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GREENPEACE

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MANILA BULLETIN

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By: Ellalyn De Vera-Cruz

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Finance to forests: SEC's holistic approach to sustainability

By: Billie Dumaliang

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PHILIPPINE DAILY INQUIRER

We must act vs climate change, poverty, and hunger

By: Armida Salsiah Alisjahbana, Kanni Wignaraja and Woochong Um

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By: Perla Lena

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RAPPLER

Why it matters that PH is host of Loss and Damage Fund board

By: Iya Gozum

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SUNSTAR

Loss and damage fund

By: Rox Peña

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THE ECONOMIST

Climate change is making the monsoon more dangerous

In the early hours of June 28th your correspondent was woken by an almighty crash of thunder. The other side of the street had vanished behind a wall of water: the monsoon had arrived in Delhi. By the end of the day, 23cm of rain had fallen on India's capital, three times more than it usually gets in the entire month of June, making it the rainiest 24 hours since 1966. The forecourt roof of a recently refurbished airport terminal collapsed, killing a taxi driver. Ten more people died in "rain-related incidents".

THE MANILA TIMES

[Opinion] Plastic recycling: Not a delusion, but a lie

By: Ben Kritz

Chemical recycling of plastic through a process called pyrolysis is a concept that makes sense at a very basic level. If plastic can be broken down into its constituent molecules, that chemical soup, a form of synthetic crude oil, can then be used to make all manner of new products such as new plastic items — which could, of course, be recycled again in an endless loop of "product circularity" — synthetic fuels such as diesel and aviation fuel, and other chemicals. The idea is heavily promoted by the petrochemical sector, which regards the world's overwhelming problem with plastic pollution as a waste management rather than a production problem and is even viewed favorably by a minority of sustainability advocates.

Information and Knowledge Management Division

GREENPEACE

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Ahead of President Marcos Jr.'s upcoming SONA, Greenpeace Philippines calls on his administration to put its promises into action, and adopt a Climate Action Agenda that can secure the survival and wellbeing of Filipinos now and in the coming decades. The group says that, as a start, Mr. Marcos must ensure the swift passage of the Climate Accountability (CLIMA) Law.

Recently, the Philippine government achieved its bid to become the host of the United Nations Framework Convention on Climate Change (UNFCCC) Loss and Damage Fund (LDF) Board[1]. While this hosting is mostly symbolic, the move has served to reinforce the current administration's apparent ambitions to be a recognized leader on climate justice in the international stage.

"However, the measure for the administration's and President Marcos's credibility on tackling this issue will be both in the policies that will be prioritized and instituted nationally, as well as in the positions the government will champion and advance in international negotiations in the coming months," Greenpeace Campaigner Jefferson Chua said. "Mr. Marcos must seek accountability from fossil fuel companies, make these climate polluters pay for loss and damage, call for and steer the country towards a full, fair, fast, and funded fossil fuel phase out, and redirect the economy towards greener and more equitable systems."

Buklod Tao, Inc. Founder and President Manuel "Ka Noli" Abinales shared their community's experience from climate impacts, echoing the calls for accountability, "Since the 70s up until this decade, our community residing at the banks of Nangka and Marikina Rivers has been vulnerable to climate change. The river has grown and it has been constantly eating away the ground where dikes are constructed. This cycle of repair and wall collapse just adds to the cost our government spends.

"While vulnerable communities like us continue to suffer from climate impacts, oil and gas companies only get richer from their profits. We hope that our government recognizes this injustice, as they continue to spend the nation's resources while climate polluters do not even contribute to the repairs."

WR Numero Senior Researcher Cid Manalo presented a survey they recently conducted on how Filipinos view some of the most pressing environmental issues, "Filipinos are generally anxious about the negative consequences of climate change to their family and immediate communities. The Philippine situation is a concretization of

the double-burden experienced by people from the developing world whose anxieties are furthered and made more complex by the intersection with worries brought by the lack of support to basic social services.

"The collective inaction (of those in power) towards the climate crisis, through unmet global commitments and targets is not helping ease these worries. Immediate, lasting, local climate solutions that continuously integrate the needs and critically involve our communities provides one of the paths towards easing both anxieties."

"Beyond words and symbolic gestures, climate justice must be the top priority of the government," Greenpeace Campaigner Virginia Benosa-Llorin said, "Mr. Marcos must adopt a Climate Justice Agenda that can serve as a framework for environment and climate protection that is grounded on human rights and corporate accountability. The most important thing he can do right now is to speed up the passage and ensure the effective enactment of the Climate Accountability (CLIMA) Bill (HB9069)[2] and begin the process of litigating carbon majors for climate impact damages to the Filipino people."

Greenpeace Philippines is calling on the Marcos administration to establish a Philippine Climate Justice Agenda that will:

- 1. Exact climate accountability from fossil fuel corporations;
- 2. Demand and secure payment for climate loss and damage;
- 3. Steer the country towards a full, fair, fast and funded fossil fuel phase out; and
- 4. Redirect the economy towards greener and more equitable systems.

Concretely, what President Ferdinand Marcos Jr. can do now is:

- 1. Speed up the passage of, and enact, the Climate Accountability Bill;
- 2. Start the process of litigating carbon majors for climate impact damages to the Filipino people;
- 3. Review and cancel memorandums of understanding (MOUs) from line agencies such as the Department of Environment and Natural Resources (DENR) with companies that perpetuate the climate crisis and who likewise deny their responsibility in the climate crisis:
- 4. Champion the Climate Damages Tax and other innovative sources of finance to ensure not just adequate funding, but, importantly, payment from corporations, for loss and damage;
- 5. Stop all plans for nuclear energy, fossil gas expansion and other false solutions; and
- 6. Enable policy reforms to reshape the economy to enable climate justice and community resilience.

MANILA BULLETIN

<u>DSWD urges nationwide adoption of 'anticipatory action' for enhanced disaster preparedness</u>

By: Ellalyn De Vera-Cruz

The Department of Social Welfare and Development (DSWD) on Thursday, July 18, urged the nationwide adoption of "anticipatory action" for disaster preparedness, as it highlighted its significant role in enhancing the country's resilience against natural disasters.

DSWD Undersecretary for Disaster Response Management Group (DRMG) Diana Rose Cajipe explained that legislative frameworks, such as the Philippine Climate Change Act of 2009 and the Disaster Risk Reduction and Management Act of 2010 have paved the way for a strategic shift towards anticipatory approaches like Anticipatory Action (AA).

"By preemptively deploying resources ahead of forecast shocks, AA not only protects lives and livelihoods but also mitigates the need for extensive humanitarian aid in the aftermath of disasters," Cajipe said in her keynote message at the National Anticipatory Action Learning Summit and Culminating Activity.

During the event organized by the Food and Agriculture Organization of the United Nations (UN-FAO), Cajipe pointed out that the pilot implementation of AA in selected areas across the country has significantly helped communities in mitigating the impacts of climate change.

One example cited by the DSWD official was the activation of drought AA in Echague, Isabela, which involved targeted multi-purpose cash assistance and conditional cash transfers specifically for farmers.

"These interventions have not only safeguarded livelihoods but have also reinforced the resilience of our communities against climate-induced challenges," Cajipe said.

The DSWD and UN-FAO have collaborated to implement AA as a proactive strategy supporting vulnerable populations ahead of disasters.

The summit aimed to enhance AA capacities under the European Civil Protection and Humanitarian Aid Operations Pilot Programmatic Partnership (ECHO PPP), focusing on achievements, challenges, and lessons from the ECHO PPP program in the Philippines.

UN-FAO works with DSWD, the National Disaster Risk Reduction and Management Council, Department of Science and Technology-Philippine Atmospheric, Geophysical and Astronomical Services Administration, and local government units in Cagayan Valley, Bicol, and Eastern Visayas.

Joint FAO-led and DSWD pilot AA programs are established in Isabela for drought AA, Surigao del Norte for flood AA in Caraga, and Cotabato for flood AA in Soccsksargen.

Finance to forests: SEC's holistic approach to sustainability

By: Billie Dumaliang

Yesterday, I had the privilege of participating in Sustainability Week at the Securities and Exchange Commission (SEC) main office in Makati City, where I shared my experiences in environmental conservation. Initially, I was surprised by the invitation, as financial institutions had not previously sought our input on such matters. I saw this as a valuable opportunity to discuss field-level sustainability issues and, in turn, learn from the SEC's initiatives in promoting sustainability within capital markets and its own organization.

Upon arriving at the SEC building, I was warmly welcomed at the "ErBnb" – a pop-up café curated by the Economic Research and Training Department to spark conversations and actions for sustainable development, "one coffee chat at a time." Named by SEC Chairperson Emilio B. Aquino as a play on Airbnb, the cafe served local coffee and even tupig from Baguio. Each department was tasked with creating a sustainability initiative for the week.

I then headed to the training rooms to speak about my work as advocacy director at Masungi Georeserve Foundation. Despite only one attendee having visited the georeserve, the audience was deeply engaged and interested in our efforts. Our work might be geographically and contextually different — my team in the field and the SEC team in the heart of the metro — but the necessity for sustainability resonated with all, although in diverse ways.

Post-talk, I had an insightful conversation with Atty. Rachel Esther Gumtang-Remalante, director of the SEC's Corporate Governance and Finance Department, about the SEC's sustainability initiatives. She highlighted the SEC's dual approach: external and internal efforts. Externally, the SEC mandated publicly listed companies to submit sustainability reports through Memorandum Circular No. 4, series of 2019, integrating these into their annual reports.

"The idea is that during stockholders' meetings, the sustainability report will be discussed alongside other items," Atty. Rachel explained. "As you mentioned in your talk, investors see value in understanding a company's sustainability efforts. Why would you invest in a company that doesn't care about the future of the planet or its people?"

She proudly noted that 92 percent of companies complied with this new requirement, even amid the pandemic.

I inquired about the significance of these initiatives. "Investors are increasingly serious about how companies address climate change. Businesses cannot thrive in areas vulnerable to climate risks. Companies must be future-proof, climate-proof, and sustainable in the long run. This initiative ensures investors receive this critical information," Atty. Rachel emphasized.

Internally, the SEC practices what it preaches. Last year, it issued its own sustainability report and began measuring energy consumption, linking it to cost savings across its headquarters and 11 extension offices nationwide. Additionally, the SEC adopted a forest near the Angat Watershed as a "baby step" toward greater environmental commitment.

These insights were invaluable in understanding the dynamics of sustainability in the Philippine investment landscape.

As I explored other departments' contributions to Sustainability Week, I was continually impressed by the diversity of ideas promoting sustainable lifestyles among employees. The Office of the General Counsel's "Pre-Loved to Re-Love" initiative sold pre-loved items at significant discounts to encourage responsible consumption. The Office of the General Accountant's "Swap Shop" facilitated the exchange of unused or pre-loved items, popular among both officers and cleaning staff.

It was refreshing to see proactive and creative approaches to sustainability both inside and outside office walls. Despite the trend toward sustainability, some major corporations, both foreign and local, still violate sustainable development principles. A prime example is the threat of a wind farm development within the wildlife sanctuary of Masungi Georeserve in Rizal, which seriously risks geological integrity and bird populations in an ecologically fragile area. However, there is hope as regulators like the SEC step up to safeguard our collective future.

The efforts of the SEC demonstrate a significant stride toward integrating sustainability into both corporate governance and daily operations. These initiatives are not just about tick-box compliance but embody a genuine commitment to a sustainable future, setting a precedent for others to follow.

PHILIPPINE DAILY INQUIRER

We must act vs climate change, poverty, and hunger

By: Armida Salsiah Alisjahbana, Kanni Wignaraja and Woochong Um

The Asia-Pacific region is faltering on decades of progress in reducing poverty and hunger. Increasingly, severe climate-related hazards are threatening food security and triggering human displacement on an unprecedented scale. The rapid rise in global temperatures is producing record-breaking heat in major cities around the region. We are getting our first glimpse of a future where global temperatures rise beyond the tipping point of 1.5 degrees Celsius.

The burden of climate impacts is unevenly distributed. Poorer countries and communities are far more vulnerable and less able to adapt. Droughts, floods, and heatwaves are straining socioeconomic and environmental systems, resulting in more poverty, less food security, and failing levels of health and nutrition. Conflicts over land, water, and food are also rising. The dire situation leaves the most vulnerable—women, children, older persons, persons with disabilities, and indigenous people—at even higher risk.

We are falling significantly short of our Sustainable Development Goal (SDG) targets. Projections indicate that 90 percent of the 116 measurable targets under the 17 goals set for 2030 will be missed if current trends persist.

The inextricably entangled issues of climate change, poverty, and food security are the central theme of our new joint report. The impacts are seen across the region: In Indonesia, delayed monsoons are associated with greater chronic and acute malnutrition. In Papua New Guinea, frequent El Niño-related droughts resulted in increased food and water insecurity, particularly in the highlands and rural areas. In the Pacific, the effects of climate change on agriculture and fisheries are likely to drive up the reliance on imported foods of low nutritional quality, leading to a rising prevalence of obesity. Rising temperatures and altered precipitation patterns in the Hindu Kush Himalaya are causing glaciers to melt, disrupting water flows and agriculture and threatening the livelihoods of millions. The findings are an urgent call to action. We must act quickly to increase collaboration and scale climate policies with inclusive social development practices, and to help governments address poverty, hunger, and climate change, simultaneously.

Integrating policy and investments that consider social protection, resilient food systems, disaster risk reduction, and sustainable agricultural practices is critical to an effective

response, especially as country commitments to climate change mitigation and adaptation become central to development planning and progress.

There are good practices to leverage sustainable water management, reforestation, and green food production systems that can help feed the world's growing population, maintain the livelihoods of millions of small-scale farmers, and reduce the environmental and climate impacts of our changing climate.

The speed and scale of climate action required at this point demands collaboration. Strong partnerships between local and national governments, development partners, and the private sector are required. This can build multistakeholder support for initiatives that extend beyond borders and beyond national self-interests.

Collaboration on advocacy, research, capacity building, and knowledge networks is more critical than ever. Simply put, there is much to learn from each other, whether it means data sharing, open knowledge, or technical know-how. Platforms that facilitate these are needed to move toward shared goals.

The call to action is clear. If we are to get the region on track to meet the SDG targets by 2030—and build healthy, thriving, equitable, and sustainable communities—we must collaborate and build more open, transformative, and integrated approaches that address climate change, poverty, and food insecurity together. If not, the impacts of climate change will escalate, and the most vulnerable will pay the price.

The Economic and Social Commission for Asia and the Pacific (Escap) is the most inclusive intergovernmental platform in the Asia-Pacific region. The commission promotes cooperation among its 53 member states and nine associate members in pursuit of solutions to sustainable development challenges.

The Asian Development Bank (ADB) is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region.

The United Nations Development Programme (UNDP) partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone.

PHILIPPINE NEWS AGENCY

Nat'l greening program covers over 118K hectares in W. Visayas

By: Perla Lena

Over 118,982 hectares in Western Visayas have been planted with trees under the Enhanced National Greening Program (ENGP) since its implementation in 2011 until 2023, the Department of Environment and Natural Resources (DENR) said on Thursday.

The ENGP, the flagship initiative of the DENR, aims to cover the remaining 7.1 million hectares of open, degraded, and denuded forests in the country.

DENR OIC Regional Director Raul Lorilla said they have a target area of 309,000 hectares in Western Visayas, which they aim to complete by 2028.

"We have a long way to go about reforestation. However, this cannot be addressed by planting trees alone. We have natural regeneration where forests, when effectively and well-protected, will regenerate. What is important is that our reforestation in NGP should be coupled with forest protection," he said during the Kapihan sa Bagong Pilipinas.

The DENR tapped the services of 1,819 contractors for the reforestation and protection armed with the community-based forest management agreement (CBFMA), giving them the authority to manage their area.

"In totality, we can really close the gap between the open access and our reforestation. We intend here to develop the area because we know that this is the only strategy that is so potent to address climate change," Lorilla said.

He said they are planning to implement Project Transform, where they will enlist the support of private individuals, groups, and companies in the rehabilitation efforts.

He said the NGP has helped increase the forest cover in the region, which is now at 12.89 percent.

The percentage is not ideal since the forestland area should be at 32 percent of the over two million-hectare area of the region.

To complement the ongoing efforts, the DENR from 2022 until June 2024 has produced 3,982,007 million seedlings and planted 2,648,906 for the same period.

RAPPLER

Why it matters that PH is host of Loss and Damage Fund board

By: Iya Gozum

The Philippines is now the host country of the board overseeing the global fund that would help vulnerable countries against the adverse impacts of climate change.

For years, advocates have pushed that the loss and damage issue be tackled in the international platform provided by the yearly sessions of the Conference of Parties (COP). It was finally approved last year at the 28th COP in Dubai, United Arab Emirates.

But what does it mean for the Philippines to play host? What does it mean for other climate-vulnerable countries? How can the board make sure wealthy polluting countries pay?

At the end of the day, the fund would be judged by how it reaches and helps local communities.

SUNSTAR

Loss and damage fund

By: Rox Peña

The Kyoto Protocol, adopted in 1997 and entered into force in 2005, was the first legally binding treaty to address climate change. It required developed countries to reduce emissions by an average of five percent below 1990 levels but made the compliance voluntary to developing countries like the Philippines. The reason is that limiting the greenhouse gas (GHG) emissions of developing countries will hinder industrial growth and thus hamper economic development.

Then came the Paris Agreement. It was adopted by 196 parties at the United Nations Climate Change Conference in Paris, France, on December 12, 2015, and entered into force on November 4, 2016. This time, all countries were required to reduce their GHG emissions. While it's true that everyone must do their share, there must be a concession for those who have made a miniscule contribution to the planet's warming.

The rich and developed countries have emitted most of the greenhouse gases that is causing the climate crisis. Sadly, developing countries who contributed least to climate change are the most vulnerable to its impacts like the Philippines. Our country contributes less than 1% of the world's GHG emissions and yet we are the most-disaster-prone country in the world according to the World Risk Index 2022.

It is in this context that the Loss and Damage Fund was established in the United Nations Climate Conference in 2022. The fund aims to provide financial assistance for economic and non-economic losses and damage to nations most vulnerable and impacted by the effects of climate change such as rising sea levels, prolonged heatwaves, desertification, the acidification of the sea and extreme events. I believe that industrialized nations like the G20 countries who emit around 75% of the global GHG have the moral obligation to contribute to this fund.

So far, those who pledged to the funds are Dubai at \$260 million, United Arab Emirates and Germany at \$100 million each, United Kingdom at \$50 million, Japan at \$10 million, United States at \$17.5 million, Denmark at \$50 million, Ireland and the European Union at \$27 million each, \$25 million from Norway, \$12 million from Canada and \$1.5 million from Slovenia. This is just a small fraction of the \$400 billion a year needed to address loss and damage.

To operationalize the fund, a 'Loss and Damage Fund Board' was formed which will be responsible for setting the strategic direction of the fund and for the fund's governance

and operational modalities, policies, frameworks and work program, including relevant funding decisions. It is comprised of 26 members from Parties to the Convention and Paris Agreement, with 12 members from developed country Parties and 14 members from developing country Parties. The Philippines was chosen as one of the three representatives of Asia-Pacific states.

Recently, the Philippines was elected as the host country of the Loss and Damage Fund Board in their second meeting in Songdo, South Korea last July 09, 2024. The Philippines' bid won over seven other contenders. As the host, the Philippines will organize future meetings of the board in our country and a headquarters will be established here.

Will the rich countries contribute more to the fund? Makonsensiya sana kayo!

THE ECONOMIST

Climate change is making the monsoon more dangerous

In the early hours of June 28th your correspondent was woken by an almighty crash of thunder. The other side of the street had vanished behind a wall of water: the monsoon had arrived in Delhi. By the end of the day, 23cm of rain had fallen on India's capital, three times more than it usually gets in the entire month of June, making it the rainiest 24 hours since 1966. The forecourt roof of a recently refurbished airport terminal collapsed, killing a taxi driver. Ten more people died in "rain-related incidents".

People in parts of India and South Asia can probably expect more days like this. Since the middle of the 20th century the number of "extreme rain days" (defined as more than 150mm of precipitation in 24 hours) in India has gone up. Global warming appears to be making the monsoon more variable. And as temperatures rise further, the monsoon's extremes could become more damaging.

In an ideal year the monsoon brings plentiful (but moderate) rain to India between June and September, irrigating crops and replenishing groundwater as it moves steadily northward from the country's southern tip. Of course, things are often different in reality. The monsoon is influenced by a huge range of factors, and has always been a notoriously tricky weather system to forecast. It often turns up in fits and starts. Long dry spells are followed by sudden deluges, which parched earth or city sewerage can struggle to absorb. But as the climate heats up, these variations seem to be growing more pronounced (see chart).

A warmer atmosphere can hold more moisture; warmer oceans mean more water evaporates up into it. The Indian subcontinent should expect 5.3% more precipitation during the monsoon for every additional degree Celsius of global temperature rise, according to a study published in 2021. And this extra rain looks more likely to be dumped all at once than spread evenly. "You frequently get droughts and floods in the same place in the same season now," says Roxy Mathew Koll, a climate scientist at the Indian Institute of Tropical Meteorology in Pune, a city in Maharashtra.

The places that tend to get the most and least rain are changing, too. Some of north-central India's agricultural regions are getting drier, even as other parts of the country grow drenched.

Unpredictability is bad news for India's farms, 60% of which have no access to water other than from the sky. Trends in the monsoon affect when farmers choose to sow and harvest their crops; this year, for example, a limp start to the monsoon delayed sowing

season in some places. Over the past decade, forecasters have been getting better at predicting the monsoon's national and regional patterns, says Yogesh Patil of Skymet, a forecasting company in Mumbai. Yet forecasts at the local level still founder. Nobody foresaw the scale of the deluge in Delhi, or a more recent massive downpour in Mumbai.

Mr Patil hopes better data will help. His company draws information from 5,500 sensors around the country; the government maintains another 1,500. The agriculture ministry is now championing a plan to make land available for companies, such as Skymet, to set up tens of thousands more. The northern state of Uttar Pradesh, for example, could end up hosting some 50,000 rain sensors. Other states may follow suit. "Once they have collected data for three years or so, our local models should improve a lot," reckons Mr Patil. He also hopes for better co-operation between different government bureaucracies, such as the agriculture ministry and the disaster-management authorities.

Yet forecasting can do only so much. Adaptation will also be essential if South Asian countries are to limit the death and destruction the rains cause each year. Farms need better irrigation systems, both to water thirsty crops and to weather harsh storms. Building more reservoirs, or reactivating old ones, would help store water from excessive rainfall, rather than letting it go to waste. Cities and villages need better drainage, too. In recent years Indian cities have begun developing "heat action plans", designed to help their inhabitants cope with more frequent heat waves. But Mr Koll thinks there is not nearly as much thought going into dealing with floods. It would be a bad idea to wait until the next monsoon before getting those afloat.

THE MANILA TIMES

[Opinion] Plastic recycling: Not a delusion, but a lie

By: Ben Kritz

Chemical recycling of plastic through a process called pyrolysis is a concept that makes sense at a very basic level. If plastic can be broken down into its constituent molecules, that chemical soup, a form of synthetic crude oil, can then be used to make all manner of new products such as new plastic items — which could, of course, be recycled again in an endless loop of "product circularity" — synthetic fuels such as diesel and aviation fuel, and other chemicals. The idea is heavily promoted by the petrochemical sector, which regards the world's overwhelming problem with plastic pollution as a waste management rather than a production problem and is even viewed favorably by a minority of sustainability advocates.

The reality that keeps an idea such as chemical recycling on the table is that the obvious solution to rescue a world drowning in plastic, which is to simply stop producing it, is absolutely impossible. For better or worse, we have created a civilization made of plastic, to the extent that we would instantly throw ourselves back to the Stone Age if it were to disappear.

It is rather amazing that it only took a little over a century to reach this state, but that is what technology does. The world produces something between 380 million and 460 million metric tons of plastic per year — the figures vary depending on the source — and even in the impossible scenario where the entire world would agree to eliminate the presumably easily replaceable single-use plastics that make up about two-thirds of that volume, we would still be producing 130-150 million metric tons per year of absolutely necessary plastic, adding that to the billions of tons already in the environment. Or, as an alternative, we could give up modern transportation, medical care, communications, a significant fraction of our food supply, clothing, and thousands of common products we likely don't even realize only exist because of plastic and take for granted.

When people ask me why I have such a pessimistic outlook on the future of humanity, this is one of the reasons: We have made our survival dependent on something that's killing us and doing so at an accelerating rate.

In a perverse way — perverse, because it's based on commercial self-interest — the petrochemical industry responsible for the production of all that plastic is correct that the only solution to the plastic problem is to manage the waste and find ways to recycle it. Mechanical recycling is barely making a dent; something less than 10 percent of all plastic is recycled or repurposed, and less than 10 percent of that amount goes into

products that will be used more than once. The rest becomes unrecyclable low-grade single-use plastic, or fuel in various waste-to-energy applications. In either case, recycling only delays the inevitable environmental damage for one more step, and in the case of the latter, actually does more damage than if the plastic had simply been thrown away.

Little wonder then that chemical recycling, which on its face looks like a comprehensive solution, has been seized upon as a potential salvation from the plastic crisis. There's just one problem: It doesn't work.

You wouldn't know that, of course, from the heavy marketing spin applied by the petrochemical industry, especially in the US and Europe. In the US in particular, chemical recycling has attracted a considerable amount of financial and regulatory backing from the government, especially at the individual state level. Besides fiscal incentives, regulators have been willing to bend emissions and other hazardous materials rules to allow chemical recycling plants to be built, resulting in a total of 11 of them across the US.

As I pointed out in a column earlier this year, in spite of its public enthusiasm for chemical recycling, the petrochemical industry has known for 30 years that it is a dead end. In a 1994 trade meeting, Exxon Chemical's then-vice president Irwin Levowitz dismissed chemical recycling as a "fundamentally uneconomical process." In 2003, a consultant hired by an oil industry group to look into chemical recycling instead criticized the industry for promoting it, saying in his report that it was "another example of how non-science got into the minds of industry and environmental activists alike."

The technical details of plastic pyrolysis would take up more space than is available here, but the basic process involves heating plastic — which must be of a homogeneous type and be completely free of non-plastic contamination — to decompose it into a form of oil that contains naphtha. The naphtha is subsequently processed to extract propylene and ethylene, which are basic ingredients for new plastic. Propylene is used for stiffer applications such as food containers, while ethylene is used for flexible products such as plastic bags.

However, this process only has a yield of at most 15 to 20 percent; in other words, 100 kilograms of plastic feedstock can yield 15 to 20 kg of usable propylene and ethylene, about an equal amount of each. Further processing of those chemicals to produce plastic reduces the final yield to about 10 percent on paper; in reality, according to various studies, the actual percentage is between 2 and 5 percent. Compare that with mechanical recycling, which is already considered an uneconomic process, which yields

something between 55 and 85 percent, depending on the sophistication of the system used.

Actual practice seems to be confirming the futility of chemical recycling; the 11 plants in the US — as of April of this year — was an apparent high-water mark for the industry. That month, one plant in Oregon closed after four years of operation, having never even come close to reaching its full capacity or profitability. In May, another plant in Nevada that had only opened in 2022 also folded. Two other planned plants, one in Ohio and one in Pennsylvania, have been canceled. In Ohio, the City Council in Youngstown rejected a permit for a proposed pyrolysis plant that would process tires, and in Pennsylvania, plans to build what would have been the biggest chemical recycling plant to date fizzled after funding fell through, something attributed to strong community opposition to the plan.

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