Confronting the Plastic and Waste Crises in Southeast Asia: Systemic Drivers, Impacts, and Policy Imperatives

The Plastic and Waste Crises: A Systemic Failure Rooted in Plastic Overproduction

The plastic crisis in Southeast Asia has reached the level of a regional emergency. Annually, six out of ten ASEAN countries generate a staggering 31 million tonnes of plastic waste[1].This failure is most visible in the recent tragic landfill collapses and fires in countries such as the Philippines, Indonesia, Malaysia, and Thailand. The incidents serve as grim reminders that our waste management systems are overwhelmed by the relentless overproduction of plastics and the resulting waste.

This crisis is an outcome of a linear, extractivist, throwaway economy, an import from the colonial mindset. Overconsumption of sachets and similar single-use plastic packaging across Southeast Asia is driven by corporate flooding our markets with them. Ample evidence suggests that current levels of plastic production are a threat to planetary boundaries, including public health. Consequently, our local governments and communities are facing a growing financial burden which should be borne by the petrochemical, plastic and chemical industries.

The Intersectional Impacts of Plastic

The lifecycle of plastic, from extraction to disposal, inflicts severe and often irreversible harm across multiple sectors of our society. In Southeast Asia, these harms can be transboundary and even intergenerational.

- **Public Health and Chemical Toxicity:** At least 16,000 chemicals[2] are present in plastic polymers and products. Of these, over 4,200 chemicals are hazardous to human health. Most of them are endocrine-disrupting chemicals (EDCs), such as BPA, phthalates and PFAS, which are linked to cancer, diabetes, reproductive and neurodevelopmental problems. In addition, plastic products fragment into micro- and nanoplastics. Southeast Asian populations exhibit some of the highest microplastic ingestion rates globally.[3] Incineration of plastic also emits harmful particulate matter and persistent organic pollutants (e.g. dioxins) which not only cause air pollution but also are carcinogens.[4]

- **Biodiversity and Food Toxicity:** Plastic particles are now pervasive in our agricultural soils[5], air, and waters[6]. Microplastics disrupt soil functions and plant growth, while marine plastic debris entangles wildlife and destroys critical habitats, such as coral reefs. This environmental degradation directly threatens biodiversity, as well as regional food security by contaminating food systems.

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[1] https://asean.org/asean-member-states-adopt-regional-action-plan-to-tackle-plastic-pollution/

[2] https://plastchem-project.org/#findings

[3] https://pubs.acs.org/doi/10.1021/acs.est.4c00010

[4] https://pmc.ncbi.nlm.nih.gov/articles/PMC12337036/

[5] https://doi.org/10.4060/cd6407en

[6] https://www.sciencedirect.com/science/article/pii/S0169772224000640

- **Climate Crisis**: At the current rate of production, the plastic lifecycle is projected to account for 19% of the global carbon budget by 2040. An estimated 90% of plastic's lifecycle emissions occur in the fossil fuel extraction, conversion, and plastic production stages.[7] Notably, 75% of these happen during primary plastic production even before the polymerization stage.[8]

- **Economic Loss and Disrupted Livelihoods:** Plastic pollution results in annual global losses of up to $2.5 trillion in marine ecosystem services, impacting the livelihoods of Southeast Asian fisherfolk, coastal communities and sectors which rely on our seas.[9]

- **Social Inequity and Human Rights:** The harms of plastic are not distributed equally. Women disproportionately bear the health risks of plastic chemicals due to their roles in household management and caregiving. Furthermore, low-income and fenceline communities living near petrochemical plants, waste-to-energy facilities[10] and landfills suffer from health impacts, economic and physical displacements, and reprisals from continued resistance. This undermines the fundamental human right to a healthy ecology and the ASEAN Declaration on the Right to a Healthy Environment.

The Fossil Fuel Nexus: Geopolitical Conflict and Economic Vulnerabilities

Our regional waste crisis is inextricably linked to global fossil fuel dependency. Aside from contributing to greenhouse gas emissions, it is undeniable: plastic is oil. This ties our economies to the volatility of global oil markets and geopolitical tensions, leaving Southeast Asians vulnerable to socioeconomic impacts. Current global conflicts, such as those in West Asia, illustrate how disruptions in fossil fuel supply chains immediately translate into economic shocks for the region. Last year, up to 70% of Asia's naphtha supply passed through the Strait of Hormuz.[11] When oil flows are disrupted, the cost of plastic resins can surge by over 50% in a single month. This vulnerability of plastic value chains leads to burdens for Southeast Asians in the form of increased costs of logistics, transport and consumer goods, especially goods associated with throwaway culture.

Fossil fuel dependency hit the most marginalized populations hardest. Petrochemical companies are profiting at record levels not only from conflict, but also at the expense of the countries and communities already impacted by the industry and the plastic crisis, worsening social and environmental inequities. By continuing expansion of plastic production, we are effectively locking our region into a future of continued economic risks, extensive harms and geopolitical vulnerability.

Recommendations

In response to the waste, plastic pollution, and associated triple planetary crisis in Southeast Asia, and to systemic fossil fuel dependency, it is imperative that ASEAN governments correct course to safeguard our people and environment. Furthermore, transitioning from fossil fuels and their derivatives - petrochemicals and plastics - protects the region long-term from economic instability,

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[7] https://www.oecd.org/en/topics/sub-issues/plastics.html

[8] https://www.no-burn.org/wp-content/uploads/2024/04/LBNL-plastic-policy-brief-EN.pdf

[9] https://www.ncelenviro.org/articles/first-in-science-the-economic-impacts-of-plastic-pollution/

[10] https://drive.google.com/file/d/1uM7Vj2em9TLZovqpNzUN2R7knXrYrLcH/view?usp=drive_link

[11] https://www.washingtonpost.com/world/2026/04/07/asia-shortages-iran-war-naphtha-oil-hormuz/

future conflicts and supply disruptions. We recommend the following for integration into regional and national plans of action, aligned with ASEAN declarations and frameworks.

1. **Transparency and Accountability:** ASEAN can improve transparency and accountability in decision-making and consultations by making policy processes more open, consistent, and inclusive across member states. This includes the timely release of draft policies and relevant technical documents for public review, alongside structured and accessible consultation processes that allow meaningful input from civil society, waste workers, Indigenous peoples, and affected communities, not only industries.

2. **Protect the right to a safe, clean, healthy environment**: Referring to the ASEAN Declaration on the Right to a Safe, Clean, Healthy and Sustainable Environment, we call for AICHR in consultation with relevant ASEAN Sectoral Bodies to include provisions to monitor and control transboundary plastic pollution through its Regional Plan of Action, and to enhance the collaboration among ASEAN members for information on the environmental and health impacts.

3. **Reduction of Plastic Production and Use:** ASEAN nations must enact policies, and implement regulations to reduce the production of primary plastic polymers, and phase out the most common single-use plastic products and packaging in line with environmental, climate and economic resilience goals. This should include coordinated regional measures to phase out the most problematic single-use and short-lived plastic products and packaging while prioritizing safer and just alternatives. Clear timelines, harmonized standards, and supporting fiscal or regulatory instruments will ensure consistent implementation across member states and prevent shifting of production and waste burdens within the region.

4. **Scaling Reuse:** To align with goals for a transition to a circular economy, reuse must be prioritized over downstream waste management interventions for plastic and other disposables. Reuse systems have the potential to design out waste, while creating new economic opportunities across sectors and generating jobs. It is essential that ASEAN establish enabling policies and frameworks that support development, incentivization and scaling of reuse systems and practices.

5. **Eliminating Hazardous Chemicals:** A precautionary group-based regulatory approach is needed focusing on banning entire classes of hazardous chemicals in plastics rather regulating substances individually. This should be supported by mandatory full chemical transparency across the plastic lifecycle, including disclosure of chemical additives and non-intentionally added substances, along with publicly accessible chemical inventories and product-level traceability systems. Furthermore, hazardous additives must be excluded to prevent contamination of recycling streams, especially for food-contact materials, household goods and children's products. This avoids circulation and re-exposure of toxic substances via recycling.

6. **Invest in Zero Waste:** Zero waste systems are climate responsive, resilient and economical systems that serve to benefit local communities. Waste prevention at source with reduction in production, choosing safer alternatives such as reuse and refill, waste segregation, treatment of organic waste through composting, biogas or biomethanation avoids landfill methane emissions,and recycling reduces "upstream" emissions from natural resource extraction, manufacturing, and transport[12]. Decentralised waste systems can simultaneously tackle

[12] https://www.no-burn.org/wp-content/uploads/2022/11/zero-waste-to-zero-emissions_full-report.pdf

pollution, provide green jobs, lower GHG emissions and contribute to energy security for the region. ASEAN can catalyse investment in this area through a regional framework.

7. **Ending Waste Colonialism:** ASEAN governments should enforce strict prohibitions on waste imports, especially hazardous, mixed, or unrecyclable plastic waste, as well as electronic waste with hard-to-recycle plastic casings which often contain hazardous brominated flame retardants. ASEAN should uphold the Basel Convention through a region-wide coordinated tracking, monitoring and data-sharing system for transboundary waste movements to ensure traceability and accountability across supply chains. In parallel, exporting countries and corporate actors responsible for illegal, falsely declared shipments should face strict penalties and liability mechanisms.

8. **Eliminating False Solutions:** False solutions[13] that enable business-as-usual, short-term price controls on plastic raw materials, worsen pollution, and delay urgent action on plastic pollution must be stopped. Technologies like waste-to-energy incineration, chemical recycling, and co-processing in cement kilns cause more harm than good, creating the perverse incentive to keep producing more plastic. In addition, biodegradable and bio-based plastics[14] which do not degrade in real-world conditions still produce waste and carry additional chemical risks. Any new technology should undergo transparent lifecycle and health impact assessments before approval. Safeguards are also needed to prevent greenwashing and offsetting that justify continued plastic production and use.

9. **Just Transition from Fossil Fuels:** ASEAN should support a just transition away from fossil fuel dependence by gradually reducing reliance on petrochemical-based plastics while ensuring strong protections for affected workers and communities. This includes providing skills training, social support, and alternative livelihood opportunities. Public finance and incentives should be redirected from fossil fuel expansion toward reuse systems, circular economy infrastructure, and safer materials, supported by coordinated regional planning among ASEAN member states.

10. **Streamline and Enhance EPR Regulations**: Regulations on Extended Producer Responsibility (EPR) vary across the region - mandatory in the Philippines for plastic packaging, voluntary in Indonesia and still in development in Thailand. EPR schemes are the main policy regime to hold producers accountable for the entire lifecycle of the materials they produce and their associated waste and pollution generated by such products and packaging.

Signatories:

To sign on to the statement, please fill up this form: https://forms.gle/JRn4ypN8EdEXYzTm7

1. Global Alliance for Incinerator Alternatives (GAIA) Asia Pacific
2. IPEN Southeast and East Asia
3. Greenpeace Southeast Asia
4. Consumers' Association of Penang, Malaysia
5. Nexus3 Foundation, Indonesia
6. BAN Toxics, Philippines
7. HealthCare Without Harm SouthEast Asia

[13] https://www.no-burn.org/wp-content/uploads/2021/11/False-solutions_Nov-9-2020-3.pdf

[14] https://www.no-burn.org/wp-content/uploads/2022/04/UNEA-publication-packet_bioplastic.pdf

8. Sahabat Alam Malaysia (Friends of the Earth), Malaysia
9. Center for Regulation, Policy and Governance, Indonesia
10. Interfacing Development Interventions for Sustainability (IDIS), Inc., Philippines
11. Ecological Observation and Wetlands Conservation (ECOTON), Indonesia
12. Rabindra Lamichhane
13. RCAM Integral Ecology Ministry, Philippines
14. Brgy. San Roque Fisherfolks Association, Philippines
15. Bali Waste Platform, Indoneisa
16. Living Laudato Si' Philippines
17. Pure Oceans, Philippines
18. Code Green PH, Philippines
19. WWF Philippines
20. Philippine Rural Reconstruction Movement, Philippines
21. Zero Waste Baguio, Inc., Philippines
22. Shark Savers, Malaysia
23. Paryavaranmitra, India
24. Voctech Academy, Philippines
25. League of Filipino Students Cebu, Philippines
26. Arellano Chiefs' Environmental Society, Philippines
27. Sulubaai Environmental Foundation Inc., Philippines
28. Greeners Action, Hong Kong
29. La D'dis Farm, Philippines
30. Wahana Lingkungan Hidup Indonesia (WALHI), Indonesia
31. Arcores Filipinas Foundation Inc. Philippines
32. Acers English Academy, Philippines
33. Center for Public Health and Environmental Development (CEPHED), Nepal
34. Mother Earth Foundation, Philippines
35. Kota Hiusa, Philippines
36. Zero Hour Philippines, Philippines
37. Core Group Transparency Timor-Leste (CGT-TL), Timor-Leste
38. Christian Life Community, Philippines
39. Korea Zero Waste Movement Network, Republic Of Korea
40. EcoWaste Coalition, Philippines
41. PGS Sugbo Inc., Philippines
42. Green Party of the Philippines, Philippines
43. Green Youth PH, Philippines
44. SEASCO, Philippines
45. Gita Pertiwi Foundation, Indonesia
46. Cavite Green Coalition, Philippines
47. Negros Workers Development Center Inc., Philippines
48. Research Centre for Gender, Family and Environment in Development (CGFED), Viet Nam
49. Christian Life Community of the Philippines
50. Pangasinan People's Strike for the Environment, Philippines
51. Philippine Earth Justice Center, Inc., Philippines
52. Aotearoa Plastic Pollution Alliance, New Zealand
53. Youth Nowshera, Pakistan
54. Samahan ng Mamamayan Zone One Tondo Inc. (SM-ZOTO), Philippines
55. Green Convergence for Safe Food, Healthy Environment and Sustainable Economy, Philippines
56. Food Not Bombs Bacolod, Philippines

57. Mother Earth Foundation, Philippines
58. Pangasinan People's Strike for the Environment, Philippines
59. Centre for Financial Accountability, India
60. Nagkakaisang Lakas ng mga Mangangalakal sa Longos, Philippines
61. Climate Change and Environmental Research Center (CERC), Thailand
62. Health Futures Foundation, Inc., Philippines
63. Ecological Alert and Recovery-Thailand (EARTH Thailand)
64. Environmental Justice Foundation, Global/Thailand
65. Environmental Protection Society Malaysia (EPSM), Malaysia
66. Bethlehem Christian Life Community in the Philippines
67. Back to Basics Ecostore, Philippines
68. Young Bataeños for Environmental Advocacy Network (YoungBEAN), Philippines
69. Diocese of Imus Ministry on Ecology, Philippines
70. Trash Hero Thailand Association
71. Trash Hero, Indonesia
72. Medecins du Monde, Philippines Mission
73. BB Development Foundation, Philippines
74. Earth Island Institute Philippines
75. Looped, Philippines
76. Environmental Studies Institute-Miriam College, Philippines
77. Saint Louis University, Philippines
78. Kabiling Lunhaw, Philippines
79. Green Korea United, South Korea
80. Sustina (Philippine Sustainability Intelligence Association, Inc.), Philippines
81. Panay Outreach Community, Philippines
82. Dr Akhtar Hameed Khan Memorial Association, Pakistan

Annex

For detailed information on the recommendations, we have provided a list of documents and reports in this section.

1. Transparency and Accountability
    a. OHCHR Submission on the Right to Development (GAIA AP)
    b. The Case for Public Participation in Multilateral Environmental Governance Forums (IPEN)

2. Reduction of Plastic Production and Use
    a. Plastic Production Reduction: The Climate Imperative (GAIA)
    b. Why Production Reduction makes financial sense (IEEFA)
    c. Stemming the Plastic-Climate Crisis (Pacific Environment)
    d. Transitioning to a safe and sustainable circular economy for plastics (Scientists Coalition for an Effective Plastics Treaty)
    e. Room for reduction: towards sustainable plastic production and consumption in Thailand (Environmental Justice Foundation)

3. Scaling Reuse
    a. Unpacking Reuse in Asia (GAIA and BFFP)
    b. Designing effective reuse policy: Regional recommendations for Southeast Asia (University of Portsmouth)
    c. Kuha sa Tingi: Bringing back sustainability into Filipino tingi culture (Greenpeace Philippines)
    d. Bottle Free Seas: 'Refill' to reduce single-use plastic bottles in Thailand (EJF)
    e. Establishing Reuse Solutions and Roadmap Design for Waste Reduction through Reuse by Producers in Indonesia (Dietplastik Indonesia)
    f. Evaluation of Environmental and Social Impacts in Utilization of Sachet and Pouch and Solution Expansion for Reuse in Greater Jakarta (Dietplastik Indonesia)
    g. Mainstreaming Reuse: Policy Recommendations for Reuse and Refill Systems in the Philippines (Greenpeace Philippines)

4. Eliminating Hazardous Chemicals
    a. https://ikhapp.org/material/policy-brief-role-of-chemicals-and-polymers-of-concern-in-the-global-plastics-treaty/
    b. Toxic Plastic Chemicals: Phthalates and Bisphenols (IPEN)
    c. Plastics Poison the Workplace: Chemical Exposures to Plastic Waste and Recycling Workers (IPEN)
    d. A Small Slice of the Toxic Pie (IPEN)
    e. Endocrine Disrupting Chemicals: Threats to Human Health (IPEN)
    f. Troubling Toxics (IPEN)
    g. Health Experts Call on Plastics Treaty Delegates to Protect Children and Families from Toxic Plastic Chemicals (IPEN)
    h. Chemicals of Concerns to Health and Environment (HCWH

5. Ending Waste Colonialism
    a. Brokers of Shame: The New Tsunami of American E-waste Exports to Asia (BAN)
    b. Waste Trade in the Philippines (Greenpeace Philippines, Ecowaste Coalition)
    c. Plastic Waste Trade (GAIA)
    d. Australia's 'trojan horse' plastics waste policy fuels toxic trade across Asia (IPEN)
    e. Plastic Waste Flooding Indonesia Poisons Food Chain (IPEN)
    f. Process Engineered Fuel: Fuel product or plastic waste export in disguise? (IPEN)
    g. Ending Waste Colonialism, Governing Plastic Pollution: Japan's Opportunity to Lead Asia out of the Plastic Crisis (C4 Center)

6. Eliminating False Solutions
    a. Beyond the Label: Debunking the Biodegradable Plastic Myth (Greenpeace Thailand)
    b. Plastic Waste Management with a Focus on Polymers
    c. Refuse Derived Fuel: Hazardous Plastic Waste in Disguise (IPEN)
    d. Chemical Recycling: A Dangerous Deception (IPEN)
    e. False solutions: unmasking policy gaps in addressing plastic pollution in Thailand and Southeast Asia (Environmental Justice Foundation)

7. Invest in Organic Waste
    a. Addressing Landfill Methane Emissions with Environmental Justice (GAIA)
    b. Ramping Up Ambition on Waste Methane and Just Transition in Indonesia Recommendations for Indonesia's Second NDC (GAIA)

8. Just Transition from Fossil Fuels
    a. Policy Brief: A Just Transition from Fossil Fuels (Greenpeace)
    b. Climate Finance for Zero Waste and Just Transition (GAIA)
    c. Plastics crisis: challenges, advances and relationship with waste pickers (GAIA)
    d. Briefing Note from the Petrochemicals workstream of the Global Science & Policy Conference on Transitioning Away from Fossil Fuels (GAIA)
9. Streamline EPR Regulations
    a. The Pros and Cons of EPR: Lessons from France (GAIA)
    b. Extended Producer Responsibility (EPR) for waste reduction (Zero Waste Europe)
    c. EPR in Asia (BFFP)