ENVIRONMENTAL JUSTICE FOUNDATION

Protecting People and Planet

FALSE SOLUTIONS

UNMASKING POLICY GAPS IN ADDRESSING PLASTIC POLLUTION IN THAILAND AND SOUTHEAST ASIA

JULY, 2025

ABBREVIATIONS

ALDFG:

ABANDONED, LOST, OR OTHERWISE DISCARDED FISHING GEAR

ASEAN:

ASSOCIATION OF SOUTHEAST ASIAN NATIONS

DIW:

DEPARTMENT OF INDUSTRIAL WORKS

EIA:

ENVIRONMENTAL IMPACT ASSESSMENT

EJF:

ENVIRONMENTAL JUSTICE FOUNDATION

GHG:

GREENHOUSE GASES

INC:

INTERGOVERNMENTAL NEGOTIATING COMMITTEE MEETINGS TO DEVELOP AN INTERNATIONAL LEGALLY BINDING INSTRUMENT TO ADDRESS PLASTIC POLLUTION, INCLUDING IN THE MARINE ENVIRONMENT

MONRE:

MINISTRY OF NATURAL RESOURCES AND THE ENVIRONMENT

MOI:

MINISTRY OF INDUSTRY

PCD:

POLLUTION CONTROL DEPARTMENT

PLA:

POLYLACTIC ACID

PRTR:

POLLUTANT RELEASE AND TRANSFER REGISTER

RTG:

ROYAL THAI GOVERNMENT

TCO2E:

TONNES OF CO2 EQUIVALENT

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EXECUTIVE SUMMARY

Plastic pollution severely affects Southeast Asia, contaminating its ecosystems and entering the bodies of humans and wildlife alike. Whilst Southeast Asian nations and the regional body, the Association of Southeast Asian Nations (ASEAN), have introduced several policies and legal instruments attempting to tackle the problem, the tide has not turned in the fight against plastic pollution. This calls for a reassessment of the policies and legal instruments needed to address plastic pollution in Southeast Asia and an examination of where existing policies have failed.

This report identifies how and why these efforts have proved unsuccessful, using the concept of false solutions as a tool to assess plastic pollution policies in Southeast Asia, at a regional level (ASEAN), and at a national level, using Thailand as the main case study. Using this framing, we identify key features of false solutions in the context of plastic pollution. These include, first and foremost, a lack of measures that address the high rate of plastic production, the root cause of the contemporary plastics crisis. Upstream measures - policies that address the production of plastics and plastic products must therefore include reduction-enabling policies such as non-toxic reuse-refill systems, strict controls of chemicals, and bans of toxic and inessential products.

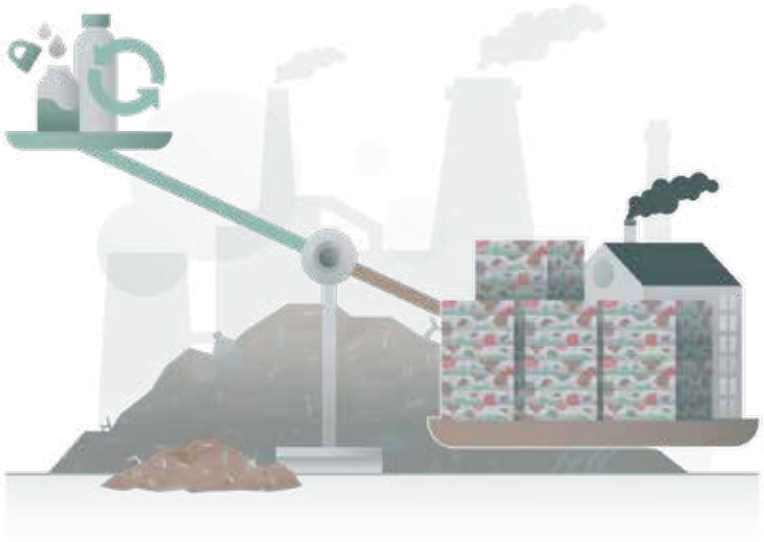
We also identify further markers of false solutions, for instance, prioritising recycling over reduction, expansion of waste-to-energy (WtE) facilities without first considering waste reduction measures, and support for bio-based and biodegradable plastics without changing systems of production, consumption and disposal. Finally, gaps or shortcomings in governance, such as a lack of transparency measures and lack of regulations constitute another layer of false solutions.

Used plastic bottles in a recycling factory in Thailand. © EJF

Based on these markers, we assess Thailand's plastic pollution policies, which have primarily included the Roadmap on Plastic Waste Management 2018-2030 and the Action Plan on Plastic Waste Management Phase I and Phase II. We conclude that Thailand's policies are extremely short on measures related to production and supply, and focus more on waste management measures, which also still fall short in many areas. While Thailand's legal instruments allow for the introduction of measures to regulate the production and supply of plastics, the lack of dedicated legislation tackling the full life cycle of plastics hinders their implementation. Presently, measures to regulate production and supply of plastics are unlikely to succeed due to inconsistent political ambition. Where policies and legal framework are aligned, practical implementation is hindered by the absence of transparency measures or strong regulations, which should include emissions controls, public participation measures and environmental impact assessments.

At the regional level, ASEAN's policies also fail to address production and supply, including plastic's petrochemical supply chain. Many of ASEAN's policies, such as the Bangkok Declaration on Combating Marine Debris (2019) and the ASEAN Framework of Action on Marine Debris, are focused on tackling marine debris, and employ a 'circular economy' approach without clearly defining it.

This lack of clarity makes a 'circular economy' in the ASEAN context highly susceptible to false solutions, such as prioritising recycling over eliminating materials through reuse and refill systems, or defining WtE as a form of circularity despite it playing a role in increasing demand for waste. Where policy directions are clear, their implementation is hindered by the fact that ASEAN's instruments are not legally-binding to its member states. Further, there is a lack of unified measures against specific threats such as waste trafficking, which increases the supply of plastic waste and plastic pollution in the region, increases the risk of illicit and unsound waste management and dumping, and threatens the livelihoods of Southeast Asian waste pickers.[1]



A landfill in Thailand. © EJF/2025

1. INTRODUCTION

Plastic pollution has reached a critical level in Southeast Asia. As a region with extensive coastlines and marine ecosystems, plastic debris, including abandoned, lost or otherwise discarded fishing gear (ALDFG) has become the most visible symptom of the plastics crisis.[2] Other symptoms are less visible: microplastics, for instance, have been found on coastlines in Singapore, in sediments from Indonesia, marine organisms from Vietnam and Thailand, rivers in Indonesia and Thailand, tap water in Thailand, and bottled water in Malaysia.[3] Toxic chemicals from plastics have been found in soil, dust, chicken and duck eggs, and the blood of humans in Thailand.[4]

ALDFG is a form of plastic pollution that severely impacts the seas of Southeast Asia. © EJF

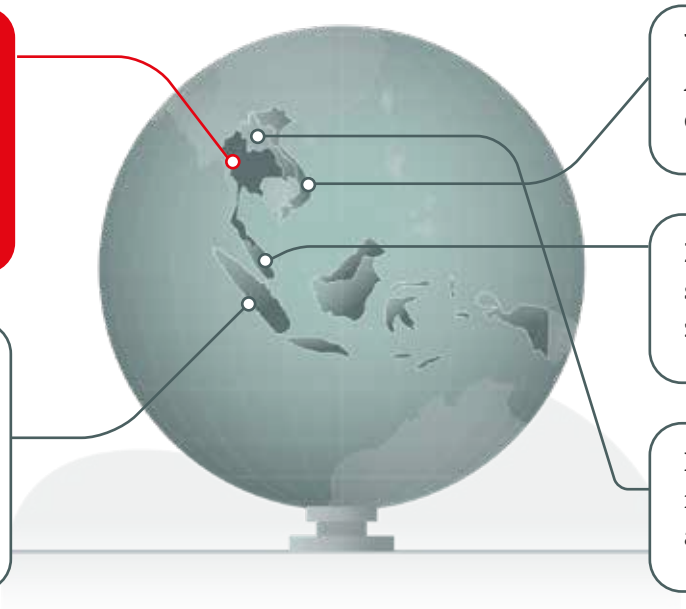
Further upstream, plastic production generates a significant quantity of greenhouse gases (GHG), worsening the already dire climate crisis.[5] EJF estimates that in Thailand alone, plastic production generates 27.3 million tonnes of CO2 equivalent (tCO2e) of GHG every year - equivalent to the annual carbon emission of 5.9 million cars.[6]

In sum, plastic pollution damages Southeast Asia's marine and terrestrial environments, endangers the health of its populations, and exacerbates the climate crisis.

The increasingly severe symptoms of the plastics crisis have prompted governments in Southeast Asia and the Association of Southeast Asian Nations (ASEAN) to take action. Some of the country-level policies are shown in the infographics below:

In **Thailand**, the Royal Thai Government (RTG) released one roadmap and two action plans between 2018 - 2023 to address plastic waste mismanagement.[7]

Indonesia released an action plan on marine debris management in 2018 and a roadmap on waste reduction for producers in the subsequent year.[8]



Vietnam released its National Action Plan for Management of Marine Plastic Litter in 2019.[9]

Malaysia released a plastic sustainability roadmap in 2021.[10]

Most recently, **Lao PDR** released a national plastics action plan in 2024.[11]

ASEAN has also established three regional instruments, all of which aimed to tackle marine debris between 2019 - 2021.[12] In spite of these actions, the symptoms of the plastics crisis in the region remain, and have even deepened in many areas.

This report assesses the effectiveness of plastic pollution policies enacted at the regional and national level in Southeast Asia. At the regional level, the report assesses the effectiveness of ASEAN's policies in tackling plastic pollution. At the national level, the report chooses Thailand as the case study.

We use the concept of **false solutions** to assess if certain policies address plastic pollution in an effective and comprehensive way. Therefore, the report aims to empower environmental defenders and policymakers in Southeast Asia to reject false solutions. It introduces this concept as a policy assessment tool and illustrates how it manifests itself in the specific national context of Thailand.

Map Ta Phut Industrial estate, Rayong province, Thailand's major plastic and petrochemical production site. © EJF/ 2025

2. DEFINING FALSE SOLUTIONS

This section of the report presents, explains, and contextualises EJF's definition of false solutions.[13] Taking into account our reviews of publicly available texts including academic literatures and reports, as well as EJF's experience in working with local communities, academic, civil society, government, businesses, and other stakeholders within the scope of our plastics campaign, our definition of false solutions, in the context of the plastic crisis, is as follows:

> "APPROACHES OR POLICIES THAT ARE PRESENTED AS SOLUTIONS TO A GIVEN COLLECTIVE PROBLEM, BUT REJECT, AVOID, DEVALUE, DELAY OR OTHERWISE POSE BURDENS TO SOCIAL, ECONOMIC, POLITICAL OR INFRASTRUCTURAL REFORMS THAT ADDRESS THE ROOT CAUSE OF THE PROBLEM, AND MAY GENERATE OTHER PROBLEMS OR SHIFT THE BURDEN TO FUTURE GENERATIONS, OTHER ECOLOGICAL SYSTEMS, OR OTHER PARTS OF THE HUMAN SOCIETY, ESPECIALLY MARGINALISED GROUPS."

False solutions, in this report, refer to broad approaches or policies, not specific measures or technologies. This does not preclude the possibility that specific measures or technologies may be part of false solutions, only that they are not in this report's scope of analysis.

This framing allows us to focus on how influential decision makers – government officials, politicians, corporations, academics – define and outline the problem, and the limits of their ability to imagine a future away from the status quo. False solutions, in this sense, include:

- Problematic framing of the issue
- Misrepresentations of the capabilities
- Dangers of certain technologies
- Poor prioritisation of measures
- Deficiencies in implementation processes.

This dynamic and flexible definition – not containing an exhaustive list of policies or actions to avoid or reject and focusing instead on approaches, processes and conditions – allows us to make specific use of false solutions as a lens to examine current policy directions and to provide recommendations that are realistic and actionable.

3. FALSE SOLUTIONS TO PLASTIC POLLUTION

Applying our definition of false solutions to the plastics crisis, EJF finds that there are several necessary elements for a policy to ensure that it is not a false solution. First and foremost is the reduction in the production, supply, and consumption of plastics. Many scientific studies have already shown that the current global levels of plastic production and consumption are unsustainable in terms of waste generation, pollution, human health, and climate impacts.[14] Therefore, **any policy that does not address the production, supply, and consumption of plastics at this stage fails to address the root cause of the problem**.

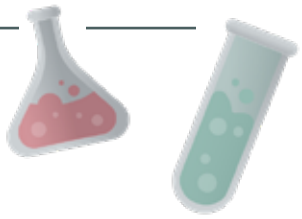
Plastic consumption in Bangkok city. © EJF/2025

Policies that address production, supply, and consumption of plastics may be introduced and implemented in stages. These could include ensuring that national laws contain mechanisms to control the expansion of petrochemical and plastic polymer production. In countries that do not produce plastics, import controls could provide an avenue to reduce plastic supply. Reductions in plastic consumption could be implemented through bans on inessential plastic products such as single use plastic packaging, and the implementation of reuse and refill systems.[15] Extending the lifespan of products through improved product design and safe, non-toxic reuse, refill, and repair ecosystems are examples of infrastructural reforms that address the root causes of the problem.

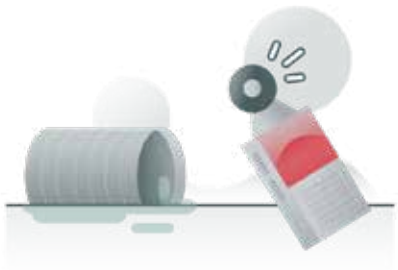
Certain regulations and standards must be present, mandatory and comprehensive for these infrastructural reforms to come into effect. For instance, designing plastic products to be more repairable, with no planned obsolescence, is necessary for a repair system to take hold. Any product meant for reuse-refill must not be toxic to human health or the environment. This requires comprehensive chemical governance, which includes mechanisms to ban the production and trade of toxic chemicals, following a hazard-based approach, rather than a risk-based approach.

Plastic consumption in Bangkok city. © EJF/2025

HAZARD-BASED VS. RISK-BASED APPROACHES IN CHEMICAL REGULATIONS



In regulating chemicals, EJF advocates for a hazard-based approach. This means chemicals must be placed under regulations or bans on the basis of their inherent hazards. For instance, if a chemical has a certain toxic property, it is immediately placed under a specified level of control, for instance, a ban. A risk-based approach tries to manage the risk of exposure to chemicals while they are being used. This could mean allowing hazardous chemicals tobe present in products, but conducting regular monitoring to check that the chemical is not present above a certain safe concentration level.



A risk-based approach means that the population and the environment are at a greater risk of exposure, since chemicals with certain hazard properties are not subjected to immediate regulations unless they are found to be present above a certain level. This means the danger is often detected after a certain population or the environment has already been exposed. This places the burden on regulatory and environmental agencies who are tasked with 'cleaning up the mess' at the end of the supply chain.[16]

In this report, the above-mentioned policies that address the stages of the plastic life cycle before its sales and consumption are considered "upstream measures". "Midstream measures" relate to the sales and consumption of plastic products. "Downstream measures" refer to the management and disposal of waste, inclusive of recycling.

So far, false solutions have been identified as an absence of strong upstream measures. However, false solutions also include midstream and downstream measures that do not tackle the root causes, and present themselves as 'quick fixes' to a systemic problem. Recycling, while applicable in certain contexts, should not receive more attention in government policies or investment than reduction, reuse, and refill. If even the European Union, often considered a leader in recycling, could only achieve a 32.5 - 33% recycling rate for plastics in 2019[17] and 40% for plastic packaging in 2022,[18] then mechanical recycling cannot be the prioritised solution for plastic pollution. While chemical recycling has been presented as a way out of some of these limitations, the process has been found to be "inefficient, energy-intensive, and contributing to climate change", and also risks generating toxic waste.[19] Plastic recycling, mechanical or chemical, carries the risk of circulating toxic chemicals into secondary materials or releasing toxic chemicals into the environment.[20] In this sense, prioritising recycling over reduction, reuse and refill constitutes a form of false solution.

WtE may appear beneficial in contrast to waste incinerators that simply burn plastics without generating energy. However, this is only because the comparison takes for granted a constant supply of waste at the downstream level, and does not include the potential of waste reduction at the upstream and midstream levels. Even as more WtE facilities are constructed, waste generation per capita continues to increase globally,[21] demonstrating that WtE does not address the root cause of the problem. WtE facilities themselves are expensive investments, especially where pollution control is concerned.[22] However, in places where waste reduction has been achieved, waste incinerators are "struggling to find anything to burn" and having to import more waste.[23] The latter case of waste import illustrates that the economics of WtE as a long term solution may create artificial demand for more waste, thus making the implementation of reduction measures counterproductive from a profit standpoint. Biodegradable, compostable, or bio-based plastics are another example of policies that do not address the root cause of supply, leaving the system intact.

A waste collection facility in Nakhon Sawan province, Thailand, 2025. © EJF/2025

It is estimated that in 2023, 43% of 'bioplastics' (likely meaning bio-based/non-biodegradable and biodegradable plastics - see box below) are used in the packaging sector – a percentage that is expected to increase to 48% by 2028.[24] By comparison in 2017, 36% of all plastics produced were used for packaging, including single-use packaging.[25] These two figures illustrate that these alternative plastics are still being used as single-use packaging, much like conventional plastics. A one-to-one replacement of conventional plastics with alternative plastics or other materials does not address the root cause of the problem.

BIO-BASED AND BIODEGRADABLE PLASTICS: CONFOUNDING DEFINITIONS

Biodegradable plastics are plastics made from either fossil-based or bio-based materials that under specific conditions are designed to biodegrade faster than conventional plastics. Bio-based plastics are composed or derived, entirely or partially, from renewable, biological products, but are not necessarily biodegradable.[26] The term 'bioplastics' are often used to encompass both of these categories. These terms have been used interchangeably and cause significant confusion among consumers who may assume that all bio-based plastics are biodegradable, or vice versa.[27] This confusion has allowed companies to engage in greenwashing practices where claims of biodegradability are exaggerated or the specific conditions for biodegradation are omitted.[28]

Biodegradability is a "system property", which means that it is not only dependent on material, but the environmental conditions e.g., temperature, pH, moisture, or the presence of certain microorganisms.[29] The Ellen MacArthur Foundation states that the property of biodegradability does not specify how long it will take for the material to break down, nor does it specify what conditions are required. Compostability, on the other hand, specifies the specific length of time and conditions required. For instance, a material may be home-compostable or industrial-compostable.[30] A home-compostable plastic should be able to degrade by 90% within 12 months in a domestic composting unit under ambient temperature with oxygen and microorganisms. An industrial-compostable plastic would degrade by 90% within 6 months in an industrial facility with high temperature (50-60 degree celsius) with oxygen and microorganisms. These definitional differences have serious implications in terms of environmental impacts, making transparent labelling paramount.

Humans in the waste and recycling supply chain: A pile of plastic bottles at a Thai waste collection centre in 2025 illustrates the oversupply of plastic. © EJF/2025

These alternative plastics have also been found to contain toxic chemicals, similar to conventional plastics.[31] In practice, biodegradable plastics can leach chemical additives into the environment.[32] Since bio-based plastics are made from plants, they would require large-scale industrial agriculture to scale up. This usage of agricultural land for plastic production would have to compete with bioenergy feedstock and impact food supply,[33] require deforestation, and generate greenhouse gas emissions from agricultural land use.[34] Notwithstanding these environmental impacts, scaling up bio-based plastic production to replace fossil-based plastics would require large amounts of investment and significant infrastructural changes: only 0.02% of global agricultural land is devoted to making precursors of bio-based plastics[35] and they only comprise 0.5% of all plastics worldwide.[36]

Such investment and infrastructural shifts could instead be directed towards breaking away from the patterns of single-use, overconsumption and overproduction of plastics through reuse, refill and repair ecosystems. Reuse, refill, and repair systems save resources by making use and retaining values of existing materials. A systems change from single-use to reusable for applications such as beverage bottles, personal care products, fresh food packaging, and food cupboards could reduce water consumption and greenhouse gas emissions by 30 - 70% and reduce material use by 45 - 75%.[37] As for repairs, a 2023 study shows that repair and value-retention processes in a number of products can help reduce primary material use by 90% and reduce solid waste generation, energy use, and emission impacts by 55%. Reuse, refill, and repair are also systems and practices that already exist and pre-date single-use plastics.

Finally, there are markers of false solutions that do not pertain to the substance of the policies, but the quality of legal framework, governance, and enforcement. Transparency is key to avoiding false solutions. For example, labels on plastic products that are clear and non-misleading would ensure that consumers are aware of the chemical and material compositions of plastic products, and how to responsibly dispose of the product after use. Labels are also necessary for controlling plastic pollution from waste management and recycling processes. Strong regulations governing the facilities producing plastics, and those managing, recycling, and disposing plastic waste, are essential structures for avoiding false solutions. Finally, these structures must exist in the form of legally-binding rules and not voluntary guidance. These are general principles that can find specific manifestations in individual policies.

The plastic and petrochemical facilities in Rayong are major emittors of greenhouse gas and toxic chemicals. © EJF/2025

Smoke rises from a fire in an unregulated landfill in Samut Prakan province, Thailand, January 2025. © EJF/2025

4. NATIONAL CASE STUDY: THAILAND

In assessing Thailand's national policies on plastic pollution, we divide the assessment process into three main dimensions:

POLICY DIRECTION, LEGAL FRAMEWORK, AND STRENGTH OF ENFORCEMENT.

Policy direction, legal framework, and strength of enforcement. Policy direction refers to the substance of the policies: the presence or absence of certain elements in policies and laws.

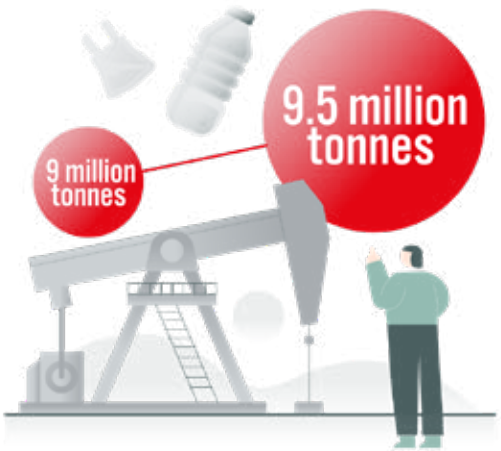
Legal framework refers to the presence of acts, ordinances, notifications, and other legal instruments to implement the substance of the policies.

Finally, strength of enforcement refers to how well government agencies implement policies and legal mechanisms. In practice, these dimensions overlap. For instance, the possibility of certain policy directions may be blocked by the absence of certain legal structures.

4.1 POLICY DIRECTION

This section evaluates three related policies that guide Thailand's actions against plastic pollution:

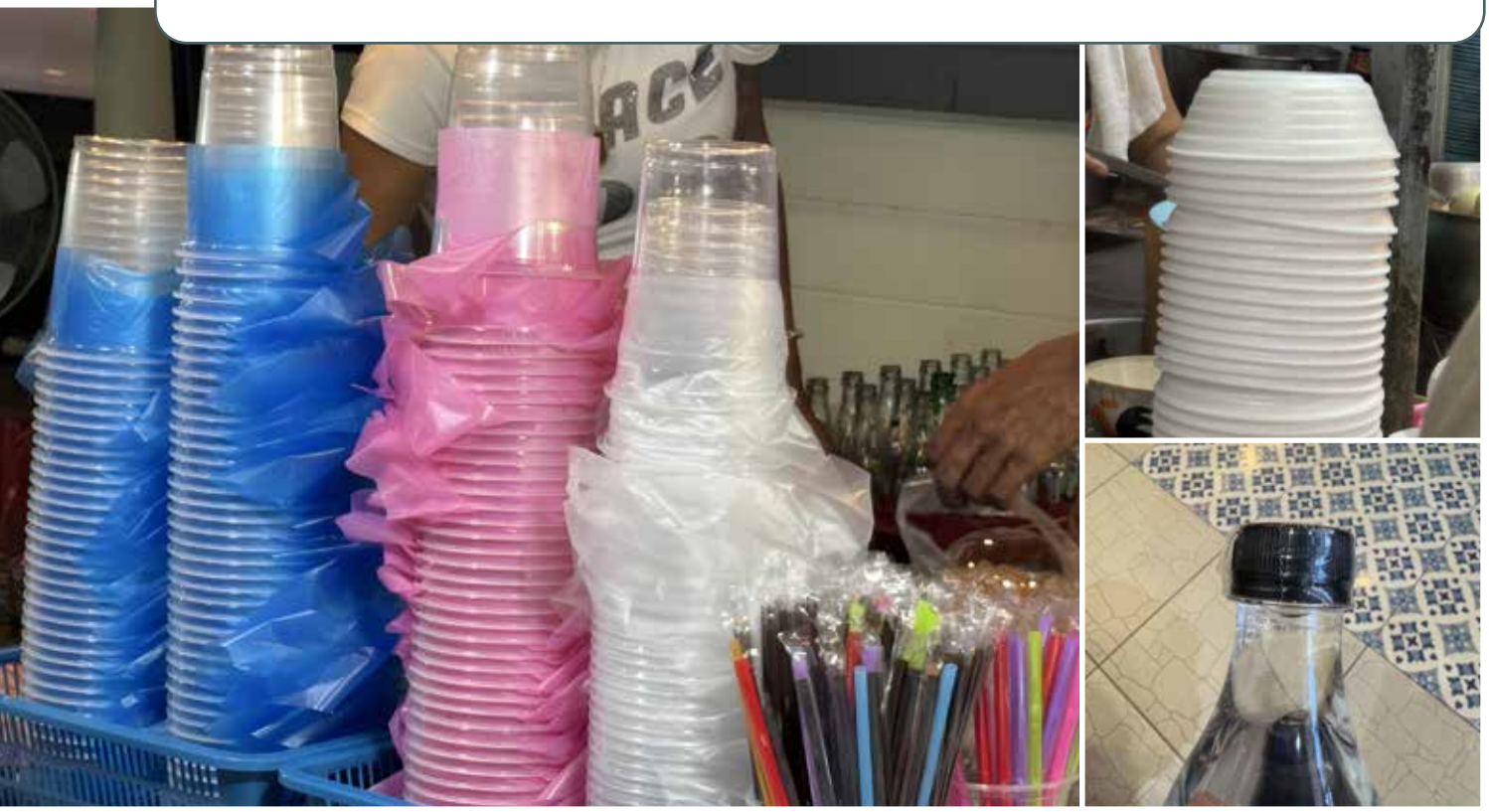
After a rigorous analysis, EJF found that none of these policies address the reduction of overall primary plastic production, due to the fact that all of their interventions begin at the stages of plastic product design and shaping, leaving out fossil fuel extraction, hydrocarbon refining, non-hydrocarbon chemical production, and polymerisation. Under the limited product bans introduced by the 2018 Plastics Roadmap, the overall production of plastics did not reduce. In fact, between that year and 2021, plastic production in Thailand has increased from approximately 9 million tonnes to 9.5 million tonnes.[38] According to a material flow analysis by Chulalongkorn University, plastic production and imports also increased from 2012 to 2019, illustrating that the increase between 2018 - 2021 is not a recent trend.[39]



However, reduction-enabling measures were introduced in the form of specific product bans. The 2018 Roadmap identified seven products that must be banned between 2019 - 2022: oxo-degradable plastics, plastic microbeads, cap seals, foam food containers, plastic straws, plastic bags that are thinner than 36 microns, and plastic cups that are thinner than 100 microns. These reduction-enabling measures are, to an extent, helpful.

The seven-product goal identified in the 2018 Roadmap was reiterated in the first action plan, with the exception of oxo-degradable plastics, plastic microbeads, and cap seals, which according to the First Plastics Action Plan (2020 - 2022), had all been successfully banned in 2019.[40] The First Plastics Action Plan (2020 - 2022) maintained the target of banning the other four plastic products by 2022.

In spite of the claim made in the First Plastics Action Plan (2020 - 2022), the RTG has only succeeded in banning plastic microbeads in one product line: cosmetics. No laws have been passed to ban the other plastics including oxo-degradable plastics or cap seals, which means that they can still be found on the market to this day. The other four products slated for banning in 2022 were also not banned. This is evident in interviews with stakeholders in the waste management industry and exemplified by the ease with which these products could be found in Thai society in 2024 (see below).[41]



Some of the plastic products targeted for banning under Thai law by 2022, all photos taken in 2024. © EJF

The Second Plastics Action Plan (2023 - 2027) was released in 2023, and is the one currently in use. It admitted that the ban on four of the seven plastic products had only been achieved by "42%".[42] However, instead of setting out to complete the target and to reassess the incomplete ban of the first three products, the Second Plastics Action Plan II (2023 - 2027) dropped the product banning goal entirely. This constitutes a significant step-back from the first Action Plan and the Roadmap. On the whole, the Second Plastics Action Plan (2023 - 2027) places far less emphasis on legal prohibition of certain products, when compared to the 2018 Roadmap or the First Plastics Action Plan.

In terms of reduction-enabling measures, the Second Plastics Action Plan (2023 - 2027) mentions reuse and refill but gives them far less priority, ambition, and legal strength than recycling. This represents a serious missed opportunity, given reuse and refill address the problem at the root cause. A study by the World Economic Forum found that making 10 - 20% of plastic packaging reusable could reduce the leakage of plastic waste into the ocean by 50%.[43] The Ellen MacArthur Foundation found that a change from rigid single-use to rigid returnable packaging could reduce waste generation by around 90% and reduce the volume of plastic use by 54 - 76%.[44]

The Second Plastics Action Plan (2023 - 2027) provides extensive support to recycling. While the presence of recycling in itself is not an indicator of false solutions, the prioritisation of recycling over control of production, supply, and consumption, and the implementation of reuse, refill, and repair systems is. One such case is WtE, which is mentioned in the Second Plastics Action Plan (2023 - 2027). However, the RTG's support for WtE is more visible in energy-related policies.[45] In a 2023 report by Ecological Alert and Recovery - Thailand (EARTH), one private sector interviewee stated that the level of monetary support provided by the RTG to WtE facilities is so high that they may generate more demand for waste.[46]

Aside from the Second Plastics Action Plan (2023 - 2027)[47] WtE has been included in the National Action Plan on Waste Management (2022 - 2027), [48] the revised Power Development Plan (2018 - 2037),[49] the Alternative Energy Development Plan (2018 - 2037),[50] and Thailand's 2022 updated Nationally Determined Contributions (NDC) under the Paris Agreement.[51] In their NDC, the "promotion of WtE technologies" is cited under the technological development and transfer section and "negative public perception particularly against WtE and biomass power plants" is included as a key barrier for achieving climate goals.

A 2024 report by Greenpeace Thailand demonstrates, through experiments, that many plastic products in the Thai market that purported to be biodegradable fall short of their environmental claims. © Tadchakorn Kitchaiphon / Greenpeace

As mentioned in the above sections, replacing conventional plastics with biodegradable and bio-based plastics constitutes another form of false solution. Currently, biodegradable and bio-based polymers form an integral part of the Thai plastics industry's future. Thailand is already a significant global base for the production of bio-based plastics, as its production of the bio-based and biodegradable Polylactic Acid (PLA) was ranked among the three largest in the world in 2021.[52]

In a 2023 article, the Thai Bioplastic Industry Association claims that Thailand's 'bioplastics' production ranks second in the world, with 90% being exported.[53] According to the Plastics Institute of Thailand, 78.4% of the 'bioplastics' product manufacturers in Thailand in 2021 produced packaging, most of which were single-use packaging meant to replace conventional plastic packaging.[54]

Notably, the 2022 report indicates that there are two main biodegradable 'bioplastics' resin producers in Thailand, with a third on the way.[55] While the purported products of the three projects are bio-based plastics made from agricultural products, all of them are joint ventures where one or both of the companies involved are petroleum or petrochemical producers. namely PTT Global Chemical Public Company Limited (PTT), Mitsubishi Chemicals Corporations, and Total Energies.

Siam Cement Group (SCG), another key petrochemical stakeholder, has also announced that it will be jointly developing a bio-based plastic factory in Thailand with a goal to produce "1 million tonnes of green polymers by 2030."[56]

This large amount of investment is not coming from the private sector alone. As part of the first phase of the First Plastics Action Plan, the RTG introduced measures to cut taxes for companies that use biodegradable plastics in their products.

Photos of products selected for Greenpeace's experiment to test the biodegradability of different plastic products on the Thai market. © Greenpeace

According to the RTG's spokesperson, the same measure, implemented between 2019 - 2021, cost the government around 450 million baht (13 million USD) per year.[57] These investments have been made without the necessary infrastructures in place. Interviews with waste management stakeholders and scientists indicate that Thailand does not currently have a functioning industrial composting facility for compostable plastics.[58] The Asian Development Bank named an "absence of industrial composting facilities for managing bioplastic waste" as a key challenge for effective implementation of alternative plastics policies in Thailand and Southeast Asia.[59]

In sum, under the RTG's current policies, the support for recycling, WtE, and alternative plastics far outweigh upstream and reduction-enabling measures.

4.2 LEGAL FRAMEWORK

While there are many legal gaps for reduction-enabling measures, Article 32 of the 1992 Factory Act states that for the purpose of conserving the environment, the Minister of Industry, with the approval of the Cabinet, can determine the types of factories that cannot be established or expanded, and determine the ratio of raw materials that can be used in their production.[60] This article can be invoked to prevent the expansion of plastic factories, reduce the use of plastics as raw materials, prohibit the production of specific types of plastic products, and ban the use of certain chemicals.

This article has been invoked to ban the use of dichlorofluoroethane in the production of certain types of foam.[61] It has also been invoked to ban the establishment or expansion of factories producing certain types of steel, where the reasoning for the ban included "oversupply" and environmental problems.[62] Therefore, the legal structure for prohibition of production of certain plastics, banning the use of certain chemicals, and the reduction of plastic production in general exists, and has been used for similar purposes.

In December 2024, the RTG instituted a ban on the import of plastic waste under the custom code 3915, which came into effect on January 1st, 2025.[63] This followed years of campaigning and advocacy work by environmental civil society groups including waste pickers affiliated with Thailand's Saleng and Recycle Trader Association. The ban represents a positive policy direction with an accompanying legal structure, geared towards reducing the supply of plastics – particularly low quality plastic waste – in the country.

Plastic waste in a Chinese-owned illegal recycling facility in Chonburi, Thailand. © EJF/2023

The main legal structure for controlling chemicals in Thai law is the 1992 Hazardous Substance Act.[64] Under the Act, certain agencies can issue notifications regulating or banning chemicals of concern relevant to their work. Regulations of chemicals relevant to plastics are most often issued by the Department of Industrial Works (DIW), under the Ministry of Industry. In the case of plastic food containers, the Food and Drug Administration plays a role in regulating chemicals in plastics.

Thai consumers are exposed chemicals in plastics used for food packaging. © EJF/2025

Thailand's regulations covering chemicals in plastics have mostly followed a risk-based approach. This is in part because the Hazardous Substance Act lays out four tiers of control for hazardous substances: one being least controlled, and four being subjected to prohibition. The act, however, did not provide clear criteria for which hazard properties would cause a chemical to be included in tier four (prohibition). This means that many of the chemicals related to plastics are controlled at tier 3, where production, import, and use are allowed with permits.

This risk-based approach creates a burden for government agencies who now have to ensure that these c hemicals are used at the right concentration and only with specific purposes, An example of this is how the RTG regulates perfluorooctanoic acid (PFOA) its salts and perfluorooctanoic acid (PFOA)-related compounds, which are specific groups of chemicals dubbed "forever chemicals" due to their toxicity and persistence.[65] Under the Hazardous Substance Act, PFOA, its salts and PFOA-related compounds are controlled under tier 3, with permits allowed only for specific applications.

This risk-based approach means the RTG must invest a significant amount of resources in preventing these chemicals from being used in unpermitted sectors. This is in contrast to a hazard-based approach which would ban the use of such dangerous chemicals in all sectors, reducing the cost of monitoring and enforcement, as well as the risk of exposure for the environment and the population.

Since plastics are used in almost all of the food we consume, we are in turn exposed to any chemicals used in plastics. © EJF/2025

While there are useful legal instruments that can foster measures at the level of chemical usage in plastic products, further downstream in the waste management stages, there are significant gaps in Thailand's legal framework. Most significantly, there is no act to specifically address environmentally sound waste management. Waste management is addressed by two different acts under the Ministry of Interior and the Ministry of Health which only focus on downstream measures, providing no legal structure for interventions at the level of plastic production, product prohibition and designs.[66]

In recent years, potential legal structures have emerged that could address those interventions. The Sustainable Environment Research Institute under Chulalongkorn University and the People's Party have produced draft acts that contain measures to prohibit and limit the production of certain materials that harm the environment. The PCD is also pushing a draft act to regulate packaging. The extent to which the draft act will address measures related to production and supply of plastics, as well as reduction-enabling measures, such as reuse and refill, remains to be seen.

In sum, a lack of dedicated instruments to tackle the full life cycle of plastics continues to limit and misdirect Thailand's policy directions. However, this section has also demonstrated that the RTG has not made sufficient use of existing (albeit limited) legal structures to implement the reduction of plastic production, prohibition of products, mandatory improvement of product designs, and hazard-based governance of toxic chemicals in plastics. This indicates that this may not only be a problem of a weak legal framework, but also poor or variable enforcement and political will.

Used plastic bottles in a factory in Thailand. © EJF/2025

"Legal instruments are a crucial element in the management of waste and plastic waste. Thailand has roadmaps, policies, and national action plans related to solving the plastic waste problem. However, their implementations are still not effective. The goals have not been reached, for instance, the goal of reducing and banning certain types of single-use plastics, and recycling goals. This is because **we lack firm legal instruments and most importantly the implementation of those instruments in a coherent direction.** Nevertheless, good things have happened as a result of multi-stakeholder cooperation, such as the PPP Plastics project.[67]"

Dr. Wijarn Simachaya,
President of the Thailand Environment Institute and former Permanent Secretary of the Ministry of Natural Resources and the Environment[68]

4.3 STRENGTH OF ENFORCEMENT

While policy directions and legal frameworks exist to control toxic chemicals, their implementation is hindered by a number of factors. A lack of transparency on the use of chemicals in plastics severely impedes regulations, as indicated by the public health and academic sectors.[69] While this can be framed as an implementation problem, the lack of transparency is also a result of shortcomings in the legal architecture. A risk-based approach embedded in the Hazardous Substance Act means the burden lies on government agencies to 'chase down' tens of thousands of chemicals present in plastic production processes and products.[70]

Plastic waste in a waste sorting facility in Thailand. © EJF/2025

A key example that illustrates poor implementation and a lack of transparency is the RTG's approach to bio-based and biodegradable plastics. The RTG has not cracked down on plastic companies that advertise their products as environmentally friendly, despite using plastics that degrade into microplastics rather than composting.[71] There is also no regulation stating the percentage of bio-based materials that need to be in a particular product for a company to claim that it is "bio-based". Lack of supply chain transparency and regulations mean companies could add just a 10% ratio of bio-based materials and still claim environmental credentials.[72]

The danger of a lack of transparency and regulation for alternative plastics is illustrated by a 2024 report by Greenpeace, which conducted experiments to test the ability of different plastic products to decompose in the natural environment. The experiment found discrepancies between the environmental claims advertised on some of the products and the performance of said products in practice. For instance, one line of plastic bags claimed to be compostable in natural environments; however, in practice, they did not decompose and might have even released microplastics into the environment.[73]

The lack of transparency and regulations mean that most biodegradable or bio-based products in Thailand are not segregated after use. They are often rejected by recycling factories because their qualities may be different from conventional plastics, which remain the majority. Thailand's flagship bio-based plastic – PLA – is compostable in an industrial composting facility. However, according to interviews with stakeholders, no such facilities exist in Thailand.[74]

The failure of alternative plastics to substantively solve Thailand's plastic pollution crisis in practice is illustrated by two findings. First, the RTG has, as mentioned earlier, provided a 450 million THB tax break for corporations using alternative plastics, instituted as part of the first Action Plan between 2019 - 2021. This was meant to be an investment to solve the plastics waste crisis. However, according to the PCD's report in 2023, the amount of plastic waste has increased. Further, most of the municipal solid waste found at disposal facilities and sites are still food waste and plastic waste.[75] This demonstrates that the hundreds of millions of THB in tax breaks did not curb the plastic waste crisis.

A trash bin overflowing with single-use plastic food packaging, Sri Racha, Chonburi. ©EJF/2024

The Ministry of Industry's special taskforce investigates a plastic recycling facility in Chonburi province, Thailand. © EJF/2025

Previous sections have addressed the fact that the prioritisation of recycling and WtE as solutions to the plastic pollution crisis reflects the prominence of false solutions in the RTG's policies. However, another aspect of the false solution is the lack of thoughtful consideration or well-planned regulation to prevent these activities from causing further negative impacts. If recycling and WtE are poorly regulated and cause pollution, they should not and cannot be regarded as solutions to plastic pollution. Rather, they only constitute a way to shift the problem from one system/area to another.

Unfortunately, recycling and WtE are poorly regulated in Thailand. Poor regulation of recycling and WtE facilities means citizens and communities are severely affected by technologies proclaiming to solve plastic pollution. Between 2015 - 2022, there were approximately 58 cases of community opposition to WtE facilities in Thailand, many of the cases citing proximity to water sources or community areas, lack of public participation in decision-making processes, and cases of intimidation.[76]

SPOTLIGHT ON WASTE-TO-ENERGY IN THAILAND:

Weak environmental regulation and public participation

The problem of implementation in Thailand is closely related to the problems with legal structures. WtE regulations provide the clearest example of this.

In 2012, the Ministry of Natural Resources and Environment (MONRE) promulgated a notification requiring that any WtE facilities with production capacity above 10 megawatts must go through Environmental Impact Assessment (EIA) procedures. However, in 2015, as part of the surge in policies supporting WtE, the RTG exempted WtE facilities of all sizes that use municipal waste from having to go through EIA processes, significantly reducing requirements for public participation and due process.[77] This led to an administrative lawsuit from NGOs and local communities to overturn the exemption, but in 2022, the administrative court ruled in favour of the exemption.[78]

Waste-to-energy power plant in Nong Bua district, Nakhon Sawan province, Thailand. © EJF/2025

The Nakhon Sawan case

The problems outlined above found specific manifestation in Nong Bua, Nakhon Sawan, where locals are opposing a WtE facility which was opened with dubious public participation procedures, and is now a cause of severe pollution problems. Locals have even been sued for speaking up against the WtE project. Here, Reamwilai Ruangteerawongsa, a former teacher and activist in the area, tells her story:

Riamwilai Ruengtirawongsa, Environmental defender, Nakhon Sawan Province. © EJF/2025

"The stack of the WtE facility is always emitting dark plumes of smoke, sometimes you can't see it in daylight, it may have already dissipated. Another form of emission is like fog, spreading down low from behind the factory. It then puffs up into view - it looks green and blue, I'm not sure how to describe it. It will spread down low, lower than the trees, through the rice fields."

"It affects many people in the community. Some told me that the dust from the factory falls onto their house, becoming something oily and rubbery. It gets stuck to their cars. They have to keep the children inside the room. Another person usually stays at the rice field to guard the water pumps. He could not stand the foul smell and decided to come back home anyway."

"We have submitted letters to government officials, district officials, the energy regulatory commission in Bangkok, and even the National Human Rights Commission, but the impacts persist."

"The government may think that WtE is an easy and profitable solution to the waste management problem. But new problems will follow and they will be severe. It all begins with selecting inappropriate locations for these facilities, then the easy issuance of permits, then weak monitoring and regulations in all subsequent steps. And after all that, once the impacts show themselves, the government never shows up with effective solutions, they always go easy on the companies, finding loopholes. Only when the local people are thoroughly affected, when the environment is severely damaged, will they begin to fix things. But the restitution and compensation is never accessible, in time and sufficient. "

> "IF PERMITS FOR WTE ARE STILL GIVEN OUT THIS EASILY, PROBLEMS WILL GROW FAST LIKE MUSHROOMS."
>
> **RIAMWILAI RUENGTIRAWONGSA**
> **ENVIRONMENTAL DEFENDER**

Prevention and control of emissions and pollution can be drastically improved by transparency-based legal instruments such as a pollutant release and transfer register (PRTR). PRTR laws, already implemented in the United States, Japan, and the European Union, mandate polluting facilities to report the chemicals and pollutants they release into the environment to the government. The government must then disclose this information on a publicly accessible platform. PRTR laws also mandate governments to collect and publicly disclose information on pollutants that are difficult to identify specific sources for, such as air pollution or marine pollutants.[79]

PRTR laws ensure that all sectors, including citizens, government agencies, and the private sector share a common pollution database, which assists with enactment, enforcement, and monitoring and evaluation of policies, and ensures the democratisation of information. Two PRTR bills have been submitted, one by CSOs including EARTH, ENLAWTHAI Foundation, and Greenpeace - Thailand, and the second by the People'sParty. At the time of the writing (January 2025), both are awaiting consideration at the parliamentary level.

IN SUM, THE IMPLEMENTATION OF POLICIES AND REGULATIONS TO SOLVE PLASTIC POLLUTION HAS BEEN POOR. THIS IS HEAVILY TIED TO A LACK OF LEGAL STRUCTURES SUCH AS TRANSPARENCY FRAMEWORKS, EMISSION AND POLLUTION STANDARDS, AND PUBLIC PARTICIPATION PROCEDURES.

A waste-to-energy power plant in Nong Bua, Nakhon Sawan, emitting plumes of smoke in 2023.

5. REGIONAL CASE STUDY: SOUTHEAST ASIA AND ASEAN

The assessment of ASEAN's regional policies on plastics can only focus on policy direction, since they are not legally binding. By design, they do not have specific legal structures for implementation or enforcement.[80] Nevertheless, these regional policies have been referenced in national policies, including in Thailand.[81]

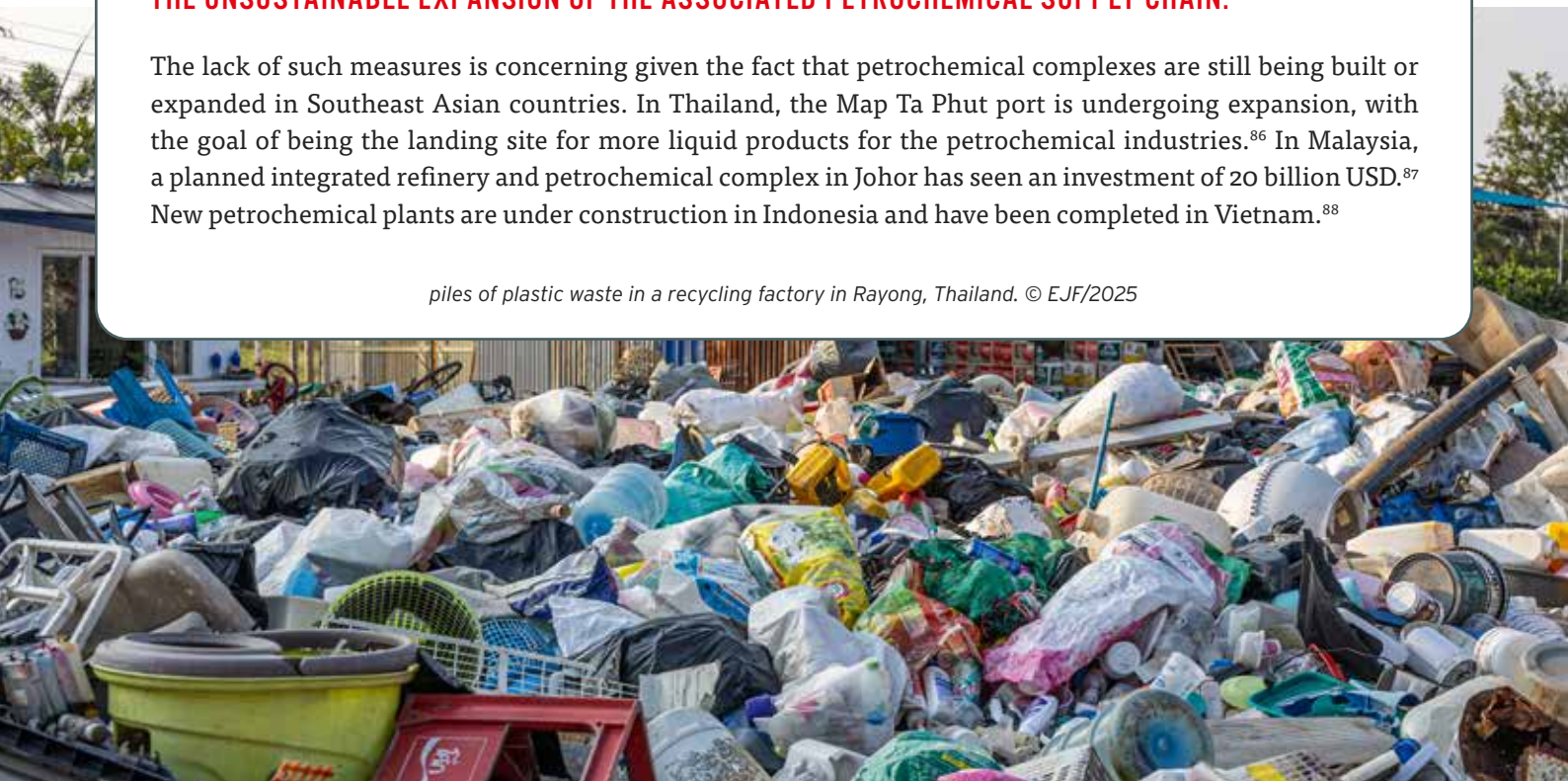
Since 2019, ASEAN has released a number of policy documents related to plastic pollution: the Bangkok Declaration on Combating Marine Debris (2019),[82] the ASEAN Framework of Action on Marine Debris,[83] the ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025,[84] and the Framework for Circular Economy for the ASEAN Economic Community.[85]

The 2019 Bangkok declaration focuses on marine debris. While positive references were made to the "land-to-sea approach", the declaration lacks focus on the production and consumption of plastics. The focus on downstream approaches is further weakened by references to undefined terms, such as "circular economy". The ASEAN Framework of Action on Marine Debris expands on certain actions that could be interpreted as including upstream approaches, including the development of extended producer responsibility laws and life-cycle management. However, interpretive gaps remain between what is mentioned in the framework and what appears in national laws.

The ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021-2025 has more references to upstream approaches, referred to as measures to reduce inputs into the system of marine debris. These include "guiding principles" for phasing out single-use plastics, best practice for plastic packaging and labeling, and regional stocktaking on green public procurement. While these actions are positive, they are not framed as actions to be taken at national levels, but as regional knowledge management. The Framework for Circular Economy for the ASEAN Economic Community provides more details on the implementation of a circular economy, such as trade measures and green finance. However, there is still a lack of upstream measures.

IN SUM, ASEAN'S REGIONAL POLICIES ON PLASTIC POLLUTION SEVERELY LACK UPSTREAM MEASURES, PARTICULARLY THOSE THAT ADDRESS THE PRODUCTION OF PRIMARY PLASTIC POLYMERS AND THE UNSUSTAINABLE EXPANSION OF THE ASSOCIATED PETROCHEMICAL SUPPLY CHAIN.

The lack of such measures is concerning given the fact that petrochemical complexes are still being built or expanded in Southeast Asian countries. In Thailand, the Map Ta Phut port is undergoing expansion, with the goal of being the landing site for more liquid products for the petrochemical industries.[86] In Malaysia, a planned integrated refinery and petrochemical complex in Johor has seen an investment of 20 billion USD.[87] New petrochemical plants are under construction in Indonesia and have been completed in Vietnam.[88]



piles of plastic waste in a recycling factory in Rayong, Thailand. © EJF/2025

The expansion of plastics and petrochemical production lines directly hinders any midstream or downstream efforts to combat plastic pollution, as they continue to inject an increasing quantity of plastics into a system already choked by them. Further, the slowdown in the global chemicals market and competition from China's massive investments in plastics and petrochemicals raises concerns over whether these expansions are economically sound in the long run.[89] In any case, China's and Southeast Asia's petrochemical expansion will potentially increase the supply of virgin plastics into the system. The potential trade tariffs on Chinese products that have been proposed by the Trump administration have the potential to turn Southeast Asia into a "'catch-all' market for petrochemicals as these products are increasingly diverted away from the USA.[90]

Imported plastic waste bales piled up in the surroundings of a plastic waste recycling factory in Rawang, Selangor, Malaysia, 2024.
© Basel Action Network

Aside from virgin plastics, plastic waste has been flowing into the Southeast Asian region since China banned the imports of plastic waste in 2018.[91] This is another source of an oversupply of plastics in Southeast Asia. The region's response to this has been indicative of another key false solution at the regional level: a lack of united measures. Southeast Asian nations' responses to foreign plastic waste range from an import ban in Thailand, regulations and controls in Malaysia, to no regulations in Brunei Darussalam.[92] This also applies to intraregional trade, where countries such as Thailand have been shown to be a transit state for plastic waste exported to Myanmar.[93] A lack of united measures on the plastic waste trade means that the region continues to be supplied with plastic waste, while intra-regional differences in legal instruments and governance lead to loopholes.

Finally, the development of transparency-based legal instruments such as PRTR laws occur at different stages in different Southeast Asian countries. PRTR and other transparency-related measures such as mandatory labelling of plastic products and information disclosure for waste trade could enhance cooperation between Southeast Asian nations in combating cross-boundary plastic pollution and illicit trades of toxic plastic products and waste.

EXAMPLES OF UNITED REGIONAL MEASURES TO REDUCE SUPPLY OF PLASTICS: AFRICA AND THE EU

The Bamako Convention is a multilateral agreement initiated by African nations, which came into force in 1998.[94] The convention prohibited the import into Africa of any hazardous waste. While the convention has many shortcomings, it is a potential model for a Southeast Asian-wide ban of waste imports.[95] In terms of export bans, the EU's new waste shipment regulations include a full ban on plastic waste export from November 2026.[96]

EXAMPLES OF INTERNATIONAL INSTRUMENT ON TRANSPARENCY: KYIV PROTOCOL

The Kyiv protocol is the first international legally binding instrument on the pollutant release and transfer register.[97] It mandates signatories to establish and maintain a publicly accessible national pollutant release and transfer register, with specific elements including mandatory periodic reporting, specificity of waste and pollutant, and mechanisms for public participation.

The Kyiv protocol is based on the Aarhus Convention or the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. The Aarhus Convention is often perceived as a regional instrument due to the fact that its member-states are mostly from Europe and Central Asia. However, both the Aarhus Convention and the Kyiv Protocol are open to all UN member states. In fact, UN member states could sign on to the Kyiv Protocol without signing on to the Aarhus Convention.[98] Signing on to the Kyiv Protocol could be the first step to an ASEAN-wide implementation of PRTR.

CSOs working to combat plastic pollution have voiced their criticisms of false solutions in the region. On the eve of the fourth round of the 'Global Plastics Treaty' negotiation in April 2024, over 100 CSOs released a joint statement calling for ASEAN leaders to take a strong stance in the ongoing negotiations. A strong stance, the joint statement emphasises, would need to include upstream measures including the reduction of plastic production, and to "reject technologies that do not address the root cause of plastic pollution, and instead worsen impacts on human health and the environment, including chemical recycling, incineration, waste-to-energy, refuse-derived-fuel (RDF), and similar technologies."[99]

The call was reiterated when several civil society groups from Southeast Asia penned an open letter to ASEAN leaders in the midst of the fifth round of treaty negotiations in December 2024, which took place in Busan, Republic of Korea. The letter warned that during the negotiations, the proliferation of the use of the term 'circular economy' seemed to serve the interests of fossil fuel lobbyists, creating a false sense of assurance that plastic pollution can be addressed without upstream measures.[100] At that negotiation, most ASEAN leaders, notwithstanding a few remarkable exceptions, stopped short of endorsing production reduction.

These views are shared by CSOs working at different levels of the plastic pollution crisis. One representative of a CSO working to change consumer behaviour in Malaysia responded to an EJF survey on false solutions and stated that "the absence of policies and laws to regulate and reduce plastic production and usage" is a feature of false solutions.[101] Likewise, a grassroots organisation working on community waste management and support for waste pickers in Myanmar highlighted WtE and pyrolysis (turning plastics into fuel) as false solutions. The latter also emphasised another structural element of false solutions: modernization which pushes out microbusinesses from the public space.[102]

SPOTLIGHT: WTE IN SOUTHEAST ASIA - AN EMERGING PATTERN?

Over the past decade, Southeast Asia has repeatedly been named the world's foremost generator of plastic waste.[103] While this narrative is extremely flawed as it ignores the role of upstream plastic production, fast-moving consumer goods corporations, and transboundary movement of plastic products and waste, it recognises the existing waste management problem in Southeast Asia.[104] However, very little focus has been given to reduction of waste at the source, including reducing production and consumption.

Instead, the high and increasing level of waste generation in Southeast Asia has been portrayed as an opportunity for the development of WtE. A 2020 study expects that the "waste-to-energy market across the region will continue growing," because of, among other reasons, "an increase in waste generation due to rapid urbanization."[105] Mordor Intelligence shares this sentiment, reporting in a 2025 - 2030 market forecast that the WtE market in Southeast Asia "is witnessing substantial project developments and investments across the region," while "rapid urbanization across Southeast Asia has created an unprecedented surge in waste management, making it one of the most critical drivers for the waste-to-energy market."[106] These sentiments reflect the problem at the core of WtE as a 'circular economy' initiative: WtE benefits from more, not less, waste.

Other factors have contributed to the growth of WtE in Southeast Asia. The need for secure energy sources that meet the requirements of renewable energy is one.[107] WtE is included as a measure to reduce carbon emissions in the current and active nationally determined contributions of Thailand,[108] Indonesia,[109] Vietnam,[110] and Cambodia.[111] Lack of land for landfilling has also been identified as a driver for opportunities for WtE in Singapore and Brunei Darussalam,[112] seemingly without considering possibilities for waste reduction. Lastly, government support is another reason for the growth of WtE in Southeast Asia.[113]

Government support for WtE in Thailand, demonstrated previously, is shared by Indonesia. A 2025 report by Wahana Lingkungan Hidup Indonesia (WALHI) states that WtE has "a long and positive relationship with the government of Indonesia and international financial institutions".[114] In both Indonesia and Thailand, the growth of WtE was significantly influenced by landfill-based disasters: the fatal 2005 Leuwigajah landfill tragedy in Indonesia and the 2014 Phraeksa landfill fire in Thailand.[115] While the timeline took longer in the Indonesian case, WtE was subsequently presented as an environmentally friendly solution to the waste problem in Indonesia in 2016, and around the same time in Thailand.[116] In both countries, government support at the policy level was crucial, although the support was swifter and more explicit in Thailand, due in part to the military government's ability to use emergency decree powers to roll back EIA regulations.[117]

WALHI's report further explores the social and economic risk of WtE. The report points out that WtE requires a sustained influx of waste, as well as long-term investment – a recipe for preventing waste reduction efforts. The economic cost on the government (through subsidies, subsidies and tipping fees) is a shared feature for WtE in Thailand and Indonesia.

Finally, WALHI's report points out the risk of corruption and social harms. Similar problems, such as suspicions surrounding tendering procedures and intimidation of communities, are found in both the Indonesian and Thai cases.[118] Further studies are needed to uncover if such concerning trends are present in other Southeast Asian countries.

There are also external factors influencing the spread of WtE. Investments in WtE projects from Japan, Europe, and international financial institutions are growing in Southeast Asia.[119] For instance, the WtE projects in Nong Khaem district, Bangkok, belong to a "leading" WtE investor and operator in China.[120] In Indonesia, a wide range of international financial institutions and government development organisations are implicated in WtE investments, including the Asian Development Bank, the World Bank, China Construction Bank, and Japan International Cooperation Agency (JICA).[121]

Investors from Taiwan and Germany have reportedly approached the Dong Nai province authorities in Vietnam to develop WtE projects.[122] In January 2025, the CEO of a major Chinese WtE investor in Vietnam met the Secretary of State of the Ministry of Environment of Cambodia, where he expressed the intention to invest in WtE projects in Cambodia.[123]

A WtE power plant in Thailand, 2025. Due to lack of regulations and/or enforcement, these plants are allowed to exist next to agricultural areas. © EJF.

6. AVOIDING FALSE SOLUTIONS: NOW OR NEVER

As the spotlight on WtE demonstrates, the growing pressure on Southeast Asian countries, driven in part by misplaced downstream-focused narratives, has pushed its governments towards rapid solutions to the plastic pollution problem. This has created pressure to limit the scope of the problem, for instance, by focusing on downstream waste management.

It has also created pressure to produce 'quick wins', best exemplified in Thailand's roll back of EIA regulations for WtE policies to increase its presence across the country. This is also seen in the Indonesian case, where preference for WtE is due to its ability to deal with mixed waste. In both cases, quick wins are favored because they sidestep procedural rights protected in EIA laws and the important process of waste segregation. WALHI's report identified how support for WtE creates quick fixes by reducing the need for labor-intensive waste segregation for reuse and recycling, but may in the process damage the economic and livelihood benefits of those activities.[124]

The WtE cases provide a concise demonstration of how false solutions make progress slower and divert resources to the wrong places, creating social and economic problems. In some case studies presented in the WALHI report, the profitability of the WtE project comes into question once rigorous economic and financial considerations are included.[125] In Bangkok, a factory producing RDF from municipal waste was rapidly constructed to deal with the city's waste problem without proper consideration of its location, and before the city introduced any bans on plastics as upstream measures. The result is that the factory is located next to a housing estate, causing foul odours. This led to a lawsuit, leading to the suspension of the factory and therefore, hundreds of tonnes of waste with nowhere to go. Additionally, since the factory is owned by a company effectively owned by the Bangkok Metropolitan Authority, the city bears the cost of both the investment and setback.[126]

Population growth, increased consumption, and increased waste generation has led to landfills existing next to housing estate in Thailand. © EJF.

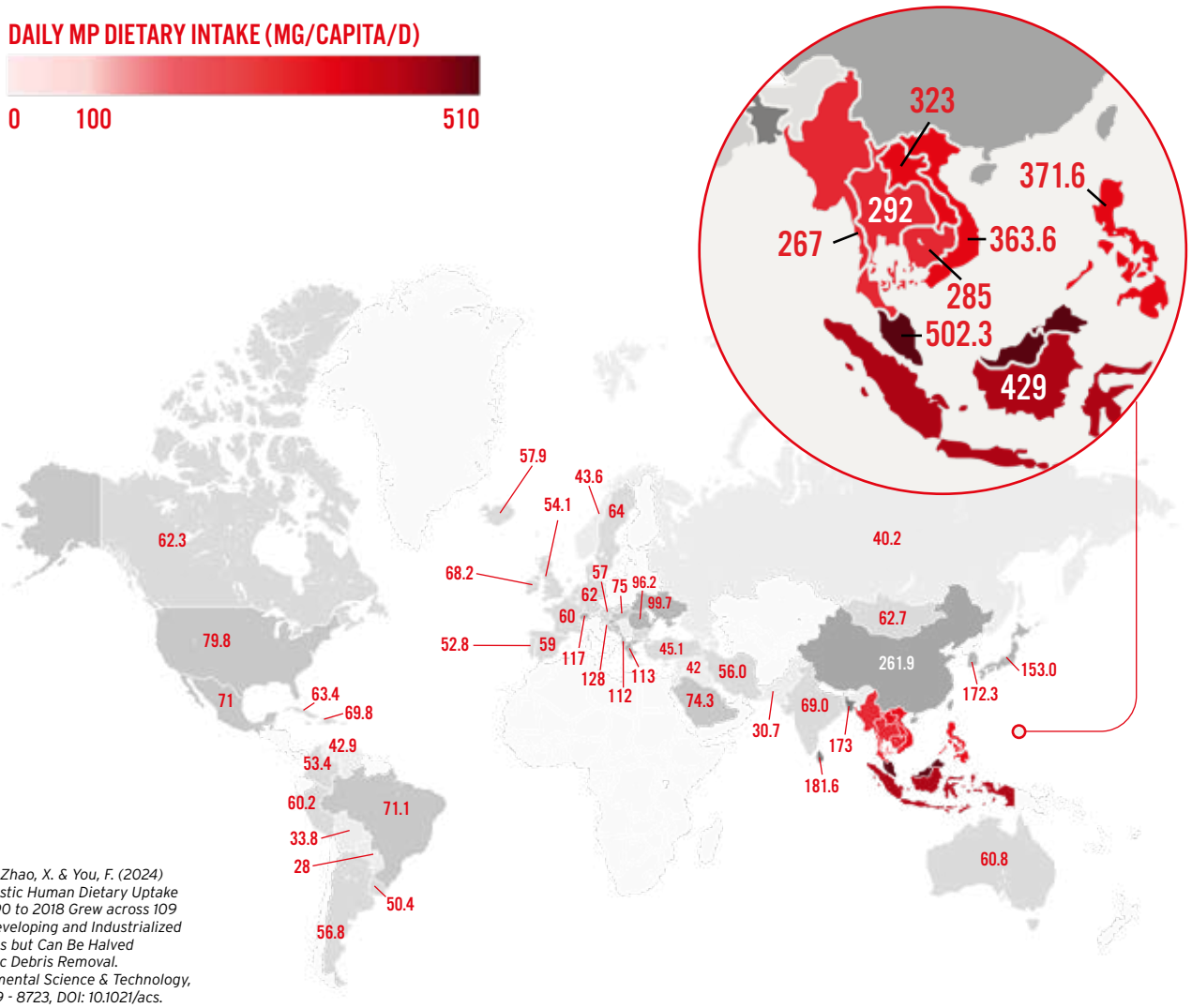
False solutions, by their very definition, fail to generate long term results and instead, incur costs without returns. The situation found in the WtE case – rapid investment without proper considerations – repeats itself in the cases of alternative plastics and recycling. The Thai government's investment in tax breaks for alternative plastics did not reduce plastic production and consumption, nor did they improve waste management, since the necessary infrastructure for composting plastics was not in place when they were introduced. Today, poor regulation of recycling factories and the growth of recycling under government support have led to many polluted sites across Thailand. In one case, the lawsuit for environmental and livelihood damage from a recycling factory reached as high as half a million EUR.[127]

7. CONCLUSION

As a region, Southeast Asia is uniquely vulnerable to plastic pollution. Its dense riverine system, extensive coastline, and interconnected marine environment means it is heavily impacted by marine plastic debris.[128] Southeast Asia continues to be a dumping ground for plastic waste imported from various countries.[129] The region has become both a producer and exporter of plastics,[130] which exposes its population to the impacts of the wider fossil fuel and petrochemical industries. This is not to mention the climate impacts of plastic production[131], which will boomerang back to affect the region.

The increasing production of plastics and the pollution they generate threaten the health of the region's population. Already toxic chemicals from plastics have been found in the blood of waste workers in rural Thailand[132] and microplastics have been found in the gastrointestinal tract of a highland farming community in East Java, Indonesia.[133] A 2024 study which looked at the uptake of microplastics between 1990 - 2018, and found that the Southeast Asian region, particularly Malaysia, Indonesia, the Philippines, Vietnam, and Thailand, saw the highest estimated daily dietary intake of microplastics of all the 109 countries surveyed in the study.[134] The impending public health threat from plastics in the region is underscored by the map below, adapted from the result of the 2024 study.

DAILY MP DIETARY INTAKE IN VARIOUS COUNTRIES BETWEEN 1990 - 2018



Source: Zhao, X. & You, F. (2024) Microplastic Human Dietary Uptake from 1990 to 2018 Grew across 109 Major Developing and Industrialized Countries but Can Be Halved by Plastic Debris Removal. Environmental Science & Technology, 58, 8709 - 8723, DOI: 10.1021/acs.est.4c00010

In this sense, Southeast Asia must not only actively work to solve the plastics crisis, but also join champion nations calling for progressive global action. The fact that its regional policies have been afflicted by false solutions, most pronounced in the lack of upstream measures, hinders the region's potential. While this report only addresses Thailand in its national level analysis, the case study exemplifies the potential pitfalls that all Southeast Asian nations, should aim to avoid or course-correct going forwards.

As stated in United Nations Environmental Assembly Resolution 5/14, which established the intergovernmental process to develop the first global legal instrument to address plastic pollution, the current crisis requires a life cycle approach, one where the production of plastics and the extraction of its fossil fuel feedstock must be included.[135] This upstream focus should be the guiding star for ASEAN and Southeast Asian nations in enacting or rectifying its plastic pollution policies and legal instruments. Guarding against reliance on solutions that do not address the root causes, or those that avoid systemic changes or reforms in the production and consumption of plastics should be a priority for Southeast Asian governments and policy-makers. Transparency, public participation, and strong regulations are vital pre-requisites for good governance and implementation.

With these, Southeast Asia can break free from false solutions, and take the lead in solving the world's plastic pollution crisis.

Thai CSOs calls for reduction of plastic production at Thailand's Ministry of Natural Resources and the Environment, November 2024. © EJF/2024

8. RECOMMENDATIONS

8.1 RECOMMENDATIONS FOR SOUTHEAST ASIA

EJF recommends that the governments of Southeast Asian nations:

1 Establish a legally-binding regional action plan that focuses on upstream measures, including the reduction of plastic production and supply, phasing out toxic and inessential plastics, and establishing strict controls on chemicals throughout the life cycle of plastics.

2 Establish legally-binding regional policies and action plans to implement or preserve toxic-free reuse, refill, repair, and other reduction-enabling systems in the Southeast Asian region.

3 Ensure that the ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States 2021 - 2025 is followed in 2026 by another regional action plan that is legally binding, and contains measures across the full life cycle of plastics, with the goal of reducing waste at the source.

4 Ensure that any regional action plans or instruments do not contain the false solutions identified in this report. This includes clarifying terms such as 'circular economy' to ensure that they include upstream measures and are not limited to recycling and waste-to-energy (WtE).

5 Establish specific regional instruments to guard against the increase in the supply of plastics in Southeast Asia, including a moratorium on the expansion and subsidising of plastics and petrochemical facilities and a ban on plastic waste import into the region.

6 Establish regional instruments to improve transparency and traceability, as well as public participation regarding plastic pollution and chemicals governance across the life cycle of plastics.

7 Take a strong stance as a region against false solutions in the negotiations of, and meetings on, international instruments, including the ongoing intergovernmental negotiations to establish an international legally binding instrument to address plastic pollution (INC) or the global plastics treaty. **A comprehensive global plastics treaty must include the ambitious goals of reducing plastic production, stopping the expansion of the petrochemical and fossil industry, and the phase-out of non-essential and toxic single-use plastics and other plastic products.**

8.2 RECOMMENDATIONS FOR THAILAND

In addition to the above, based on the findings of this report, EJF recommends that the Royal Thai Government (RTG):

1. Establish a new national action plan focused on upstream measures, including the reduction of plastic production and supply, phasing out toxic and inessential plastics, and establishing strict controls on chemicals throughout the life cycle of plastics.

2. Establish a legally-binding national policy, with corresponding legal instruments to implement or preserve non-toxic reuse, refill, repair, and other reduction-enabling systems in the country.

3. Support the drafting and enactment of a circular economy and waste management act that prioritises the right to a clean, healthy, and sustainable environment, with the goal of creating a legal framework for implementing upstream measures in preventing plastic pollution.

4. Guard against false solutions in the development and implementation of national policies and legal instruments. This includes revising current plans to reconsider the prioritisation of recycling, the expansion of WtE facilities, and the support and tax exemptions for bio-based and biodegradable plastics.

5. Engage CSOs, including frontline communities in the development of action plans and related legal instruments.

6. Establish strong and comprehensive regulations and preventative measures to prevent pollution from facilities related to plastics, including waste management, recycling and WtE facilities. These regulations should include measures for meaningful public participation and environmental impact assessments prior to projects receiving approval.

7. Establish strong legal measures to improve transparency and traceability across the plastics life cycle. These must include mandatory reporting and disclosing of chemicals associated with plastics, mandatory labelling of plastic products, and a Pollutant Release and Transfer Register (PRTR) law.

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The Environmental Justice Foundation (EJF) exists to protect the natural world and defend our basic human right to a secure environment.

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