



Knowledge grows

Exploring innovative and sustainable solutions for crop nutrition: a testimony

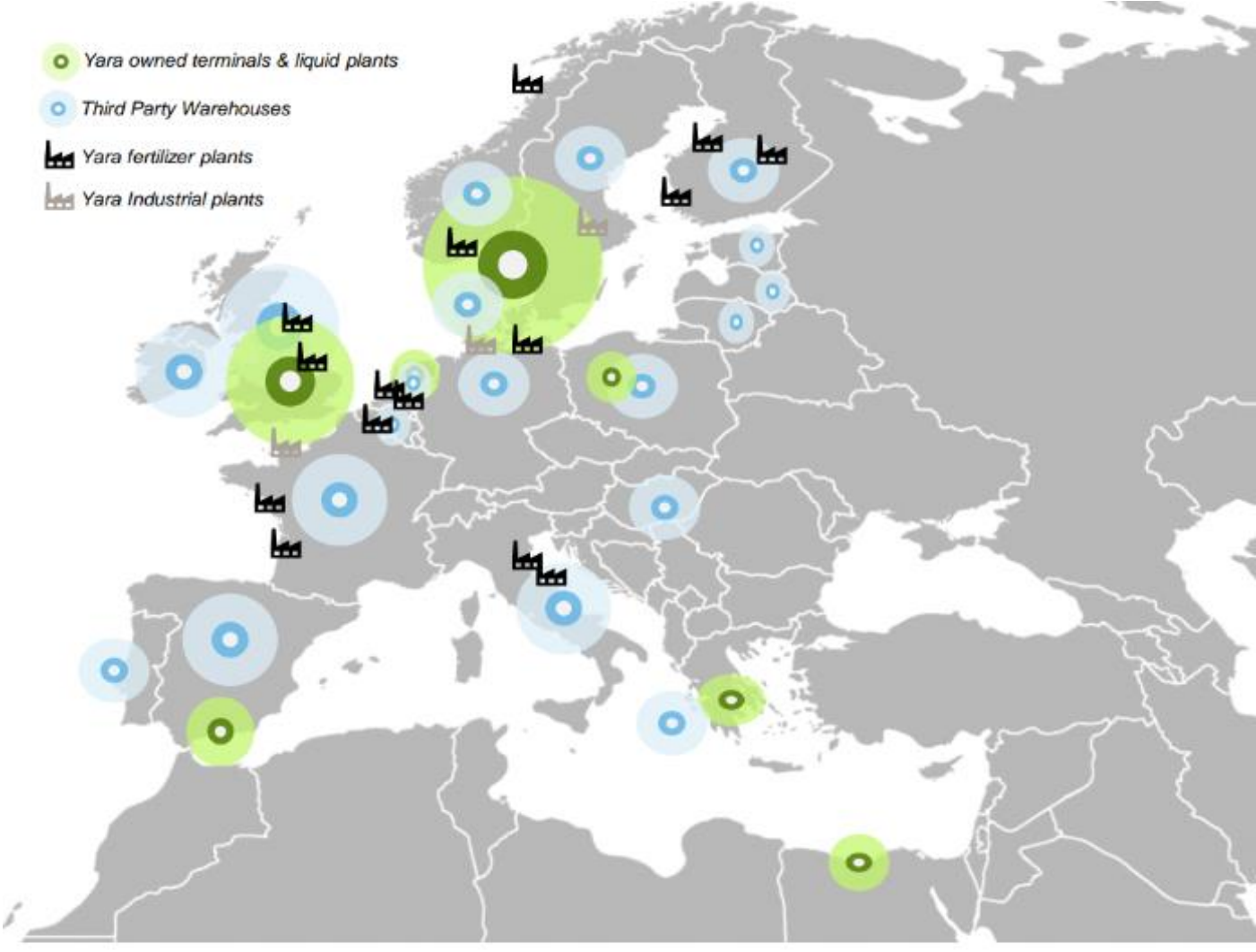
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Our presence in Europe: scale & reach



A complete offering from products to digital tools

Green & Low-carbon Nitrates

- Produced with no or low carbon footprint
- Higher nutrient use efficiency than ammoniacal-based solutions
- Green fertilizers reduce the product carbon footprint of many crops with up to 30% and many food products with up to 20%

Digital Solutions

- Increasing yield and improving environmental performance
- Soil analysis services to ensure long term land productivity
- Tools to monitor crop growth and performance.

Crop & Agronomic Knowledge

- Superior performance on combined crop economics and environmental perspective through Yara knowledge adoption.

Organic-based fertilizers

- Promote soil health
- Contribute to reduce dependency from fossil fuel resources by enabling the efficient reuse of nutrients.

Specialty Products

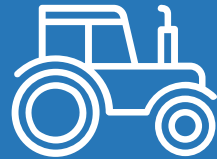
- Seed & Specific Fertilizer Coatings
- Fertigation
- Foliar Fertilizers
- Biostimulants



Every nutrient counts



Find the best avenues to close the nutrient loop and provide more organic fertilizers by improving the recycling of urban waste.



Provide farmers with better tools to lower on-field losses of crop nutrients.



Continue reducing food waste and reach a better collection.
Upgrade food waste to boost the production of organic fertilizers and reduce dependency on imported raw materials.

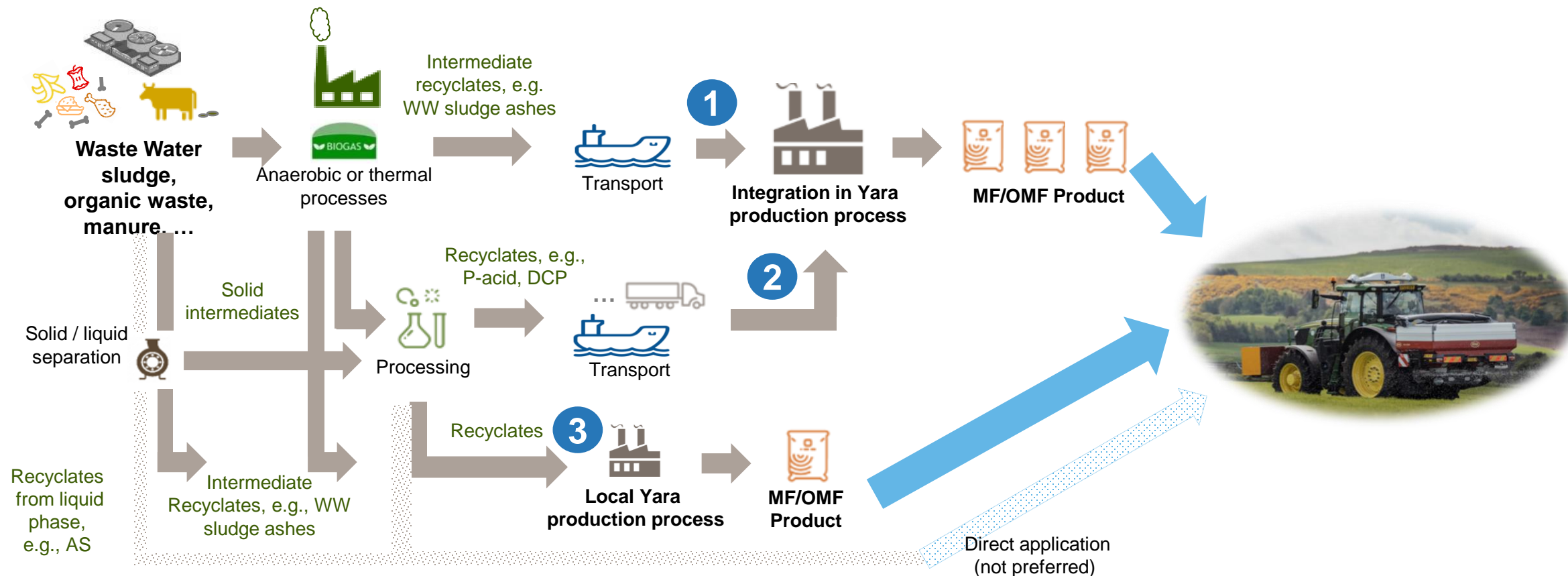


All nutrient sources are needed to enable European farmers to harvest high quality crops and maintain soil fertility.



How we look at recycling nutrients from organic sources

At Yara, we are looking at various ways of using recovered nutrients directly as products in the agricultural sector, for the manufacture of new products in our production processes or in strategic, synergistic partnerships.





Key aspects to create a business case

Building the rational

- **Customer acceptance**
- **Reliability** of the raw material source
- **Legal requirements**
→ Is a CE label possible for cross-border trade within the EU?
- **Cost / benefit analysis**
→ Purchase price, transport, logistics, technical process...

Potential use in farming

- **Quality to ensure agronomic efficacy**
→ Plant availability, nutrient composition, free of heavy metals or impurities
- **Physical characteristics**
→ Form, size of granules, storage stability, humidity
→ Can the product be applied to the field with the existing technology?

Integration in our production process

- **Steady supply** of quantity and quality
- **Location**
→ Distance to NPK production plant (or local production?)



Knowledge grows



Towards a fossil-free and decarbonized food future with green fertilizers

A game changer

The food we eat is responsible for about 25 percent of global greenhouse gas emissions, and some of that comes from fertilizers which are crucial to grow food for the world's population. Yara's ambition is to grow a nature positive food future; to lead a food system transformation through actions that reduce emissions, protect nature and improve livelihoods. Green fertilizers are changing the game. We need them to decarbonize the food value chain.

Fossil free

Green fertilizers decarbonize the food system and reduce our dependency on fossil fuels.

Impactful

They significantly lower the carbon footprint across the food value chain.

Effortless

Green fertilizers are a simple way for farmers and food companies to reduce the carbon footprint of crops and food without changing operations, agricultural practices or the process value chain.



What are the effects of green fertilizers?

Switching to green fertilizers will have a high impact on the carbon footprint of the end product. Depending on country, year and seasonal changes, carbon footprint can be reduced by:



up to
30%
for crops



and up to
20%
for food.