



Knowledge grows

# Our Position on Plastic Packaging Materials



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## Executive Summary

Plastic pollution is a growing environmental problem. Plastic not only pollutes the environment but also amplifies climate change by contributing to greenhouse gas emissions at every stage of its lifecycle, from production to waste management.

We believe it is our responsibility to use our knowledge and resources to contribute to transforming the food system and growing a nature-positive food future. To do so, we are focusing our efforts on three areas where we aim to create a tangible global impact: climate neutrality, regenerative agriculture and prosperity.

To reach climate neutrality, we are committed to continuously reducing our own climate impact as well as the environmental footprint from the use of our products. That includes reducing the environmental impact of our plastic packaging materials.

We are doing this in four ways:

- Reducing the amount of plastic packaging used per product
- Using recycled plastic where possible
- Ensuring packaging is designed so that it can be recycled
- Working with other players in the value chain on collection and recycling schemes

The value chain and lifecycle of plastic is complex. We must all do our part to ensure that plastic is properly collected, managed, and recycled and does not harm the planet.





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## Background

### How plastic is used in agriculture

The continued rise in the use of plastic is an increasing concern for scientists, policy makers and the general public due to its impact on the climate through its fossil-based production as well as its harmful effects on biodiversity and natural ecosystems, such as oceans, rivers and forests. Legislation is being introduced around the world to regulate the use and disposal of plastics with a special focus on single-use plastics. Examples include the European Strategy for Plastics in a Circular Economy<sup>(1)</sup>, the United Nations Treaty on plastic pollution<sup>(2)</sup> and the High Ambition Coalition to End Plastic Pollution<sup>(3)</sup>.

In agriculture, plastic is used for various purposes, such as protected cultivation films, nets, piping, irrigation, drainage, and packaging materials. Most fertilizer is packed when delivered to customers, and packaging materials, such as bags of different sizes, are almost exclusively single-use and made from plastic.

Although packaging materials (e.g., for fertilizers and seed) account for a small portion of all agricultural plastic<sup>(4)</sup>, they can still cause harm to the natural environment if not properly produced, used and disposed of, and should therefore be addressed.

A substantial amount of agricultural plastic, including packaging, ends up in landfills or eventually in nature, depending on the region and country<sup>(4)</sup>. Collection and recycling schemes for agricultural plastics exist in many countries, but the success rates vary. Unlike urban waste challenges, agricultural waste is characterized by long supply chains and the need to collect material from rural areas. This creates complexity in collecting, reusing and/or recycling agricultural plastic and fertilizer packaging. Despite these issues, we believe all agricultural plastic can, and must be, collected and recycled, which is why we continue to actively contribute to such schemes.

## Yara's position

### Meeting high standards for quality and safety

In addition to complying with regional and local laws and regulations as well as minimizing the environmental impact of our products, we are committed to meeting high safety and quality standards for our products.

Fertilizer supply chains are long and complex, and there is a risk of product loss and/or deterioration along each step. Plastic packaging material reduces that risk. It helps preserve product quality; protects against ambient conditions (e.g., moisture and humidity); prevents product loss; ensures safety and ease of handling (bags weigh up to over 1,000 kg); and optimizes application. In short, plastic fertilizer packaging helps ensure the quality and ease of handling of the product.

As it is Yara's assessment that there are currently no plastic-free solutions that adequately meet the above-mentioned considerations, our focus is primarily on optimizing the production, use, recyclability, and disposal of our plastic packaging. We will continue to look for viable alternatives as we foresee that non-plastic packaging solutions will develop in tandem with new regulations.



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## Challenges for reusing, refilling, and using alternative materials

### Avoiding packaging

Avoiding the use of packaging materials in the entire supply chain for our fertilizers is not possible as packaging is essential for product protection. However, we consider the supply of bulk products a workable solution as long as product quality is not compromised, and product loss is avoided. Considering those requirements bulk deliveries to end-users are used as much as possible, especially for products for industrial applications.

### Reusing and refilling

Unfortunately, opportunities for reusing and refilling our packaging materials are limited due to long and complex supply chains, which often lead to inefficient collection and reverse logistics for reuse and refill. When viable, we refill our packaging materials (e.g., for large plastic Intermediate Bulk Containers (IBCs) for liquids), and we continue to look for solutions to increase reuse and refilling.

### Using bio-based materials

The use of plastic materials made from bio-based resources can be part of the solution, provided they are produced in a sustainable manner<sup>(5)</sup>. However, we believe that greater availability and better affordability of bio-based plastics are needed to support wider use for packaging materials.

### Using bio-degradable materials

The use of bio-degradable or compostable plastic for our packaging materials is not considered as a viable option. Such materials may deteriorate during the possible long storage time of products after bagging and thus affect the safe handling or quality of the product.



New big bags on a bagging line in Brazil

## Making a positive impact through circularity

Because packaging materials can be collected and recycled, we believe that focusing on the circularity of our packaging materials is currently the preferred solution to minimize harmful effects of plastic packaging. We support and contribute to the development of circular solutions for the packaging of our fertilizers and industrial products along four main pathways:

### 1. Using recycled plastic where possible

We strive to maximize the use of recycled plastic in our packaging materials, and several projects show promising results:

- In the UK and Ireland, Yara introduced new fertilizer ‘big-bags’ that contain 30 percent recycled plastic (Post-Consumer Recycled) in 2022. It is estimated that the use of these will replace at least 430 tons of virgin plastic and around 900 tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) per year. The new bags have the same technical properties and carrying capacity and meet the same standards and certifications as those made with 100 percent virgin plastic.
- We plan to roll out big bags and small bags containing at least 30 percent recycled plastic all over Europe during 2023. If all Yara’s bags in Europe are replaced with these recycled plastic bags, it is estimated that we would reduce the amount of virgin plastic we use by around 3,000 tons per year and avoid some 6,000 tons of CO<sub>2</sub>e.
- In Brazil, Yara has signed an agreement with a supplier to jointly develop a revolutionary new type of big bag. These new bags will be made from 100 percent recycled PET, and therefore have a substantially reduced impact on the environment, practically halving greenhouse gas emissions compared with the conventional bags, while maintaining the same technical properties. This project aims to replace around 2,000 tons of virgin plastic and reduce greenhouse gas emissions by about 4,000 tons each year. The main benefit of PET compared to other plastics currently used for the production of big bags is that it can be recycled endlessly without losing its strength and quality.
- We are also working actively to launch similar initiatives in other markets around the world, e.g., in South Africa our big bag liners are now made with recycled plastic.



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## 2. Ensuring packaging is designed for recycling

Our packaging materials are designed for recyclability <sup>(6)</sup> and for avoiding excessive material use, and we continue to work on further improvements. Almost all the plastic that is used in our packaging can be recycled, provided that local collection and recycling schemes are available. The limited packaging materials that cannot yet be recycled will be re-designed for recyclability where possible.

## 3. Reducing the amount of plastic packaging material<sup>(7)</sup>

We are also working on reducing the amount of plastic used per bag by optimizing specifications without compromising quality or safety, for instance by using thinner material. During the last few years, we have reduced plastic use by close to a thousand tons due to such optimizations in various markets around the world.

- In Thailand, Yara developed a new, innovative fertilizer packaging material that drastically reduces the use of plastic. The special fabric called Light and Strong results in a fertilizer bag that is overall lighter, stronger, more durable and reusable. Current implementation of the solution saves around 150 tons of virgin plastic per year, with the potential to increase this by up to about 800 tons per year in the near future.
- In India we reduced the thickness of the material for our 45 kg urea bags. Reducing the amount of plastic used per bag by a few grams cuts total plastic use for these bags by around 200 tons per year.
- In our West African markets, optimizing bag specifications reduces our plastic use by more than 500 tons per year.

## 4. Working with other players in the value chain on collection and recycling schemes

As we do not produce or collect plastic packaging ourselves, we engage with various stakeholders to try to influence the way our plastic packaging is produced and the way it is handled after use. As with all complex value chains, one company cannot solve these challenges alone. We are using our purchasing power and strong supplier relationships to drive change in the areas where it is needed.

- We are engaged with, and contribute to, collection and recycling schemes for agricultural plastics and our product packaging materials, including establishing such schemes together with others. Examples are RIGK<sup>(8)</sup> (Germany), A.D.I.VALOR<sup>(9)</sup> (France), Repack (Colombia)<sup>(10)</sup> and Agrecovery<sup>(11)</sup> (New-Zealand).

In Germany, Yara offers farmers a free pick-up service for empty Yara big bags. Around 40% of our big bags are collected by RIGK and recycled to produce cable ducts and other materials for the construction industry. In addition to contributing to greenhouse gas reduction (640,000 tons in 2020 according to RIGK) this offers farmers an easy way to deal with plastic waste.






- In the above-mentioned PET plastic project in Brazil, collecting the bags from customers to enable reuse of the plastic material is included in the project.

# Our Position on Plastic Packaging Materials



## Our ambition

Yara's Sustainable Packaging Project aims to ensure that Yara's packaging does not cause harm to nature.

 <p style="color: white; font-weight: bold;">We proactively work with collection and recycling schemes to minimize the risk that any Yara packaging pollutes the environment.</p>	 <p style="color: white; font-weight: bold;">By minimizing the use of virgin plastic, and maximizing the use of recycled plastic, we aim to reduce the carbon footprint of our packaging materials by 40 percent by 2030 compared to 2021.</p>	 <p style="color: white; font-weight: bold;">All Yara's packaging materials will be recyclable by 2030.</p>
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We will continue to work to reduce the impact of our packaging materials in close cooperation with private and public stakeholders, reduce the amount of plastic in packaging, ensure recyclability for the plastic used, and improve methods for recycling.

## Our approach to plastic packaging materials according to the 10 Levels of Circularity<sup>(12)</sup>

Level of circularity	Description	What we do	Level of implementation
Refuse	Prevent material use	We deliver products in bulk without the use of packaging when possible.	Low – Medium
Reduce	Decrease material use	We optimize specifications to minimize material use, without compromising safety and product quality. The use of big bags versus small bags can halve the use of plastic per ton of product bagged.	High
Renew - Rethink	Redesign product in view of circularity	We ensure the packaging we use is recyclable and use recycled plastic where possible, without compromising safety and product quality. We are investigating and using alternatives, such as big bags made with recycled PET in Brazil.	High
Reuse	Use product again	We reuse packaging for refill where possible.	Very low
Repair	Maintain and repair product	This is not a viable option for our mostly single-use packaging.	None
Refurbish	Revive product	We use refurbished IBCs for some product flows.	Very low
Remanufacture	Make new product from second hand	Examples are schoolbags for kids and laptop bags made from used fertilizer big bags.	None – Very Low
Re-purpose	Reuse product but with other function	Some customers reuse our packaging to store and transport other materials, mainly for harvest by small farmers in various markets such as Africa and Asia.	None – Very low
Recycle	Salvage material streams	We ensure that our packaging is recycled, and support and facilitate collection where possible.	Medium – High
Recover	Incinerate waste with energy recovery	If packaging is not recycled, it should be incinerated to recover energy.	Low – Medium

# Our Position on Plastic Packaging Materials



Yara closely monitors developments in plastic packaging materials which may affect this position.

## About Yara

Yara grows knowledge to responsibly feed the world and protect the planet. Supporting our vision of a world without hunger and a planet respected, we pursue a strategy of sustainable value growth, promoting climate-friendly crop nutrition and zero-emission energy solutions. Yara's ambition is focused on growing a nature-positive food future that creates value for our customers, shareholders and society at large and delivers a more sustainable food value chain.

To achieve our ambition, we have taken the lead in developing digital farming tools for precision farming and work closely with partners throughout the food value chain to improve the efficiency and sustainability of food production. Through our focus on clean ammonia production, we aim to enable the hydrogen economy, driving a green transition of shipping, fertilizer production and other energy intensive industries.

Founded in 1905 to solve the emerging famine in Europe, Yara has established a unique position as the industry's only global crop nutrition company. We operate an integrated business model with around 18,000 employees and operations in over 60 countries, with a proven track record of strong returns. In 2021, Yara reported revenues of USD 16.6 billion.

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*Yara Position Paper on Circular Economy* [https://www.yara.com/siteassets/sustainability/position-papers/247755\\_pp\\_circulareconomy.pdf/](https://www.yara.com/siteassets/sustainability/position-papers/247755_pp_circulareconomy.pdf/)