



Feeding Life

The European fertilizer industry's
central role in feeding Europe's future



About Fertilizers Europe

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Group Fertilizers Europe

Fertilizers Europe represents the majority of fertilizer producers in Europe and is recognised as the dedicated industry source of information on mineral fertilizers.

The association communicates with a wide variety of institutions, legislators, stakeholders and members of the public who seek information on fertilizer technology and topics related to today's agricultural, environmental and economic challenges.

The Fertilizers Europe website provides information on subjects of relevance to all those interested in fertilizers' contribution to global food security

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Introduction **by the Director General**

50 % of the global population is fed thanks to mineral fertilizers.

With a rapidly growing population and continuous reductions in agricultural area, farm land needs to produce more food per hectare. Our products replenishes the soil and fill the gap between nutrients in the soil and crops' nutrient needs.

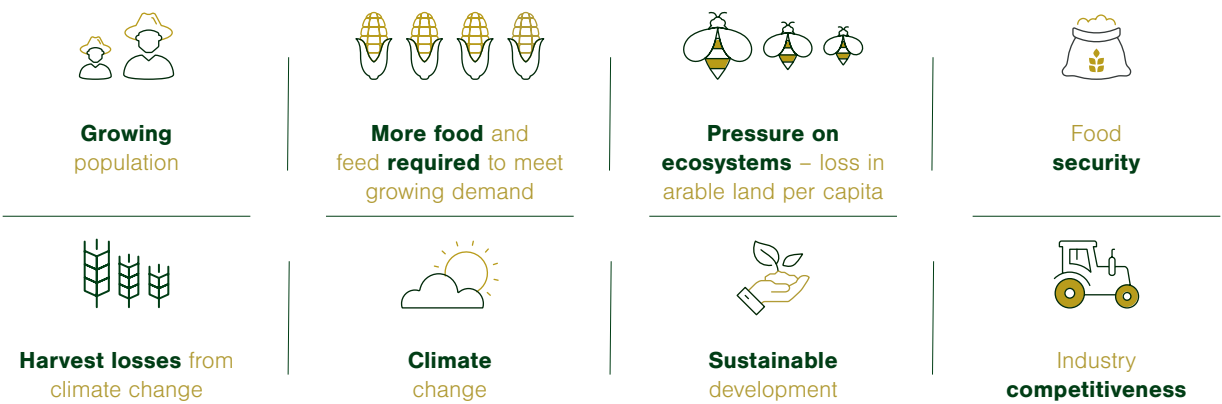
This is why the fertilizer industry has a key role to play in our society.

Like all sectors, we also face challenges as both the production of mineral fertilizers and their use in agriculture need to become more sustainable. I am therefore delighted to present a summary of our vision “Feeding Life 2030 – The European fertilizer industry at the crossroads between nutrition and energy”. This vision illustrates our industry’s forward-looking approach in addressing societal challenges.

I truly hope that role of fertilizers for food production and our vision for 2030 will lead to a constructive dialogue with policy makers and other stakeholders on how to tackle the future challenges.

Jacob Hansen, Director General of Fertilizers Europe

Challenges

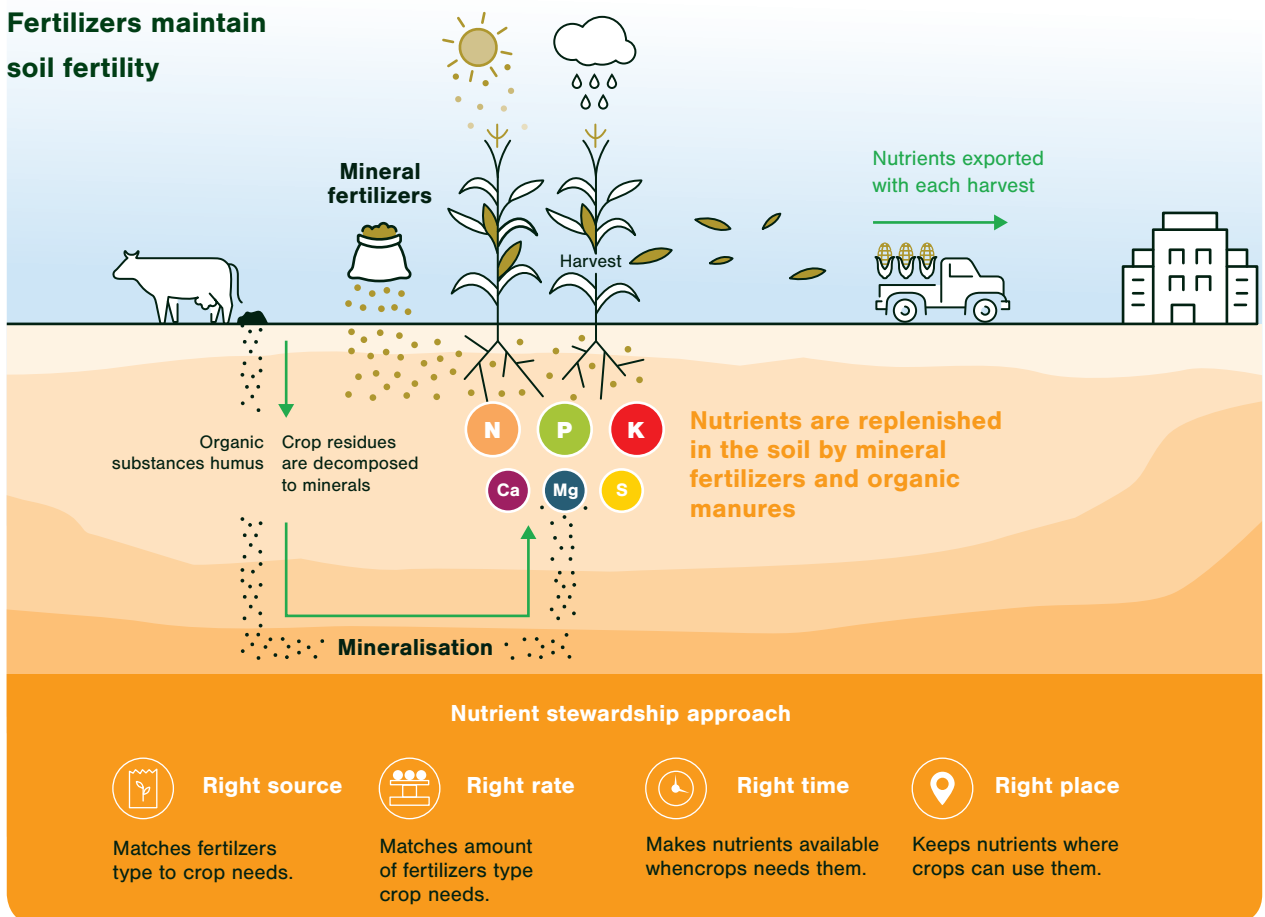


Feeding crops

Mineral fertilizers are an essential part of crop nutrition. Plants receive their nutrients from both mineral fertilizers (mined or coming from industrial production process) or organic sources (such as manure). Mineral fertilizers are needed to balance and supplement organic sources in order to give plants the optimal growing conditions.

Nutrients are removed from the soil with every harvest. Natural processes that break down organic matter and crop residues provide about half the crops' nutrient requirements. Fertilizers close the gap, providing the needed nutrients that are lacking. Balanced crop nutrition is therefore key to increasing crop yields and optimizing production.

Fertilizers maintain soil fertility



Feeding **farming**

European farmers are expected to produce high quality food while minimizing environmental impacts and maintaining profitability.

EU Fertilizer industry is committed to working hand-in-hand with European Farmers to deal with multiple challenges by providing:



Quality products

Delivers the best nutrients and best value.
European fertilizers are premium products ensuring yields and quality of the harvested crops.



Supply security

Guarantees timely and undisturbed supply when farmers pressingly need fertilizers.



Tailor-made solutions

Develops new products and services equipping EU farmers with tailor-made solutions that meet specific crop requirements, soil types and climatic conditions



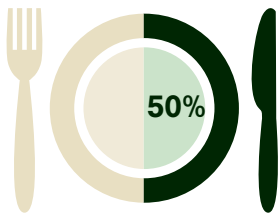
Environmental benefits

Provides solutions contributing to healthy food, environmental compliance and a more sustainable environment for European farmers and citizens.

Feeding people

Today, fertilizers help feed 50% of the global population. Meanwhile, the UN estimates that the world's population will continue to grow, reaching 8.6 billion by 2030 (up from 7.6 billion today). In other words, we need to find a way to feed an extra population the size of Germany every year.

While food supply shortage is not a major concern in Europe, more sustainable food production certainly is. In order to provide European consumers with high quality, nutritious, diverse and sustainably produced food, the highest quality plant nutrients are required.



Today, fertilizers* account for
50% of global food production

* mineral-based fertilizers



In 1960, 2 people were
fed from 1 hectar of land



In 2025, 5 people will
need to be fed from 1
hectar of land



Source: Erismann et al, NatureGeo

Feeding **economy**

The European fertilizer industry
at a glance

€10.2 BN^{*}
TURNOVER



€1.3 BN^{*}
INVESTMENT



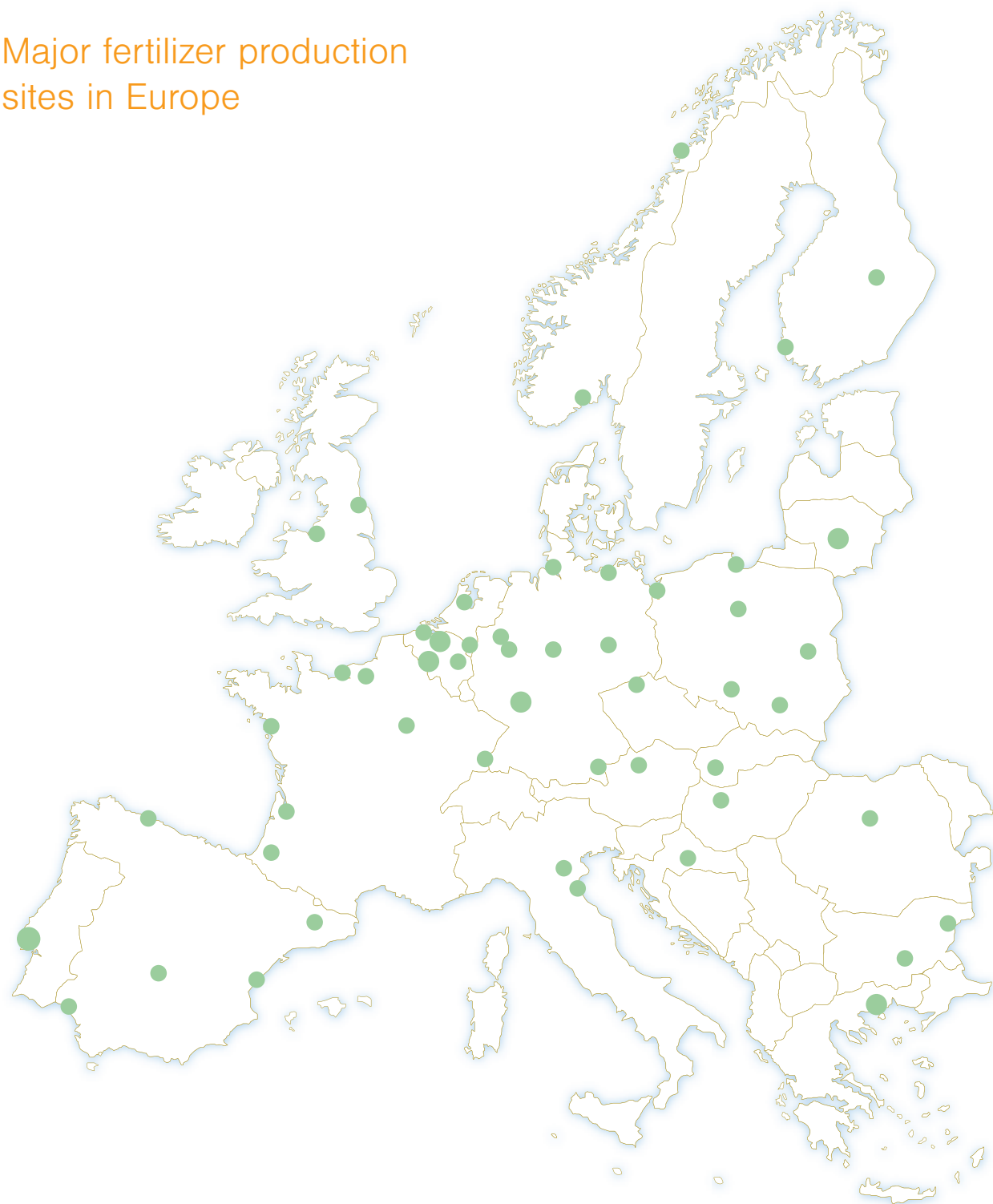
75.800
EMPLOYEES^{*}



^{*} Average last 5 years

Source: Fertilizers Europe, Industry Facts and Figures 2019

Major fertilizer production sites in Europe



Feeding
people



Feeding
economy



Feeding
crops



Feeding
farming

Feeding Life 2030

European Fertilizer Industry's long-term vision

The European fertilizers industry vision for the future is based on a mission to continue feeding plants, farmers, people and the economy while responding to other fundamental societal challenges linked to climate change and sustainability.

Feeding Life 2030 vision aims to find solutions that answer the question of how to continue feeding a growing population while doing so in a more energy and environmentally efficient way. The deployment of more knowledge per hectare, promotion of circular economy and the use of ammonia as a carbon free energy carrier are what our industry sees as key solutions.

The European fertilizer industry is at the crossroads between nutrition and energy. With an appropriate support from policy-makers the industry can play a vital role in providing solutions to European society's most pressing challenges.

Feeding the World

'Applying more knowledge per hectare' should be the mantra for the future of farming in Europe. Better fertilizer products, precisely targeted to specific crops, combined with new tools and real time data open up a new range of exciting possibilities. The greater application of knowledge is expected to improve quality and yields and provide farmers with a higher return on investment. It will also have a very positive effect on the environment, as better and more targeted fertilization will maximize plant growth and so diminish losses to the environment.

Supporting professional farmer of the future

Farmers in 2030 are expected to become even more knowledgeable and demanding of nutrient input. They will focus increasingly on nutrient

use efficiency in order to produce sustainably and profitably by optimizing overall application and increasing yields. They will rely more profoundly on professional advice and new tools and technology. More specialised and diverse fertilizer products will be needed to meet their expectations.

Growing a sustainable economy

The Circular Economy

The fertilizer industry works to optimise resource use and recycles a wide range of by-products in its production process, turning them into valuable plant nutrients, and uses surplus energy and raw materials that derive from other production processes on fertilizer production sites or from production process taking place elsewhere.

10 million tonnes – Already today, fertilizer sector converts millions tonnes a year of ammonium sulphate and sulphur into basic fertilizers as well as provides CO₂ for green houses or beverages such as sparkling water.

Ammonia as a carbon-free energy carrier

As the EU progresses towards decarbonising its energy supply and relying more on renewable energy such as wind and solar power, as well as the production of hydrogen, the question of hydrogen storage becomes more pressing. As a producer of ammonia, the nitrogen fertilizer industry offers the key to unlocking clean energy potential by acting as a carbon-free energy carrier. It is the missing link in making decarbonisation a reality.

From vision to reality

Feeding Life 2030 offers a forward-looking and ambitious vision of the future of the fertilizer industry in Europe. The report is aimed at initiating discussions with stakeholders on the future role of mineral fertilizers in the EU.



Ensuring level-playing field

European mineral fertilizer producers operate in a global market. Ensuring a level playing field on fertilizer, energy and carbon costs must be the first priority. It is imperative that the EU continues to develop and uphold effective trade defence instruments to underpin fair trade.



Boosting R&D decarbonisation projects

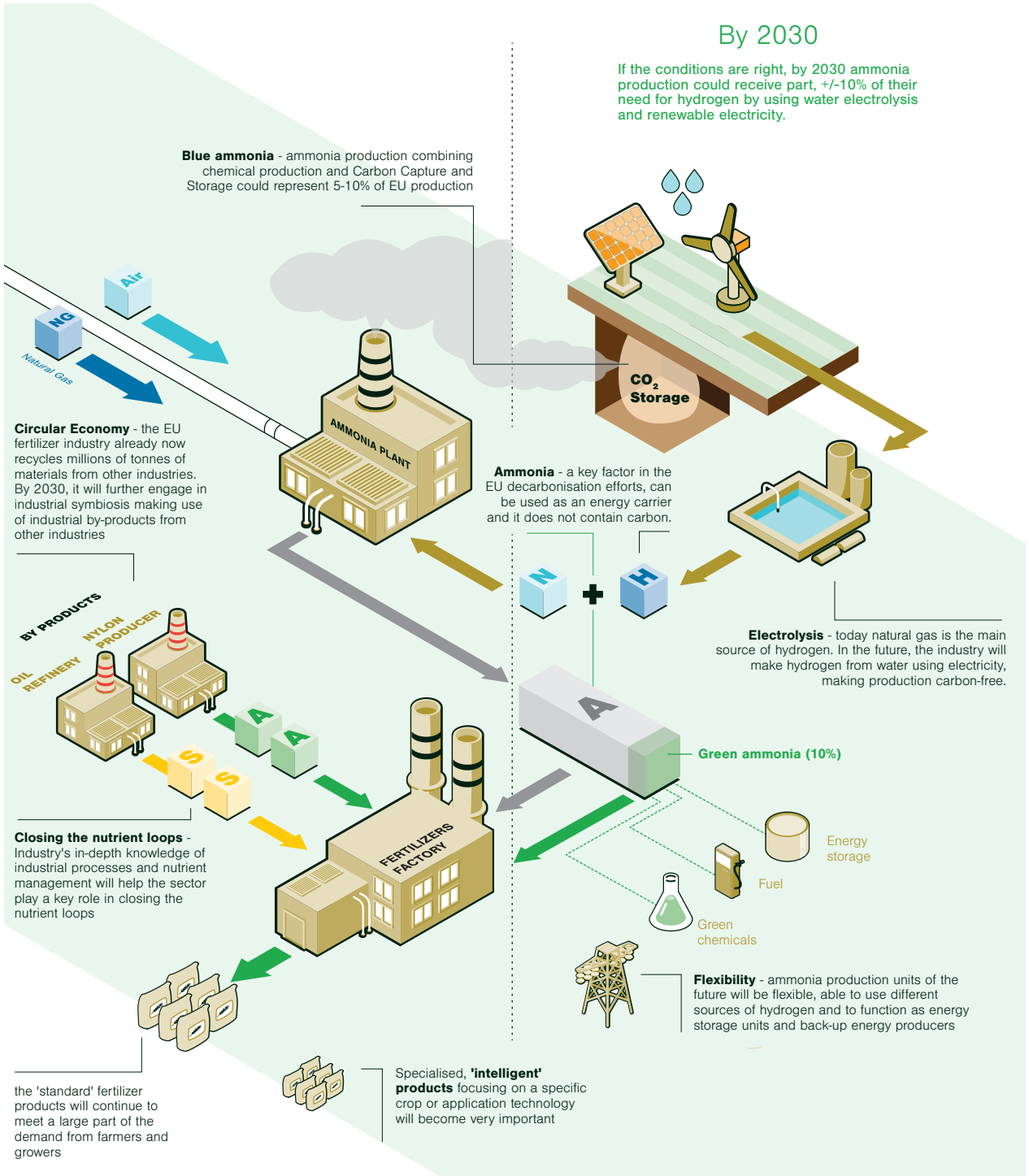
As the European Commission moves ahead with its decarbonisation plans for the EU economy, it is essential that the policies proposed include the potential role ammonia could play in the decarbonisation effort. Support for research and pilot projects and the implementation of necessary standards for energy infrastructure and transportation are needed.



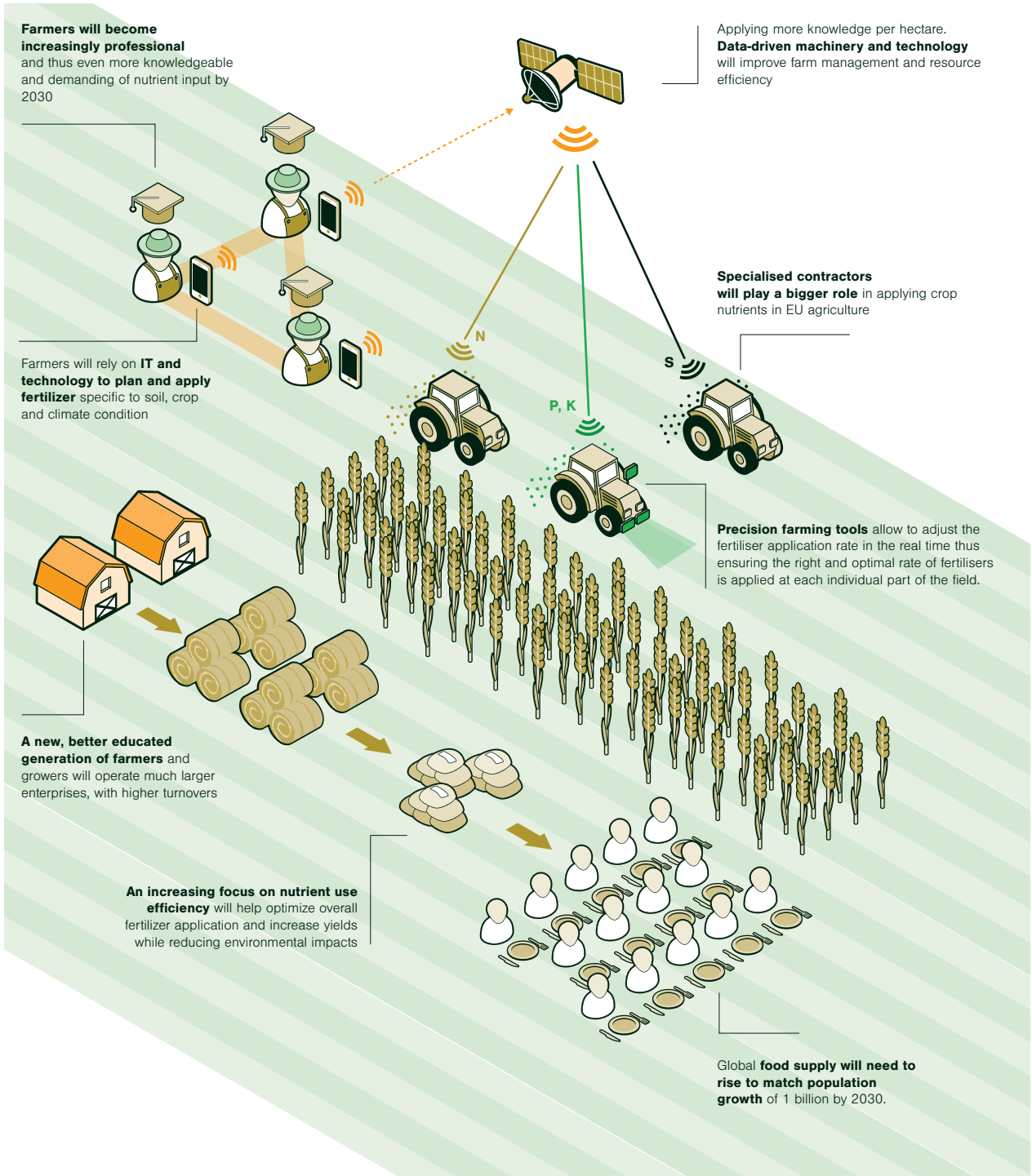
Unleashing full potential of circular economy

While the fertilizer industry is already recycling a wide range of by-products and uses surplus energy and raw materials deriving from other production processes, the full potential of the circular economy and industrial symbiosis is far from being reached. New policies and R&D&I programmes should incentivize circular thinking to ensure further optimisation of resource use, closing material loops, and minimizing environmental impacts.

Fertilizer production 2030



Fertilizer use 2030



What do **stakeholders** say?



“My main concern is to improve farm’s productivity. I do not see how the world could feed itself using only organic food/production techniques”

Valentin Marginean, Romanian Farmer



“Farming should move towards a future where fertilizers deliver more precise nutrition, allowing farmers to see very clear results in their crops”

Peter Prankl, Austrian Farmer



“The internet of things provides many opportunities for farming. Like the rest of the society, farmers are moving towards more automation”

Peter Pickel, John Deere



“Young farmers should be involved in nutrient management. Farm revenues should improve with more efficient fertilizer use”

Iris Bouwers, Dutch farmer



“The development of nutrient efficiency plans aims to help farmers adopt good practices in order to improve farmers’ profitability”

Oene Oenema, Wageningen University



“The existing gas-based ammonia production process is unlikely to be replaced by another in the short-term. In the long-term, the fertilizer industry should aim to use more sustainable energy sources”,

Svend Erik Nielsen, Haldor Topsoe



“Innovating and optimising fertilization practices, with the appropriate use of available technology and strong advisory services can lead to reducing nitrogen use on farms and associated environmental impacts”

Andrea Kohl, former WWF project coordinator



Feeding Life 2030

The EU fertilizer industry at the
crossroads between nutrition and energy

