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[Opinion] Making net zero a reality in the Philippines sooner rather than later

By: Jon Canto

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NBC NEWS

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By: Minyvonne Burke, Melissa Chan and Corky Siemaszko

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PHILIPPINE INQUIRER

Int'l scholars probe SE Asians' responses to climate, disaster issues in last 700 years

By: Gina Lumauig

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PHILIPPINE STAR

Filipinos most worried about 'serious harm' brought by severe weather

By: Kaycee Valmonte

Manila, Philippines — Filipinos are worried about the “serious harm” severe weather changes bring, the 2021 World Risk Poll by the Lloyd Register Foundation showed.

SUNSTAR

Green groups hit Japan's promotion of 'false solutions' vs climate crisis

By: Ronaldo Reyes

FILIPINO environmental groups have protested the Japanese government and corporations to stop the alleged promotion of technologies that are “false solutions” to the global climate crisis.

THE MANILA TIMES

Lipa gets garbage facility from Nestlé

By: Bella Cariaso

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Bagong Pook in Lipa City as part of its program to support the construction of MRFs in barangay (villages).

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BUSINESS MIRROR

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Pasig City -- The Department of Education (DepEd), in partnership with Young Southeast Asian Leaders Initiative (YSEALI), exchange alumni sets out to strengthen climate change education through the conduct of Climate Changemakers.

PHILIPPINE INQUIRER

Record ice melt in Greenland: Why should we care?

By: Cristina Eloisa Baclig

Manila, Philippines—Since the early 1990s, many of the world's glaciers have been rapidly melting, mainly due to human activity. In the past years, scientists have been raising the alarm on Greenland's ice sheets, which may be approaching a dangerous tipping point.

Information and Knowledge Management Division

BUSINESS WORLD

[Opinion] Making net zero a reality in the Philippines sooner rather than later

By: Jon Canto

A NUMBER of countries in the Asia-Pacific region, including China and Indonesia, have set aggressive targets to reduce greenhouse-gas emissions, despite significant coal exposure. The Philippines has not yet followed suit. Instead, it has pledged to reduce emissions by 75% from the “business as usual” trajectory by 2030; this promise is also almost entirely conditional on international financial support that has so far not been forthcoming. The Philippine Energy Plan forecasts emissions increasing until at least 2040.

That said, there has been some action. The Department of Energy has set an objective of 50% renewable energy in power generation by 2040, and in 2020 imposed a moratorium on construction of new coal-fired power stations. In transport, there are mandates for biodiesel and bioethanol and targets for electric vehicle (EV) penetration. There are also goals for energy efficiency in buildings and for planting new forests. But it is not enough.

A more aggressive approach that would cut emissions 44% by 2030 and reach net zero by 2060 — as China and Indonesia have pledged — is not only possible, but could bring substantial benefits, in the form of cleaner air, healthier land, and new sources of economic value and growth.

There is great potential in four areas.

Expanding renewable power generation capacity to 80% of supply, including decommissioning and conversion of existing thermal plants and modernization of the electricity grid. Solar power would contribute the biggest share, accounting for about 40% of total capacity by 2060, with wind contributing more than 20%. For this to happen, the Philippines would need to build long-duration energy storage to give the system the necessary flexibility to operate with a higher renewable share. All this would enable a full phase-out of coal-fired generation by 2050, with some installed coal capacity retrofitted with carbon capture and storage (CCS) equipment. The shift to renewables and phase-out of coal would bring about a 98% reduction in emissions from the power sector by 2060, even as demand is expected to rise more than 150% over that period.

Introducing mechanical farming techniques, especially in rice cultivation. This will require educating farmers and coordinating with many small landowners; there may also be a role for subsidies to finance the transition. More efficient cultivation could cut emissions 70% by 2060, and also improve water management. In addition, restoration of forest areas and other land-use improvements could abate 20 million metric tons of carbon dioxide equivalent (Mt CO₂e), the basic unit of greenhouse-gas accounting.

Creating new green-value chains in emissions-intensive industries, including installation of CCS devices on industrial plants and adoption of new electric technologies for manufacturing steel. For example, 100% of cement production could be decarbonized through CCS and electrification.

Converting to low-emission technologies in transport and buildings. Converting the road fleet from internal combustion engines (ICE) to EVs will take time, as well as regulatory support and further technology improvements. But improving efficiency 60% by 2040, and an additional 1% a year thereafter, would get the Philippines to net zero in transport.

In the building sector, the opportunity is for electrification, for example shifting from gas to electric cooking in residences would improve indoor air quality and improve health. Regulatory support for this shift in the form of subsidies could incentivize this change. For instance, in the UK a government scheme makes grants available to homeowners to replace oil and gas boilers with electric heat pumps, opening up the likelihood of clean energy usage, kickstarting the British heat pump industry, and buffering consumers against unexpected hikes in oil and gas prices.

Given appropriate investment, all these activities could serve to create new sources of value and growth.

Private companies and startups in the Philippines are already at work on green-growth initiatives. A number of companies are producing power from biomass waste. For instance, by end 2022, SMC Global will complete 1,000 MW of BESS facilities. Prime Infrastructure Holdings has also invested P3.5 billion in Solar Philippines Project Power Holdings for >340 MW of solar, and has partnered with US-based WasteFuel Global for a 30-million-gallon synthetic crude oil biorefinery pilot targeted to be operational by 2025. Victorias Milling Company has one of the largest biomass power plants (63 MW) in the Visayas. In the area of transport, EV startup QEV Philippines plans to roll out 50,000 electric jeepneys over the next five years by replacing their ICEs with lithium-ion batteries.

That is the potential; getting there, however, means putting sustainability at the heart of strategy. For government, that starts with reporting emissions and setting ambitious and quantifiable sector-level decarbonization goals. This would provide a framework within which individual agencies could work with the private sector to devise action plans. The government can also put emissions reduction at the heart of its investment strategy, for example by working with business to build charging infrastructure for EVs and establishing a market for carbon credits, which could support investment in these areas.

The private sector must be involved — and it can be in their interest to do so. International experience shows that businesses that act to reduce their carbon footprint can improve returns and cut costs, including the cost of capital. A recent example in the Philippines includes RCBC bank, the first bank in the Philippines to issue green bonds. In 2019, RCBC listed P15 billion worth of green bonds, which ended up directly correlating with the bank achieving a low borrowing cost of 7%, the lowest of any bank.

Another example is telecoms provider Globe which set itself a goal of being net zero by 2050. To this end, it has been pro-actively undertaking sustainable practices even before regulatory compliances require them to do so, including installing hybrid generators at off-grid sites, which have resulted in a 60% reduction in fuel and maintenance costs. A number of other companies in the Philippines have made similar pledges to become net zero and are establishing targets and prioritizing budgets to cut emissions, such as Ayala Corp., Nestlé, and Shell.

Finally, the Philippines' current modest strategy envisions support from international investors and donors; a more ambitious one will likely do the same. One priority is to mobilize green finance to support investment in decarbonization, for example through public-private partnerships in the power sector. The Asian Development Bank is already playing a crucial role in supporting the development of green financing instruments. NGOs and donors also have an opportunity to scale up investment in low-carbon programs such as microgrids and sustainable agriculture, by providing technical assistance and innovative financing.

The conventional wisdom is that action on climate change is inimical to economic growth. On the contrary: the right strategy could bring new green growth opportunities, particularly in power and carbon management. Capturing these opportunities depends not on innovations yet to be seen or unrealistic business models, but on proven, economically competitive technological solutions.

Indeed, not going in this direction poses long-term risks. Climate change is becoming a factor in international policies on trade and investment; countries that fall short risk being subject to punitive trade measures. In addition, international investors are increasingly focused on sustainability.

Finally, let's not forget that the Philippines archipelago is already exposed to significant risks from climate change, including sea levels rising at three times the global average. The UN Food and Agriculture Organization projects that falling crop yields will cause a 6% annual loss of GDP by 2100 if climate change continues unabated.

The imperative is clear, and so are the opportunities. A start has been made; now it's time to advance.

MANILA STANDARD

[Opinion] Coping with disasters

A week after the magnitude 7.0 earthquake hit Abra and other areas in Luzon, it's only now that we are getting a clearer picture of the devastation it caused.

As of end-July, the National Disaster Risk Reduction and Management Council reported that the temblor left 10 dead, 320 injured and 228,238 individuals or 62,024 families displaced in the Ilocos Region, Cagayan Valley and the Cordillera Administrative Region.

The NDRRMC also estimated the cost of damage to infrastructure and property at P1.2 billion – and counting.

The strong earthquake has once again renewed calls for the establishment of a separate department to address the problem of disasters and reduce their adverse effects on lives and property.

As we know, it is the NDRRMC that now oversees the government's disaster response efforts. It is a multi-sectoral, multi-organizational structure consisting of more than 40 people from almost all departments, including, would you believe, the Foreign Affairs Secretary!

As a council, the NDRRMC decides only on policies, and leaves the actual work to the Office of Civil Defense under the Department of National Defense.

This underscores once again the urgent need for Congress to fast-track the passage of a bill creating the Department of Disaster Resilience, which will be the primary agency responsible for disaster preparedness, prevention, mitigation, response, recovery and rehabilitation.

Once the DDR is up and running, it can facilitate the creation of permanent evacuation centers and the formulation of disaster management plans at the local levels to meet the ideal goal of zero-casualty in times of disaster.

The creation of the DDR would ensure a more efficient, coordinated, and complete system of disaster management – from risk assessment to emergency response right down to reintegration assistance and rehabilitation.

The proposed department would take on the powers and functions of the Office of Civil Defense, the Climate Change Office of the Climate Change Commission, the Geo-Hazard Assessment and Engineering Geology Section of the Mines and Geosciences Bureau, and other agencies now performing disaster response and management functions. That is how it should be.

There are in fact at least 12 bills proposing the creation of the DDR, but not one of these has been passed by Congress.

But wait. Not everyone agrees that a separate department is needed to respond to disasters.

Some are saying what is needed is to strengthen the NDRRMC and not create another layer in the already bloated bureaucracy, especially at this time when the economy has yet to recover from the COVID-19 pandemic. They have a point there.

In any event, we know that the Philippines is among the most disaster-prone countries in the world.

We lie in the path of destructive typhoons from the Pacific Ocean that cause flooding and landslides that lead to loss of lives and property.

We are also part of the so-called 'Pacific Ring of Fire' consisting of active volcanoes that can cause massive destruction once they erupt.

We likewise know that here in our country there are geographic faults that trigger earthquakes and cause death and destruction in our communities.

And we have our fair share every year of man-made disasters, such as fires that exact a heavy toll on lives and property and even on the economy as a whole, and armed conflict in some parts of the country that lead to displacement of people from their homes.

The sad reality is that developing countries such as the Philippines are the most vulnerable to the adverse impact of natural disasters.

In other countries in the Asia-Pacific region, the annual economic loss due to natural disasters is around 0.6 percent to 0.7 percent of the country's GDP.

Natural disasters exact a heavy toll on the Philippine economy annually, amounting to as much as P130 billion in damages, according to the Department of Finance, equivalent to about 1.1 percent of the country's gross domestic product, by DOF estimates.

The higher we try to climb up the economic ladder, we find ourselves falling every time a disaster strikes.

This should not be our ineluctable fate at all, if only we are fully prepared to cope with natural disasters, whether it is a full-fledged department or another agency with clear responsibilities to protect lives and property from both natural and man-made catastrophes.

PHILIPPINE INQUIRER

Int'l scholars probe SE Asians' responses to climate, disaster issues in last 700 years

By: Gina Lumauig

More than 20 international scholars and academics from various fields of disciplines – archeology, anthropology, environmental history, geography, and indigenous studies – recently convened in person in Caramoan, Camarines Sur, to address pressing climate change and disaster issues in Southeast Asia.

Scholars came from Taiwan Indonesia, China, Philippines and the United States for the “Indigenous Landscapes of Taiwan and Southeast Asia: Last 700 years” conference.

The two-day workshops at the PSU Caramoan campus, helped develop a multidisciplinary framework in understanding natural and anthropogenic changes in the Early Modern Southeast Asia and Taiwan.

By focusing on local responses to both global and local ecological change, the workshops’ bottom-up perspectives moved away from Western colonialist view of Southeast Asia and Taiwan.

Historians, archaeologists, ecologists, paleoclimatologists and humanistic disciplines provided a broad framework to understand the various ways in which humans responded to crises in Early Modern Period Southeast Asia.

Associate Professor Dr. Stephen Acabado, UCLA director of the Center for Southeast Asian Studies, and also of of PEMSEA, an interdisciplinary research program with the University of Hawai‘i–Mānoa and the University of Washington, explained that “the PEMSEA was created to develop active collaborations with SEA institutions, provide logistical support to U.S. scholars conducting research in the region, and tap current partnerships with SE Asia-based institutions and develop new ones.”

The PEMSEA will also adopt a more meaningful approach to SEA Studies in the U.S. that “empower descendant communities that can provide compelling narratives for SEA cultural identities and highlight indigenous histories, which are typically absent from national historical narratives,” Acabado added. “An example for this engagement is the development of locally managed heritage centers in Angkor Borei, Cambodia and Ifugao, Philippines, which have seen local communities investing in their heritage.”

Nearly 50 attendees at the Caramoan workshop shared various studies from different disciplines. The discussions also facilitated networking among scholars, providing stronger opportunities to support community involvement in research and policy development.

Dr. Peter Lape, professor at the University of Washington Department of Anthropology, moderated the panel discussion on Indigenous Ecological Knowledge, Local Ecological Knowledge, and Landscape Management in Taiwan and Southeast Asia, shared by panelists from Indonesia, Philippines and Taiwan.

Dr. Grace Barreto-Tesoro of the University of the Philippines Department of Archeology, moderated the panel on Indigenous Perspectives on Landscapes and History.

Dr. Piphah Heng of the UCLA Cotsen Institute of Archaeology moderated the “Indigenous Archeology and the Research of Environmental History in the Early Modern Period in Taiwan and Southeast Asia” panel.

Dr. Miriam Stark, professor at the Department of Archeology of the University of Hawai‘i–Mānoa, moderated the roundtable discussion on the closing day.

Panelists from various universities and disciplines who presented their research included Dr. Ruel Pagunsan of the University of the Philippines; Prof. Hanni John Mediodia of the University of the Philippines-Visayas; Dr. Raul Bradecina, president of the Partido State University; Dr. Hermien Soselisa, from Pattimura University Indonesia; Dr. Chih-hua Chiang of the National Taiwan University; Dr. Da-wie Kuan and Armand Camhol, both from Taiwan’s National Chengchi University; Dr. Chieh-fu Jeff Cheng of Academia Sinica, Taiwan; Dr. Marlon Ririmasse from the National Research Center for Archaeology; Marlon Martin from Save Ifugao Terraces Movement (SITMo) Philippines; and Shinatria Adhityatama, PhD Candidate from Griffith University Australia.

The Caramoan community warmly welcomed the attendees, the majority of whom took the more than 12-hour road trip from Manila.

Host and partner university, Partido State University Caramoan campus (through Dean Michael Clores), together with Goa campus, headed by its president, Dr. Raul Bradecina and its faculty and staff, ensured the guests felt at home in the island, located on the north-eastern part of the Camarines Sur in Bicol. The gathering was the first in-person event for the majority of participants.

The conference was hosted by the Partido State University (Goa, Camarines Sur, Philippines) and co-sponsored by the Center for Taiwan-Philippines Indigenous Knowledge, Local Knowledge, and Sustainable Studies (CTPILS) of the National Chengchi University (Taiwan), the Department of Anthropology, National Taiwan University, the UCLA Asia Pacific Center, and the UCLA Center for Southeast Asian Studies.

The workshop was facilitated through a grant from the Henry Luce Foundation which helped establish the UCLA Program for Early Modern Southeast Asia (PEMSEA).

NBC NEWS

Kentucky flood survivors say there was no time to escape the deluge

By: Minyvonne Burke, Melissa Chan and Corky Siemaszko

Leburn, Ky. — As the floodwaters receded, tales of survival emerged Tuesday from victims who were roused from sleep by alerts and quickly found themselves trapped in their homes by floating furniture blocking the doors.

They described the experience as surreal, recalling how they had to ford through waist-deep water to reach loved ones only to be turned back by the swift current or watch as trucks and uprooted trailers were swept away.

Many said everything they owned was either taken or destroyed by the deluge.

“All we have is clothes we are wearing,” said John Whitaker, a retiree who lived with his wife, Susie, in their now-ruined home in Hindman for less than a year. “Everything else was in the house. Everything is covered in mud.”

Larry Miller, 62, who has lived in Hindman his entire life, said he left his house reluctantly when the floodwaters were lapping at his door.

“My mom left me this home,” he said. “I just remodeled it from one end to the other. It destroyed my home and everything in it.”

Miller and the Whitakers were among the hundreds of Knott County residents who took shelter this week in the Sportsplex in Leburn, a sports facility that has been transformed into a shelter for storm survivors.

Extraordinary rain, historic floods

The worst flooding happened Wednesday night into Thursday morning, the result of a historic storm in eastern Kentucky that occurred while most people were sleeping and that inundated the hollers so quickly it cut off most escape routes.

Dustin Jordan, the National Weather Service’s science and operations officer in Kentucky, said that before the storm his agency “issued numerous flash flood warnings and also upgraded them all the way up to catastrophic, which is pretty much the highest level you can go, which is basically like a flash flood emergency.”

Some areas saw 14 to 16 inches of rain over a five-day period last week, he said.

“You’re talking about unprecedented rainfall totals,” Jordan said. “The biggest thing that you can take from this is that flash flooding from nighttime rainfall is very dangerous. It’s very difficult for people to get to safety at night. So that’s part of it. A lot of people are sleeping, and then having to get out very, very fast.”

William Haneberg, director of the Kentucky Geological Survey, said the rains came so fast there really was no time to escape, even if they heeded the weather service alerts.

"It's mountainous terrain and the valleys are very narrow," he said. "A lot of the areas affected are very remote. It may take you an hour to go through the curving mountain roads. In a lot of the remote areas, there may only be one way out. So if you wait too long, the bridges may be washed out."

People also have a tendency to tune out storm warnings, and generational ties to the land in Appalachia make some reluctant to leave, even if they know they live in a flood-prone area, Haneberg said.

"People are tied with that land because maybe their great-grandparents built the house or something," he said. "So it's a huge cultural issue to say OK, just move."

Kentucky Gov. Andy Beshear said Tuesday that there were 37 confirmed deaths as a result of the flooding and hundreds more still unaccounted for, spread out over five counties. Seventeen of those fatalities were reported in Knott County, and four of the dead are children from the same family, he said.

A scramble to escape to higher ground

Whitaker said he and his wife thought they were goners, too, when their house suddenly started filling up with water.

"There was enough water to float everything in the room," he said. "Everything was floating around until the water receded. The refrigerator was upside down. Two of the beds were floating so hard against the ceiling that they were tearing the ceiling up."

Mary Gibson, who lives in Pine Top with her husband, Arlin, said she was awakened by a "gurgling" sound coming from the bathroom and went to investigate.

"All of a sudden the water started coming through the vents, then the water was up to our waists," she said. "We got trapped in the bedroom because the furniture started floating. We couldn't open up no doors or nothing."

PHILIPPINE STAR

Filipinos most worried about 'serious harm' brought by severe weather

By: Kaycee Valmonte

Manila, Philippines — Filipinos are worried about the “serious harm” severe weather changes bring, the 2021 World Risk Poll by the Lloyd Register Foundation showed.

“For residents of the Philippines, the latest World Risk Poll shows that they live in fear of the devastating effects of climate change,” said Sarah Cumbers, director of evidence and insight at the foundation, which is an independent global charity focused on research work and education in the fields of science and engineering.

Its latest study showed that 67% of its Filipino respondents are worried about the effects of severe weather changes. This is 33% higher than the global average.

Only eight percent said they are not worried, while 25% are somewhat worried.

Meanwhile, over half or 62% of the respondents know someone who was already harmed by the effects of severe weather changes.

“This is not surprising, given the frequency of climate-related incidents which take place in the country, however, the results should not be ignored,” Cumbers said.

The poll also showed that a majority or 69.5% of the Filipino respondents believe that they believe climate change is a “very serious threat” to the country. The Philippines experiences an average 20 storms every year.

It has been ranked among the most vulnerable nations to the impacts of climate change.

Just last year, Typhoon Odette (international name: Rai) affected over 2.272 million families and over 7.846 million individuals across 38 provinces. The typhoon left 405 people dead, 52 missing, and 1,371 individuals are injured.

The United Nations recently estimated that over 3,000 individuals from Western Visayas, Central Visayas, Eastern Visayas, Mimaropa, and Caraga remain displaced. Its Humanitarian Country Team in the Philippines recently launched a revised Humanitarian Needs and Priorities to assist those affected by the typhoon through the UN programs and those of over 200 groups/

However, out of the \$169 million needed for the HNP, only 46% have been funded so far.

Meanwhile, aside from the severe weather changes, the Lloyd Register Foundation’s respondents are also most worried about road or traffic accidents, violent crime, and their mental health.

SUNSTAR

Green groups hit Japan's promotion of 'false solutions' vs climate crisis

By: Ronaldo Reyes

Filipino environmental groups have protested the Japanese government and corporations to stop the alleged promotion of technologies that are “false solutions” to the global climate crisis.

“Investments in false solutions is not the fix that we need to enable the clean energy transition. We need to increase capital spending on clean energy instead,” said lawyer Aaron Pedrosa, secretary general of Sanlakas and co-chairperson of the Energy Working Group of the Philippine Movement for Climate Justice (PMCJ).

The protest came as Japan, one of the world's top importers of fossil fuels, opened its three-day Energy Summit in Tokyo on Tuesday, August 2, 2022.

The Summit will address the important topics around Japan's journey to a carbon-neutral society, the role hydrogen will play in Japan's future, and how nations can achieve net-zero by 2050, according to Japan Energy Summit.

Pedrosa maintained that “the promotion of these false solutions is a dangerous distraction that would only delay decarbonization and maintain the reliance on fossil fuels.”

“This summit showcases Japan's interest in false solutions, such as carbon capture, ammonia co-firing or hydrogen plants, and how to keep LNG (liquefied natural gas) attractive for investors in spite of its dirty reputation,” added Lidy Nacpil, coordinator of Asian Peoples' Movement on Debt and Development (APMDD).

“We are registering our fierce opposition to the agenda being promoted by this Summit. We call on the Summit participants to stop supporting fossil fuels and instead contribute to the rapid, equitable and just transition to renewable and democratic energy systems in Asia,” she said.

In a statement, Nacpil said the “main cause of the climate crisis is the burning of fossil fuels.”

“We need to speed up the direct, just and equitable transition to clean, renewable energy technologies, not extend the life of the fossil fuel industry with hydrogen fuels, carbon capture and fossil gas. These technologies lead to the production of more fossil fuels,” said the climate activist leader.

According to the groups, ammonia and hydrogen “are being promoted as promising alternative fuels for decarbonizing electricity production.”

“Fossil gas, commonly referred to as natural gas and LNG in its liquid form, is a fossil fuel touted to be cleaner than coal. The most common form of producing hydrogen involves using a process called steam reforming which uses LNG as a fuel source and still emits greenhouse gasses,” they added.

However, the environmental groups explained that using ammonia and hydrogen-based fuels for power generation “are unproven alternatives and therefore unreliable, while new gas infrastructure, which can last up to 30 years, risks locking countries into prolonged greenhouse gas emissions.”

Citing a study, the green groups said that “fossil gas production emits methane, which has a warming effect up to 80 or 90 times more powerful than CO₂ over a 20-year timescale.”

“Fossil gas investments continue to rise in Asia despite the warning of the Intergovernmental Panel on Climate Change (IPCC) that the world is set to breach the 1.5C warming limit within the next two decades without immediate and deep emissions reductions,” the groups said.

“There are plans to increase the region’s gas power capacity two-fold and triple its pipeline capacity for LNG import,” they added.

The investment in fossil gas reportedly continues to rise in Asia, with plans to double and triple the increase in the region’s gas power capacity and pipeline capacity for LNG imports, respectively.

“Climate scientists warn that emissions from the fossil gas industry are now growing so rapidly and are responsible for much more methane in the atmosphere than previously known,” the green groups said.

THE MANILA TIMES

Lipa gets garbage facility from Nestlé

By: Bella Cariaso

NESTLE Philippines Inc. (NPI), one of the country's largest food and beverage manufacturers, has turned over a new materials recovery facility (MRF) in Barangay Bagong Pook in Lipa City as part of its program to support the construction of MRFs in barangay (villages).

NPI said that helping to shape a waste-free future is a top priority as it tackles solid waste, especially plastics, with a holistic approach.

The company is developing packaging for the future, increasing collection and recycling efforts, and driving new behaviors and understanding through solid waste management (SWM) education.

As mandated by Republic Act (RA) 9003, or the "Ecological Solid Waste Management Act of 2000," each barangay or cluster of villages in the country is required to establish an MRF. The MRFs are essential for more efficient collection, segregation, and recycling of wastes.

"The growing solid waste management (SWM) problem in the Philippines can be attributed to factors such as improper waste disposal, inefficient waste collection, and the lack of disposal and recycling facilities in many cities and municipalities," NPI said.

It added that while the solid waste collection rate varies across the country, ranging from 40 percent to 85 percent, it's still evident how a sizable portion of uncollected trash ends up in the environment.

"In fact, out of the 2.7 million tons of plastic waste that the Philippines generates annually, an estimated 20 percent of these seep into the ocean," NPI said.

The Department of Environment and Natural Resources (DENR) and the National Solid Waste Management Commission (NSWMC) said that only 35 percent of villages nationwide have MRFs. The lack of an MRF is one of the challenges that villages face in implementing SWM programs.

"At Nestlé Philippines, it is important that we partner with local government units or LGUs in addressing solid waste management problems. We explore different opportunities for plastics to be recyclable in the country. Through the construction of this MRF, the community will be able to generate value through recycling and reduce the volume of plastic waste that goes to the landfill and oceans," said Christine Ponce-Garcia, sustainability head of NPI.

The turnover was attended by Lipa City Mayor Eric Africa, barangay officials and residents, officers from the City Environment and Natural Resources Office, and company representatives.

Africa congratulated Barangay Bagong Pook officials and residents during the turnover.

"My wish is for everyone to work together to maintain this structure so you can maximize its purpose for your barangay. Not only will this help the environment, but it's also a way to encourage discipline among residents and to learn more about the importance of proper waste segregation and recycling," he said.

"Our old MRF was already too small to accommodate all the recyclable materials from our barangay. This new MRF is a great help because it can lessen the volume of waste we currently deliver to the city," said Lope Lina, barangay chairman of Bagong Pook. "Our aim is that alongside our existing collection and recycling programs, this MRF will enable us to become a model barangay for solid waste management."

Nestlé Lipa factory manager Eric Angulo underscored the long-term partnership between the company and the barangay.

"During our presence of 30 years in this community, we have formed a strong bond with its residents. We have been there for each other through thick and thin, especially in times of calamities and crises. Today, we sincerely hope that this MRF will help Barangay Bagong Pook to better manage their solid waste," Angulo said.

Among its SWM milestones, NPI is the first multinational fast-moving consumer goods company in the country to achieve plastic neutrality, recovering the equivalent amount of plastic it puts out in the market. From August 2020 to May 2022, it collected 48 million kilos of plastic waste.

Another of its initiatives is the development and rollout of SWM education modules that reaches grades 1 to 10 students in 20,000 public schools nationwide under the Nestlé Wellness Campus program. Recently, the DENR, NSWMC, and NPI also launched the "No Time To Waste: Climate Change and SWM Talks" for officials of LGUs, government agencies and community leaders.

CCC IN THE NEWS

BUSINESS MIRROR

DepEd, YSEALI boost climate change education

The Department of Education (DepEd), in partnership with Young Southeast Asian Leaders Initiative (YSEALI), exchange alumni, is boosting climate change education through the conduct of Climate Changemakers.

Climate Changemakers is the first climate change training course recognized by the National Educators Academy of the Philippines (NEAP) as part of the Professional Development Priorities of the Department.

The program aims to increase the capacities of teachers to effectively teach climate change competencies, integrate climate change in competencies, and commit to climate action.

“Time is of the essence. Climate change is an emergency. The time to act is now,” DepED-DRRMS Director Ronilda Co emphasized.

Some 400 teachers completed the 10n-week online course that utilized synchronous and asynchronous modalities focusing on correcting misconceptions about climate change. It also provided a space for teachers to reflect on their learning and share challenges and good practices.

The course featured lectures from exchange alumni of the YSEALI program of the US Department of State, representatives and former and present members of the National Panel of Technical Experts of the Climate Change Commission, technical specialists and teachers from the Department of Education, and climate change-focused organizations like the Oscar M. Lopez (OML) Center and Youth Strike for Climate Philippines.

The first batch of the training was held from November 2021 to March 2022, and completers were trained to be mentors in partnership with the Divisions of Apayao, Sorsogon, Iloilo City, Eastern Samar, and Surigao Del Sur from the Cordillera Administrative Region, Region V, VII, VIII, and Caraga, respectively.

The second batch was opened to all K-12 teachers from public and private schools across the country; hundreds applied and completed their synchronous and asynchronous activities.

“Following the ongoing K-12 curriculum review and revision, we will also further enhance the Climate Changemakers online training course before its next release in

2023 and we hope to continue training our teachers to effectively teach climate education and ultimately answer the call to commit to climate action in the Philippines,” Director Co added.

Climate Changemakers is also supported of the US Embassy in the Philippines, Save the Children Philippines, YGoal Philippines, Climate Reality Project Philippines, and Climate Action for Sustainability Initiative.

An Online Completion Ceremony for the 400 completers was held last July 29, 2022. For more information on Climate Changemakers, please e-mail climatechangemakersPH@gmail.com and drmo+ccam@deped.gov.ph

PHILIPPINE INFORMATION AGENCY

DepEd, YSEALI strengthen climate change education through online teacher training

Pasig City -- The Department of Education (DepEd), in partnership with Young Southeast Asian Leaders Initiative (YSEALI), exchange alumni sets out to strengthen climate change education through the conduct of Climate Changemakers.

Climate Changemakers is the first climate change training course recognized by the National Educators Academy of the Philippines (NEAP) as part of the Professional Development Priorities of the Department. The program aims to increase the capacities of teachers to effectively teach climate change competencies, integrate climate change in competencies, and commit to climate action.

“Time is of the essence. Climate change is an emergency. The time to act is now,” DepED-DRRMS Director Ronilda Co emphasized.

Some 400 teachers completed the ten-week online course that utilized synchronous and asynchronous modalities focusing on correcting misconceptions about climate change. It also provided a space for teachers to reflect on their learning and share challenges and good practices.

The course featured lectures from exchange alumni of the YSEALI program of the U.S. Department of State, representatives and former and present members of the National Panel of Technical Experts of the Climate Change Commission, technical specialists and teachers from the Department of Education, and climate change-focused organizations like the Oscar M. Lopez (OML) Center and Youth Strike for Climate Philippines.

Furthermore, the first batch of the training was held from November 2021 to March 2022 where the completers were trained to be mentors in partnership with the Divisions of Apayao, Sorsogon, Iloilo City, Eastern Samar, and Surigao Del Sur from the Cordillera Administrative Region, Region V, VII, VIII, and Caraga, respectively.

In addition, the second batch was opened to all K-12 teachers from public and private schools across the country where hundreds applied and completed their synchronous and asynchronous activities.

“Following the ongoing K-12 curriculum review and revision, we will also further enhance the Climate Changemakers online training course before its next release in 2023 and we hope to continue training our teachers to effectively teach climate education and ultimately answer the call to commit to climate action in the Philippines,” Dir. Co added.

Climate Changemakers is also supported of the U.S. Embassy in the Philippines, Save the Children Philippines, YGoal Philippines, Climate Reality Project Philippines, and Climate Action for Sustainability Initiative.

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For more information on Climate Changemakers, please email climatechangemakersPH@gmail.com and drmo+ccam@deped.gov.ph. (DepEd)

PHILIPPINE INQUIRER

Record ice melt in Greenland: Why should we care?

By: Cristina Eloisa Baclig

Manila, Philippines—Since the early 1990s, many of the world’s glaciers have been rapidly melting, mainly due to human activity. In the past years, scientists have been raising the alarm on Greenland’s ice sheets, which may be approaching a dangerous tipping point.

However, many studies have pointed out that since the early 1990s, the Antarctic Ice Sheet has lost at least three trillion tons of ice.

The World Wildlife Fund (WWF) also found that over the past 30 years, “the oldest and thickest ice in the Arctic has declined by a stunning 95 percent.”

If emissions and global warming, which cause climate change, continue to elevate and are left unchecked, scientists warned that the Arctic could be ice-free by the summer of 2040.

READ: Arctic sea ice thinning faster than expected, new study shows

While the worsening polar ice cap melting has been a huge concern among experts, world leaders, and the public over the past decades, scientists are now directing the spotlight on another huge issue: Greenland’s ice melting.

Several studies published in the past years noted the rapid melting of Greenland’s ice sheet.

Greenland’s rapid melt

According to data from the National Aeronautics and Space Administration (NASA), Greenland’s ice sheet was originally 1.7 million square kilometers and had an average thickness of 2.3 kilometers or 1.4 miles.

There were multiple and varying accounts of how much of Greenland’s ice sheet has been lost since the late 1990s.

In December 2019, a study from NASA and the European Space Agency (ESA) found that around 3.8 trillion tons of ice had been lost from Greenland’s ice sheet between 1992 and 2018.

Earlier that year, a separate study published in the Proceedings of the National Academy of Sciences (PNAS)—a peer-reviewed journal of the National Academy of Sciences (NAS)—found that in the 20th century, Greenland had lost apThe same study also noted that Greenland “appears to have hit a tipping point” between 2002 to 2003, when the ice loss rapidly accelerated.

Different studies, scientists, and organizations—aside from NASA, ESA, and NSIDC—also reported an estimated amount of ice lost from Greenland’s ice sheets per year.

The yearly average loss recorded was around 259 billion tons or 235 billion metric tons since 2003.

However, in 2012, NASA and a study published in the peer-reviewed journal *Communications Earth & Environment* discovered that Greenland lost more ice than previously estimated—511 billion tons or 464 billion metric tons of ice.

Although scientists have emphasized that there were many years when Greenland gained ice despite the loss, the melting of the ice sheet was faster than expected.

In 2019, a record amount of 586 billion tons or 532 metric tons of ice had melted in Greenland due to warmer temperatures. Experts said the massive melt was enough to cover California in more than four feet—1.25 meters—of water.

“Not only is the Greenland ice sheet melting, but it’s melting at a faster and faster pace,” said Ingo Sasgen, lead author of the study and a geoscientist at the Alfred Wegener Institute in Germany.

The 2021 State of the Climate report by the World Meteorological Organization (WMO)—a UN agency—cited data from the Danish Arctic monitoring service Polar Portal, which showed that the ice sheet lost around 166 billion tons during a 12-month period starting September 2020 to August 2021.

The amount of ice melt in Greenland continues to rise. Last month, it has lost:

around 6 billion tons per day or 18 billion tons over the weekend between July 15 and 17

roughly 9.5 billion tons or 8.5 billion metric tons on July 27

at least 24 billion tons or 22 billion metric tons on July 28.

The numbers, however, do not stop there. The increasingly rapid meltdown in Greenland’s ice sheet is alarming as it directly impacts global sea levels.

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However, over the last couple of decades, the Greenland ice sheets have become the single largest source of sea level rise.

In the 20th century, as Greenland lost 9,000 billion tons of ice, sea levels rose by 25 millimeters. According to studies, it takes about 360 billion tons of ice to produce one millimeter of global sea-level rise.

Three years ago, NASA said the record 532 billion tons of melted ice in Greenland's ice sheet likely raised the average global sea level by 1.5 millimeters.

This is equivalent to over 140 trillion gallons—around 532 trillion liters—of water.

“Last year's Greenland melt added 0.06 inches (1.5 millimeters) to global sea level rise. That sounds like a tiny amount, but in our world, it's huge. That's astounding,” said NASA ice scientists Alex Gardner.

“Add in more water from melting in other ice sheets and glaciers, along with an ocean that expands as it warms—and that translates into slowly rising sea levels, coastal flooding, and other problems,” he added.

In the past 26 years, the melting of an ice sheet in Greenland has added 0.4 inches or 11 millimeters to sea-level rise.

NASA said the cumulative 3.8 trillion tons of melted ice is equivalent to adding water from 120 million Olympic-size swimming pools to the ocean every year for 26 years.

“As a rule of thumb, for every centimeter rise in global sea level, another 6 million people are exposed to coastal flooding around the planet,” said Andrew Shepherd, a scientist from the University of Leeds in the United Kingdom.

“On current trends, Greenland ice melting will cause 100 million people to be flooded each year by the end of the century, so 400 million in total due to sea level rise.”

Both NASA and WWF added that in addition to storm surges and high tides that will increase flooding in many regions, sea level rise would exacerbate hurricanes and typhoons.

“The full set of consequences of future melt from the Greenland Ice Sheet remains uncertain, but even a small increase in sea level can have devastating effects on ports and coastal zones, cause destructive erosion, wetland flooding, and aquifer and agricultural soil contamination with salt,” said Erik Ivins, NASA’s Jet Propulsion Laboratory in Pasadena, California.

NASA scientists have projected that by 2100, there will be an approximate 3 to 5 inches—70 to 130 millimeters—global sea level rise. This projection aligns with previous worst-case projections if the average rate of Greenland’s ice loss continues.

“There’s a lot of places, like in Florida especially, where one meter alone would cover a lot of existing land areas,” Michalea King, a researcher at Ohio State University, said. “And that’s exacerbated when you get storms and hurricanes and things like that, that then cause extra surge on top of a higher baseline.”

As the situation in Greenland worsens the global sea levels, by the years 2030 and 2050, many cities across the globe are predicted to sink or go underwater, affecting millions of populations and amounting to billions in damage.

Among these cities were found in the Philippines.

Projected sea-level rise in PH

Last year, the Department of Foreign Affairs-Maritime and Ocean Affairs Office (DFA-MOAO) raised the alarm about the impact of rising global sea levels.

During the 21st Meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea, DFA-MOAO Director John Francis Herrera said that the Philippines has already begun to experience the impacts of sea level rise.

“[O]ur future survival is at risk if sea level rise is allowed to go on unabated,” Herrera said.

In 2011, the Global Facility for Disaster Reduction and Recovery and World Bank ranked four cities in the Philippines—San Jose, Manila, Roxas, and Cotabato—among the top 10 East Asian cities likely to be hit by rising global sea levels and storm surges.

The United States Agency International Development (USAID), in a climate vulnerability profile report in 2012, said the projected sea level rise that will impact the Philippines’ coastal municipalities will be around 23 to 47 centimeters by the end of the century—around 2090 to 2099.

In 2012, the Climate Change Commission (CCC)—the lead policy-making body of the Philippine government tasked with coordinating, monitoring, and evaluating government programs and ensuring the inclusion of climate change in national, local and sectoral development plans—released a similar report.

“Certain parts of the country have risen sea level by 5.7– 7.0 millimeters per year from 1993-2015. This is approximately double the highest global average rate of 2.8–3.6 millimeters per year,” an article by Climate Tracker Asia stated, citing data from CCC’s report.

“Increased frequency and severity of storm surge, floods, landslides, and droughts are expected to exacerbate risks to agriculture, energy, water, infrastructure, human health, and coastal ecosystem.”

Sinking cities of PH

In a study released in October 2019 by Climate Central and published in the Nature Communications journal, findings have shown that major cities in the National Capital Region (NCR) could likely be submerged by coastal flooding by the year 2050 due to rising seas.

Among the Philippine cities that are likely to sink due to coastal flooding, based on a screening tool provided by Climate Central, include:

- Manila
- Navotas
- Malabon
- Pasay
- Bulacan
- Kalibo
- Aklan
- Roxas City in Capiz
- Cotabato City along Datu Piang
- Northern Kabuntan in Maguindanao

A more recent study published by Greenpeace East Asia likewise found that continuing and extreme sea level rise in the past decades, due to climate change, is fueling stronger tropical cyclones that could soon sink major Asian cities, including Manila in 2030, and displace millions of people and destroy economies worth billions of dollars.

In a report released last year, Greenpeace East Asia found that seven coastal cities across Asia are at heightened flood risks due to sea-level rise and intense tropical storms, which could bring more damaging wind speeds, higher storm surges, and increased extreme rainfall in the following years.

According to the study, at least 87 percent—or 37.29 square kilometers—of the City of Manila’s land would feel the impact of the 10-year flood in 2030. More than 1.54 million Manila residents could be displaced, leading to a \$39.24 billion decline in the city’s GDP.

The 10-year flood, also dubbed as the “one percent flood,” according to Katharina Buchholz of data consumer company Statista, pertains to “a flood which has a 1:10 chance of occurring in any given year in the respective location.”

The disastrous 10-year flood could inundate and damage the historical landmarks and popular tourist destinations in the city, including the Jose Rizal National Monument, Luneta Park, Binondo, and the “walled city” of Intramuros.

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