fertilizers europe

Continuing to feed the world

2014
OVERVIEW

INFINITE FERTILIZERS

INFINITE FERTILIZERS
Continuing to feed the world

Contents

Key challenges & opportunities

Egil Hogna
President, Fertilizers Europe

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Our 2014 Annual Overview once again highlights the essential role fertilizers play in meeting global food needs and the activities of the European fertilizer industry in supporting Europe's agri-food sector.

The European Union and member states require clearly defined policies to meet the food production, environmental and economic challenges and opportunities of the coming years and to maintain the European agri-food sector's leadership in agricultural efficiency and sustainanble food production. These challenges and opportunities are:

PROVIDING FOOD SECURITY

Europe is a major global food importer and exporter and is home to some of the world's most fertile arable land. It must use these advantages to play its part in feeding the growing population in Europe and the world as a whole. By constantly innovating and ensuring the competiveness of its farmers and its food industry, Europe will be able to meet this challenge and continue to deliver sufficient amounts of high quality food at affordable prices every day.

ENSURING FOOD SAFETY

European consumers enjoy the highest standards of food safety, which are delivered all along the chain from farm to fork. Innovation helps maintain these standards in the most effective and efficient way.

SAFEGUARDING THE ENVIRONMENT

Agriculture is closely linked with nature and the environment. Innovative technologies, products and practices can help make the most sustainable and efficient use of natural resources and improve farming's environmental footprint.

HELPING CREATE JOBS AND GROWTH

Europe can be globally competitive and ensure vibrant job creation and economic growth by enabling innovation, ensuring the deployment of best practices and eliminating unnecessary regulatory burdens in the agri-food sector.

IMPROVING TODAY... AND TOMORROW

The agri-food chain invests in the future and constantly looks for new ways to be competitive, productive and sustainable (economically, environmentally and socially); our goal is to make sure consumers in Europe and around the world continue to have access to healthy, high quality and affordable food choices.

Fertilizers Europe's concept of Infinite Fertilizers guides the fertilizer industry's activities in helping the agri-food sector to meet these challenges and in unlocking its full potential in Europe.

Egil Hogna, President
Jacob Hansen, Director General

INFINITE FERTILIZERS
Continuing to feed the world

Infinite fertilizers

The European fertilizer industry is an integral part of the agri-food sector. In addition to reducing the environmental footprint of fertilizer production and distribution, the industry is committed to collaborating with farmers and others in the sector to increase the efficiency of crop nutrition and reduce the overall environmental impact of food production.

Fertilizers Europe's carbon footprint calculator enables fertilizer producers to better measure and manage the energy use and emissions from the production of major fertilizer products.

Fertilizers Europe's Product Stewardship program sets the highest standards for product quality and the safety, efficiency and environmental impact of fertilizer production and distribution, including the effective use of raw materials. The program is compulsory for all Fertilizers Europe members.

Infinite fertilizers guides the industry's product and nutrient stewardship activities. These ensure that Europe's farmers continue to have uninterrupted access to a variety of safe, high quality, locally produced products, as well as information on their correct use, environmental impact and nutrient recycling opportunities.

Fertilizers Europe's fertilizer family spearheads its activities to encourage the best agricultural practices among Europe's farming community and the correct selection and use of fertilizers. Its DAN campaign promotes nutrient-use efficiency and the benefits of directly available nitrogen fertilizers.

Fertilizers Europe supports and promotes the use of the Cool Farm Tool which enables farmers to simply measure the environmental emissions from their operations and food production companies to evaluate and reduce emissions in their own supply chains.

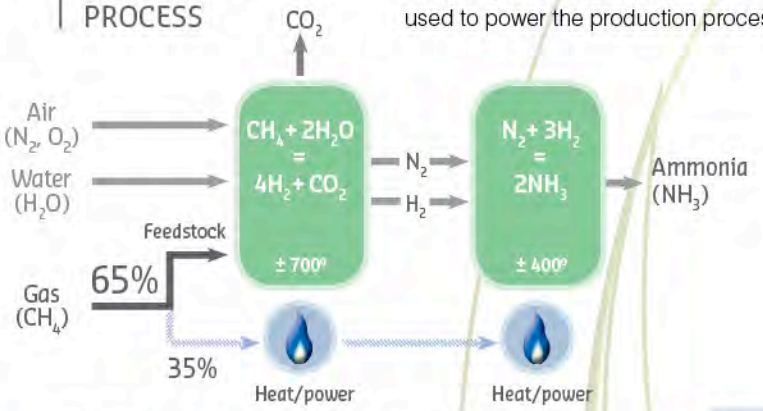
The benefits of fertilizers

Fertilizers produced in Europe offer Europe's farmers product quality, innovation and security of supply and make a major contribution to the profitability of its agri-food sector.

Each year the European industry transforms million tons of raw materials - air, natural gas and mined phosphate and potash ores - into safe, practical products based on the three essential crop nutrients nitrogen, phosphorus and potassium.

Production of nitrogen-based fertilizers, by far the largest product group, involves combining nitrogen from the air with hydrogen, formed by reacting natural gas (methane) with steam at high temperature and pressure, to create ammonia (the Haber-Bosch process). Approximately two-thirds of the gas is used as a direct raw material in the chemical reaction, with the remainder used to power the production process.

BASIC AMMONIA PRODUCTION PROCESS



The CO_2 from the chemical process is not capable of reduction.

The resulting ammonia is then mixed with nitric acid, also derived from ammonia, to produce nitrate-based fertilizers such as ammonium nitrate (AN) or with liquid carbon dioxide to create urea.

The average energy efficiency of European ammonia plants is the best in the world, with the lowest equivalent CO_2 emissions. In addition, the majority of the industry's nitric acid plants are being equipped with advanced emissions abatement technology to limit their nitrous oxide (N_2O) emissions. But the industry faces several challenges in remaining globally competitive.

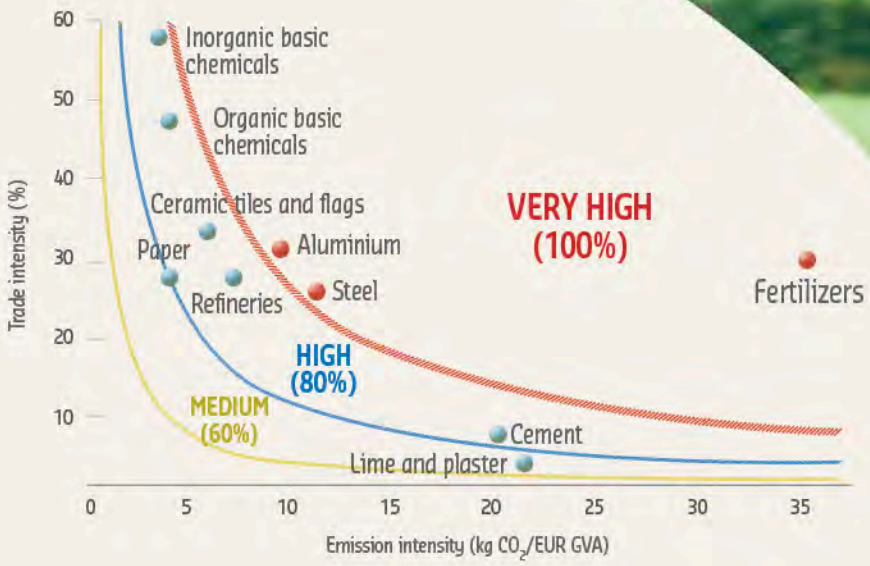
Climate change

The EU's current 2030 energy and climate change strategy for the COP 21 negotiations in Paris at the end of 2015 focus on a 40% reduction in greenhouse gases. The higher target will primarily be delivered via the EU's Emissions Trading Scheme (ETS).

To comply with the current ETS targets, the European fertilizer industry has invested steadily in its plants which will result in a reduction in GHG emissions of more than 50% since 2005.

"2/3rds of the gas used by the industry is as a raw material for ammonia production."

CONSOLIDATED CARBON LEAKAGE GROUPS FOLLOWING SECTORAL ASSESSMENT (2009-2011 DATA)

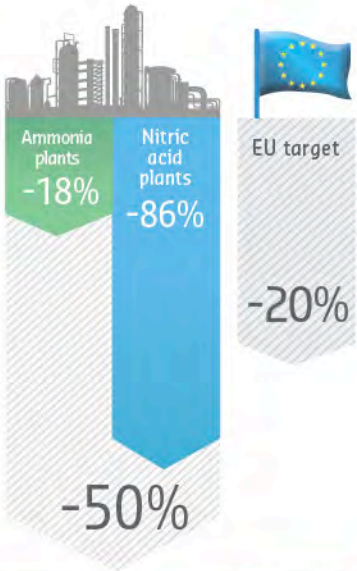


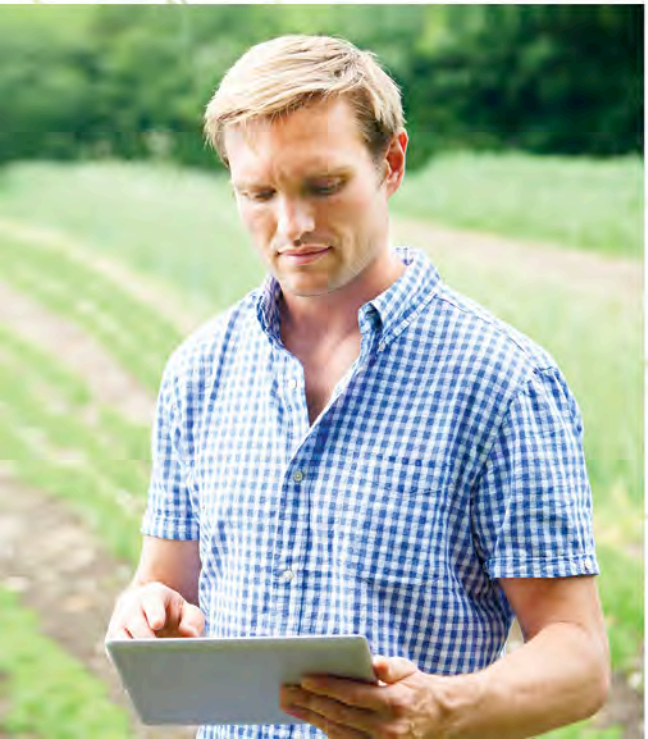
Some fertilizer production in the EU could close down as a result of European legislation to be replaced by products from other parts of the world with higher emissions. In 2014, the European Commission officially acknowledged the fertilizer industry as one of the industries at high risk of carbon leakage under ETS III (2013-2020).

With the European Commission now laying the foundations for ETS IV (2021-2030), the industry believes that the focus should be on encouraging European producers to invest in their operations and avoid further carbon leakage.

The industry is therefore proposing full ETS exemption for the CO_2 emissions resulting from that part of the natural gas used as a feedstock in the chemical process to create ammonia, which is only capable of reduction through decreased ammonia production.

EUROPEAN FERTILIZER INDUSTRY EMISSIONS REDUCTION SINCE 2005





Carbon leakage

Under the EU's Emissions Trading Scheme, an industry exposed to the risk of carbon leakage is entitled to free CO_2 allowances up to a benchmark based on the average GHG emissions of the best 10% of the industry's installations.

To ensure that the ETS cap on emissions diminishes over time, an annual Cross Sectoral Correction Factor (CSCF) is applied to the allowance calculation. The current ETS III CSCF for fertilizer production will lead to an approximate 17% reduction in the industry's allowances by the end of 2020. Post 2020, the European Commission is suggesting increasing the CSCF to 2.2% per/yr.

With the industry's significant reduction in its GHG emissions since 2005, the potential for further reductions is limited. An estimated annual average reduction of 0.4% is possible for ammonia production over the 2010-2050 period.

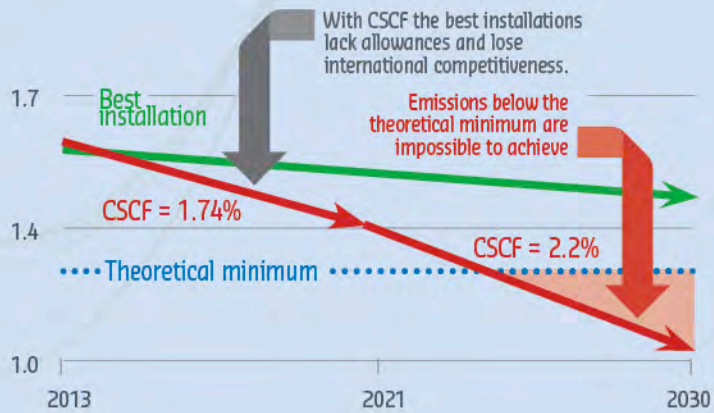
Currently, the CSCF for ammonia production is applied to the natural gas (CH_4) used to drive the production process as well as that used as raw material in the chemical process to create hydrogen. However, the CO_2 emissions from the latter cannot be reduced - they are an unavoidable by-product of the chemical reaction.

The CO_2 released from the gas used to drive the production process has some scope for reduction but, at 1.6 tonnes of CO_2 per tonne of ammonia in the best plants, it is approaching the theoretical minimum of 1.3 tonnes CO_2.

Emissions of 1.6 t CO_2 per tonne of ammonia has been defined as the Best Available Technology and is the current ETS benchmark. Since the technology to achieve the theoretical minimum is not yet available, the industry considers a level of 1.45 t CO_2 to be achievable at best by 2050.

Application of the ETS correction factor on the total process emissions therefore means that the best installations lack allowances and so lose international competitiveness and, in time, the allocation of free allowances will be based on a figure below the theoretical process minimum.

CO_2 EMISSIONS FROM EU AMMONIA PRODUCTION (TONNE CO_2 PER TONNE NH_3)



"On average, fertilizers provide European farmers with a five-fold return."

The economics of fertilizers

Fertilizers are often a farmer's main input after fuel and represent a major operating cost. The market for fertilizers is, however, a global one with pricing of raw materials as well as finished product primarily driven by world demand.

Since the raw materials for fertilizer production are only found to a limited extent in the EU, the European industry is highly dependent on both the availability and pricing of imported raw materials. The European fertilizer market is also one of the most globally integrated, with imported products servicing some 20% of its nitrogen needs and between 61-70% of its phosphate and potash requirements.

This market structure and the industry's wide-ranging use of hedging strategies to reduce price volatility are the main reasons why recent falls in oil and gas prices have not yet translated into similar reductions in the prices of European-produced fertilizers.

European gas prices

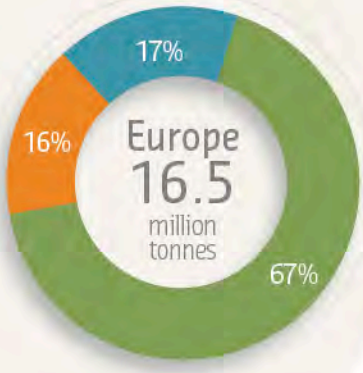
The natural gas used in fertilizer production in Europe represents between 60-80% of the cost of the process. The fertilizer industry is the EU's largest industrial user of gas, accounting for almost 4% of total EU consumption.

Despite recent falls in gas prices around the world, the continued high price of gas in Europe relative to other regions makes it increasingly difficult for the industry to compete globally.

Restoring Europe's gas cost-competitiveness is therefore a priority for the industry's continued profitable operation in Europe and for safeguarding the jobs that depend on it. Rapid implementation of the EU internal energy market and new energy sources can help reduce the price differential.

NUTRIENT CONSUMPTION

The EU consumes **10%** of global nitrogen, **7%** of global phosphate and **10%** of global potash.



- Nitrogen
- Phosphate
- Potash

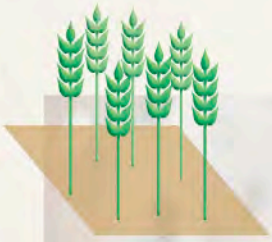
Fertilizers and food security

With the world population set to reach 9.1 billion by 2050, global food production will have to increase by some 70% to keep pace with the growing demand.

Today, fertilizers account for
50% of global food production

in 1960
2 people
were fed from
1 hectare
of land

in 2025
5 people
will need to be fed
from 1 hectare
of land



Most of the increase will have to come from better agricultural productivity, as the negative impact on climate change and bio-diversity of converting more natural areas to agriculture is widely accepted. Changes in land use account globally for 12% of all greenhouse gas emissions.

On top of this, increasing urbanisation, soil erosion and nutrient exhaustion are eating into the world's productive agricultural area. Many regions now suffer from water scarcity or soil salinity, further reducing crop yields.

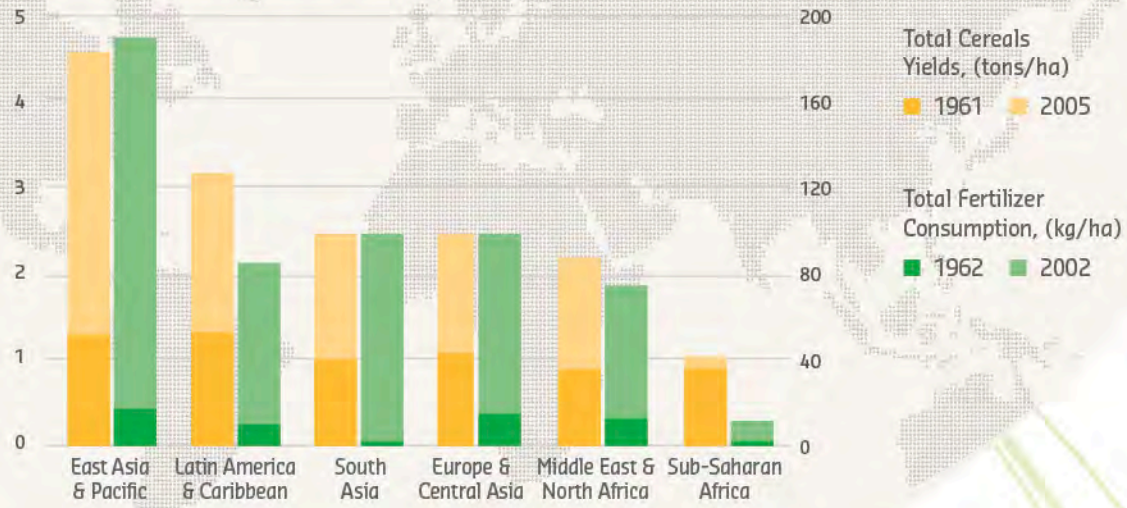
The "green revolution" of the 1960s and 1970s enabled agricultural productivity to more than double but this rate of growth is now generally slowing down. Food security rests on reversing the trend through better agricultural efficiency, more targeted crop nutrition, the use of the latest crop science and less crop wastage from limited market access.

Food security in Europe

Europe has a climate and sufficient farmland to meet its food needs. Yet an area outside Europe the size of Germany is now devoted to meeting our increasing food requirements. This land could make a significant contribution to local and regional food demand.

"European food imports have increased by some 40% over the last 10 years."

THE GREEN REVOLUTION



The Common Agricultural Policy's sustainable intensification of European farming has the dual objective of optimizing food production while reducing the environmental impact of agriculture. But the measures it proposes need to economically viable for Europe's farmers in order to provide the necessary incentives for effective implementation.

Europe's agricultural productivity is currently the best in the world. For this to continue, European farmers need continued access to a variety of safe, high quality fertilizers. These are best provided by a strong local fertilizer industry.

Modern fertilizers are increasingly targeted at specific crops, offering a variety of release profiles and working with limited resources such as water. Application machinery with GPS soil and biomass mapping equipment can now define nutrient demand down to specific areas within a field and smart sensors provide very accurate fertilizer application.

The European fertilizer industry actively promotes precise fertilization techniques according to crop type, soil characteristics and application programme (right product, right place, right rate, right time).

The industry also continues to develop practical tools such as mobile apps to improve on-farm nutrient management.

Fertilizers and sustainability

High quality fertilization is the key to optimizing crop yields while minimizing environmental impact.

Crops need sunlight, water and a balanced supply of essential nutrients for healthy, productive growth. Once a crop is harvested, the nutrients in the soil need to be replenished. Natural processes break down crop residues and organic matter to replace about half the nutrients, but the remainder needs to be provided by fertilizers.

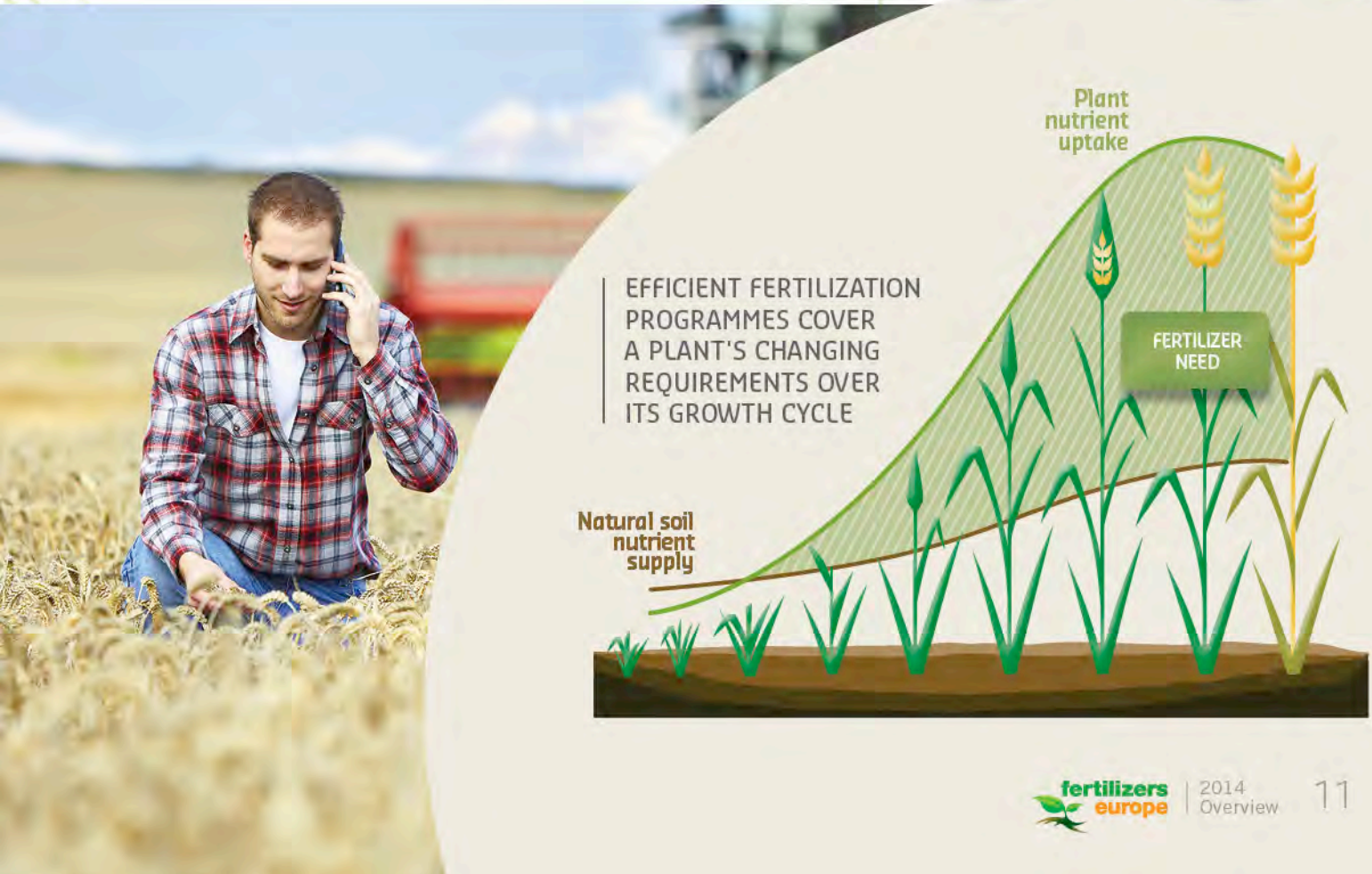
Integrated soil management techniques such as crop rotation, minimum tillage and cover crops are used with precisely targeted fertilizer application to optimize soil nutrient content and minimize environmental losses.

The main mineral fertilizer groups provide a predictable supply of nutrients that can be readily assimilated by the crop. The nutrient content of manures and other organic materials is less predictable and harder to manage effectively.

The EU's new fertilizer regulation will introduce fully harmonized standards for the nutritional content of all mineral and organic fertilizers, soil improvers, growing media and bio-stimulants. To ensure that growers and food producers are fully aware of the overall impact of a particular product, the European fertilizer industry has proposed that the regulation also includes common safety, security and quality requirements, including limits on contaminants.

Air and water quality

Reducing atmospheric and water-borne emissions from agriculture remain a priority. Both farmers and food producers are increasingly using Fertilizers Europe's fertilizer carbon footprint calculator together with the 'Cool Farm Tool' application to measure and manage the GHG emissions within their operations.



With the availability of new urease inhibitor fertilizers that inhibit soil emissions, the main industry focus has been on the promotion of nutrient-use efficiency to avoid environmental losses.

Leaching of nitrates or phosphates into waterways can occur when the soil is saturated and water washes these highly mobile nutrients beyond the plant root zone. Most losses occur outside the cropping period so farmers should aim to minimize excess concentrations of these nutrients in the soil after harvest.

Maintaining a porous soil structure, immobilizing residual nitrogen and phosphorus with catch-and-cover crops, and better synchronization of fertilizer application helps to limit losses.

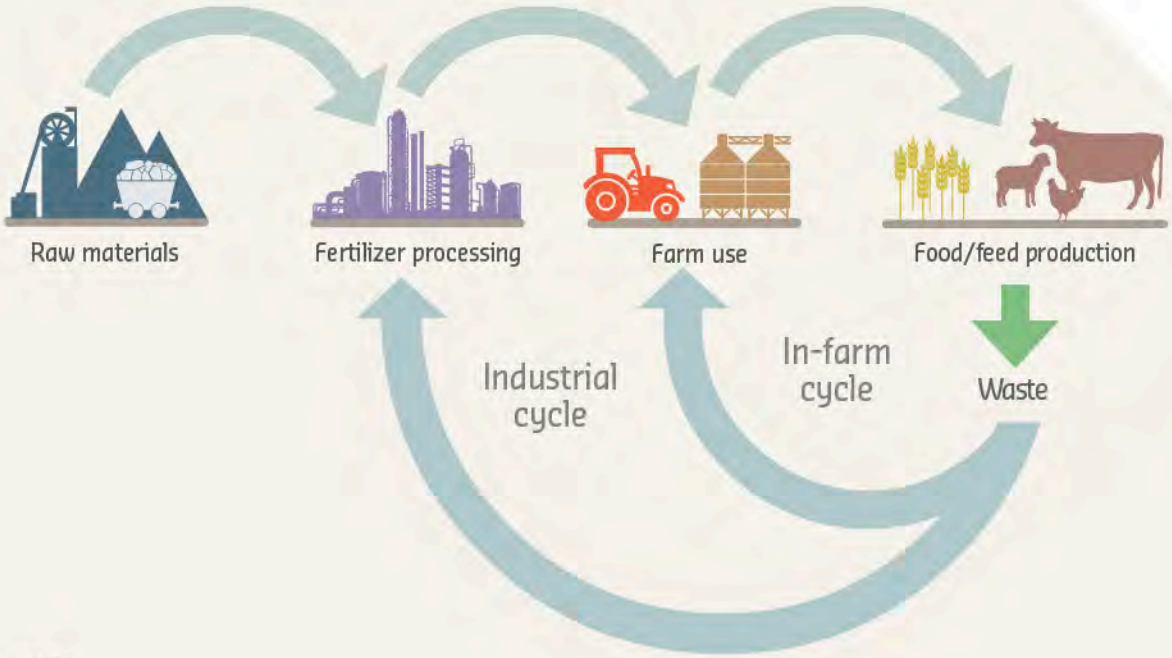
Atmospheric emissions such as ammonia, methane and nitrous oxide primarily result from livestock production, natural nitrogen in the soil and the application of manures and certain fertilizers. Mitigation measures include low-emission animal diets and housing, enclosed slurry storage, and more appropriate manure spreading techniques such as soil injection.

Waste streams and recycling

The circular economy has focused recent industry attention on closing the "fertilizer loop" by developing strategies for more nutrient recycling. At the farm level, these primarily involve composting crop waste, anaerobic digestion of animal slurries for energy generation, and the more efficient integration of manures into the overall fertilization strategy.

At industry level, incineration of poultry waste for energy, with the resulting ash being recycled as a fertilizer, has been successful in areas with high intensity poultry production. The industry continues to research nutrient recovery and collection strategies to provide a viable stream of high quality grade recycled raw material for fertilizer production.

NUTRIENT RECYCLING OPPORTUNITIES



Fertilizers Europe in 2014

Fertilizers Europe structure

Fertilizers Europe represents the interests of the major European manufacturers of nitrogen, phosphate and potash fertilizers, as well as national fertilizer associations.

Fertilizers Europe's activities are directed by its President and Board, who are elected by its general assembly of members. The association's day-to-day business is primarily carried out through five committees in conjunction with various working groups and task forces.

A small, professional secretariat in Brussels support the committees and, under the guidance of the committee chairmen and vice-chairmen, manages the association's activities and acts as Fertilizers Europe's main interface with stakeholders.

Fertilizers Europe members

The association's membership comprises 15 fertilizer manufacturers across the EU and eight national fertilizer associations.

FERTILIZER MANUFACTURERS

AB Achema
Lithuania

Borealis AG
Austria

Grupa Azoty SA
Poland

OCI Nitrogen BV
The Netherlands

Anwil SA
Poland

Eurochem Antwerpen BV
Belgium

ICL Fertilizers Europe BV
The Netherlands

Petrokemija Plc
Croatia

Azomures SA
Romania

Fertiberia SA
Spain & Portugal

Lovochemie as
Czech Republic

Yara International ASA
Norway

BASF AG/Fertilizer BU Europe
Germany

GrowHow UK Ltd
United Kingdom

Nitrogénmüvek Zrt
Hungary

NATIONAL FERTILIZER ASSOCIATIONS

AIC
Agricultural Industries Confederation
United Kingdom

IVA
Industrieverband Agrar e.V.
Germany

ANFFE
Asociación Nacional de Fabricantes de Fertilizantes
Spain

PIPC
Polish Chamber of Chemical Industry
Poland

ASSOFERTILIZZANTI
Associazione Nazionale Fertilizzanti
Italy

UNIFA
Union des Industries de la Fertilisation
France

BELFERTIL
Belgian Mineral Fertilizer Association
Belgium

MESTSTOFFEN NEDERLAND
Fertilizers Netherlands
The Netherlands

Fertilizers Europe board

The Board is elected annually by Fertilizers Europe's members to guide and oversee the activities carried out by the association.


Egil Hogna
President
Yara


Marek Kaplucha
Vice-President
Grupa Azoty


Javier Goñi del Cacho
Vice-President
Fertiberia


Gerald Papst
Chairman, Agriculture Committee
Borealis


Terje Bakken
Vice-Chairman, Agriculture Committee
Eurochem


Ted Misiunas
Chairman, Trade & Economic Committee
Achema


Ken Hayes
Vice-chairman, Trade & Economic Committee
GrowHow


Jean-Paul Beens
Vice-Chairman, Trade & Economic Committee
Yara


István Blazsek
Chairman, Technical Committee
Nitrogénművek


Radomir Věk
Vice-Chairman, Technical Committee
Lovochemie


Mihai Anitei
Chairman, Statistics Committee
Azomures


Andrzej Skolmowski
Vice-Chairman, Statistics Committee
Grupa Azoty


Marc Van Doorn
OCI Nitrogen


Jacek Podgórski
Anwil


Nenad Zečević
Petrokemija


Kees Langeveld
ICL Fertilizers


Dietrich Pradt
Observer
IVA


Gilles Poidevin
Observer
Unifa


Jacob Hansen
Director General
Fertilizers Europe

A positive outlook

2014 was another solid year for the industry with producers actively preparing to meet the challenges of the next few years. The industry's fortunes are highly dependent on the health of Europe's agri-food sector and its efforts to meet growing food needs in a sustainable way.

The outlook over the next 10 years is largely positive, although European fertilizer consumption remains below levels prior to the 2008/2009 economic crash. Fertilizers Europe's most recent 2014-2024 Fertilizer Forecast envisages a mature market for nitrogen, with only an accumulated 1.3% increase in consumption over the next 10 years. Phosphate and potash consumption is expected to experience higher growth over the same period.

Food security

The industry's primary role is to support European farmers in their efforts to produce sufficient crops to meet European demand. As part of a global industry, however, we also need to play our part in helping global agriculture meet the demands of a rapidly increasing world population.

A strong and efficient European fertilizer industry which offers Europe's farmers a wide variety of advanced, high quality products has a major impact in supporting their efforts to meet Europe's food demand and reduce its imports.

Natural gas

Despite the recent general decrease in the price of natural gas, a vital feedstock for nitrogen-based fertilizers and a source of energy for all fertilizer production, European producers are still dealing with energy prices which are two to three times higher than those of our competitors. This challenge remains extremely difficult and restoring Europe's global energy competitiveness is essential for a healthy local fertilizer industry.

Climate change

Europe cannot solve climate change alone. Environmental policies which call for energy-intensive industries such as ours to further significantly reduce our emissions are unrealistic.

If these policies force production to move abroad, it will take with it jobs and investments and increase carbon leakage. The industry needs continued dialogue with policy-makers to ensure that it is still able to support Europe's green economy.

Since the start of ETS, we have reduced our GHG emissions significantly and today EU-produced fertilizers have a far lower environmental impact than those manufactured in other parts of the world. The European Commission is now looking at targets for ETS IV (2021-2030). To minimize further carbon leakage, we are proposing full ETS exemption for that part of the natural gas used as feedstock for ammonia production.

The sustainable intensification of agriculture will ensure optimal productivity to meet food needs as well as a reduction in the overall environmental impact of agriculture. It minimizes the need for land-use change, which is the largest source of carbon emissions from agriculture and dwarfs those from fertilizer production.

Innovation

The industry continues to update its product portfolio and introduce technological advancements like sensors and apps designed to optimize fertilizer use and avoid leaching. We have developed an increasing number of relationships with other operators in the agri-food sector to promote the efficient use of our products and to encourage the best agricultural practices across Europe.

Fertilizers Europe's focus in 2014

Fertilizers Europe has pursued a number of important initiatives during the year, reinforcing our vision of Infinite Fertilizers.

Infinite Fertilizers encapsulates our view that, in addition to accounting for the quality, safety and environmental impact of our products during their production and distribution, we have the responsibility to actively promote their efficient use by Europe's farming community so that it can produce both the quantity and quality of crops required by Europe's food producers.

Our members represent the major fertilizer manufacturers in Europe, so we are in a strong position to advise and facilitate dialogue between the industry and other stakeholders, including the European institutions and international bodies responsible for agricultural and industrial policy.

Progress

An independent audit of our members' operations was carried out under our Product Stewardship program during 2014. The program covers product quality and efficient and environmentally-friendly fertilizer production and distribution. Its standards are internationally recognized as being the highest globally.

Analysis of emissions from fertilizer production and use is important in assessing the overall environmental footprint of food products over their life-cycle. Our carbon footprint calculator for fertilizer production now enables the emissions and energy use of major fertilizers to be better measured and managed.

We offer an increasingly wide variety of scientifically-backed information on fertilizer use and agricultural best practice for farmers, food producers and other interested groups. Our DAN campaign continues to promote nutrient-use efficiency and directly available nitrogen fertilizers.

We have also been active in promoting the benefits of the Cool Farm Tool throughout the agri-food sector. The CFT enables farmers to immediately assess GHG emissions from their operations and food companies to evaluate and

reduce emissions in their supply chains. The tool offers an important advance in efforts to mitigate climate change and reduce the impact of European agriculture.

The recycling of nutrients is becoming increasingly important in order to close the "fertilizer loop". In addition to our phosphate recycling workshop in February 2015, which covered phosphorus-rich waste streams and recycling technologies, we have continued to explore opportunities to promote projects with a view to producing high quality recycled nutrients for fertilizer plants.

"Infinite fertilizers illustrates our commitment to not only account for the quality, safety and security of our products but also to ensure that they are efficiently used and, where possible, recycled with organic material."

External audiences

Our contact with many players in the agri-food sector continues to expand. We have paired up with others in the sector in the Agri-Food Chain Coalition, where we promote innovation in the food sector.

Our support for the EU Nitrogen Expert Panel and our "Forum on Fertilizers and Nutrients for Growth" in the European Parliament have provided a continued opportunity for informal dialogue on issues such as climate change and the nitrogen cycle with MEPs, the European Commission, scientists and other stakeholders.

The significant expansion of our contacts has required the engagement of many of our members and, without this support, our activities would be much less effective. In addition, very few of them would be possible without the hard work of Fertilizers Europe's staff. I am grateful to both groups for their considerable effort.

Finally, I would also like to thank our outgoing President, Egil Hogna, and the Fertilizers Europe Board for their support and guidance over the past year.

The Statistics Committee has continued to focus on facilitating Fertilizers Europe members' access to reliable industry information to support their forecasting and benchmarking activities.

The committee's principal activities during 2014 were directed at upgrading the Fertilizers Europe database, which allows members to monitor EU fertilizer trade and consumption data.

All Fertilizers Europe statistics are produced in strict compliance with European competition law.

The committee also continued to support other Fertilizers Europe activities, contributing the latest fertilizer consumption figures to the annual ten-year "Forecast of Food, Farming and Fertilizer use in the European Union" and providing data to support trade defence cases.

Industry statistics

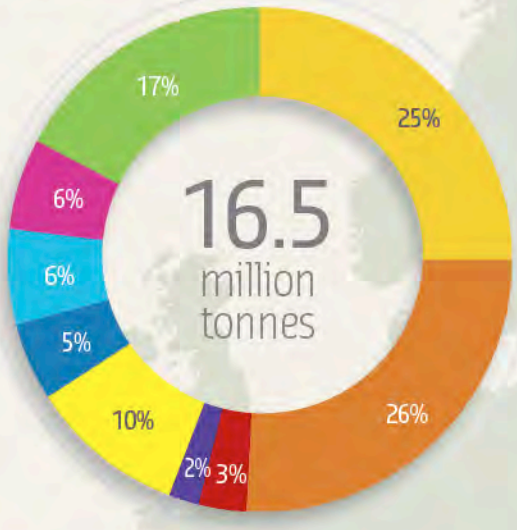
Industry statistics were distributed to Fertilizers Europe members throughout the year. Regular publications include figures relating to European fertilizer consumption, plant capacities, production, deliveries, exports and imports, as well as the "Membership Profile" highlighting industry turnover, investment and employment.

In addition, the committee produced its annual Fertilizers Europe survey of members' production costs, covering the main fertilizer products. This survey identifies trends within the industry as a whole and serves as a benchmarking tool for members.

The annual meeting of the full Statistics Committee in Brussels in November gave members the opportunity to review the activities undertaken during 2014 and discuss forthcoming projects.

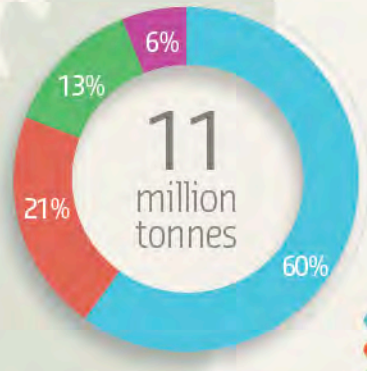
During 2015, the committee will continue to work towards further increasing the accuracy and timely delivery of its industry data.

EUROPEAN FERTILIZER CONSUMPTION BY CROP



- Wheat
- Coarse grains
- Potatoes
- Sugar beet
- Oilseeds
- Other crops
- Fodder crops
- Permanent crops (fruit, vineyard, forest)
- Grassland

EUROPEAN NITROGEN CONSUMPTION



- Nitrates
- Urea
- NPK
- Others

The Agriculture Committee has monitored the impact the new CAP agreement, promoted the Cool Farm Tool to measure the carbon footprint of food production, and initiated the EU Nitrogen Expert Panel work programme to develop a standard nitrogen-use efficiency indicator.

Common Agriculture Policy

After two years of intense negotiations, the European Commission, Parliament and Council finalized a deal on the CAP 2014-2020 in September 2013. MEPs formally approved the new regulations in November, followed by member states in December. Transitional arrangements were agreed for 2014, with most of the CAP provisions to be implemented in January 2015.

There is significantly less money available (-13%) to fund CAP 2014-2020 than over the previous seven-year period. There will be a progressive transition to a "fairer" allocation of aid payments, both within and between member states and, for the first time, a "greening" element in the aid payments linked to delivering environmental benefits.

Member states also have considerable freedom to choose which measures they want to apply (i.e. transfers between pillars, equivalent greening measures and voluntary coupled support).

Allocation of payments

Between 2014 and 2019, there will be a partial redistribution of the allocation of direct payments among member states. Direct payment envelopes will be progressively adjusted, so that countries with an average payment currently below 90% of the EU average will see a gradual increase in their envelope.

The difference between their current rate and 90% of the EU average will be closed by one-third by 2019. All member states must also reach an average level of €196 per hectare by 2020.

All member states will move towards a uniform payment per hectare at national or regional level, as part of a general move to introduce more equity into the farm payments system. The move away from a historical to a regional basis for direct aid payments will start in January 2015.

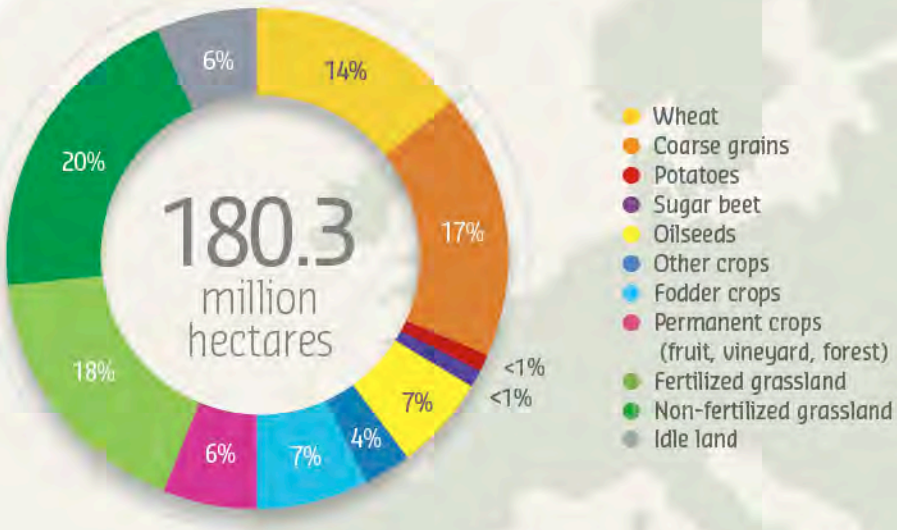
Greening

30% of each farmer's support payment will be made conditional on meeting three EU-wide "greening" measures aimed at benefiting the climate and environment. The European Commission accepted member state concerns on this issue and has made a list of alternative equivalent greening measures. Organic producers and very small holdings will immediately qualify.

The three basic criteria with which farmers have to comply in order to receive the remaining 30% of their payments are:

- Crop diversification: farmers with 15-30 hectares of arable land must cultivate at least two crops, with no crop constituting more than 75% of the total. Farmers with more than 30 ha of arable land must grow at least three crops, with the main crop covering a maximum of 75% of the cultivated area and the two main crops a maximum of 95%.
- Permanent grassland: farmers may convert no more than 5% of their permanent grassland to cropland, although they need not to apply this limit at farm level if there is less than 5% conversion at national level.

AGRICULTURAL LAND USE IN THE EUROPEAN UNION



- Ecological Focus Areas (EFAs): these will have to be established on at least 5% of a farmer's arable land area by 2015, rising (subject to a legislative review) to 7% by 2017. Holdings of less than 15 hectares, excluding permanent grassland, are exempt.

These "greening" measures are compulsory and in cases of non-compliance the direct payment will be reduced and an administrative penalty applied (up to 25% in case of a major infringement). There will be a transitional period for the penalties in the first three years of implementation (0% for 2015-2016 and 20% in 2017).

Fertilizers Europe believes that the sustainable intensification of farming in Europe is the way to improve competitiveness, provide income stability for farmers, increase Europe's self-reliance in food production, and improve its contribution to the global food supply.

Increased productivity will also ensure that no additional land is required for agriculture, safeguarding Europe's natural areas and biodiversity.

Fertilizers Europe continues to encourage the promotion of integrated farming practices and fertilization based on selection of appropriate fertilizers according to crop and soil characteristics (right product, right place) and precision application techniques (right rate, right time).

Emissions from agriculture

Until recently, farmers and food companies were unable to measure the agricultural GHG emissions in their production or supply chains. This meant that they could neither set targets nor track the progress of their efforts to mitigate climate change.

Assessment of GHGs from agriculture was expensive or based on academic literature rather than actual data. At the same time, an increasing number of food companies were discovering that agricultural GHGs generally comprise some 50-80% of product life-cycle emissions.

The Cool Farm Tool (CFT) fills this gap. It enables farmers to measure emissions from crop production, as well as food companies to evaluate emissions in their supply chains. The tool has been tested and adopted by a range of multinational companies who are using it with their suppliers to measure, manage and reduce GHGs.

The CFT (www.coolfarmtool.org) offers instant feedback on the impact on GHGs of different farm management options. The new online version is simple to use but scientifically robust in the complex arena of carbon accounting. Its clean interface supports data entry and interpretation of results.

In its early stages, the success of the CFT relied on its partners' commitment to address the challenge of climate change. The initial developers and users therefore created the Cool Farm Alliance (CFA) to ensure the tool's maintenance and future development.

In addition to the fertilizer industry, other partners include the food and drink companies Unilever, PepsiCo, Marks & Spencer, Tesco, Heineken, McCain and Kellogs, as well as Aberdeen University and the Sustainable Food Lab.

Affiliate members now include ADAS, the SAI Platform and the Royal Agricultural University.

Once the Alliance secures a critical mass of members, Fertilizers Europe is confident that the CFT will develop at an increased pace and wider global scale into a significant force in reducing the environmental impact of agriculture. We are committed to this mission and an active contributor to the process.

In addition to further improving the CFT's GHG module, a biodiversity and water footprint module is being developed to turn the tool into a multi-environmental indicator.

European fertilizer consumption

Fertilizers containing an average of 10.7 million tonnes of nitrogen, 2.5 million tonnes of phosphate, and 2.7 million tonnes of potash were applied to 133.5 million hectares of farmland in 27 EU countries during the 2013/2014 European growing season.

Fertilizers Europe forecasters expect annual nitrogen, phosphate and potash fertilizer consumption to reach 10.8, 2.7 and 3 million tonnes respectively by the 2023/2024 season, applied to 133 million hectares of farmland. This represents percentage increases in consumption of 1.3% for nitrogen, of 8% for phosphate and 13.1% for potash.

The forecasters further estimate that the total EU-27 cereal area will decline by 0.3% over the 10 year period. A 3.5% increase in the wheat area will be offset by a 2.1% decrease in the barley area and a 5% decrease in the area devoted to other cereals (rye, oats and rice). Yields, however, are expected to increase by an average of 7% over the period. In turn, the area devoted to grain maize will decrease by 0.5%, mainly due to an uncertain demand for grain-based bioethanol.

The sugar beet area is expected to grow by 1.1% but the potato area to significantly decline by 7.6%. However, with increased yields of 9%, production remains stable. Land devoted to oilseed rape is forecast to decrease by 3% but, with a yield increase of 4%, total production will remain unchanged.

What is clear is that fertilizer consumption will continue to slowly recover from levels in 2005-2007.

Nitrogen Expert Panel

During 2014, Fertilizers Europe initiated the formation of the EU Nitrogen Expert Panel which brings together scientists, industry representatives and policy-makers with recognized expertise in the nitrogen cycle at EU and global level. The agreed aim of the panel is to improve nitrogen-use efficiency (NUE) in the food chain.

The panel is tasked to give its opinion, position or recommendations, based on current knowledge and personal expertise, on topics and issues where new developments or innovations are proposed.

It is chaired by leading scientist Prof. Oene Oenema (Wageningen University) and composed of experts such as Dr. Mark Sutton (CEH) and Dr. Gilles Billen (Jussieu University) and policy-makers such as Mr T. Haniotis, Mr P. Bascou (Directors, DG AGRI) and Ms Claudia Olazabal (Head of Unit, DG ENV).

Obstacles to reaching consensus have been the tendency of stakeholders to work in isolation and bringing all the key layers together under one roof is a massive step forward.

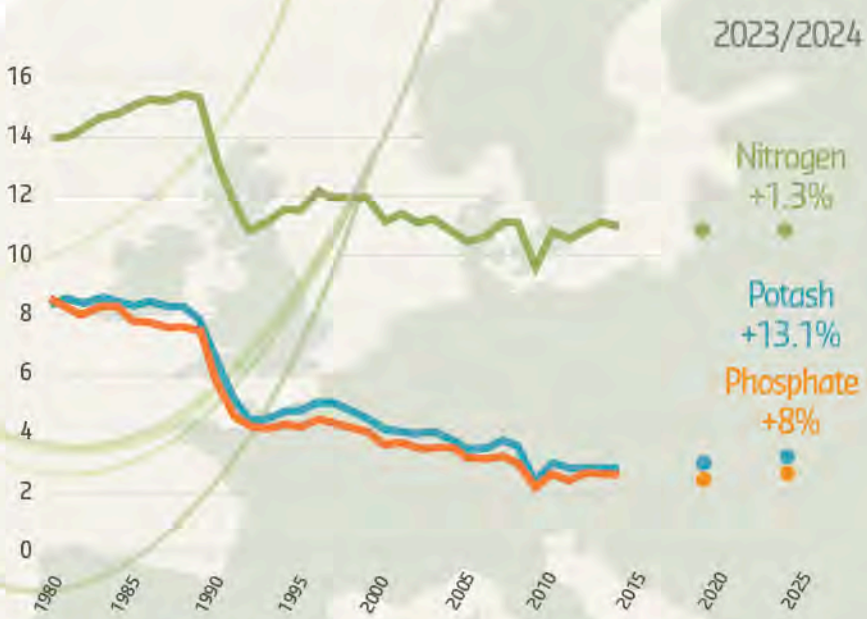
EU Nitrogen Expert Panel

The panel will work towards communicating a vision on how to improve NUE in the food chain in Europe, recommending effective proposals and solutions.

First mandate for 2014 was a NUE indicator to provide key players in the food chain (legislators, policy-makers and farmers) with a simple but sufficiently precise indicator for NUE monitoring in order to ensure broad stakeholder usage.

Although N-balance/surplus is already available from existing indicators, they do not sufficiently cover N-productivity and efficiency. An NUE indicator broadly used at farm level and throughout the food chain will contribute to substantially improve the sustainability of EU agriculture.

EUROPEAN FERTILIZER CONSUMPTION (MILLION TONNES)



The Trade & Economic Committe

has been primarily guided by tension between Russia and the EU on events in the Ukraine, gas pricing and anti-dumping measures, as well as by implementation of the EU single gas market and bi-lateral trade policy.

Geo-strategic EU-Russia events dominate

The year was dominated by EU-Ukraine-Russia trade and gas relations, with geo-strategic events in Ukraine and the Crimea presenting a difficult and turbulent background.

Close monitoring of EU sanctions and the EU's introduction, in April 2014, of a unilateral autonomous tariff regime to assist Ukraine's EU market access featured large over the first half of the year. In addition, re-visiting the key market access, energy, HSE and standards of the suspended EU-Ukraine Deep and Comprehensive Free Trade Area (DCFTA) was again necessary.

Fortunately, Fertilizers Europe long-standing request for a long tariff reduction schedule was granted. The schedule is for seven years but, with the suspension of the DCFTA, the first year reductions took place and were then frozen as a concession to Russia and its potential loss of trade with Ukraine.

While Georgia and Moldova accelerated to an early start-up date for their Free Trade Area agreements with the EU, Armenia choose to move towards the alternative Eurasian Customs Union with Russia, Belarus and Kazakhstan. The tensions may well increase again, as the EU and Ukraine have agreed to start up their DCFTA on January 1, 2016.

New Energy Union: old problems

As trade and economic tensions grew again in the second half of the year between Russia and the EU, Russia cancelled its South Stream pipeline project into south-eastern Europe. Although Russian gas supplies to Europe and the Ukraine continued, a new EU political impetus arose with the concept of an "Energy Union".

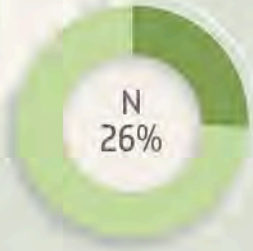
An immediate task - driven by the EU's wish to diversify gas supply sources - was a review of the Security of Supply gas regulation. In addition, storage and LNG strategies will be developed by the EU authorities in the near future.

Fertilizers Europe, while fully supporting the Energy Union and particularly its diversification of gas supply sources, nonetheless continues to argue for an EU relationship with Russia based on a market economy model of gas supply.

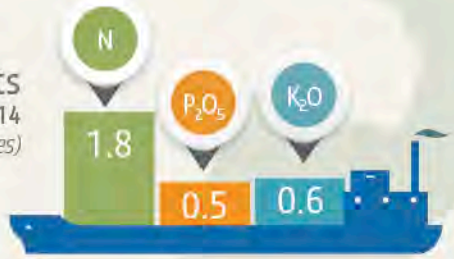
The association wrote to the new European Commission Competition Commissioner, Margrethe Vestaghe, supporting the correction of "excessive" gas pricing by Gazprom in Eastern Europe and the removal of restrictive practices such as destination clauses and oil indexation in gas contracts. The outcome is expected later this year.

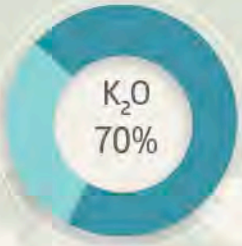
Imports
2013/2014
(million tonnes)

Imported products' share of EU consumption



Exports
2013/2014
(million tonnes)





Implementation of the 3rd Gas Directive

In alliance with IFIEC and CEFIC, Fertilizers Europe continued to push hard for full implementation of the Single Gas Market based on the 3rd Gas Directive's hub market model. The Gas working party organized a special meeting with ACER's head of gas and a highly focused gas seminar, with expert speakers from the European Commission, relevant consultants and member companies, was held in Feburary 2015.

The Energy Union has provided added political impetus to the Single Market implementation programme.

Trade and tariff defence

Arguably the greatest stand-out features of 2014 were, firstly, EC and member state agreement to continue existing anti-dumping measures on ammonium nitrate; and secondly, the rejection of up to 14 requests for duty suspension on fertilizer products.

The requests arose from exporter/importer attempts to override the new Generalised System of Preferences scheme introduced in January 2014 and particularly the specific exclusion of several key fertilizer supplier countries (i.e. Russia, Saudi Arabia and Qatar) from tariff concessions. Fertilizers Europe's members were able to demonstrate that they and other suppliers could adequately supply the EU market so the requests were rejected by the EU.

The ammonium nitrate anti-dumping measures were continued on the basis that the EC found a commercial dumping rate of €20/mt, that there was excess surplus Russian export capacity well over 1 million tonnes a year, and that the EU was clearly a highly attractive nearby market for Russian exporter/producers.

The measures can potentially apply for five years, however the Russian exporters/producers launched a judicial review on 23 December, 2014 at the General Court In Luxemburg.

In January 2014, the Russian Federation also opened a WTO dispute settlement complaint addressing the EU's use of a "gas adjustment" in earlier ammonium nitrate proceedings.

Russia argues that the actual accounts and gas invoices of Russian exporter/producers should be used rather than the "adjusted gas cost" linked to Russian "market gas" at Waidhaus on the Czech/German border. The case is greatly delayed due to an overload at the WTO secretariat but it is worth noting that the EU and Fertilizers Europe has already won this argument at the General Court in Luxemburg in February 2013.

Fast forward on EU bi-lateral trade policy

The European Commission's DG Trade continued to drive forward a whole series of new Free Trade Areas (FTAs). Most notable was Canada with a formal start-up in January 2016. The next big agreements are likely to be with the Gulf Arab States' Gulf Co-Operation Council (GCC) and with the USA under the Trans-Atlantic Trade and Investment Partnership (TTIP).

The GCC-EU bilateral treaty is basically a done deal with the only stumbling block being Saudi Arabia's caution. With the loss of the EU GSP concessions on the 6.5% conventional tariff, it seems inevitable that the Gulf States including Saudi Arabia will go for the FTA.

The TTIP is now approaching its ninth round of negotiations. The European fertilizer industry's positions on market access and an energy/gas provision are well supported by the EU institutions. The critical phase - the end-game of negotiations - is yet to come.

The Technical Committee has focused on the product stewardship audit, Fertilizers Europe carbon footprint calculator, fertilizer safety and security and revision of the new EU fertilizer regulation.

product stewardship fertilizers

Fertilizer FOOTPRINT

Product stewardship

For more than 10 years, Fertilizers Europe's Product Stewardship program has been the umbrella for its environment, safety and security activities. The program is now recognised by the International Fertilizer Association (IFA) as the highest global level.

All Fertilizers Europe members successfully passed the independent Product Stewardship audit in 2014 and received Product Stewardship certificates, which are valid for three years.

ETS and climate change

The committee continues to follow the evolution of EU climate policy. As a sector most at risk of carbon leakage, removal from the European Commission's revised carbon leakage list in 2014 was not a real threat.

Our advocacy activities have focused on the specifics of the fertilizer sector and particularly on ammonia production. As outlined earlier in this report, under the current ETS regime, after 2021 the free emissions allocation for European ammonia plants will be based on a lower level of emissions than the theoretical minimum possible for the ammonia production process. This needs to change.

Carbon footprint

The Fertilizers Europe Carbon Footprint Calculator for fertilizer production is now available on-line. The calculator demonstrates that, thanks to the industry's continuous efforts to reduce emissions, EU-manufactured fertilizers have a significantly lower footprint than those originating from other parts of the world.

The committee organized a workshop on carbon footprint calculations for fertilizers in March 2015.

Safety

Safety Seminar

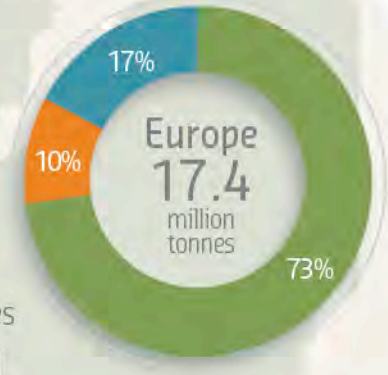
Fertilizers Europe has organized an annual safety seminar for members each year since 1997. The seminar is a platform for free discussion of safety and related issues, exchange local experience and provide learning opportunities.

The 2015 Safety Seminar was held in Prague in April and was combined with a plant visit to the facilities of Lovochemie. This event attracted 55 participants.

Incident Database

Fertilizers Europe maintains a database of some 800 safety incidents that have taken place since 1920. The database is a very useful on-line tool for member companies and the safety recommendations provided in the accident reports serve as a learning tool.

FERTILIZER PRODUCTION



- Nitrogen
- Phosphate
- Potash

The EU produces 9% of global nitrogen and 3% of global phosphate.

Security

Fertilizers Europe closely follows global developments regarding the risk of terrorist misuse of fertilizers as explosives.

In October 2014, the committee organized a workshop to share views and good practice on the implementation of the EU legislation on explosive precursors in the fertilizer sector. Presentations were made by the European Commission, member state authorities and the police, as well as by fertilizer industry representatives.

The Fertilizers Europe secretariat continues to collaborate closely with the European Commission in preparing the next update of EU legislation on explosive precursors.

We advocate the extension of reporting of suspicious transactions to cover all nitrogenous fertilizers throughout the whole supply chain, as already advocated in our Product Stewardship programme. Fertilizers Europe has also been actively participating in several EU-funded projects aimed at directly reducing the threat of fertilizer misuse.

Revision of fertilizer legislation

In cooperation with the Agriculture Committee, the committee has been actively involved in consultations with the European Commission on the new fertilizer Regulation. Fertilizers Europe favours fully harmonized legislation that takes into account the quality of our products.

2015 Focus

The committee's focus for 2015 will primarily remain on climate change, carbon footprinting, the new fertilizer regulation, and safety and security issues.

- The European Commission is now working on a proposal for ETS IV (2021-2030). It is of the utmost importance that our sector is recognized as being at very high risk of carbon leakage and receives full protection. The committee will be preparing and defending a sectorial-based approach.
- In addition to new features, the Fertilizers Europe carbon footprint calculator for fertilizer production will become publicly available online in 2015. We will work with IFA to have the calculator accepted as a global standard.
- It is possible that the European Commission may propose further revision of the new fertilizer Regulation. The committee will continue to play an important role in defending the industry's position on a number of important issues such as limits on contaminants.
- Fertilizers Europe will continue to cooperate closely with the European Commission and other stakeholders in defining and implementing measures for reducing the risk of fertilizer misuse. We will also review and issue new versions of several guidance documents on the safety of fertilizers.

Communications with stakeholders have played a major role in Fertilizers Europe's advocacy activities with the European and other institutions.

The development of the "Infinite Fertilizers" initiative has allowed Fertilizers Europe's Communications team to construct a seamless narrative in which to explain the association's main activities - the Carbon Footprint Calculator, Product Stewardship, "DAN" and the Cool Farm Tool.

The attendance at major agricultural events like the Copa-Cogeca conference, the Future of Farming and Agriculture (FFA) and The Global Forum for Food and Agriculture has helped anchor the branding of the association and our initiatives firmly in the minds of stakeholders.

The DAN family

The Fertilizers Europe Members Lounge continues to evolve as the focus of our communications with members and the LIFE magazine is now established as a well-regarded source of regular information.

We have continued to update and expand our website and social media platforms, as well as our range of electronic and printed publications. Our message is also spreading externally via numerous social media platforms and we are seeing an increasing following on Twitter, Facebook, LinkedIn and You Tube.

The Fertilizer Forum

The "Forum on Fertilizers and Nutrients for Growth" in the European Parliament (www.fertilizersforum.com) is continuing to be an integral part of Fertilizers Europe's advocacy work. The forum is now in its third year and the fifth session will take place on June 23, 2015 focusing on the Air Quality package and the lead up to COP 21.

The forum provides a platform for stakeholders to discuss all issues relevant to the fertilizer industry and provides the opportunity for informal dialogue and debate between MEPs, the European Commission, scientists and the industry on important issues in agriculture.

We are very grateful for the assistance that we have received from Julie Girling MEP and Peter Jahr MEP who are chairing the forum throughout the course of the year.

Publications

During the year we have updated our publications to fall within the "Infinity branding. As well as the specific materials for the DAN initiative, several other publications were released or updated throughout 2014 with the purpose of supporting the work of the committees. A new animated video illustrating our DAN initiative was also released.

Food for Thought

This year saw our partnership with the whole food chain enhanced with our involvement in the Agri-Food Chain Coalition which was launched in the European Parliament in September 2014. The coalition brings together 11 groups representing Europe's agricultural and food business interests.

The event saw the official release of the coalition's declaration "Vision for unlocking the potential of agriculture and food industries in the EU". The coalition has continued to blossom and will be present at Milan EXPO in June 2015 where it will reiterate its vision.

The Fertilizer Forum

Fertilizers Europe displays at the European Parliament and at the Copa-Cogeca conference

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INFINITE FERTILIZERS

Continuing to feed the world

INFINITE FERTILIZERS

Continuing to feed the world

Infinite fertilizers guides the European fertilizer industry's initiatives to ensure that Europe's farmers have access to a variety of safe, high quality, locally produced products, as well as information on their use, environmental impact and nutrient recycling opportunities.

fertilizers europe

Fertilizers Europe represents the majority of fertilizer producers in Europe and is recognized 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 relating 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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