

GLOBAL PLASTICS TREATY – APRIL 2024

A global opportunity to end Plastic Pellet Pollution

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Plastic pellets, flakes and powders (hereinafter collectively referred to as “pellets”) are lost and spilled on land and at sea, with billions entering the environment yearly¹. Pellets are the third largest source of microplastic pollution globally with over 445,000 tonnes leaking out of the global plastic supply chain directly into the environment, every year². Pellets are produced from fossil fuels, recycled and biobased polymers, and are the industrial feedstock used to produce almost all plastic products. Pellets are transported around the world by road, rail and sea, in complex international supply chains with evidence confirming that they are being lost to the environment at every stage – from production, conversion and recycling facilities as well as during all modes of transport – due to careless handling, storage, transportation practices, poor packaging, and limited training and awareness. This situation must not be allowed to continue, and the Global Plastics Treaty presents an ideal opportunity to tackle this problem with dedicated language on pellets.

Proven impacts associated with pellet pollution

Plastic pellet pollution has severe impacts on biodiversity, communities and economies around the world³, including in countries that do not produce or use pellets. Pellets are mistaken by wildlife for food, and plastic ingestion can lead to organ damage and starvation when ingested^{4,5}. Small microplastic fragments are released as plastic pellets break down, which can enter human and animal body tissues and disrupt their functions^{6,7}. Plastic pellets are often found in wastewater treatment, where they are incinerated or enter sludge used in agriculture, where they disrupt soil and microbial health^{8,9,10}. Once in the environment, pellets also leach harmful chemicals, additives and contaminants into soil, food and freshwater. Chemical additives and plastic fragments have been linked to multiple health issues, including cancer and hormone disruption in humans and affect the development and growth of marine animals^{11,12}. The build-up of pellets in the environment over time or from a large spill can have devastating impacts on local ecosystems, communities and economies. For example, spills in Sri Lanka and Hong Kong have documented impacts on local economies including fishing and tourism industries while ongoing pollution globally impacts the right of communities to a clean, healthy and sustainable environment^{13,14}.



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Pellets in provision 8: A solution to tackle global plastic pellet pollution

The global scale of plastic pellet pollution and the substantial evidence that pellet loss occurs at all stages of the plastics life cycle, from primary production to recycling, and at all stages of supply chains including at industrial sites and during transport means a global approach to preventing pellet loss is critical. The transboundary nature of pellet pollution and the involvement of multiple sectors and actors are further compelling reasons for the Global Plastics Treaty to tackle this source of plastic pollution.

It is imperative to retain specific language pertaining to pellet loss prevention within provision 8 (“Emissions and releases of plastic throughout its life cycle”)¹⁵. Whereas other sources of plastic pollution can be addressed through targeted interventions in product design or sectoral measures, pellet pollution deserves dedicated language in Provision 8 of the text.

An obligation on Parties to prevent pellet loss in provision 8 creates an opportunity to establish a level playing field; it would lead to all companies - regardless of size or location - across the full plastic life cycle that produce, handle, transport, store or process plastic pellets, having to implement and maintain effective loss-prevention measures that meet verifiable, mandatory minimum requirements for pellet handling, packaging and transport. The treaty, with dedicated language on pellets, can ensure that every individual company or sector is behaving responsibly.

Recommendations for strengthening the existing text related to pellet pollution in Provision 8 of the Revised draft text

- The obligation must apply across the full life cycle of plastic and global supply chain and cover all pellet handlers, carriers and installation types. The text should, therefore, specify the inclusion of production, handling, storage, conversion, waste management, recycling and all modes of transportation.
- To harmonise the approach to eliminating releases of plastic pellets at the international level, and build on existing regional legislation and standards, mandatory minimum requirements for pellet loss prevention, containment and clean-up should be set out in Annex E.
- Independent verification that these minimum requirements have been implemented, maintained and monitored for effectiveness should be required. This approach is embedded in Recommendations adopted by the OSPAR Commission and in proposed EU regulation.
- The Treaty’s governing body should also be empowered to adopt specific requirements in relation to the sources specified in Annex E, and further populate the annex with such source-specific measures.
- Mandatory and transparent standardised reporting measures for plastic pellet production (primary and recycled), import, export and loss should be included.
- Ecologically sensitive scientific and technical innovation to prevent and capture the release of plastics and plastic products, including microplastics, into the environment should be promoted and incentivised.

Sound pellet loss prevention measures that are maintained and monitored for effectiveness, and adopted and implemented across all sectors could reduce pellet loss by 95%¹⁶. The treaty is well placed to provide an overarching framework for coordinated international actions at all stages of the pellet supply chain, ensuring consistency, transparency and measurable continuity in practices¹⁷. It would complement other maritime and terrestrial pellet policy developments.

Defining plastic pellets

Plastic pellets should be defined as:

"Plastic pellets means a mass of pre-formed moulding material, used as feedstock in plastic product manufacturing operations. Plastic pellets can be derived from primary (virgin) polymer and/or secondary polymer (recyclate), including biobased polymers. They are transported in various forms, including flakes, granules and powders and can be referred to as resin or nurdles."

All plastic pellets pose a risk to the environment, and therefore the definition of plastic pellets must capture all types of plastic. The above recommended definition is adapted from the definition formally adopted by the International Maritime Organization (IMO) and all 16 parties to the OSPAR Convention¹⁸, including the European Union (EU). When defining pellets, it is important to specify that:

- Pellets, flakes and powders (collectively referred to as pellets) are used as feedstock for plastic manufacturing purposes.
- Pellets can be derived from primary (virgin) polymer and/or secondary polymer (recyclate) and biobased polymers.
- Size limits should be avoided in the definition because while pellets typically measure 5mm or less, recyclate flakes (secondary polymer used as feedstock) can be bigger than 5mm.

A specific obligation for pellets under Provision 8 complements other efforts to tackle pellet loss

Policies to prevent pellet losses and spills are under development in certain jurisdictions and for certain contexts but clearly these do not have global reach or cover the whole supply chain. So far, recommendations¹⁹ adopted at the IMO are specific to the carriage of plastic pellets by freight container at sea and are voluntary, not mandatory. If Parties of the IMO do progress towards mandatory regulations for shipping, legally binding regulations would not enter force for several years and could complement requirements in the treaty. Still, these regulations will not address most pellet loss which occurs on land, emphasizing the necessity for the treaty to regulate pellets at the global level. The proposed EU regulation is regional governance; and while some nations in the North Atlantic have committed to comprehensive action on pellets via the OSPAR Convention, further work is needed to ensure pellets are addressed globally and ensure commitments are translated into national legislation, regulation and administrative measures to address pellet pollution. Evidently, there are still many places where pellet loss is not being addressed in a regulatory context as there is no global requirement to prevent plastic pellet loss.

While commitments to tackle pellet loss are being developed, the treaty must ensure that there is a harmonized and global approach on pellet loss prevention by ensuring consistency, transparency and best practices across all sites, modes of transportation and countries party to the treaty. While Parties can learn from existing governance or practices, deferral to other instruments or initiatives risks uncertainty and fragmented governance. Addressing this pollution in the treaty, through a specific obligation under Provision 8 ensures dedicated

governance specifically tailored to address the holistic lifecycle of plastic pellets, from production to proper disposal, facilitating clearer accountability and more robust implementation signalling a unified commitment to combatting this source of plastic pollution globally.

An ambitious treaty to end pellet pollution

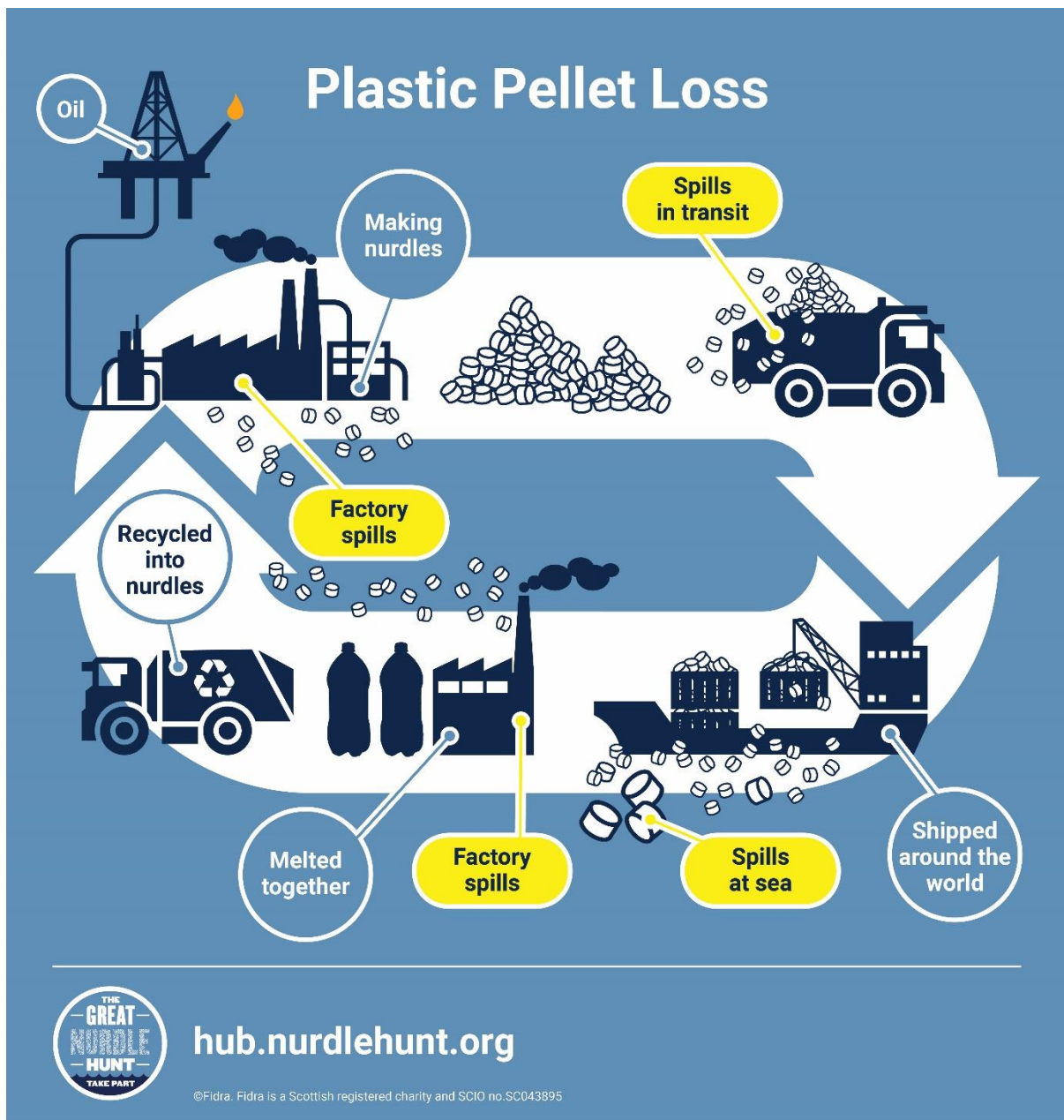
The treaty should reinforce ambitious actions to achieve zero pellet loss globally through an obligation under Provision 8 that introduces mandatory minimum requirements to prevent pellet loss across the life cycle, based on a supply chain approach. Legally binding legislation and effective guidance must ensure that all pellet handlers and operators across the supply chain deliver internationally standardised measures to prevent, contain and clean up pellet spills and losses, alongside transparent reporting mechanisms for quantities of pellets produced, handled, imported, exported, and lost. The treaty must outline mechanisms for accountability in the case of historic, future and ongoing pellet loss, with equitable access to compensation and remediation for those impactedⁱ. To achieve this, all companies that handle plastic pellets must be legally required to provide independent, third-party verification that pellet loss prevention measures are implemented, maintained and monitored for effectiveness at every stage of the supply chain. A specific obligation designed to prevent pellet pollution across all sectors and supply chains in turn complements the proposed dedicated programmes of work and sectoral approach but should not be merged with it as pellets are not specific to a unique sector but require a comprehensive approach that includes all sources of emissions and releases.

ⁱ Clean up of pellets must be addressed under Provision 11 of the revised zero draft. This provision must include reference to mechanisms for the remediation and compensation of communities, ecosystems and environments impacted by pellet pollution, including legacy pollution, disaster response protocols for future pellet spills and loss, and for accumulation zones, hotspots and recognising some of these are yet to be identified. Mechanisms to identify accountability and responsibility of the source of the pellet pollution and distribution of compensation and remediation must be included. An international fund supported by industry contributions from fees, levies and Extended Producer Responsibility mechanisms, would provide one such mechanism to operationalise the Polluter Pays Principle. This fund should be under the instrument's authority for distribution of funds for remediation and compensation and accessible for communities and nations impacted by pellet pollution.

FAQs - Common questions and misconceptions about pellet pollution

How do plastic pellets enter the environment?

Plastic pellets enter the environment due to poor handling and mismanagement at pellet production sites, during handling, during transportation by land and sea, at product manufacturing sites and recycling facilities along the entire global plastic pellet supply chain. Once pellets enter the environment, they are highly mobile and very difficult to remove. More information can be found [here](#).



Can we clean up pellets already in the environment?

Once plastic pellets enter the environment, they are highly mobile and difficult to clean up. Protocols to clean up pellets at the source are essential to limit further dispersion into the environment following a spill. Efforts to clean up existing sites of pellet pollution and accumulation must take into consideration the local environment and ecological sensitivities to avoid potential negative impacts.

Can we rely on industry to self-regulate?

A number of industry initiatives and schemes have attempted to address pellet pollution. However continuing pellet pollution shows these initiatives have been ineffective in addressing pellet pollution globally. Often these initiatives are voluntary, lack robust implementation, lack enforcement, or focus on limited sections of the global pellet supply chain.

What about bioplastic and recycled plastic – are these pellets problematic too?

Plastic pellets may be produced from fossil fuel derivatives or biological feedstocks (primary polymer), from recycled plastic materials (secondary polymer) or a combination thereof. Pellets derived from biological feedstocks have a similar chemical composition and properties as conventional plastics made from fossil fuel, meaning that they pose the same problem. Therefore, legislation must apply to all pellet feedstocks, including fossil fuel, recycled and biomass sources.

My nation does not produce plastic pellets, can we still be impacted?

Even nations who do not produce plastic pellets are at risk of pellet pollution. Pellets are lost into the environment along the entire global plastic pellet supply chain. This supply chain is an extensive network and includes road and rail transport and major shipping routes which pass through the territory or waters of non-pellet producing nations. Spills that occur along these transport routes can have significant impact on nations along these routes and beyond. The high mobility of pellets in the environment means that pellets pollution can travel and impact every country or region, they are a transboundary form of pollution. Nations who do not produce plastic pellets may handle pellets, for example during conversion of pellets of plastic products at industrial sites or during transit in ports, stages of the supply chain where losses of pellets can occur.

What would effective regulation to prevent pellet pollution include?

In recognition of the impacts of plastic pellet pollution on the environment, biodiversity and communities globally, in addition to the recommendations provided, it is vital that the final instrument also includes a mechanism for equitable access to remediation and compensation for communities and ecosystems impacted by pellet pollution. Mechanisms for assigning responsibility in the event of pellet loss and spills, remediation and compensation to ensure that the polluter pays for rectification at the source and the compensation is equitably accessible to communities and ecosystems impacted as a result of pellet pollution, both historic and future.

What can the treaty learn from other fora discussing preventing pellet loss?

With a view to harmonising pellet policy developments, the treaty should consider elements from other policy fora such as the OSPAR Convention, the IMO and the EU. However, it should be noted no current agreement covers all stages of the supply chain globally. In addition to the provision in Part II.8 and the inclusion of harmonised mandatory minimum requirements for prevention, containment and clean-up of pellet spills and losses in Annex E, the treaty could also take forward options being discussed at the IMO, such as assigning an individual UN number (class 9) for plastic pellets, which would standardise the handling of pellets through the entire supply chain at the global level. Taken together with an obligation to eliminate pellet loss in the treaty, this could significantly reduce the risk of pellet loss both on land and at sea, through a universally understood regulatory mechanism, improving transparency, traceability and preventing pellet pollution globally.

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