GEDI to an alternate location, where it will remain offline for about 18 months while a DOD technology payload completes its mission,” NASA said in a statement issued March 17. “In 2024, GEDI will return to its original location and resume operations on the station.” The mission is now expected to “continue through the life of the space station,” which is set to be retired in 2031.

Data from the GEDI mission, operating since 2018, has been critical for scientists to understand how deforestation is exacerbating climate change.

“This mission is particularly valuable, especially at the point where we are in now, in terms of climate negotiations and the recognition of mitigation efforts,” Scott Goetz, deputy principal investigator at the GEDI mission and a professor at Northern Arizona University, told Mongabay in a video interview. “It means a lot to me and my group, but it means a lot more for the broader scientific community as well.”

The GEDI mission uses spaceborne laser altimeters to measure the aboveground biomass on Earth. Scientists calculate the dimensions of trees based on the time it takes for the light emitted from the ISS to hit the tree and reflect back. Since the light also reflects off leaves and branches, the GEDI mission has also helped scientists get a fuller understanding of what a tree looks like, including details about girth, weight and canopy size.

Modeling forests in 3D is imperative to estimate the amount of carbon stored in them. About half of a tree's dry weight comprises carbon, which is released into the atmosphere when it's cut down or is burned up in a fire. When scientists and researchers can calculate the amount of carbon stored in an area of forest, it gives them a clear picture of how the carbon is distributed and how much is released due to deforestation.

Since GEDI data became publicly available in 2020, researchers and governments have been using it for a variety of applications.

Thomas Crowther, a professor of ecology at ETH Zurich, has used data from the mission to study biodiversity around the world. It's helped aid his understanding of how changes in the structure of the ecosystem affect biodiversity in different regions, he said.

"For example, the diversity of birds can change as the forest structure changes," Crowther told Mongabay in an email interview. "Therefore, when we are trying to model the variations in bird diversity, it is incredibly useful to have GEDI data that shows how the structure of the ecosystem changes across forest landscapes. We use this, and similar approaches to understand all aspects of biodiversity."

Researchers have also used data from the mission to map the Amazon Rainforest in 3D. Using the data, scientists were able to confirm some well-documented facts, such as the high levels of deforestation in the Brazilian Amazon. They were also able to identify pockets of the rainforest with higher levels of aboveground biomass, like in the northeastern region that covers northeast Brazil, French Guiana and Suriname, and the southwestern region, which lies largely in Peru.

This mapping of the Amazon "highlights some key areas for specific carbon-based conservation which represents a whole new line of conservation, in addition to previous biodiversity or ecosystem-based conservation," Matt Finer, a senior research specialist at the nonprofit Amazon Conservation Association, told Mongabay in a video interview in September 2022.

Data from the GEDI mission has also helped countries like the U.S. and Paraguay improve the accuracy of their respective national forest inventories.

The GEDI equipment is currently in storage in the Japanese Experiment Module of the ISS. But its maintenance there is not an easy feat.

"The temperature changes in the space station orbit are quite dramatic," Goetz said. "We are hoping it has sufficient cooling to deal with these changes because it goes from a cold, dark environment at night into the sunlight."

Nevertheless, Goetz said he's hopeful that the heating and cooling systems they've installed will help the equipment last through the 18 months of storage.

"For now, we are just really excited that we will get more data in 18 months," he said. "It will be current and relevant to much of the climate change negotiations and solutions that the world is trying to implement at this point."

Banner image: The two-stage Falcon 9 launch vehicle lifts off Space Launch Complex 40 carrying the SpaceX's Dragon resupply spacecraft to the ISS. Dragon will deliver several science investigations to the space station, including the GEDI. Image by NASA.

PHILIPPINE NEWS AGENCY

[Another 200-MW solar project eyed in Paoay, Ilocos Norte](#)

By: Leilanie Adriano

Another 200-megawatt solar project is eyed along the vast sand dunes area of Paoay town in Ilocos Norte province.

While seeking a resolution of support for the conduct of exploration from members of the Sangguniang Panlalawigan on Monday, Francis Sayre, chief operations officer of the Sta. Clara Power Corporation (SCPC), said the proposed solar farm is more than twice as large as the newly-inaugurated Currimao 2 solar project in Barangay Paguludan-Salindeg in neighboring Currimao town.

Based on an initial meeting with the Department of Environment and Natural Resources, Sayre said at least 200 hectares of government lot have been identified as "feasible" for the solar project.

"As we are expanding in the portfolio, we hope that you will allow us to explore and conduct a feasibility study. Hopefully, it will materialize in the next few months," Sayre told the Ilocos Norte board as he noted that a portion of the sand dunes of Paoay which is not a part of the province's tourism masterplan for development could be one of the best locations to harness electricity from the sun.

Under the proposed development plan, the company will install 490,000 solar panels which can generate at least 550 watts each.

As one of the emerging forces in the Philippines' power sector business, the SCPC, a subsidiary of the Sta. Clara Group of Companies, is currently engaged in various hydropower and solar energy plants in the provinces of Mindoro, Bohol and Ifugao.

The national government has been pushing for the development of renewable energy, which is now a priority of many businesses in the Philippines.

According to the International Renewable Energy Agency (IRENA), every dollar invested in the clean energy transition provides three to eight times the return. But profit is not the only motivation for investing in renewable energy as it can also ensure a steady supply of electricity.

In Ilocos Norte, established solar farms in the towns of Currimao and Burgos have been helping in reducing the country's dependence on fossil fuel, with over 250-megawatt expected output from independent power producers.

E. Samar town distributes 4K 'bayong' to reduce plastic use

By: Lizbeth Ann Abella

Over 4,000 "bayong" or bags made of woven dried leaves have been distributed in 42 villages in Oras, Eastern Samar to minimize the use of plastic that gravely affects the environment.

In an interview Monday, Oras town Mayor Roy Ador said the distribution of the "bayong" last week seeks to regulate the use of plastic and improve solid waste management in the town.

"This is in support of the implementation of the ordinance, which prohibits the use of plastic in groceries and markets from Thursday to Sunday of each week," Ador said.

All establishments were advised not to use or sell plastics during these days.

The local government unit distributed "bayong" to each of the 4,000 families as they prepare for the implementation of the ordinance that prohibits the "use of plastic cellophane, sando bags as packaging materials, and utilization of polystyrene commonly known as styrofoam for food and beverages."

Ador believes that with the use of "bayong", the demand for plastic in local markets will be reduced.

A group of women, fishermen and farmers produced the "bayong" distributed by the local government.

A "bayong" is made from woven dried buri leaves. Filipinos used to bring "bayong" in carrying products in public markets. With the effects of climate change, the bag is now being promoted as an environment-friendly alternative to plastic bags.

RAPPLER

[\[Opinion\] Women must be at the forefront of the transition to a low-carbon economy](#)

By: Veronica Mendizabal Joffre and Pinky Serafica

Can we truly reimagine a path to a low-carbon transition and change the climate narrative? This is hard to envision when we witness the unprecedented damage we are inflicting on the planet.

For women, the effects of climate change are already a lived experience. Where environments are damaged and traditional sources of livelihood disappear, women must scrounge farther and travel wider to meet the needs of communities. As new diseases emerge from the imbalance in the natural world, women must grapple with the care and health of their families.

Gender inequality is at the core of women bearing the burden of climate change. Already vulnerable from multiple inequalities, for women there is no debate: transitioning to low-carbon and climate-resilient communities is urgent.

By now, everyone has climate stories hitting home. This has resulted in a momentum for a low-carbon future. But the transformations required will not pan out similarly for everyone. The thick layer of social and economic inequality determines winners and losers in the process.

This is why the transition to a low-carbon economy needs to be consciously designed to be socially equitable and inclusive – a just transition. Moreover, the transition cannot be gender-neutral and must be gender-just.

We propose that governments and other stakeholders take these actions to achieve a gender-just transition:

1. Accelerate access to clean energy for all.

Reliable and affordable supply of energy is critical for the socio-economic development of communities and has a multi-faceted dimension for women. Electricity can enable businesses and education, cleaner energy for cooking and heating reduces indoor air pollution, and electric appliances can reduce unpaid household work. Information technology expands networks, and greener mass transportation and safer active mobility (i.e. electric vehicles, cycling) can increase women's freedom of movement.

But with seven years remaining to meet the 2030 sustainable development goal of access to affordable, reliable, sustainable energy for all, about 730 million people still lack basic access. The diversification and decarbonization of the energy systems must include targeted support for the poorest so they can obtain and maintain affordable access to energy. We must keep in mind that changes in energy costs can affect women differently as globally, on average, women still earn 20% less than men.

2. Increase women's share in green employment.

With the region relying heavily on fossil fuels for energy, the retiring of coal- and oil-fired facilities will result in job losses and socio-economic consequences down the line. While green jobs and investment opportunities are expected, social protection is critical to mitigate the displacement of workers and the informal sectors dependent on these industries.

Women make up only 32% of the workforce in the renewable energy sector; and only about 11% of energy sector start-up founders. The gender wage gap in the sector is estimated at 31%, and women are more likely to be employed in lower-paid and administrative positions than in technical, managerial, or policy-making positions. While we know that current supply of green talent will not meet the demand, not enough women are moving into green jobs. In 2021, there were 62 women considered “green talent” for every 100 men.

The private sector must act quickly to set up human resource standards that can encourage more women to join transition-related jobs. Key actions include addressing workplace harassment and gender pay gaps, accounting for unpaid care roles, and supporting women's leadership.

3. Support more women in education relevant to the transition.

Transitioning to low-carbon livelihoods will, in the interim, interrupt supply chain and employment streams in the short and medium term. Options to diversify livelihoods have to be explored. Workers are needed to fill in the new types of jobs required for the transition – many in science, technology, engineering, and mathematics (STEM) fields.

Globally, only around 30% of female students choose science, technology, engineering, and mathematics (STEM) fields of study. Southeast Asia shows some variation in the share of women graduating in STEM fields, from about 17% in Cambodia to 37% in Indonesia.

While there has been progress, the narrative on gender stereotypes has to change for more women to pursue STEM careers, and to venture into the potential of upskilling and

reskilling. We also need to bring about greater climate awareness in the education system, and gender issues in climate can be made part of the curriculum in higher secondary education.

4. Fully engage and amplify women's voices.

A just transition needs the full engagement and voices of women and vulnerable sectors to shape and monitor transition plans so no one is left behind. Communication is crucial to make informed choices, change behaviors in energy consumption and mobility, and break down barriers that prevent women from entering STEM fields and transitioning into green jobs.

Communication can mobilize women and amplify their voices to influence policies on social protection and fair wages. It can facilitate storytelling about nature-based solutions and indigenous knowledge systems, and help rally sectors to change the climate narrative in the region.

Climate change is a crisis that affects women profoundly. Gender equality dimensions must be fully integrated into climate-oriented projects.

Just as the private sector plays a key role in a just transition, development organizations must also step up with solutions such as the ADB-backed Energy Transition Mechanism, which speeds up the retirement of coal, oil, and diesel plants and attracts financing for sustainable and renewable energy.

This type of path-breaking initiative increases the opportunity for an inclusive and gender-just climate transition.

SUNSTAR

Road to sustainable power

By: Ralph Lawrence G. Llemit

The world is changing and so is the way we generate and consume energy. With sustainable energy solutions on the rise, the industry has an opportunity to create a brighter future for the Philippines.

The changing landscape of the country's power industry, however, is facing unprecedented challenges from meeting the rising demand for energy to ensuring access and affordability for all.

Thus, partnering to achieve a secure and reliable supply of electricity for the country is what the government and private sectors and even the consumers are pushing for.

On March 20 and 21, key stakeholders in the Philippine electric power industry discussed specific issues and concerns in the country's electricity — through the Philippine Electric Power Industry Forum 2023.

The forum aims to strengthen collaboration and forge partnerships among industry participants in support of the objectives of the Electric Power Industry Reform Act (EPIRA), as well as to accelerate programs under the Philippine Development Plan 2023-2028.

Richard Nethercott, President and CEO of the Independent Electricity Market Operator of the Philippines, said the collaboration, coordination, and cooperation of the sectors will further boost the industry's effort to achieve a secure and reliable supply of electricity in the country.

"Our objective is to encourage meaningful dialogue and collaboration towards the achievement of the EPIRA objectives of a transparent, competitive, reliable energy market," Nethercott said.

Shift to renewable energy

According to the government, for the Philippines to become energy self-sufficient, it needs to utilize all existing resources it has through a combination of fossil fuels and renewable energy (RE). About 43 gigawatts of additional capacity will be required by 2040, and the clock is ticking.

Currently, in terms of energy mix, coal accounts for 47 percent of the country's energy supply. Natural gas accounts for 22 percent, while renewables like hydro, geothermal, wind, and solar for 24 percent, and oil for 6 percent of the total 23 gigawatts of energy production.

Department of Energy (DOE) Undersecretary Rowena Cristina Guevara, during the forum, said as the global population continues to grow, along with climate change, the world rushes towards finding cleaner and more efficient alternative resources of energy.

"Global trends project an aggressive demand and accessibility for renewable energy in the next decade

Extensively harnessing renewable energy is critical for the future.

However, she said developing countries such as the Philippines are facing difficulties in the energy transition from traditional sources to renewable energy sources.

Guevara added that this transformation would require investments in new technologies focused on research and development, and responsible policymaking.

On top of that, the country's energy sector is market driven.

The government, in aspiration to its goals for a green source of electricity, the Energy Department issued Circular 2021-11-0036 on November 3, 2021 providing the guidelines for the Green Energy Auction Program (GEAP) in the country. This will allow additional market options for Renewable Energy (RE) Developers and will promote a competitive set of rates for RE supply in the country.

GEAP was undertaken to support and facilitate immediate and timely investments in new or additional renewable energy capacities to ensure the provision of adequate supply and competitive rates of electricity in the country.

With a second round of the GEAP scheduled for June 2023 for capacity coming online in 2024, DOE hopes to have 11,160 megawatts (MW) of renewable energy available in the coming year.

The GEAP aims to accelerate investments in new or additional renewable energy capacities to ensure the provision of adequate supply and competitive rates of electricity in the country.

"Compared to the first auction or GEA-1 last year, we are more aggressive this year and we are looking for RE developers who have ready capacity by next year," Guevara said.

According to Guevara, the initial GEA held in 2022 yielded an additional volume of roughly 2,000 MW for the country's RE supply.

The official said the agency has proposed installation targets of 3,590 MW this year, 3,630 MW in 2025, and 4,390 MW in 2026.

Of the 3,590 MW installation targets for next year, 2,400 MW is for the Luzon grid, 860 MW for Visayas, and 330 Mw for Mindanao.

These will involve RE resources, including ground-mounted solar, roof-mounted solar, onshore wind, and biomass.

The DOE targets to hold the GEA-2 in June this year following the success of the first GEA in 2022 with 2,000 MW of clean energy involved in the bidding.

By 2025, installation targets will be 2,325 MW for Luzon, 940 MW for Visayas, and 365 MW for Mindanao.

In 2026, these targets will be 2,990 MW RE installation in Luzon, 905 MW in Visayas, and 495 MW in Mindanao.

The DOE conducts the GEAP to provide an additional market for RE through competitive electronic bidding of RE capacities.

The program is also designed to attract more investments in the RE sector in the country.

Meanwhile, DOE's GEAP-3 will involve geothermal and impounding hydro resources.

Guevarra said the agency is developing a specific auction policy for geothermal and impounding hydropower.

The DOE aims to conduct GEA-3 by the fourth quarter of 2023.

'Not immediately'

Senator Sherwin "Win" Gatchalian", chairperson of energy, during the forum, said he is pushing for energy development in the country.

This after the country's crisis was affected following the Russia-Ukraine war in 2022.

“One thing the incident in Ukraine taught us is we need to get out of our addiction to imported oil and imported feedstock. Half of our electricity comes from Indonesia, because of coal. We import almost 100% of our coal from Indonesia,” Gatchalian added.

Gatchalian, who chaired the Senate Committee on Energy in the 17th and 18th Congress, is also pushing for Senate Bill No. 157 or the “Energy Transition Act” which aims to put the public and private sectors to achieve a net-zero goal in the country.

“This law aims to put everyone together and give a lot of power to the climate change commission to craft that road map and the net zero goal we’re looking at is around 2050 for the Philippines,” the senator said.

But as the world gears towards 100 percent RE, the Senator admitted that not a single country in the world has totally let go of its dependence on non-renewable energy sources such as fossil fuels like coal, petroleum, and natural gas.

“Not immediately. No country in the world has eliminated fossil fuels. One way or another. It’s a transition,” Gatchalian said.

He added the country might need liquefied natural gas (LNG) for the next five to 10 years, depending on the situation.

“We need to view net zero as a transition. It will not happen overnight,” the senator said.

Federation of Philippine Industries chairman Jesus Arranza, meanwhile, said that the push for total renewable energy, which is being pushed by United Nations Sustainable Development to developing countries, is unjustifiable.

Arranza explained that first-world countries like the United States, China, and Russia, in the first place, emit a large volume of carbon emissions.

“We will not use these resources so that we will be left behind in our modernization? Dapat mag-isip-isip tayo,” he said.

As for the country to totally adapt to all RE, he said this should be decided “as a country.”

“If we decide to adapt, we should prepare for it. Whether we like it or not, energy will be a necessity. Everything will be energy dependent,” Nethercott said.

Whatever source is viable, he said that there will always be risk regardless.

THE MANILA TIMES

[Firms have 'moral' duty vs climate change](#)

By: Agence France Presse

The new chief executive of Mars, maker of M&M's sweets, chewing gum and pet food, says companies have a "moral" duty to reduce their environmental footprint as the world battles climate change.

Poul Weihrauch, a Dane who took the reins of the US-based group in September, acknowledges that the food industry has a big impact on the environment, with its plastic wrappers and its contribution to deforestation and carbon emissions.

Big companies have a "massive opportunity" to have an impact against climate change, Weihrauch told AFP.

"It's an important area of development for Mars to be known for changing the curve and not only talk about it," he said in an interview in Paris.

The family-owned multinational, whose brands include the Mars and Snickers chocolate bars, Pedigree pet food and Wrigley's chewing gum, aims to reach net-zero emissions by 2050.

The century-old company, whose businesses include pet care veterinary clinics, has invested \$1.1 billion in striving to achieve that target since 2020 and plans to double the amount in the next three years.

"In the food [industry] there are thousands of ingredients that are being worked on," Weihrauch said.

"Today, some of them are not better from a carbon point of view. Some of them may have health issues. So it's a long development. It's just the start, but it's going to explode with new innovative solutions," he added.

'Profit and purpose'

Mars' investments include using wind power for its veterinary clinics, ensuring a more sustainable cocoa supply, and finding new packaging for thousands of products.

"We have a moral obligation to invest in these areas and carbon solutions," Weihrauch said.

Instead of extracting oil from palm trees, companies can use algae, "which has a much better carbon neutrality," he said.

"When you design pet food, there's a huge carbon footprint difference between having lamb in the recipe or having beef. So our food designers need to take every single ingredient that goes into a food product and redesign it."

CDP, a non-profit organization that tracks and rates the climate pledges of companies, gave Mars an "A" for its climate change efforts in 2022 and an A-minus for its forest programs, including on palm oil.

A company must have a strong financial foundation to be able to invest in sustainability, Weihrauch said.

"We don't believe that profit and purpose don't work hand in hand. They do. Unless you grow a healthy company you won't make a difference," he said.

The company has diversified its business since the beginning.

In a major move, Mars acquired veterinary clinics group VCA for \$9 billion in 2017. A year later, it took over another pet care firm, Europe's AniCura.

'Fantastic' M&M's campaign

The company's pet care division now accounts for 60 percent of Mars' overall sales, or just under \$50 billion last year.

The sector is expected to grow by eight percent annually in the United States over the next seven years, according to Morgan Stanley.

Speaking at the Royal Canin flagship shop in Paris, Weihrauch said Mars was not going to abandon its sweets business.

"The world would be a pretty boring place without chocolate," he said.

He also defended an M&M's publicity campaign that courted controversy in the United States.

The brand introduced a new "spokescandy," Purple, calling the addition a symbol of "acceptance and inclusivity." The color is often associated with the LGBTQ community.

Right-wing Fox News commentator Tucker Carlson criticized M&M's as "woke" and the company said in January it was pausing the ad campaign.

"We made a fantastic campaign," Weihrauch said, adding that it "did a lot of good for the brand."

THE PHILIPPINE STAR

['Big sponge': New CO2 tech taps oceans to tackle global warming](#)

By: Romain Fongsegrives

Floating in the port of Los Angeles, a strange-looking barge covered with pipes and tanks contains a concept that scientists hope to make waves: a new way to use the ocean as a vast carbon dioxide sponge to tackle global warming.

Scientists from University of California Los Angeles (UCLA) have been working for two years on SeaChange—an ambitious project that could one day boost the amount of CO₂, a major greenhouse gas, that can be absorbed by our seas.

Their goal is "to use the ocean as a big sponge," according to Gaurav Sant, director of the university's Institute for Carbon Management (ICM).

The oceans, covering most of the Earth, are already the planet's main carbon sinks, acting as a critical buffer in the climate crisis.

They absorb a quarter of all CO₂ emissions, as well as 90 percent of the warming that has occurred in recent decades due to increasing greenhouse gases.

But they are feeling the strain. The ocean is acidifying, and rising temperatures are reducing its absorption capacity.

The UCLA team wants to increase that capacity by using an electrochemical process to remove vast quantities of CO₂ already in seawater—rather like wringing out a sponge to help recover its absorptive power.

"If you can take out the carbon dioxide that is in the oceans, you're essentially renewing their capacity to take additional carbon dioxide from the atmosphere," Sant told AFP.

Trapped

Engineers built a floating mini-factory on a 100-foot (30-meter) long boat which pumps in seawater and subjects it to an electrical charge.

Chemical reactions triggered by electrolysis convert CO₂ dissolved in the seawater into a fine white powder containing calcium carbonate—the compound found in chalk, limestone and oyster or mussel shells.

This powder can be discarded back into the ocean, where it remains in solid form, thereby storing CO₂ "very durably... over tens of thousands of years," explained Sant.

Meanwhile, the pumped water returns to the sea, ready to absorb more carbon dioxide from the atmosphere.

Sant and his team are confident the process will not damage the marine environment, although this will require further testing to confirm.

A potential additional benefit of the technology is that it creates hydrogen as a byproduct. As the so-called "green revolution" progresses, the gas could be widely used to power clean cars, trucks and planes in the future.

Of course, the priority in curbing global warming is for humans to drastically reduce current CO₂ emissions—something we are struggling to achieve.

But in parallel, most scientists say carbon dioxide capture and storage techniques can play an important role in keeping the planet livable.

Carbon dioxide removal (CDR) could help to achieve carbon neutrality by 2050 as it offsets emissions from industries which are particularly difficult to decarbonize, such as aviation, and cement and steel production.

It could help to tackle the stocks of CO₂ that have been accumulating in the atmosphere for decades.

'Promising solution'

Keeping global warming under control will require the removal of between 450 billion and 1.1 trillion tons of CO₂ from the atmosphere by 2100, according to the first global report dedicated to the topic, released in January.

That would require the CDR sector "to grow at a rate of about 30 percent per year over the next 30 years, much like what happened with wind and solar," said one of its authors, Gregory Nemet.

UCLA's SeaChange technology "fits into a category of a promising solution that could be large enough to be climate-relevant," said Nemet, a professor at the University of Wisconsin-Madison.

By sequestering CO₂ in mineral form within the ocean, it differs markedly from existing "direct air capture" (DAC) methods, which involve pumping and storing gas underground through a highly complex and expensive process.

A start-up company, Equatic, plans to scale up the UCLA technology and prove its commercial viability, by selling carbon credits to manufacturers wanting to offset their emissions.

In addition to the Los Angeles barge, a similar boat is currently being tested in Singapore.

Sant hopes data from both sites will quickly lead to the construction of far larger plants that are capable of removing "thousands of tons of carbon" each year.

"We expect to start operating these new plants in 18 to 24 months," he said.

Expanded coverage of electric vehicles tariff breaks seen as 'game-changer'

A professor of Sociology and Political Science and a fellow for education of a think tank organization urged the government to expand the coverage of tariff breaks for electric vehicles (EVs), saying that it will become a “real game-changer.”

In a published opinion, Polytechnic University of the Philippines professor and Stratbase ADR Institute’s Louie Montemar said that the suspension of tariff for EVs and its components must be financially inclusive. This as the exclusion of the two and three-wheeled vehicles under Executive Order No. 12 discriminates the working class who can only afford motorcycles.

“Given the soaring price of gasoline, electric vehicles are becoming an even more attractive option for economically disadvantaged Filipinos,” Montemar said.

The sociologist reiterated that two-wheeled vehicles are work-enablers for financially unstable Filipinos who are commuting to school or work and for those who use it on their jobs.

According to transportation authorities, almost eight million motorcycle units have been recorded in their agency. Motorcycles are also the most favored mode of transportation of motorists in the country, both in the urban center and rural areas

“These two-wheeled vehicles are work enablers for financially disadvantaged Filipino families since they are a cheaper alternative to commuting to and from work or school and as a means for deliveries for various businesses,” the professor added.

Earlier this year, the government passed EO12 series of 2023, which seeks to suspend the tariff for EVs and its components from 5-30% to 0%. This is, however, with the exemption of electric motorcycles, which are still subject to 30% import duty.

Montemar also stated that if the coverage of EO12 will be expanded, it will help enhance the employment rate of the country.

This was initially supported by various stakeholders such as House Deputy Speaker Raymond Mendoza, who said that the e-vehicle industry can slash the rate of carbon emissions of the country and at the same time, generate more jobs for Filipinos.

Mendoza is also Trade Union Congress of the Philippines president.

Montemar insisted that the success stories of local producers of e-motorcycles creating green jobs for local communities can be replicated to boost local employment.

“There is no reason to doubt that these success stories could be replicated. Coupled with a program to support the local industry and bold entrepreneurs and innovators to create and maintain e-vehicles,” he reiterated.

Think tanks and other stakeholders are also urging the government to review the EO and make it more inclusive by including e-motorcycles.

EO12 is also one of the solutions of the country to mitigate the effects of climate change by cutting down the rate of carbon emissions caused by the transportation system of the country.

According to data gathered by WHO, 25% of the Philippines is exposed to unhealthy air of PM2.5 concentration, which is at least five times more than a global recommendation.

=END=