

Fertilizer Focus

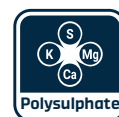


**Integrating Africa
through technology**

- Brazil market focus
- Updating processing plants
- Asia event: Clean Ammonia

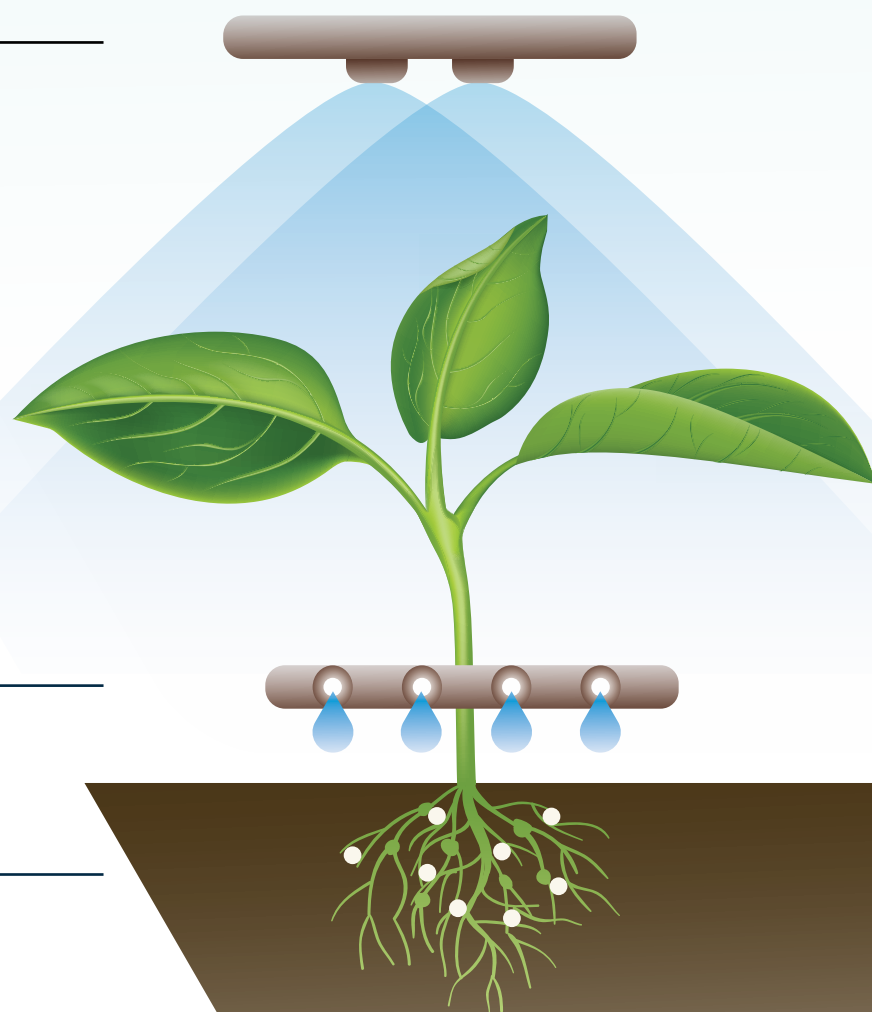


Your one-stop shop for plant nutrition and crop resilience



ICL Growing Solutions offers innovative, sustainable agriculture solutions worldwide. Our high-quality crop nutrition solutions empower farmers to cultivate stronger crops, achieve higher yields, and maintain long-term soil health and fertility.

icl-growingolutions.com



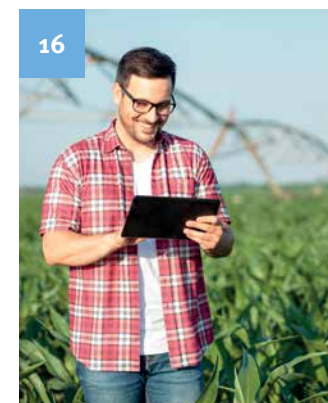
6



10



16



36



55



CONTENTS

- 4 Commentary
- 6 History of fertilizers: Volume 3 (Part 5)
- 10 TFI's Verified Ammonia Carbon Intensity certification
- 16 Is the 'low-carbon fertilizer' label misleading?
- 20 News in brief

23 MARKET ANALYSIS

- 24 Soft commodities
- 26 Hard commodities
- 28 Shipping and trade news
- 31 Price watch

35 SPECIAL FOCUS: PRODUCTION TECHNOLOGY

- 36 Updating processing plants with HMI/SCADA
- 38 Modernizing fertilizer blending facilities
- 42 Dependable conveyor belts
- 44 Reducing GHG in nitric acid production

- 47 People and events
- 48 Event preview: Argus Clean Ammonia Asia 2025
- 52 The Brazilian fertilizer market
- 55 Agribusiness and the climate agenda
- 56 FERTILIZER FOCUS MEDIA PACK 2025



argusmedia.com

Fertilizer Focus
Argus Media group
Lacon House, 84 Theobalds Road,
London, WC1X 8NL

Email: fertilizer@argusmedia.com
www.argusmedia.com/fertilizer

Improvement through technology



Written by

Stef Worsley, Editor, *Fertilizer Focus Magazine*,
Argus Media, UK

Welcome to the May/June 2025 edition of Fertilizer Focus! In this issue, Michael

Freeman – in his series on the history of modern fertilizers - takes a look at the shifting politics in the industry in the 1990s. Particularly, the collapse of the Communist governments in the countries of Central Europe and the Soviet Union which started with the breaching of the Berlin Wall and significantly impacted the production of fertilizers.

The main feature article in this edition is from Afreximbank with an article on the progression of technology in Africa's fertilizer industry. Africa has experienced remarkable technological transformation across multiple sectors, including fintech, education and healthcare. Yet, in the agricultural sector, a huge employer for the African population, the fertilizer industry remains constrained by its complexity.

Meanwhile, The Fertilizer Institute documents their Verified Ammonia Carbon Intensity (VACI) - A new standard for low-carbon ammonia certification. It is designed to provide ammonia consumers seeking to reduce emissions across their supply chains with an independent and certifiable carbon intensity score. The framework standardizes how carbon intensity is calculated for ammonia, from feedstock acquisition to the finished product at the plant gate.

We have a special focus section on "Production technology" in this edition. Firstly, the ARISTA Corporation, put forward ideas on how to update processing plants with HMI/SCADA applications. They suggest that as fertilizer manufacturing facilities continue to actively explore new avenues to enhance productivity, the utilization of web-based HMIs on industrial-grade computers can significantly boost efficiency.

EMT then looks at modernizing fertilizer blending facilities. As agriculture modernizes, blending facilities must adapt—yet many plants still operate with systems designed 20 or even 30 years ago. These legacy facilities, though often robust, are increasingly limited by outdated control systems, manual workflows, and a lack of dosing flexibility.

Stamicarbon then offers an insight into reducing greenhouse gases in nitric acid production. The nitric acid production industry is essential to global agriculture due to its role in producing nitrogen-based fertilizers. However, the environmental impact of these plants, particularly their greenhouse gas emissions, has become a major concern. Addressing these concerns and increasingly stringent environmental regulations necessitate modernizing existing facilities.

We also look at the Brazilian sector and Argus editor Renata Gabrielli suggests the market there will continue to grow this year thanks to an expected acreage increase in the 2025-26 cycle as well as potentially favourable selling opportunities of agricultural commodities for farmers given the higher prices in the international market.

There is also preview for the Argus Clean Ammonia Asia 2025 conference which gives readers a taster of the upcoming event on 2 June. This event provides a unique opportunity to gain insights from industry leaders exploring key issues related to policy and regulation, social acceptance, production and import project development, and infrastructure advancements.

Please also take time to check out the 2025 Media Pack and consider the advertising opportunities in the magazine – we are now reaching over 15,000 readers per edition!

I hope you enjoy the issue. ■



Argus Clean Ammonia Europe Conference

2-4 December 2025 | Rotterdam, Netherlands

Group discounts available

Bringing together industry pioneers driving clean ammonia adoption in Europe

Highlights from 2024:



45+ industry leading speakers

Covering the hottest topics at the moment for the European market, attendees heard from the European Commission, ExxonMobil Low Carbon Solutions, Woodside Energy, Maersk Tankers, EnBW, Exmar, Uniper Global Commodities, Mitsui O.S.K Lines, Ameropa and many more across the ammonia and new energy value chains.



Women in Clean Ammonia Network

Our inaugural Women in Clean Ammonia session took place in the exhibition and networking area with inspiring perspectives brought from female leaders in the clean ammonia sector. These included Keshni Srivatsan, EnBW, Andrea Guati Rojo, AEA, Duna Uribe, Port of Rotterdam and Vibeke Rasmussen, Yara Clean Ammonia and AEA.



Port of Rotterdam site visit

Returning in 2025, attendees had the opportunity to see some of the key locations of operations related to the industries located in Rotterdam. Guides shared insights about specific locations passed during the tour related to the energy transition.



375+ attendees



175+ companies



35+ countries



History of the modern mineral fertilizer industry
Volume 3: 1950-2000 (Part 5)

Shifting politics in the 1990s

This is the third and final volume of the history of the modern mineral fertilizer industry by Michael Freeman, which takes a look at the evolution of fertilizers over the past two centuries (Please refer to all editions of Fertilizer Focus in 2022 for volume 1 and editions in 2023/24 for volume 2).

Between 1990 and 2000 there was no overall change in the world's total consumption of fertilizer nutrients, which stood at 127 mn t in both years. This appearance of stability was the result of a 25 mn t drop in fertilizer nutrient use in Europe and the Former Soviet Union being off-set by the 25 mn t increase that took

place in the other major regions, notably Asia. Within the overall totals at the beginning and end of the decade, the use of nitrogen increased by 5 mn t, and there was a corresponding decline in the use of phosphates and potash. The background to this unusual state of affairs was the collapse of

the Communist governments in the countries of Central Europe and the Soviet Union that started with the breaching of the Berlin Wall in November 1989, although the serious economic problems in the Communist states were already becoming evident in the 1980s, not least in the Soviet Union where

Central planning was an integral part of the Communist economic system

Mikhail Gorbachev had introduced the concept of perestroika (reorganization), alongside glasnost (openness), in the middle of the decade, but this failed to generate enough economic change to allow the CPSU and its counterparts elsewhere to remain in power.

From the perspective of the fertilizer industry, there were two linked outcomes to this sudden transition. Central planning, an integral part of the Communist economic system, had been responsible for determining the quantities of fertilizers to be delivered to state farms from domestic producers, supplemented by imports as needed. When this system collapsed, it became evident that the farms had been supplied with amounts of fertilizers that were well in excess of their real needs. Fertilizer producers were left with large amounts of unwanted material, and they proceeded to look for new customers in global markets. The other big change related to the ownership of the factories that had been producing fertilizers in these countries, especially in Russia and in some of the other FSU states that possessed the fertilizer raw material resources to support their industries.

East and West Germany

One of the earliest ownership changes took place in Germany where the former West German

Table 1. Changes in fertilizer nutrient capacities between 1990-2000 (mn t/y)

	Ammonia N	Phosphoric acid P ₂ O ₅	Potash K ₂ O	TOTAL
World total	16.9	4.0	-1.5	19.4
of which:				
W&C Europe	-3.8	-2.0	-3.1	-8.9
FSU	-2.2	-0.2	0.0	-2.7
N.America	1.6	0.8	0.2	2.6
Asia	17.4	3.1	1.0	21.5
Rest of World	3.9	2.3	0.8	7.0

Source: Calculated from numbers supplied by IFA (Ammonia), M.Mew (Phos. Acid) & M.Freeman (Potash)

government moved rapidly to take charge of the ownership transition in order to maintain industrial output in the former East Germany. Potash production had been an important industry in both halves of Germany and by 1990 their combined capacity was over 6 mn t/y K₂O based on mines at 18 sites, of which 11 were in the East (55% of the combined capacity) and eight in the West (45%). Significantly the East German industry had 24,000 employees, whereas the West German potash mines only employed one third of this number. The combined industry's potential market was equivalent to one half of its capacity, so very substantial cutbacks were needed. In East Germany, six mines (1.2 mn t/y) were closed in 1991, and the rest offered to potential investors, but attracted little interest outside Germany. Only Kali und Salz had an incentive to take them on, which it did at the end of 1993, after negotiations that resulted in more mine closures on both sides of the former border.

Of the big nitrogen complexes in the GDR, the old Leuna factory was shut down in 1991, the Piesteritz site was claimed by its former owner and the Rostock plant was sold to Yara. The GDR phosphate fertilizer

industry, largely made up of old superphosphate plants, was also closed down. Similar changes took place in other Central European countries, although ownership mostly remained within the region.

The situation in Russia and the other ex-FSU countries did not resolve itself so quickly. During the 1990s various parties moved in to gain control of industrial assets, particularly those associated with raw material resources, and the general situation was confused. With regard to fertilizer production – an important industry in Russia with great potential for generating export revenue – a handful of companies emerged in the following decade to take control of the biggest producers, i.e. Eurochem, Phosagro, Uralkali (later absorbed into Uralchem) and Acron.

Growth in Asia

Despite the cutbacks in Europe and the FSU, global capacity for fertilizers continued to grow in the 1990s, with most of the expansion taking place in Asia, especially China, and dominated by the additions to nitrogen capacity. Table 1 shows these changes in the major regions for the principal inputs for



The beginning of autumn in the Russian countryside. Nizhny Novgorod region, village of Konново

Global capacity for fertilizers continued to grow in the 1990s

fertilizer manufacture during the decade: ammonia capacity rose by 17 mn t N (+5%) and phosphoric acid capacity by 4 mn t/y P_2O_5 , while potash capacity fell back by 1.5 mn t/y K_2O (-4%). Comparisons with the changes in nutrient demand over the same period (+7% for N, -9% for both P_2O_5 and K_2O) indicate that there was an increase in the supply surplus, that was reflected in the movement of international prices in the 1990s. Nitrogen and phosphate

Swaminathan, M.S. (1925-2023)



M.S. Swaminathan pioneered the introduction into Indian agriculture of genetically modified (GM) crops and of the associated farming techniques needed to maximize yields. The Bengal famine was a formative experience for him, as it occurred at the time when he was undergoing higher education in India, convincing him that he needed to specialize in agricultural research. He continued his education in Europe and then in the US where he met Norman Borlaug. When he returned to India, he worked on

introducing the semi-dwarf wheat that had been developed in Mexico by Borlaug's team, and then went on to run the International Rice Research Institute. Although he encouraged high levels of fertilizer and agrochemical use in conjunction with the GM seeds, he was also aware of the potential problems associated with intensive farming.

prices were volatile during the decade, but did not collapse – the average for the 10-year period was almost the same as it had been in the previous decade. The measures taken by the potash industry in

the 1990s to eliminate surplus capacity seem to have stabilized the situation for this nutrient and actually allowed prices to rise and to reach the high end of their historic range. ■



Argus Fertilizer Europe Conference

21 -23 October 2025 | Lisbon, Portugal

Book by Friday 16 May to save **€500** with your super early bird discount

Europe's largest commercial networking event for fertilizer trade

- Enhanced on-site experience
- Upgraded networking opportunities

- New content
- Iconic evening receptions



700+
Attendees



300+
Companies



55+
Countries



20+
Hours of networking



Visit the website or scan the QR code for more information:



Thank you to our conference sponsors

Sustainability sponsor



Silver sponsors





Embedding technology in Africa's fertilizer industry

Written by

ATEX Marketplace (Africa Trade Gateway), Afreximbank, Egypt

Africa has experienced remarkable technological transformation across multiple sectors, including fintech, education and healthcare. Yet, in the agricultural sector, a huge employer for the African population, the fertilizer industry remains constrained by its complexity.

Despite the increasing adoption of digital technologies across the continent in the agriculture sector, the fertilizer industry has yet to fully capitalize on these advancements to hasten Africa's integration into global markets. Encouragingly, industry

stakeholders are spearheading efforts to bridge this gap, aiming to unlock the immense potential of Africa's fertilizer market and drive regional and international connectivity.

The importance of integrating the African market

To fully understand the importance of Africa's fertilizer industry, it is essential to first recognise agriculture's critical role in the continent's economy and people's

livelihoods. The sector employs 65-70% of Africa's population and generally accounts for close to 40% of the continent's GDP. However, Africa's fertilizer use per hectare remains among the lowest globally, which significantly impacts agricultural productivity and food security. In 2020, countries like the Democratic Republic of Congo, Madagascar, Namibia, Niger, and Sudan used less than 10kg of synthetic fertilizer per hectare, resulting in an average cereal yield of only 0.966t/ha. In stark contrast, the United States applied over 124kg of fertilizer per hectare,

achieving cereal yields exceeding 8t per hectare. With the sector's significance across the continent, stakeholders are devising ways to improve fertilizer access to enhance agricultural productivity. Given that over 150 mn people in parts of Africa lack reliable access to food, according to the Red Cross, increasing fertilizer access is crucial to addressing food shortages and boosting crop yields across the continent. Efforts such as the African Union's Abuja Declaration to increase fertilizer usage to 50kg per hectare, are one such example.

With over 60% of the world's uncultivated arable land, Africa has the capacity to be a global agricultural powerhouse. And increased fertilizer adoption could close yield gaps, improve soil fertility, and meet the continent's growing food demand.

Africa's integration into the global fertilizer industry faces significant challenges that hinder its potential. Challenges such as limited transparency, market access, and financing stifle Africa's potential to compete and grow. In addition, lack of accessible and verified data on African countries makes it difficult for international players to assess the gaps, creating a barrier for private sector involvement and hindering collaboration. This lack of data further exacerbates market access issues, as small and medium-sized enterprises (SMEs) in Africa, struggle to connect with international partners due to limited visibility and resources, despite their expertise and strong track records.

These barriers impose higher entry costs on African players compared to competitors from other regions. Compounding these challenges are financing and payment constraints.

The key role of innovation and technology

As the agriculture sector evolves, technology is playing a pivotal role in addressing key challenges. From enhancing transparency to improving

market access and revolutionizing production, solutions such as data analytics and smart technologies are transforming how African producers engage with global supply chains.

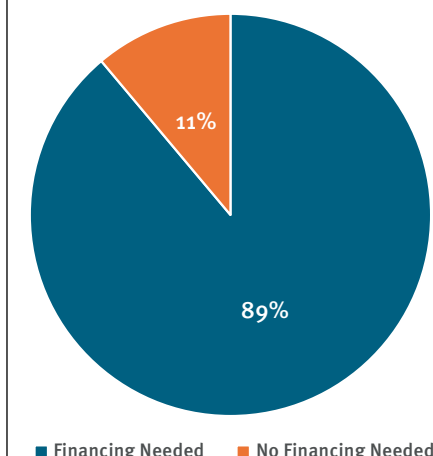
Being at the forefront of digital adoption, African Import-Export Bank (Afreximbank) has launched The African Trade Exchange (ATEX), a B2B and B2G e-commerce platform that aims to facilitate international trade with African counterparties. ATEX is one the components of the African Trade Gateway (ATG - www.atg.africa), which houses other platforms including, the Customer Due Diligence Solution, MANSA, the Pan-African Payment and Settlement System (PAPSS), TRADAR (Market Intelligence), ATG Connect (Finance and Investment), and Tradelink (supply-chain financing platform). Figure 1 shows that 89% of fertilizer-related transactions on the ATEX platform require financing.

Tackling transparency, verification and data access

With the frequently cited challenges in the African fertilizer industry being the lack of transparency, data and verification tools among African countries, Afreximbank deployed MANSA, a KYC and AML platform for African companies aimed at enhancing transparency of African counterparties. MANSA leverages its advantageous ecosystem and technology to centralise verified information and strengthen the African trade sector, which further integrate African fertilizer companies into the world of import and export trade.

Furthermore, data analytics and AI platforms are empowering African fertilizer industry stakeholders to align production with demand and identify market opportunities while online platforms enhance transparency and promote trade with African companies. The International Fertilizer Development Center (IFDC) has launched the Africa Fertilizer Watch platform providing fertilizer stakeholders with vital information such as overall market risk, exposure

Figure 1. Percentage of fertilizer requests necessitating financing



to the Ukraine/Russia Crisis, fertilizer distribution and more. These insights allow producers to anticipate regional demand shifts and position themselves strategically in global markets.

Tackling market access

Fertilizer manufacturing and distribution has been an important industry for ATEX. Following the Russian and Ukraine crisis, fertilizer procurement has been challenging for African companies. From November 2022 to November 2024, ATEX has seen a total value of USD1.3 bn in Request For Quotes (RFQs) generated for fertilizer procurement from verified companies on board with the platform. This number shows the existing appetite for a centralised and transparent platform that companies can use to access the most competitive prices and the best suppliers in the industry. Moreover, all companies that join ATEX are verified through MANSA to ensure a safe and verified ecosystem for trade.

By leveraging the platform, companies of all sizes can now work with trusted African countries. However, despite ATEX being a digital platform, it does not try to fully replicate real-life trade. The platform balances the digital

aspect with personalised support, ensuring that trade is streamlined. E-Platforms such as ATEX are growing and support the integration of African businesses, however it is important for them to fully grasp current trade complexities to offer accretive value.

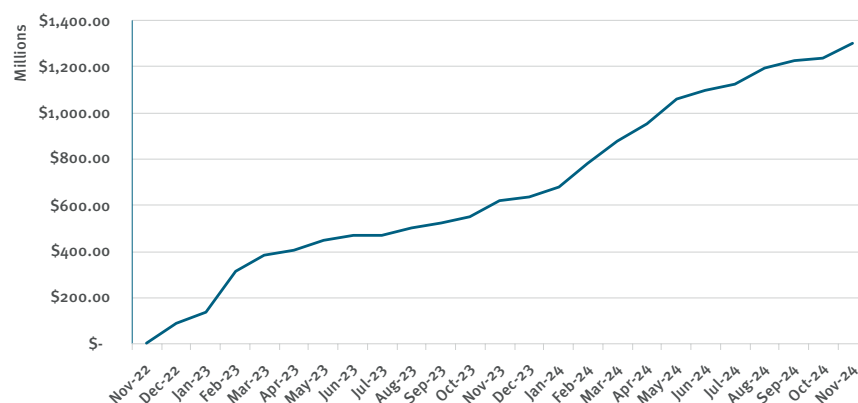
Tackling financing and payment

Another challenge that technology is trying to address, is access to financing and the facilitation of payment. There are an increasing number of financing platforms being launched to offer solutions to these challenges. By integrating advanced digital platforms, different players can improve the efficiency of trade finance for businesses in Africa, particularly SMEs. These technological solutions help streamline access to capital and mitigate the risks associated with international trade, thereby making it easier for African companies to engage in global commerce. Non-banking financial institutions use technology-driven platforms to create more accessible, cost-effective financing options, thereby supporting African businesses in gaining better access to global supply chains. Tradelink, Afreximbank's supply chain financing platform, which is also part of ATG, offers payables finance, which provides early payment on approved invoices to suppliers, enhancing their working capital. It is tailored to boost the financing capabilities of SMEs and improve access to affordable working capital, especially in regions where such financial products are often underutilized.

ATG also offers ATG Connect which focuses on financing and investment opportunities. The goal of ATG Connect is to leverage technology to match financing and investment opportunities to financing and investment providers on one centralised platform. Streamlining capital access for African entities.

Launched in 2021, the Pan-African Payment and Settlement System (PAPSS) processes, clears and settles

Figure 2. Cumulative RFQ Value generated in fertilizer on ATEX from November 2022 to November 2024



cross-border trade payments on behalf of banks and other service providers in local African currency. It is available in 13 countries (with more coming soon) that include Tunisia, Ghana, Kenya, Malawi, Nigeria, Rwanda, Zambia and Zimbabwe among others. Afreximbank has enhanced the PAPSS solution to also include a currency marketplace, allowing companies to exchange their local currency positions rather than using the US dollar. Over 150 commercial banks are signed up to the platform helping to ease the integration of Africa in the global fertilizer trade.

Achieving global standards using technology

Smart technologies in fertilizer production are helping Africa meet global standards and regional needs. Internet of Things (IoT) systems monitor production processes, optimizing chemical composition, energy use, and quality control in real time. This ensures that fertilizers meet international standards while minimizing production costs. For instance, fertilizer plants in Nigeria have used IoT systems to boost efficiency, helping the country emerge as a reliable supplier for West Africa and beyond. This intra-regional specialization strengthens Africa's role as both a supplier to its farmers

and an exporter to global markets, further deepening integration.

Precision agriculture technologies, such as GPS-guided systems, drones, and AI tools, improve fertilizer application efficiency, increasing yields while reducing waste. For example, drones in East Africa are being deployed to monitor crop health and guide targeted fertilizer application. This approach ensures compliance with eco-conscious regulations in markets like the EU, improving Africa's competitiveness in global trade.

Growing the ecosystem

Integrating Africa through technology requires a multi-faceted approach. Institutions like Afreximbank are key in providing financial support and fostering cross-border trade initiatives. The African Continental Free Trade Area (AfCFTA) plays a vital role by promoting intra-African trade, helping create a more unified market for goods like fertilizer. However, significant infrastructural improvements are needed, such as reliable transportation networks and integration of digital platforms in the industry. As no single solution works for all contexts, Africa's diverse markets require tailored technological solutions that address local needs and limitations, highlighting the complexity of integration. ■



Argus Fertilizer Caspian, Black Sea and Eastern European Markets

22-23 September 2025 | Istanbul, Turkiye

Book by 1 June 2025 to save \$550 off the standard rate!

Key topics for discussion include

- Global fertilizer market: Trends, demand, pricing;
- Geopolitics and macroeconomy: Impact on fertilizer trade flows;
- Prospects and development of the fertilizer markets in the Black Sea region;
- Overview of new infrastructure projects and port terminals;
- Production capacities and export potential of central Asian suppliers;
- European market: Balance of cost implications and sustainability goals;
- Fertilizer freight market;
- New infrastructure at Caspian and Black Sea ports.



450+
attendees



250+
companies



50+
countries

Sponsorship and exhibition opportunities:

Have the exclusive opportunity to raise the profile of your company, your products or your services to the Caspian, Black Sea and eastern European fertilizer supply chain

Damir Iskandiyarov

✉ damir.iskandiyarov@argusmedia.com

☎ +7929640 05 41

Platinum Sponsor



Gold Sponsor



PHOSVITA

Silver Sponsor



GG TRADING

Bronze Sponsor



PUREFERT TRADING AG
Pure Fertilizers for Healthy Crops

TFI's Verified Ammonia Carbon Intensity (VACI)

A new standard for low-carbon ammonia certification

Written by

Morgaine Mertz-Myers, Communications Manager, The Fertilizer Institute, based in the USA

In December 2024, The Fertilizer Institute (TFI) launched the Verified Ammonia Carbon Intensity (VACI) programme, a voluntary certification of the carbon footprint of ammonia production at a specific facility. The first programme of its kind, VACI is designed to provide ammonia consumers seeking to reduce emissions across their supply chains with an independent and certifiable carbon intensity score. Benefits of the VACI programme:

- **Transparency:** Independent verification provides a clear picture of emissions reductions.
- **Accountability:** Producers are required to meet rigorous standards, enhancing credibility.
- **Credibility:** Third-party audits build trust among consumers, regulators, and investors.
- **Standardization:** The programme provides a unified, science-based method for assessing carbon intensity, eliminating confusion from legacy classification systems.
- **Incentives for Innovation:** Facilities that take meaningful steps to reduce their emissions are publicly recognized and may gain competitive advantages in sustainability-driven markets.

The VACI framework standardizes how carbon intensity is calculated for ammonia

What Is VACI?

The VACI framework standardizes how carbon intensity is calculated for ammonia, from feedstock acquisition to the finished product at the plant gate. Facilities that wish to be VACI-certified must follow a standard to calculate their carbon intensity score. Then, a certified third-party auditor verifies the score to ensure accuracy and transparency.

VACI shifts the focus from how ammonia is made to how much CO₂ is emitted during all aspects of production. This move allows for meaningful benchmarking and creates accountability, encouraging producers to adopt low-carbon technologies such as renewable energy integration and advanced Carbon Capture and Storage (CCS).

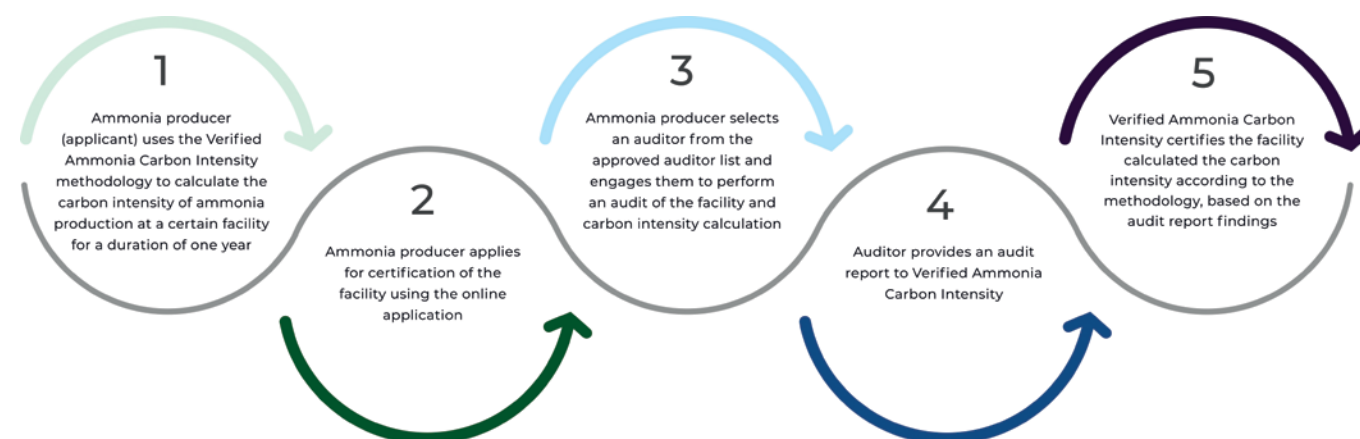
Industry collaboration and oversight

TFI developed the VACI programme in partnership with industry leaders such as CF Industries, LSB Industries, Nutrien, OCI, and Yara, in collaboration with Hinicio, a consultancy specializing in hydrogen and decarbonization. The certification aligns with globally recognized standards, including ISO/IEC 17029, ISO 14064, and ISO 14067.

Facilities such as Nutrien Redwater and CF Industries Donaldsonville have already completed audits conducted by SCV Consulting Ltd. and TÜV SÜD America, Inc. Additional audits are underway at LSB Industries El Dorado and CVR Energy's Coffeyville plant.

These audits follow strict procedures and require documentation of all emissions-related data. The auditors verify the numbers and assess the integrity of the facility's monitoring systems, data management, and reduction strategies. The audits ensure that the VACI label accurately reflects a facility's environmental performance.

Figure 1. VACI certification represents a key advancement in the global effort to decarbonize industrial sectors such as agriculture.



Why VACI matters

Ammonia is a foundational chemical for global agriculture, used primarily in fertilizers to provide crops with nitrogen. It is also critical for producing NOx emissions control agents and household and industrial goods like paper, fabric, and pharmaceuticals. Certain production methods for ammonia may generate carbon dioxide (CO₂) due to the use of natural gas, some of which may be released into the atmosphere.

Until now, there has not been a consistent or scientifically based system to assess and certify the carbon intensity of ammonia. Terms such as 'grey ammonia', 'blue ammonia' and 'green ammonia' refer to different ammonia production methods, but this colour-coded system is non-standardized and does not accurately reflect the production emissions. Two producers may use the same method but have vastly different CO₂ footprints based on energy sources, carbon capture technology, and other factors. The VACI programme addresses this gap by offering a transparent, science-backed certification that considers all emissions associated with ammonia production - from feedstock to final product.

Until now, there has not been a consistent or scientifically based system to assess and certify the carbon intensity of ammonia

Encouraging low-carbon innovation

VACI is not just a label; it is a tool to foster real change. Offering a measurable and credible score motivates producers to improve their environmental performance and demonstrate leadership in sustainability. VACI is especially relevant as agriculture and other sectors face mounting pressure to build resilient, low-emission supply chains.

Producers pursuing VACI certification often invest in renewable energy sources, process improvements, and more efficient equipment. These upgrades lower emissions, reduce energy costs, and enhance plant efficiency over time. In this way, VACI supports both environmental and economic goals.

TFI President and CEO Corey Rosenbusch emphasized the impact of this programme, stating: "The Verified Ammonia Carbon Intensity programme provides ammonia consumers with certifiable transparency that will allow them to quantify the positive impact using low-carbon ammonia has on their greenhouse gas emissions footprint."

VACI certification represents a key advancement in the global effort to decarbonize industrial sectors such as agriculture. It provides a practical and scientifically backed way to assess progress toward emissions goals, making it easier for companies to make informed choices and for consumers to understand the actual environmental impact of ammonia.

For more information or to participate in the consultation process visit: verifiedammonia.org ■

The problem with the term 'low-carbon fertilizers'

Why soil-centric thinking matters

Written by

Jessica Fitch, Senior Consultant, European Consortium of the Organic-Based Fertilizer Industry (ECOFI)/Prospero & Partners, Brussels

In an era where sustainability is a top priority, the term 'low-carbon fertilizer' has gained traction, particularly among mineral fertilizer producers in Europe striving to publicise their emission reductions. While the intention behind the label is commendable – emphasizing efforts to cut carbon footprints in fertilizer production – the term itself is deeply problematic in a sector claims to promote integrated plant nutrition and soil fertility.

Of course, the fertilizer industry is right to reduce its emissions, and there have been significant strides in doing so. However, framing fertilizers as 'low-carbon' reflects a narrow, industry-centric view that prioritizes manufacturing emissions without considering how fertilizers function in agricultural ecosystems.

This label is not farmer-centric, nor does it align with a systems approach to sustainability that includes soil carbon content and long-term soil health. Why would a farmer in a hot, dry climate where replenishing organic matter in the soil find a 'low-carbon' fertilizer attractive?

In reality 'low-carbon' is shorthand for 'few carbon emissions'

Why the 'low-carbon' label is misleading

At first glance, 'low-carbon fertilizer' seems like a positive development – it suggests a commitment to sustainability, lower greenhouse gas emissions, and progress toward climate goals. However, there are several issues with this term. The first is that – because it is shorthand – the term does not actually convey any new information. By definition, inorganic fertilizers contain little to no carbon.

In reality 'low-carbon' is shorthand for 'few carbon emissions'. Unlike industrial emissions, where 'low-carbon' can be a useful label, it actually sends mixed and erroneous signals in agriculture, which is fundamentally a carbon-based system. The fertility of soil is directly tied to its organic carbon content, which influences soil structure, microbial activity, and nutrient cycling/use.

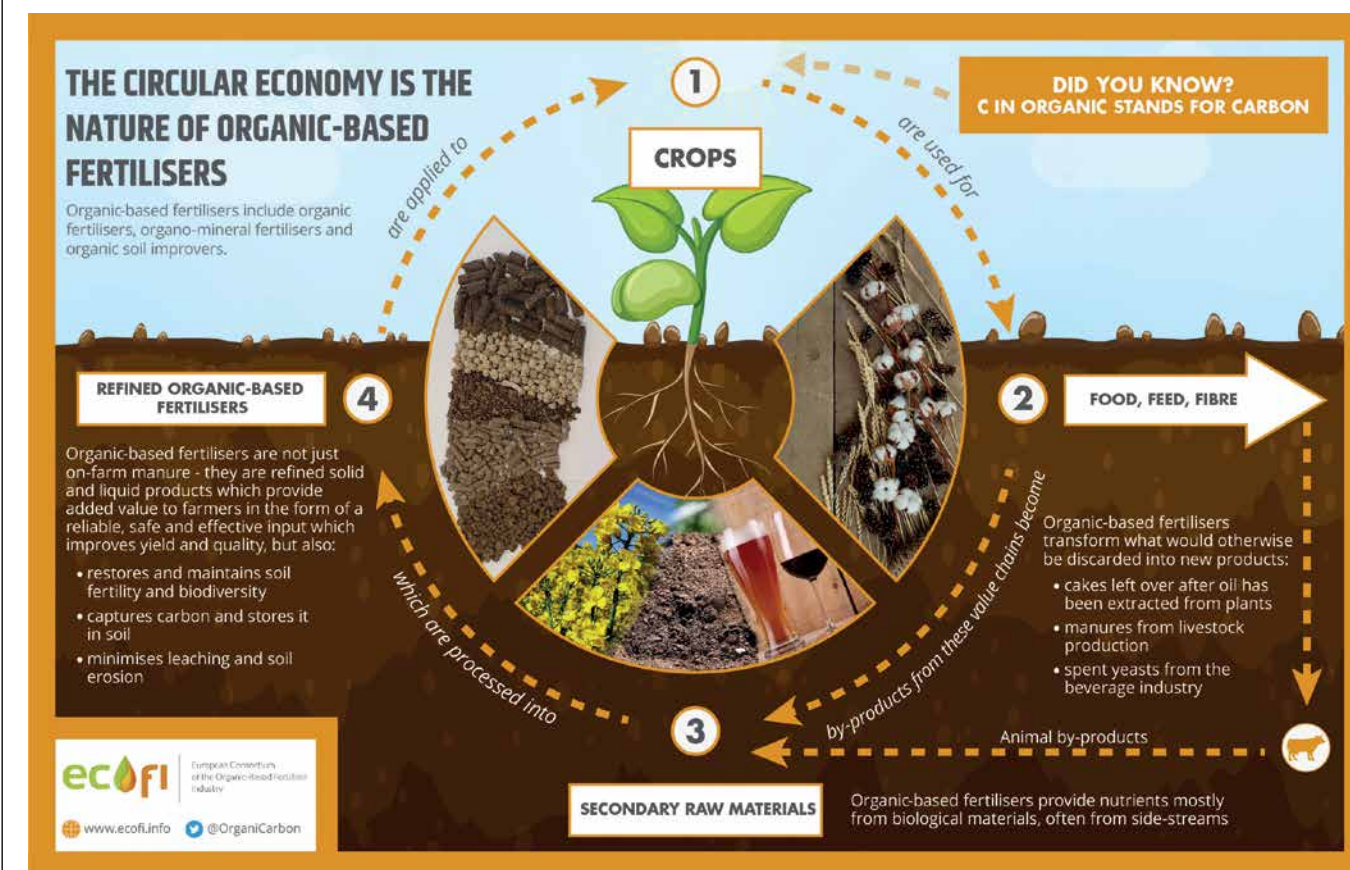
The amount of emissions related to the production of a fertilizer does not

dictate its performance once applied to the field. Traditionally greenhouse house emissions at the field level have been related to the inefficient use of nitrogen, not carbon. Seen from this perspective, the term 'low-carbon fertilizer' seems like a sleight of hand, directing attention towards the factory and away from the field.

By viewing sustainability through the lens of factory emissions alone, rather than the full impact of fertilization on soil and farm-level carbon cycles, labelling fertilizers as 'low-carbon' is reductionist and undermines the industry's other communications on integrated plant nutrition and soil health. This fragmented thinking has real consequences:

- It creates a false sustainability hierarchy. It implies that only production-stage emissions matter, ignoring the overall effect of fertilization products and practices on soil health. Study after study has shown that the best results

Figure 1. The term 'low carbon' fertilizer is misleading'



come from the integrated use of organic-based fertilizers (OBFs) and inorganic fertilizers to achieve optimal plant nutrition and enhance soil carbon storage.

- It creates a false dichotomy among fertilizers. OBFs cannot and should not be labelled as 'low-carbon', even if very few emissions result from their production, because they intentionally return carbon to the soil. Yet, OBFs play a crucial role in reducing overall farm emissions by improving soil resilience and optimising the use of inorganic fertilizers, and limiting nutrient pollution.
- It ignores farm-level emissions reductions. The carbon footprint of fertilization is not just about production; it is also about how fertilizers contribute to emissions at the farm level or help to reduce them. The integration of OBFs with mineral fertilizers in a balanced fertilization

plan can lower overall emissions by improving nutrient-use efficiency and reducing soil degradation.

Soil needs carbon – so why frame it as a negative?

For decades, scientists and agronomists have emphasized the importance of soil organic carbon. A well-functioning agricultural system relies on a delicate balance of nutrient inputs and carbon cycling, with soil organic matter playing a pivotal role in:

- Enhancing soil structure and water retention.
- Supporting microbial life and nutrient availability.
- Sequestering carbon naturally, helping to mitigate climate change.

Yet, the 'low-carbon fertilizer' framing entirely bypasses this fundamental

reality and seems to hark back to an outdated 'black box' model of agriculture that looked at yield as the sole measure of productivity while ignoring how efficiently the system was using the nutrients provided. By fixating on carbon reductions at the industrial level, the label risks undermining the broader discussion on what actually makes a fertilization strategy sustainable. A truly sustainable agricultural approach is not just about the factory – it's about building resilient soils that retain carbon over time while integrating broader sustainability measures.

Moving beyond 'low-carbon' to a more systemic approach

Instead of labelling fertilizers as 'low-carbon,' the industry needs to adopt a more systemic, soil-focused approach to sustainability metrics. Other terms



Smart farming for carbon-smart fertilization: integrating organic and mineral fertilizers

could be found to draw attention to the worthy efforts to reduce factory emissions (for example: ‘low-emissions fertilizer’). This would allow for a more holistic framing such as ‘carbon-smart fertilization’ - a concept that recognizes:

- The need to reduce industrial emissions (which remains crucial).
- The role of integrated fertilizer use to enhance soil carbon content.
- The importance of integrating organic-based and mineral fertilizers, as well as other complementary fertilizing products, to optimize sustainability outcomes, including nutrient use efficiency and related emissions at field level.

This shift in vocabulary would encourage a holistic view of fertilization, rather than a fragmented one that focuses only on emissions at the production stage. A ‘carbon-

smart’ approach would ensure that fertilizers are evaluated based on how they contribute to soil carbon storage, nutrient-use efficiency, and long-term soil health, rather than just their factory emissions profile.

The role of organic-based fertilizers in a sustainable future

Organic-based fertilizers play a critical role in sustainable agriculture by recycling nutrients from natural materials such as plant residues, animal by-products, and other organic matter into usable and transportable high-quality products. This prevents excess nutrients from polluting nature, soils, and waterways – especially in regions with a lot of livestock, where preventing nutrient runoff is often a concern. At the same time, OBFs improve soil structure, enhance

biodiversity, and reduce reliance on chemical inputs, leading to a more balanced and resilient agricultural ecosystem. OBFs also contribute to more efficient fertilization strategies, helping to optimize nutrient uptake and minimize the risks of nutrient losses and pollution. Research shows that when organic-based and mineral fertilizers are used together in a balanced fertilization plan, they enhance nutrient availability and efficiency, leading to higher yields than when either is used alone. Their key benefits include:

- Optimizing mineral fertilizer use, thereby lowering overall farm emissions.
- Improving soil health, which in turn reduces the long-term carbon footprint of agriculture.
- Closing nutrient cycles, reducing nutrient pollution by transforming waste streams into valuable



Achieving higher yields together: the balanced use of crop inputs

fertilising products, reducing dependence on synthetic inputs, and enhancing soil resilience.

Yet, these benefits, which align with ongoing research and innovation in organic-based fertilization, overlooked the ‘low-carbon’ term, which is overwhelmingly focused on production-stage emissions rather than farm-level sustainability.

Recognizing decarbonization while empowering farmers

While ECOFI fully supports the significant strides made in decarbonizing inorganic fertilizer production, we must all work together to ensure that sustainability framing accounts for the full picture of agricultural carbon cycles. At the core of sustainable fertilization is

the farmer – who ultimately makes decisions about which fertilizing products to use based on productivity, soil health, and environmental impact. Farmers need access to all fertilizing options and the relevant information to make the best choices for their specific conditions. Instead of using overly simplistic labels that imply a product solely on factory emissions, we should be asking: How do fertilizers contribute to soil’s ability to store carbon? And how can we integrate OBFs and mineral fertilizers to maximize productivity and sustainability throughout the lifecycle of fertilizer production and use?

If we only focus on the carbon footprint of fertilizer production, we risk ignoring the bigger picture of soil health and carbon cycles. True sustainability in fertilization should not be about simplistic labels—but about balanced, farm-centric, carbon-

smart strategies that support both productivity and long-term resilience.

The term ‘low-carbon fertilizer’ may sound good in marketing and sustainability reports, but for a sector that fundamentally depends on carbon for soil health, it’s time to rethink the language we use—and the vision we promote. We need to focus on the farmer, not the factory. ■

About ECOFI

ECOFI, the European Consortium of the Organic-Based Fertilizer Industry, represents producers active, or who intend to be active, in the European market of organic fertilisers, organo-mineral fertilisers, and organic soil improvers.

www.ecofi.info

News in brief

EUROPE

ARTOME sign USD465 mn contract with Casale

ATOME has announced the signing of the USD465 mn fixed-price, lump-sum Engineering, Procurement and Construction (EPC) Contract with Casale for its 260,000t/yr. flagship green fertilizer plant at Villeta project in Paraguay. The contract is believed to be the first entered into globally for a dedicated green fertilizer facility of this scale and confirms ATOME's position as the world's leader and frontrunner in specialist green fertilizer production.

Due to traditional fossil-fuel production methods, the fertilizer industry emits 2.6 bn t of CO₂ per year – more than the shipping and aviation sectors combined. ATOME's flagship project in Paraguay will produce 260,000t of low-carbon fertilizer per year using 100% renewable baseload power, significantly advancing decarbonisation of agriculture and food value chains in the Mercosur region. Once constructed, the Villeta Project will service a developed and ready market in the heart of the largest food-producing region in the world, meeting critical demand for low-carbon fertilizers from the agriculture and food sectors.

Sweden's Cinis seeks finance to boost SOP production

Swedish water-soluble SOP producer Cinis Fertilizer is seeking to raise 172 mn kronor (USD17.8 mn) to improve the company's financial position and fund improvements at its production plants.

Half of the capital raised will be used to buy the raw materials required for production, and the other half will be spent on improvements at Cinis' plants and "general corporate purposes", according to the company.

Under the initiative, the former owner and president of Polish fertilizer producer ADOB, Adam Nawrocki, has bought SEK16.2 mn worth of shares in Cinis.

Dutch speciality fertilizer producer Van Iperen, with which Cinis has an agreement to purchase all of the SOP produced by the company's first two plants for the first 10 years of production, will also be issued SEK10.8 mn of convertible equity.

NORTH AMERICA

US to expedite select fertilizer production projects

Federal officials have included two fertilizer projects in its first wave of fast-tracked critical mineral production projects, nearly one month after potash was added to the American critical minerals list.

The Federal Permitting Improvement Steering Council selected the Michigan Potash project and the Caldwell Canyon Mine in Idaho, among a list of several metals industry-related projects, in its first announcement of expedited permitting.

The inclusion of the Michigan Potash project on the list was not a surprise to most US market participants after the Department of Energy announced a conditional loan commitment of USD1.2bn for the project in mid-January, signalling the project's importance under the current presidential administration.

Michigan Potash aims to produce 800,000t/y of fertilizer grade MOP which will be sold to agribusiness ADM. The project would also be the first potash production facility built in the US in 60 years.

CF Industries takes long view on US tariff policy

Fertilizer maker CF Industries plans to manufacture abroad most of the equipment for its recently announced USD4 bn ammonia venture and expects trade policies to "evolve" over that time.

"We're going to have to order it, construct it and shift it over – that's a very long process," said Jonathan Flynn, director of clean energy solutions, at the Argus Clean Ammonia North America Conference in Houston, Texas.

"Our hope and expectation is that by the time we actually have to do things we'll be in a different policy environment. That said, we do hedge our bets. We're early enough in our process that we're able to look to manufacture a lot of our equipment and modules in that countries that we believe are going to have low tariffs."

A little over a week after the US levied tariffs on nearly every country in the world, CF Industries announced it had made a final investment decision to move forward on a low-carbon ammonia project at its Blue Point facility in Louisiana in a joint venture with Japan's Jera and investment firm Mitsui. The

ammonia will be produced through autothermal reforming of natural gas with carbon capture and sequestration (CCS). The partners plan to avail themselves of the 45Q tax credit that grants USD85/t of CO₂ geologically stored, which could yield close to USD200mn/yr if the venture captures and stores the 2.3mn t/yr it says it is planning.

SOUTH AMERICA

Petrobras to take back fertilizer plants from Unigel

Brazilian state-controlled Petrobras' board of directors approved an agreement this week to take back control of fertilizer plants from Brazilian petrochemical group Unigel and open a bidding process for new operators.

The two plants, also known as Fafens or Fabricas de Fertilizantes Nitrogenados, located in Camacari, Bahia state, and Laranjeiras, Sergipe state, were leased by Unigel starting in 2019 with plans to continue through 2030. Under the agreement this week, Unigel will terminate the lease early in exchange for Petrobras giving up penalties it assessed against Unigel under the contract. The companies were in arbitration over the dispute.


Brazil's Rifertil files for bankruptcy protection


Brazilian fertilizer producer Rifertil filed for bankruptcy protection from creditors, citing a debt load inflated by currency impacts, falling prices and tough sector conditions caused by drought last year.

Rifertil's debts total BRL647.9mn (USD112.7mn), according to a document seen by Argus, which was filed with the civil court of Rio Verde, in central-western Goias state. The request, also confirmed by the office of the company's attorney, was filed on 22 April and is now awaiting analysis by the Goias court.

The bankruptcy protection filing highlights that the fertilizer sector has been facing difficulties since 2022, when nutrient prices were high because of the Covid-19 pandemic and, later, because of the beginning of the conflict between Ukraine and Russia.

At that time, predictions such as a shortage in the global fertilizer market contributed to an increase in fertilizer prices. But the forecasts did not materialize and prices fell in the following months, causing losses that have hit the company's cash flow since then.


Manufacturer of Blending, Bagging and Transport equipment




35 Years of manufacturing excellence

From stand-alone machines to automated full factory solutions EMT has proven for over 35 years to be the right partner for all your blending, bagging and handling machines in the fertilizer industry.

Check our site today how we can assist you find the best solutions for your situation, scan the QR-code or go to www.emt.tech

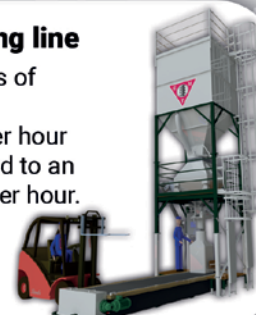
Stand Alone (Portable) Coating

- Capacities from 20 to 250 tons per hour
- Stand-alone or portable system
- 50-250m³ per hour
- Automatic dosing process
- Options for built-in conditioner & liquid heating




High Speed Big Bagging line

- For big bags/Jumbo bags of 500 to 1250 kg
- Capacity 50 to 70 tons per hour
- Systems can be combined to an output of 120/180 tons per hour.
- Options include stainless steel construction or containerized units.



Weighcont Blender

- Continuous blending process
- Unlimited number of weighing hoppers
- Capacity from 20 to 300 tons per hour
- Fully automatic computer controlled mixing process



EMT - Blending, Bagging and Transport equipment | emt@emt.tech - Tel. +31 (0) 224 59 12

Brazil sugarcane mills to produce green ammonia

Brazilian sugar and ethanol producer Atvos and Japanese biotech startup Tsubame BHB will develop a green aqueous ammonia production facility at the Morro Vermelho mill, in Goias state.

The unit will require a BRL70mn (USD12mn) investment and will have capacity to produce 20,000t/yr of green aqueous ammonia, which will be used to replace nitrogen-based fertilizers at Morro Vermelho and at the Alto Taquari mill, in Mato Grosso state.

Atvos is finalizing the engineering and environmental licensing phase of the project, with the goal of starting construction in 2026 and operations in 2027. The plant will use green hydrogen and nitrogen captured from the air to produce the green aqueous ammonia. Atvos estimates that the project will slash its CO₂ emissions by 11,000 t/yr.

Tsubame's technology allows green ammonia to be produced at lower temperatures and pressure, clearing the way for small-scale production units, which can be installed on farms, allowing them to reduce consumption of fossil-fuel based fertilizers.

MIDDLE EAST

BFI announces urea plant turnaround plans

Brunei Fertilizer Industries (BFI) will take its 1.35mn t/yr granular urea plant off line for a two-month turnaround on 28 July.

The producer had previously indicated that major works would begin on 1 August and run to 23 August, with regular operations resuming on 1 September.

BFI typically loads 1-2 lots of 30,000t of granular urea a month, almost all for Australia at this time of the year, with the remaining monthly output split into smaller-sized vessels for local markets.

ASIA

China's Chuanjinnuo to build phosphate plant in Egypt

China's Yunnan-based phosphate producer Chuanjinnuo will build a phosphate processing plant in Egypt with a production capacity of 800,000 t/yr of sulphuric acid, 300,000 t/yr of wet-process phosphoric acid, 150,000 t/yr of 52% phosphoric acid, 300,000 t/yr of MAP and 20,000 t/yr of sodium fluorosilicate.

The plant will take around three years to build, the company said, although it is unclear when that process will start.

The firm has around 1mn t/yr of phosphoric acid and phosphate fertilizer production in China at present.

AUSTRALASIA

Australia's Mardie Minerals to start SOP output

Australia's Mardie Minerals, a wholly-owned subsidiary of mining company BCI Minerals, will start full-scale operations at its Mardie SOP and salt project located in Pilbara, Western Australia.

The company has received approval from the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) for its updated Groundwater Monitoring and Management Plan (GMMP) to go ahead to fill all ponds and commission the first crystallisers, the company announced.

The project has nine large evaporation ponds and includes a potassium salt (KTMS) crystalliser and a SOP processing plant. The company plans to export salt and SOP products from its port facility at the Mardie site.

Australia's Verdant advances phosphate mine

Australia's Northern Territory (NT) Country Liberal party government has granted two mineral leases for Australian miner Verdant Minerals' 2mn t/yr Ammaroo phosphate project, NT mining minister Gerard Maley said.

The project's next step will be acquiring mining authorisation, and comes seven years after initial environmental approvals for the AUD700 mn (USD441 mn) mine were announced.

The 1.14 bn t Ammaroo is one of the world's largest undeveloped phosphate resources and is located 1,300km south of NT capital Darwin. Once operational, Verdant expects the project to produce up to 2 mn t/yr of phosphate rock over a 25-year lifetime.

Construction of a gas supply pipeline, power station and slurry pipeline are planned, while a 105km rail spur will need to be built to connect with the Adelaide to Darwin railway line.

Verdant has yet to set a timeline for first production for the project but Verdant's 2017 Draft Environmental Impact Statement estimates construction will take two years.

Production of MAP/DAP at the site is not currently in Verdant's plan, but the company could review that approach in the future. ■



MARKET ANALYSIS >

Commodity updates • Shipping news • Price watch

Soft commodities: Wheat trade routes in question

Information from *Argus Agritel Outlook*

Wheat summary

Beyond the uncertain global trade situation, which could see wheat trade routes redrawn in the wake of sweeping tariffs announced by the US, the global supply-demand wheat balance tightness is easing for the end of the current season and for 2025-26.

Argus expects wheat exports from the top seven exporting regions to stay below those of 2023-24. Flows were below average from January to March, and almost 14mn t lower since July than at the same time a year earlier. This is offset by lower global demand compared with last season, meaning no shortfall in supply is expected on the 2024-25 supply-demand balance.

We have cut our forecast for Australia's wheat exports in 2024-25 by 1.5mn t to 24mn t, compared with the US Department of Agriculture's (USDA) 26mn t, amid lacklustre global demand and strong competition from US corn into southeast Asia. This will boost the country's ending stocks going into 2025-26.

Looking out to 2025-26, Argus forecasts wheat export availability from the five largest exporting regions in the northern hemisphere to rise by 17mn t from 2024-25, boosted by stronger flows from the EU and Russia. The return of rainfall in the Black Sea is reducing some of the supply risks that had prevailed in the

region recently, after months of drought. Soil moisture levels were well below last year's and below average in key regions in March. Vegetation density was also below average. But the recent rains ease crop risks in Russia.

Russia's production has the potential to recover to 84.9mn t from 81.3mn t in 2024-25. Ukraine's wheat production is forecast at 23.7mn t, stable from our first crop tour in November, compared with 22.3mn t in 2024-25. Conditions largely withstood dry weather, and the renewed rainfall will boost soil moisture levels. For both Ukraine and Russia, a recent cold spell is not for now seen to cause significant damage to the crop but remains a factor to watch. And Romania is on track to produce a record 11.54mn t in 2025-26, against 10.13mn t in 2024-25, as we recorded the best winter crop conditions since our crop tours began.

In the US, the USDA expected wheat planted acreages at 45.35mn acres, well below market expectations. Argus projects soft wheat harvested acreages at 44.02mn acres, in line with the 2024-25 season, with all wheat production forecast at 49.2mn t, against 53.7mn t in 2024-25.

On the demand side, Argus estimates a slight increase in US domestic food consumption and feed uses 2025-26 compared with last season while exports should decrease from 23mn t in the current season to 22mn t in 2025-

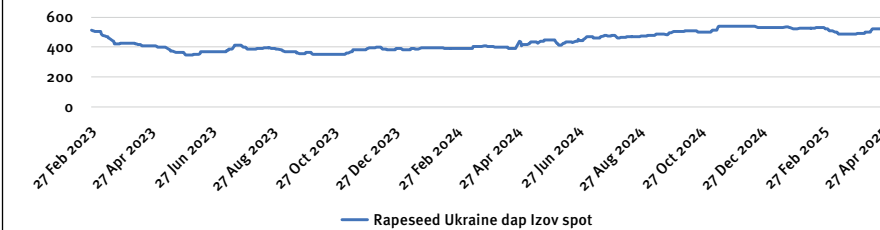
26. The dry conditions in the US in the HRW wheat production regions and floods in the SRW wheat regions are currently worth watching.

In key importing countries, vegetation density remains low in Turkey, Iran, Iraq, Syria and Pakistan, where weather conditions have been challenging for the crop. We expect wheat import demand from these countries to rise in 2025-26, including from Turkey, which could import 7.5mn t, up from 3.5mn t this season, when authorities introduced measures to curb flows.

Feed grains summary

Tariff announcements have dominated markets recently, and global corn trade flows will inevitably shift in the rest of 2024-25 and in 2025-26. For the remainder of the marketing year, Brazil is likely to find corn export demand in China. The Asian country had only imported around 1mn t of corn by the end of February, out of the 7mn t expected across the whole of 2024-25. The latest salvo of retaliatory tariffs on US flows to China is unlikely to have an immediate impact, given that China had already stepped away from the US origin. While China is likely to seek Ukrainian non-GMO corn for specific uses, Brazil is likely to take the lion's share of the Chinese market in the second half of the marketing year.

Figure 3. Rapeseed price (USD/t)



Ukraine has been exporting corn at pace in recent months despite a much lower crop, leaving export availability between now and the end of the marketing year at a multi-year low. We expect overall exports from the country at 20mn t for 2024-25, compared with 22mn t in the USDA's April report, leaving just 6mn t to be exported between April and September.

Dry conditions in Parana and Goias states may keep a lid on Brazil's second corn crop production potential, but conditions are favourable in Mato Grosso. We expect the country to produce 128.3mn t for 2024-25, against the USDA's 126mn t. But rising corn-ethanol production and strong feed demand domestically may leave room for only 38mn t of exports, compared with the USDA's 44mn t. In Argentina, we forecast production at 47.7mn t against 50mn t for the USDA.

The EU could also seek imports from South America, as the bloc is considering a 25% retaliatory tariff on US corn flows, and Ukraine's availability dwindles. So far in 2024-25, competitive US prices meant that US corn flowed to the EU, largely at the expense of Ukrainian corn, particularly for delivery into Spain. But with EU imports at 10.6mn t by the end of March, and overall marketing year imports forecast at 20mn t, most of the potential US flows have already taken place, and the EU is likely to turn to the Brazilian origin in July-September.

That said, the tariffs are likely to increase the attractiveness of the Ukrainian origin into the EU in 2025-26. Planting in Ukraine will start in earnest in April, and we expect areas to be higher as the crop offers farmers better returns than the soybean crop. While US corn and soybeans production margins based on March prices were negative,

corn returns were still more favourable than that of the soybean crop.

Tariffs from China means sorghum export prospects are obliterated, while soybeans exporters also face a significant headwind. Mexico, which faced tariffs announced in March but was spared in the announcement, has not imposed retaliatory tariffs on US corn for now, providing a significant outlet for US corn, especially as the drought-stricken country could produce only 21.5mn t and require 29mn t of imports. As a result, US farmers are incentivised to plant more corn, which the USDA pegged at 95.3mn acres in its latest quarterly release at the end of March.

Oilseeds summary

Tariff announcements have driven oilseeds markets recently. China announced retaliatory tariffs of 34% on all US imports, after a 10% tariff on US soybeans was announced a month earlier. While China recently reduced its dependence on US wheat and corn, it still relied on the US origin for 45% of its soybean imports in October-February, although private-sector Chinese buyers have largely refrained from making new US purchases since December, offering some buffer against the immediate effect of tariffs. Brazil typically becomes the dominant origin for delivery into China by April, meaning most of the uncertainty is on flows next marketing year. That said, US soybeans prices have fallen sharply against firming Brazilian premiums, meaning the US origin was markedly cheaper than Brazil on a fob basis at the time of writing, boosting exports in the short term.

Further out, China's imports are likely to fall in 2025-26 amid macroeconomic headwinds. Brazilian soybeans could still see a surge in demand, lending

support to local prices. Weather conditions in South America are worth monitoring, but the weather market is currently a secondary driver compared with the macroeconomic environment. Further out, China is unlikely to meet its needs without importing US soybeans. And the timing of an expected EU counter-tariff on US soybeans will determine whether the bloc has time to stock up cheap US soybeans in the coming months or whether it turns to the Brazilian origin sooner.

US farmers are not encouraged to plant soybeans as corn offers better returns. Production margins are due to be negative for both crops in 2025, based on March prices, while crop insurance policies are calculated on February prices. The USDA expects 83.5mn acres planted against 87.1mn acres in 2024.

In the rest of the complex, rapeseed/canola ending stocks in the top three exporting regions are forecast at 1.8mn t for 2024-25, a multi-year low. Export surplus available in Canada and Ukraine by the end of 2024-25 is at 1mn t against close to 5mn t in 2023-24. The EU vegetable oil production in February amounted to 1.02mn t, compared with 1.17mn t last year, according to our estimates using Fediol crushing data. We expect a seasonal recovery in production in March and April, but crushing is due to stay below the five-year average until the end of the season. The EU market is dependent on soybean imports, which has a lower oil content than rapeseed and sunflower seed.

For 2025-26, Argus forecasts canola harvested areas in Australia at 3.5mn ha against 3.4mn ha in 2024-25. Dry conditions in the south and west of the country cast uncertainties on the outlook, while planting intentions in Canada also remain in question. Shifting US biofuels policies may halt the rise in Canadian canola oil exports, which will also be penalised by uncertain export prospects to China and tariffs to the US. Canada was exempt from the sweeping US tariffs announced, lending some support to canola prices. Argus expects rapeseed production in the EU and the UK to rise to 19.6mn t from 17.6mn t in 2024-25, thanks to favourable weather conditions at the start of the crop's flowering stage in the EU. ■

Figure 1. Wheat price (USD/t)

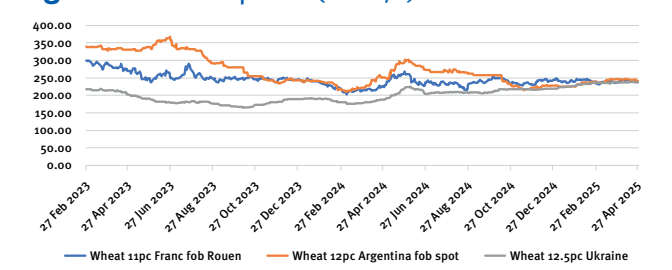
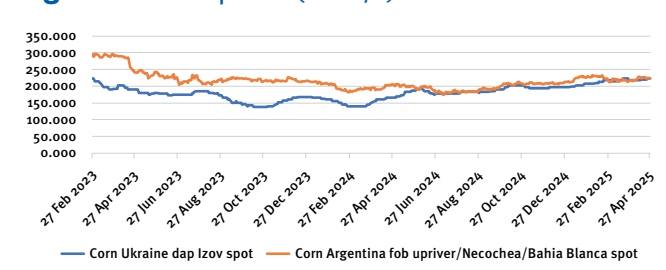


Figure 2. Corn price (USD/t)



Hard commodities: Living in interesting times

Written by

David Fyfe, Chief Economist, Argus Media, UK

The early-April imposition of trade tariffs on most of the US' trading partners saw a significant market sell-off in both financial assets and commodities. Macro-economic forecasts and those for oil and commodity demand are being downgraded, but the outlook is obscured by uncertainty over ultimate tariff levels, prospects for trade negotiations on one hand, and the threat of retaliatory measures on the other. While crude oil will likely remain under bearish price pressures, the fate of metals markets amid tariff uncertainties could hinge on Chinese stimulus spending.

Financial and commodity markets tumbled into freefall after President Donald Trump's "Liberation Day" announcement on 2 April of sharply higher tariffs on US imports from global trade partners. Gold, the Japanese Yen, the Swiss Franc and bonds initially bucked the bearish trend amid a widespread investor flight to safety, while the S&P500 Index lost a total of 12% in value between 2nd and 8th April. Crude and metals market futures also plunged – despite oil and gas being exempt from higher import levies - as fears over tariff-driven stagflation in the US were augmented by an unexpected OPEC+ announcement of plans for accelerated production increases in May. ICE Brent by mid-April was struggling to hold above USD65 per barrel, with NYMEX WTI hovering around USD60 per barrel.

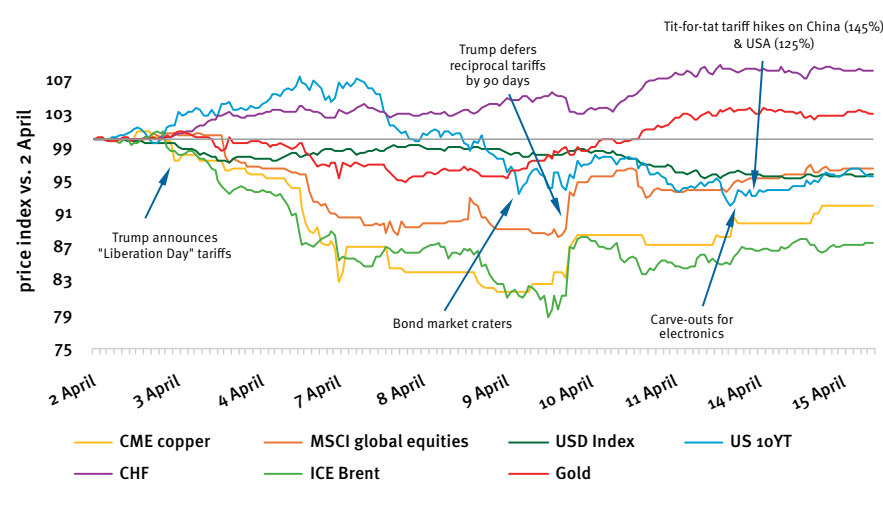
An initial rise in US bond prices was short-lived as the scale and breadth of supplementary 'reciprocal' tariffs over and above baseline 10% levels became apparent. South East Asian and Latin American exporters in particular were to be badly hit with supplementary tariffs as high as 50%. As the rout in risky assets continued, investors began also to divest holdings of both US bonds and the dollar in order to boost liquidity to meet rising margin calls. With rising US Treasury Yields raising the spectre of spiralling government borrowing costs, the Trump Administration on 9 April deferred the imposition of the reciprocal portion of tariffs for 90 days. However, with tit-for-tat retaliatory increases in levies between Washington and Beijing

continuing, a recovery in bonds and the US dollar index proved short-lived. After tariffs on Chinese imports reached 145% by 11 April, and Beijing responded to ratchet up levies on imports from the US to 125%, the US Administration blinked for a second time, allowing a partial carve-out for Chinese cell-phone, laptop and semiconductor sales.

Port fees

At the time of writing, markets appear to have paused for breath, awaiting the next twists and turns in US trade policy. President Trump has already flagged an intention to implement more stringent tariffs on semiconductor imports and eye-watering port fees for the large

Figure 1. Reciprocal tariff deferral relief was short-lived

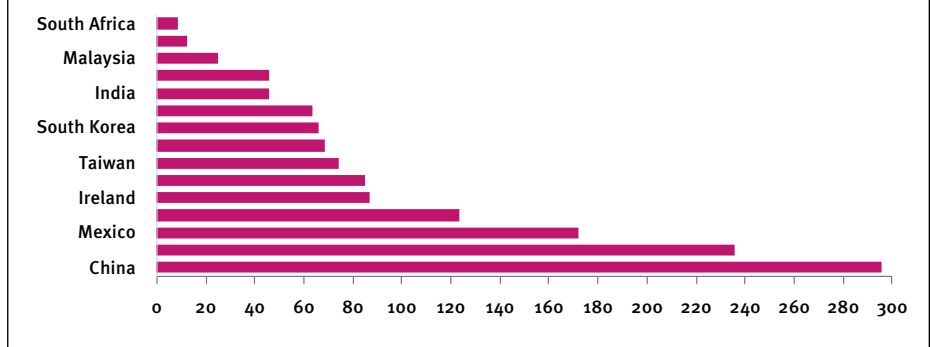


Markets appear to be awaiting the next twists and turns in US trade policy

proportion of the global shipping fleet that has any links to Chinese-built or Chinese-owned vessels. Markets may be pinning their hopes on a belief that ultimately the Trump Administration will enter trade negotiations and will avoid imposition of the higher reciprocal tariffs and port fees altogether.

Much depends on the primary political motivation behind tariffs, which is almost by definition impossible to discern: at one extreme an outright rejection of global free trade aimed at rejuvenating US manufacturing, at the other an attempt to wring major reductions in import tariffs and subsidies from the US' trading partners. The Trump Administration also cites trade deficit reduction and boosting government revenues to pay for tax cuts as key justifications for tariffs. For their part, critics see increased US protectionism effectively overturning a near 80-year trend towards global trade liberalisation. US tariffs and any retaliatory moves by its trading partners raise short-term inflation risks and may choke-off consumer and industrial demand. Uncertainties over the duration of the tariffs, potentially lengthy negotiations to eventually arrive at lower and mutually acceptable tariff levels, and the ever-present risks of retaliatory measures all risk stifling consumer demand and industrial investment in the short-term. Several commentators note a likelihood that the new tariffs will prove durable, with history demonstrating that tariffs tend to rise quickly but fall slowly.

Figure 2. US deficit for trade in goods, 2024 (USD bn)



Output restraint

Consumer confidence in light of the abrupt introduction of tariffs has plummeted in many areas. Short-term inflation expectations for the Atlantic Basin have soared and industrial investment is reportedly juddering to a halt. Investment bank expectations for global GDP growth in 2025 and 2026 have been significantly downgraded (to the tune of between 0.5pp and 1.5pp) which, all else equal, will lead to lower oil and commodity demand growth. Moreover, these indicative adjustments to GDP growth do not include the likelihood of widespread tariff retaliation against the US, which could result in outright and prolonged recession.

At first glance, the economic growth downgrades mentioned above imply potentially 200-300 kb/d reductions for 2025 world oil demand and as much as 500-600 kb/d reductions for 2026. Admittedly, with WTI threatening USD60/barrel there could also be adjustments on the supply side of the equation. In the latest Federal Bank of Dallas Energy Survey, respondents cited USD50-60/barrel crude prices as being borderline for profitability in the Permian shale. Concerns were also expressed about rising raw materials costs. Existing wells would likely continue to pump at these lower price levels, but the drilling of new wells would likely slow, leading ultimately to weaker production overall. Moreover, OPEC+ Ministers have concocted a plan for

compensatory supply cuts by habitual over-producers which, if enacted, could offset the tapering of voluntary supply cuts from Saudi Arabia and others that is now commencing. Add in the threat of tighter sanctions by the Trump Administration on Iranian and Venezuelan crude exports and it is possible that adjustments to the supply and demand sides of the oil balance will offset each other. The net result is likely to be a market in which OPEC+ producers continue to have to restrain output in order to preserve market contango and thus prevent the accumulation of oil in storage.

Metal markets

While oil markets remain under bearish price pressures in light of recent developments, the picture is less clear-cut for metals. Global demand is likely to be hit by the downturn in industrial investment and economic growth. However, much will depend on the extent to which Beijing steps in with fiscal stimulus to offset any downturn in Chinese manufactured goods exports. Chinese imports already account for around 70% of global iron ore trade and over 50% of world copper trade. While the beleaguered real-estate sector is likely to remain a short-term drag on raw materials demand, accelerated infrastructure spend on high-speed transportation links and renewable energy capacity may provide at least a partial offset. ■



Shipping and trade news

Firms complete NH₃ bunker trial at Port of Rotterdam

Trading firm Trammo and chemicals producer OCI have completed a ship-to-ship (STS) transfer of ammonia as part of a bunkering trial in collaboration with the Port of Rotterdam.

A total of 500t of ammonia were safely transferred between two medium-sized gas carriers under charter by Trammo — the Gas Utopia and Oceanic Moon. The transfer took place in Rotterdam alongside a new quay at the Maasvakte 2 APM terminal in a process that took about 2.5 hours.

The STS was facilitated by James Fisher Fendercare. The DCMR Environmental Protection Agency, Rijnmond Safety Region and the Joint Fire Service were involved to ensure the safe execution of the pilot.

Rotterdam is the world's second-largest bunker port, with about 10mn t/yr of fuel bunkered. The port readiness level for alternative fuel bunkering is a scale developed by the Port of Rotterdam and partners that ranges from 0-9. At Rotterdam, ammonia bunkering capabilities are progressing quickly, with a port readiness level of four or five in December of last year. The pilot bunkering now has concluded level six and raises the port's readiness to level seven, with safety procedures ready to enable ammonia bunkering on a project basis. Bio-methanol and

LNG bunkering capabilities are more mature, with readiness levels at 8-9.

The ammonia used in the trial was supplied by OCI. Conventional ammonia was used, but the industry will be looking to use clean ammonia with a low-carbon footprint as a bunker fuel when commercially possible to reduce carbon emissions from shipping. The first ships capable of running on ammonia as a fuel are set to be delivered in 2026-27.

The results of the pilot and established procedures will be disseminated to the EU, other ports and relevant parties. A handful of STS transfers of ammonia were executed globally last year as the industry seeks to demonstrate ammonia's viability as a marine fuel.

But some hydrogen industry associations and environmental groups are concerned that the International Maritime Organization's recent proposals from the 83rd Marine Environment Protection Committee meeting last week will encourage take-up of biofuels and LNG bunkering over hydrogen-based marine fuels, such as ammonia and e-methanol.

Japanese firms to explore Indian green NH₃ project

A group of Japanese companies are considering investing in a renewable ammonia production project in India,

with the aim of importing the fuel and feedstock to Japan by 2030.

Japanese engineering firm IHI, power utility Hokkaido Electric Power, petrochemical producer Mitsubishi Gas Chemical, shipping company Mitsui OSK Line, private bank Mizuho Bank and asset leasing company Tokyo Century signed an initial agreement to examine possible investment in the project. The schedule, investment values and shares that might acquired are undecided, said IHI.

The project in Odisha is led by Indian renewable energy company Acme. It aims to manufacture 400,000 t/yr of renewable ammonia using solar power by 2030. The original plans envisaged a 2027 start-up. A shortage in labour and materials "have caused uncertainty in project schedule", Mitsubishi Gas Chemical told Argus. Acme declined to comment on the timeline of the project.

The Japanese firms aim to get involved in the project by taking advantage of Japan's contracts-for-difference scheme and import the ammonia for domestic users including power generators and petrochemical producers.

IHI and Acme signed a preliminary deal in January 2024 to supply IHI with 400,000 t/yr of renewable ammonia from 2028 after commissioning in 2027. The volumes remain the same, said IHI, meaning that the Japanese firms aim to

FREIGHT RATES

POTASH	Price type	Units	Timing	Low	High	Date
Dry potash Vancouver - China 60-65kt	outright	USD/t	prompt	22	24	24-Apr-25
Dry potash Red Sea - WC India 25-30kt	outright	USD/t	prompt	22	28	24-Apr-25
Dry potash Baltic Sea - Brazil 30-40kt	outright	USD/t	prompt	35	45	24-Apr-25
Dry potash Baltic Sea - SE Asia 25-30kt	outright	USD/t	prompt	70	85	24-Apr-25
Dry potash Vancouver - SE Asia 25-30kt	outright	USD/t	prompt	48	50	24-Apr-25
Dry potash Baltic Sea - China 60-65kt	outright	USD/t	prompt	60	70	24-Apr-25
Dry potash Baltic Sea - US Nola 50-55kt	outright	USD/t	prompt	45	48	24-Apr-25
Dry potash Vancouver - Brazil 30-35kt	outright	USD/t	prompt	38	40	24-Apr-25
Dry potash Hamburg - Brazil 30-35kt	outright	USD/t	prompt	21	23	24-Apr-25

SULPHUR	Units	Low	High	Date
50-60kt - Vancouver-China	USD/t	23	28	24-Apr-25
Below all 30-35kt				
Mid East - EC India	USD/t	18	20	24-Apr-25
Mid east - North/River China	USD/t	24	26	24-Apr-25
Mid East - South China	USD/t	20	22	24-Apr-25
Mid East - Brazil	USD/t	24	28	24-Apr-25
Mid East - North Africa	USD/t	39	43	24-Apr-25
Mid East - South Africa	USD/t	19	20	24-Apr-25
Black Sea - North Africa	USD/t	35	40	24-Apr-25
Black Sea - Brazil	USD/t	40	45	24-Apr-25
Baltic - Brazil	USD/t	40	45	24-Apr-25
Baltic - North Africa	USD/t	30	40	24-Apr-25
35-40kt - US Gulf - Brazil	USD/t	22	23	24-Apr-25

purchase almost all of the output from the project.

IHI has accelerated its efforts to build a clean ammonia supply chain. IHI, in partnership with domestic refiner Cosmo Energy, has attempted to build an ammonia receiving, shipping and storage terminal in Japan, targeting commercial operations by 2030

Japan's Mol to buy Netherlands' LBC Tank Terminals

Japanese shipping company Mitsui OSK Line (Mol) plans to acquire Netherlands-based chemical storage tank operator LBC Tank Terminals to tap into potential demand growth in ammonia and CO₂ shipping, while enhancing its chemical logistics business.

Mol agreed to buy LBC's entire share for USD1.72bn, according to its announcement. The company expects to complete the transaction in June,

after obtaining permissions from related authorities.

Mol aims to expand its business areas to onshore chemical storage tanks to tap into future demand growth for ammonia and CO₂ shipping, given decarbonisation efforts. The firm also targets to extend its chemical logistics services to storage, in addition to shipping, to enhance its business portfolio. Mol has tried to secure profits, even when its core shipping business faced downturns, by strengthening non-core businesses.

LBC operated seven storage tanks with a total capacity of 3.15mn m³ for chemical goods, crude oil, base oil and oil products in Belgium, the Netherlands and the US as of the end of 2024. It was also developing a terminal for renewable energy products, including 150,000m³ of ammonia storage tanks and an ammonia cracker at the port of Vlissingen in Netherlands, and aims to begin commercial operations by 2028.

Mol has attempted to enhance chemical shipping business. The firm agreed with domestic shipping firm Asahi Tanker and southwest Yamaguchi prefecture-based ship operator Ikous to build a large-scale ammonia carrier, targeting commissioning in 2028-29. Mol has also partnered with six Japanese companies to study liquefied CO₂ carriers by attempting to establish standard specifications and vessel sizes for the ships.

Mol expanded its chemical tanker fleet with the acquisitions of Singapore-based Fairfield Chemical Carriers in 2024 and Denmark's Nordic Tankers in 2019.

US vows Russia shipping, insurance sanctions relief

The US has promised to restore Russia's access to global grains and fertilizer markets curbed by sanctions on shipping, insurance and payment systems.

The US committed to taking those steps following discussions on the Black Sea maritime security with Russian officials in Riyadh, Saudi Arabia on 24-25 March.

The other primary purpose of the US-Russia meeting and a separate discussion between the US and Ukraine officials on 23-25 March was to finalize a proposal for a 30-day halt on strikes against energy facilities in Russia and Ukraine. President Donald Trump on 18 March claimed to have secured an agreement from the leaders of Russia and Ukraine to stop mutual strikes on energy infrastructure.

But the outcome of the meetings merely commits to "developing measures" and to using "good offices of third countries" to implement the halt on energy strikes. The Kremlin separately said that the energy-related ceasefire agreement, which it claimed to have been in effect since 18 March, "could be extended or discontinued if one of the sides violates it".

The US-Russia and the US-Ukraine agreements on the Black Sea would effectively resurrect the UN-brokered initiative, which enabled the safe export of Ukrainian and Russian grain across the Black Sea. Russia pulled out of that agreement in 2023, complaining that its access to global markets was curtailed by US and EU financial, shipping and insurance sanctions.

The White House said that the US reached separate agreements with Russia and Ukraine to "ensure safe navigation, eliminate the use of force and prevent the use of commercial vessels for military purposes in the Black Sea."

As part of that agreement with Russia, the US will "help restore Russia's access to the world market for agricultural and fertilizer exports, lower maritime insurance costs, and enhance access to ports and payment systems for such transactions."

The US could unilaterally lift restrictions on the Russian banks' access to the dollar-based financial system that underpins global trade and lift its

NITROGEN/UREA		Units	Low	High	Date
Middle East - US Gulf	45kt	USD/t	36	38	24-Apr-25
Middle East - Thailand	30kt	USD/t	20	22	24-Apr-25
Middle East - Brazil	40kt	USD/t	23	25	24-Apr-25
Baltic - Brazil	30kt	USD/t	35	39	24-Apr-25
China - India	60kt	USD/t	19	23	24-Apr-25
Algeria - Brazil	30kt	USD/t	23	25	24-Apr-25
Algeria - French bay	12kt	USD/t	18	20	24-Apr-25
Baltic - EC Mexico	30kt	USD/t	39	43	24-Apr-25
Baltic - WC Mexico	25kt	USD/t	54	59	24-Apr-25

PHOSPHATES		Units	Low	High	Date
Morocco – Brazil	30kt	USD/t	17	19	24-Apr-25
Tampa – Brazil	30kt	USD/t	24	26	24-Apr-25
Saudi Arabia – EC India	30kt	USD/t	20	22	24-Apr-25

AMMONIA	Units	Latest	Date
Ras al Khair - Ulsan, 23kt	USD/t	66	28-Apr-25
Ras al Khair - Kakinada, 23kt	USD/t	37	28-Apr-25
Ras al Khair - Kandla, 23kt	USD/t	19	28-Apr-25
Point Lisas - Ulsan, 23kt	USD/t	108	28-Apr-25
Point Lisas - Houston, 23kt	USD/t	29	28-Apr-25
Point Lisas - NW Europe, 23kt	USD/t	47	28-Apr-25
Bontang - Ulsan, 23kt	USD/t	30	28-Apr-25

countervailing duties or import bans on the Russian commodities.

The US imports a handful of fertilizer products from Russia, including potash and a variety of nitrogen-based products. A countervailing duty placed on phosphate cut off imports of that Russian fertilizer product into the US in 2021.

Most sanctions related to shipping and insurance belong under the jurisdiction of the EU and the UK, which have been left out of the US-led discussions.

If the deal succeeds in stopping attacks on merchant vessels in the Black Sea area, additional war risk insurance premium (AWRP) may drop, pushing down freight rates in the region, one shipbroker said. "It will also reduce commodity prices as traders will not need to (buy) insurance from their side as well," the shipbroker said.

A Ukrainian broker said he was not sure if the agreement would address continuing strikes on main Ukrainian ports cluster in the Odesa region. The Barbados-flagged MJ Pinar came under a missile attack on 12 March while

loading grain for export to Algeria, according to the Odesa governor's office.

Ukraine's defence minister Rustem Umerov confirmed the agreement to ensure maritime security in the Black Sea, but added a warning for Russian naval vessels to remain in the eastern part of the basin. "All movement by Russia of its military vessels outside of Eastern part of the Black Sea will constitute violation of the spirit of this agreement," Umerov said in a social media post.

Moscow, in turn, said it would observe the Black Sea security deal only after it receives sanctions relief promised by the US.

The Kremlin said it would need to secure the lifting of sanctions on Russia's Rosselkhozbank and other banks involved in agricultural and seafood trade finance, the removal of sanctions on leading Russian agricultural producers and shipping sanctions affecting loading of agricultural and fertilizer cargoes from Russian ports. ■

Price watch

These market insights are provided by **Argus Fertilizer Analytics team**

AMMONIA

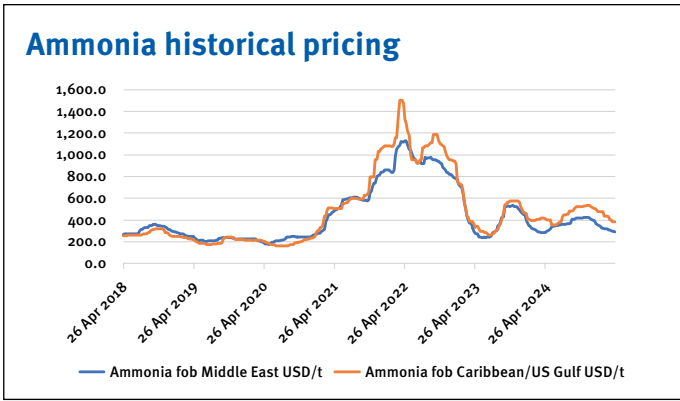
Concerns over US tariffs

Commodity markets across the board were shocked by the announcement from the White House that the US would impose “reciprocal tariffs” of at least 10% on countries deemed to be taking advantage of the US by using unfair trade policies and running trade surpluses. The true fallout from these policies will be wide-reaching with implications to many markets, including ammonia.

The most obvious victim of the tariffs is Trinidad. The island sent nearly 1mn t of ammonia to the US in 2024, second only to Canada, which appears to have avoided tariffs on ammonia after being the subject of an initial exchange of trade measures with the US in February. Trinidadian cargoes loaded on or after 5 April will face a 10% tariff when delivered to the US. Opinions differ over whether the additional cost will be shouldered by the producers, or passed through to buyers and end-users of downstream products. Some Trinidadian producers which have downstream production in the US take a view that tariffs could result in lower netbacks to Trinidad, squeezing margins; others will attempt to pass on additional costs to consumers.

The measures will almost certainly mark an end to the North African volumes, which have sporadically been sent to the US over the past year on an opportunistic basis. The biggest question facing the market is how long these tariffs will remain in place. President Donald Trump has previously used tariffs to extract concessions from target countries, so there is a strong possibility that these measures will be rolled back on a case-by-case basis, depending on how countries react.

The effect on ammonia pricing has so far been limited. The Tampa contract was set at USD435/t cfr for April delivery, a USD25/t fall from the prior month, but was settled before the latest round of tariffs were announced. We expect this



development to add a firmness to west-of-Suez pricing that was not previously expected — our forecast for Tampa in May is for a rollover while the market assesses the effect on trade. But beyond this, the fundamentals remain weak — the US and European fertilizer demand seasons will draw to a close soon, and production rates in Trinidad and North Africa are strong, keeping the regional market well supplied.

Furthermore, the first cargo from Gulf Coast Ammonia’s 1.3mn t/yr merchant unit was shipped recently, indicating that commercial production is drawing closer. The plant was subsequently taken offline once more, but this is typical of the commissioning phase of a plant this large — our forecast is still for full output in July.

Further length could be added to the market if an agreement is reached between the US, Russia and Ukraine over a ceasefire. Officials from the US and Russia were negotiating in Saudi Arabia, and although no peace deal was signed, a breakthrough appears closer than at any point since the war started. A long-term ceasefire would open the possibility of resuming Black Sea exports, initially from Uralchem’s new Taman terminal, and potentially even via the Togliatti-Odesa pipeline given more time — the status of the pipeline is unclear after reports of damage early in the conflict. But for now, we exclude all of these volumes from our base-case forecast because of the ongoing hostilities.

To the east of Suez, the market is far calmer. India’s downstream maintenance period has suppressed demand there and East Asian buyers remain out of the market for spot deliveries. The outlook is similarly stable — logistical constraints preventing more deliveries from the Middle East to Europe or Morocco are keeping east-of-Suez markets oversupplied and softer pricing is expected at all forecast benchmarks into May. Indian ammonia demand will begin to recover from then, and a gentle firming is expected as buying ramps up to keep downstream units running for the kharif crop season, but as long as production rates in the Middle East and Southeast Asia remain strong, there will be enough merchant supply to cater for this growing demand, preventing rapid upwards corrections.

PHOSPHATES

Chinese export uncertainty lingers

Phosphate prices have made material gains in markets east and west of Suez. When looking at relevant factors impacting prices, there are four primary drivers. The first is lingering export uncertainty from China. This plays a significant

role because there is notable DAP demand waiting on the side-lines in the hopes that re-introduced Chinese exports will soften prices, but the timeline is unclear, although we assume it will return.

Secondly, Ethiopia is still seeking DAP and has issued a new tender to buy for more than 400,000t for shipment in May-June. This will eat into an already tight global DAP supply, particularly east of Suez.

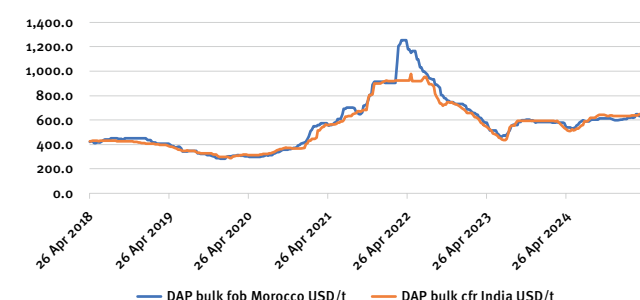
Thirdly, the US has paused its higher reciprocal tariff rates and instead applied a base level of 10% on all countries except China. We anticipate even this 10% levy will be sufficient to deter certain suppliers, particularly the opportunistic partners such as Tunisia, Senegal, Egypt and Jordan. This adds inflationary pressure to US barge prices, and we expect that US DAP prices will climb higher to be more competitive and attract volumes from an already diminishing pool of suppliers. The unpredictability of US trade policy in recent months in the US is exacerbating these supporting factors.

Lastly, and arguably the most important factor, is low stock positions and ample buying appetite in the major active import markets for DAP and MAP. In India, the new and increased subsidy announcements have improved importer margins, although at current rates they remain in the red. Even if the proposed additional subsidy package is introduced in India, and affordability hurdles are minimised, they simply do not have the flexibility to be patient and will need to consistently enter the market, as they have probably secured 1.2mn t of DAP in a deal with Moroccan fertilizer producer OCP to procure enough DAP to meet demand and rebuild stocks.

Similarly in Brazil, rapidly emerging import demand to replenish low MAP inventories is supporting suppliers pushing gradually for higher levels. While Chinese export restrictions are in place, there is little leverage for buyers to successfully bid prices down.

These factors lead our forecast to continue to be firm in April and May, where benchmarks are expected to peak across the board. But once Chinese supply is re-introduced, at the same time that the US, Europe and Australia will have stepped back, there will be improved supply and limited alternative options outside of South Asia for this improved supply to

Phosphates historical pricing



land. This will cause prices to temporarily soften until August before seasonal demand re-emerges in Brazil, Europe, South Asia and the US, pushing the market back into a deficit, and bringing back a firm price sentiment.

Even after the bulk of demand for the rabi season in South Asia is filled, out-of-season buying will help support prices during the off-season, which will prevent DAP prices from materially eroding. Meanwhile, affordability hurdles in the MAP market are likely to drive buyers to the side-lines once safrah demand is covered, allowing greater softening in the final months of 2025 and heading into 2026.

POTASH

Supply curtailments continue in Belarus and Russia

Rising MOP prices in international markets, tight supply in China and strong domestic sales in India could prompt the big buyers in these markets to try and agree new contracts as soon as possible, which would provide additional outlets to potash suppliers.

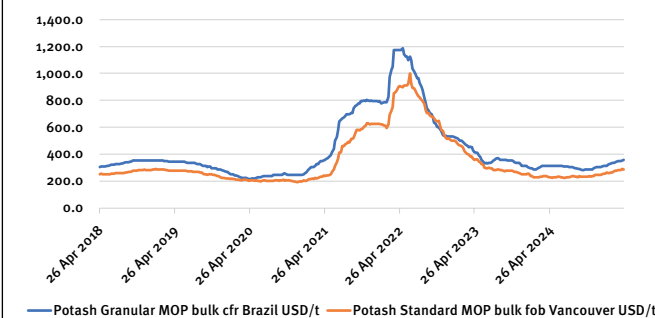
In the agricultural sector, geopolitical events could override feedgrains' fundamental drivers in the coming months, as tariffs have the potential to reshape global trade flows of major crops.

We anticipate potash to remain broadly affordable, especially in comparison with elevated prices of other nutrients such as phosphates. Robust demand in key markets will keep global potash trade at around 59mn t in 2025, broadly stable with 2024, which saw substantial year-on-year growth of 10%. Key importers in Asia-Pacific are expected to increase their intake in 2025, including India and Indonesia, whereas China's volumes are forecast to retreat from a record 12.5mn t in 2024 to 10.6mn t in 2025, but still above the five-year average.

A potential resolution of the Russia-Ukraine conflict is not expected to trigger any major immediate changes and is likely to have a negligible impact on the potash markets because Russian exports have already returned to pre-conflict levels, supported by increased output at Eurochem's Volgaskaliy project. Potash exports from Belarus have also been increasing via the Russian Baltic ports, with Belaruskali now utilising Ust-Luga in addition to St Petersburg and Bronka transshipment terminals, as well as increasing its rail deliveries to China.

Major potash suppliers have ended 2024 with strong results, and largely positive market outlook guidance for 2025. Nutrien's full-year potash sales in 2024 were the highest on record at 13.9mn t, rising by 5% on the year against 13.2mn t in 2023. Belaruskali shipped 10.8mn t of MOP on Russia's railway in 2024, up by 14% from 9.4mn t in 2023. But Mosaic's potash sales fell marginally, by 1% from 8.9mn t in 2023 to 8.7mn t in 2024, reflecting production challenges at the company's Esterhazy and Colonsay mines in the third quarter.

Potash historical pricing



In Brazil, MOP prices are likely to remain on an upward trajectory for the next few months as suppliers have limited-to-no volumes for April, while buying interest for May supply is still firm. Brazil's MOP arrivals for January-February totalled 1.6mn t according to customs data, up by 13% from 1.4mn t in the same period a year earlier. MOP remains more affordable in Brazil compared with phosphates fertilizers.

In the US, a series of announcements and executive orders regarding 10-25% US import tariffs on commodities from Canada and Mexico initially created some uncertainty earlier this quarter because it was not immediately clear if potash was subject to those trade measures or not. Considering the significant reliance of the US market on Canadian potash, which accounts for 80% of US demand, such tariffs would have had major implications on both prices as well as affecting trade flows. Eventually, Canadian and Mexican imports of fertilizers, including potash, were deemed compliant with the US-Mexico-Canada Agreement (USMCA) and exempted from the 25% tariff implemented on 4 March under an executive order by President Donald Trump. The US Department of Agriculture (USDA) is reportedly releasing USD10bn in assistance to help farmers with rising input costs and falling commodity prices, which should support fertilizer demand.

In China, potash supply is tight as MOP port stocks, including in bonded warehouses, were at 2.65mn t, down by 175,000t and 1.26mn t lower on the year. Suppliers started auctioning potash on the China National Cotton Exchange in an attempt to stabilise rising domestic potash prices.

In India, MOP imports have increased by 23%, with 3.45mn t imported in April-February 2024-25 so far, compared with 2.83mn t delivered in the same period a year earlier. MOP sales for direct application have been strong this year, rising by 34%, with domestic MOP sales reaching 2mn t, excluding supplies for NPK production. MOP imports to India this calendar year are expected to continue to increase towards 4.4mn t, supporting tighter markets this year. But imports could potentially slow if this year's Indian standard MOP contract is not agreed soon. Rising MOP prices may prompt Indian buyers to try and agree a new contract as soon as possible.

Indonesian potash import demand is expected to be strong this year, after the government increased the share of palm oil-based biodiesel required to be blended in diesel to 40% from 35% from 1 January. The industry was required to adapt by the end of February. Palm oil producers are the largest consumers of potash in Indonesia.

In the SOP market, second-quarter contract talks for standard SOP have started in Europe but not yet settled. Mannheim producers are keen to settle quarterly contracts for standard MOP before agreeing SOP contracts, because most anticipate an increase in the MOP contract price. SOP supply from China and Taiwan is tight. Firming MOP prices, in addition to strong global SOP demand, are likely to keep supporting prices for East Asian SOP in the short term.

SULPHUR

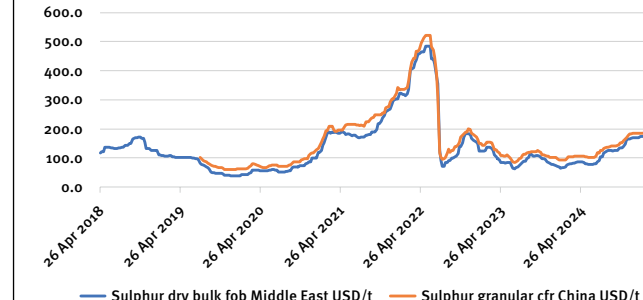
Maintenance curbs supply in the Middle East

Global sulphur pricing is set to continue on its firm trajectory in the near term. Although the rate of the price increase has slowed from the recent rapid lifting in March, prices are still firming, with USD305/t Middle East fob forecast at the high end in June based on April demand and producers waiting to sell with expectations of higher price offers.

There is potential for the current pricing bubble to burst, with prices dropping suddenly in response to the escalation. As prices continue to increase, the potential for market volatility is mounting, with Middle East fob levels at a three-year high since July 2022. But as few downsides are expected and the key drivers remain bullish, we forecast a gradual downturn in pricing, with softening throughout the end of the second and into the third quarters as a correctional response to the rapid increase, before they fall back to seasonal demand trends.

We expect prices to peak in June as firming continues on the back of key geopolitical fundamentals from earlier this year, including a residual reluctance to take Russian product because of sanctions ambiguity, tight Russian supply caused by drone strikes to refineries in the first quarter and port congestion, ongoing volatility surrounding US tariffs and uncertainty about Chinese domestic sulphur production

Sulphur historical pricing



because of the lack of Iranian sour crude imports caused by sanctions. The market has adjusted to these events and firming has eased. But combined with ongoing demand from the Indonesian nickel sector, the loss of Kashagan block supply from the third quarter, low Chinese inventories, limited availability of spot tonnes from the Middle East after contract shipments, firm demand from metals producers in south and east Africa and some shortfall in Middle East supply following maintenance, we expect firming to persist in May and June, with limited softening throughout the rest of this year.

Potential market downsides contributing to stabilisation in the second quarter include Russian product availability recovering and using inventories at ports to meet demand in the interim, Middle East maintenances finishing in June, greater sulphur supply in Canada from oil sands, maintenance season ending in the US adding to product availability, and small parcels coming out of Kashagan in the second half of this year possibly easing some supply-side tightness on a global scale.

Overall, geopolitics are at the forefront of current market dynamics, driving market competition and lifting prices. At an industry gathering in early April, there was a sentiment that the tariffs were so uncertain that planning was futile and clarity, if any emerges, would be reached later this year.

NITROGEN/UREA

China likely to continue self-sufficiency measures

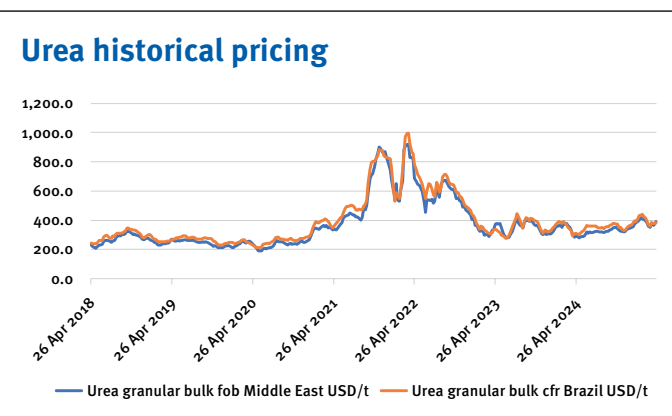
Forecasts of a strong market for March were comprehensively undermined by the lack of Indian buying recently. Our supply-demand outlook was predicated on India returning to the market for 1mn-1.5mn t of urea.

India stayed out of the market owing to the high international price and the fact that the next application period is in July, which allowed time to rebuild inventory.

Trading firms that took long positions and producers that held back product for India were blindsided and had to liquidate. Prices fell by USD50-60/t across most origins as a result, but stabilised and then recovered by USD10-15/t once India announced its tender on 26 March.

Offer levels and, more especially, the amount bought under IPL's 8 April tender will set the course for the urea market over the next 30-60 days. The lowest offers, equivalent to USD370-380/t fob Middle East and USD335-345/t fob Baltic, were at the lower end of expectations, especially for shipments to the west coast.

It is not yet clear whether India will secure its targeted volume of 1.5mn t, but it should be able to buy close to 1mn t. The main question is whether Middle East suppliers will offer large volumes for the west coast — 10% tariffs on exports to



the US may encourage some to switch to India and reduce shipments to the US, although these are generally low in May.

The Indian purchases will tighten the market and help support prices into mid-May until concern about a mid-year slump in the market re-emerges. For this reason, there is unlikely to be a surge in urea prices during April. Prices are forecast to firm, but unsold product from Iran, uncertainty about the strength of demand and the distortions to world trade brought about by President Donald Trump's tariffs are likely to limit the extent of any increases.

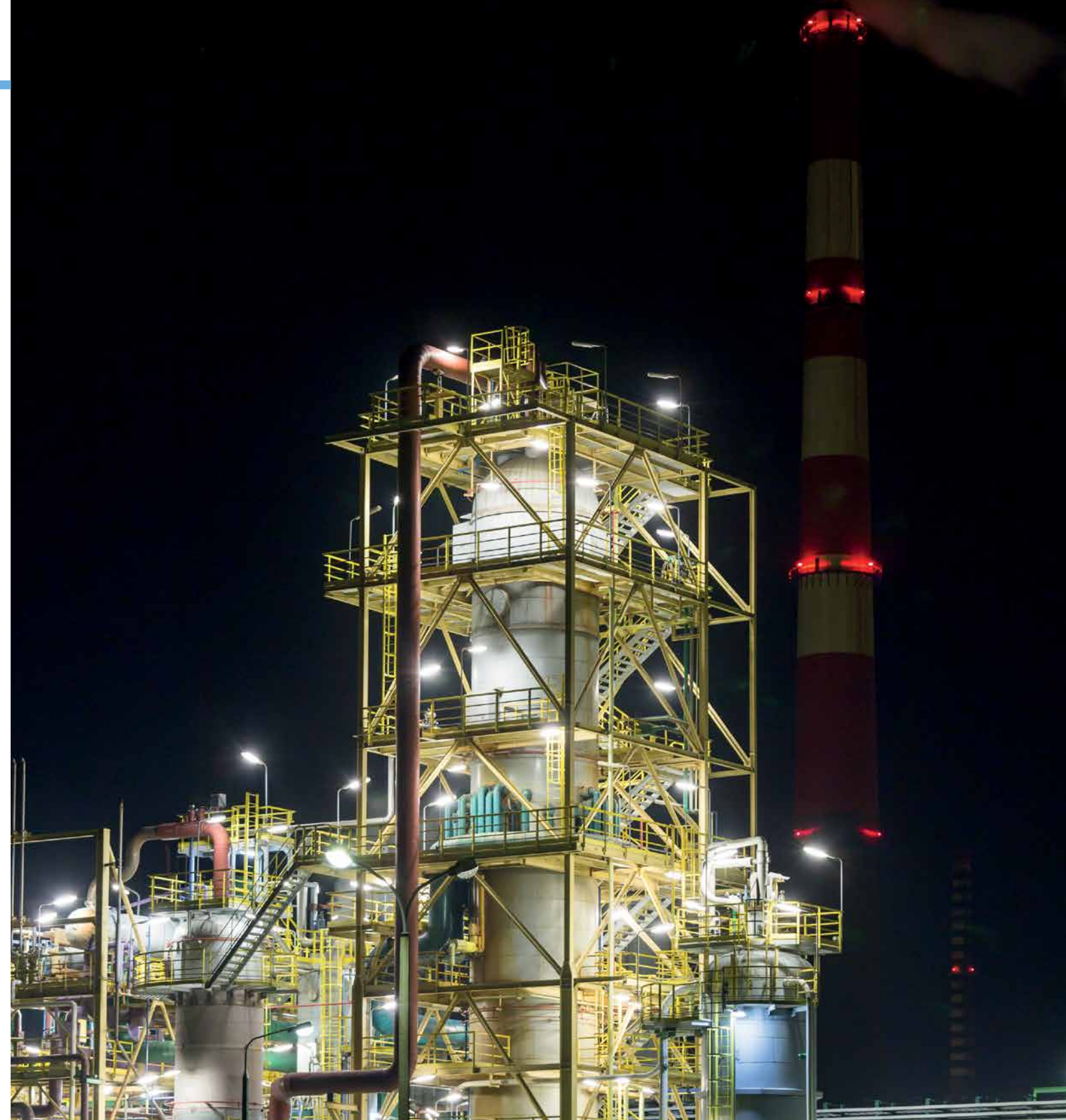
The US president has imposed import tariffs on urea from all origins apart from Russia and Belarus with effect from 9 April. The general level is 10% but with some variations for individual countries — Canada is at zero, Algeria at 30% and Nigeria at 14%.

The tariffs are likely to raise prices for US farmers while simultaneously depressing netbacks for overseas suppliers. Algerian urea is likely to divert to Brazil and other markets — the US imported 456,000t of urea from Algeria in 2024, about 9% of its total imports, largely on a spot basis to cover spring demand. Algeria has the shortest shipping distance of any of the major offshore suppliers to the US.

The most bizarre part of the move is the exclusion of Russia, which supplied nearly 1.3mn t of urea to the US in 2024 and was the largest single supplier. We assume Russian suppliers will take advantage of this opportunity and increase shipments to the US in the coming months.

Further ahead, our trade balance shows the market returning to surplus in July-August and we expect prices to fall to their lowest point of the year during this time, dropping to USD335-345/t fob Middle East.

We have included some Chinese exports from July onwards, ranging from 250,000-400,000 t/month in the third quarter on the assumption that the government relaxes the current block on bulk export shipments. But this may not occur — with a trade war with the US breaking out, China is likely to focus even more on maximising agricultural production and may choose to keep its urea for domestic use. Should China maintain its block on exports for the rest of this year, prices would be likely to trend higher. ■



Special focus

PRODUCTION TECHNOLOGY >

Updating processing plants with HMI/SCADA applications

Written by

Paul Shu, President, ARISTA Corporation, USA

Operators in fertilizer manufacturing facilities have long depended on Human Machine Interfaces (HMI) to offer a visual summary of process systems that simplifies the monitoring of crucial status and control data. A well-crafted graphical user interface enhances situational awareness, decreases workload, and empowers operators to oversee the entire process – facilitating their focus to quickly address any abnormal scenarios.

Most of these HMI/ Supervisory Control and Data Acquisition (SCADA) software applications run on a dedicated computer system. Today, sophisticated web server technology

facilitates access to HMI screens and the viewing of SCADA systems. Newer Programmable Logic Controllers (PLCs) and Remote Terminal Units (RTUs) frequently incorporate web servers that allow diagnostics and monitoring via browsers as well.

Facilitating implementation of web-based HMIs

Historically, HMI/SCADA client software has run on a dedicated computer with a compatible Operating System (OS) installed that exhibited slow loading times during start-up and restart procedures. This reduced productivity

on a routine basis, cutting into valuable production time. Updating and maintaining software on individual PCs resulted in higher cost of ownership and even more downtime.

Fortunately, web-based applications have revolutionized accessibility by enabling connectivity from any location using a web browser. Still, for fertilizer manufacturers, the integration of the HMI presented several challenges.

When standard web browsers are used, operators must open a browser and type a long website address to be routed to a specific program. Users have the liberty to explore various unrelated websites as well, but this only exposes the system to potential risks inherent in online browsing activities.

Now fertilizer manufacturers can optimize operations by utilizing software-enabled web clients to streamline web-based HMI implementation. The best solutions involve touchscreen displays that can serve up HMI pages on multiple monitors, in multiple split screen configurations, or at cloned workstations to streamline the management of equipment across the production line.

One Original Equipment Manufacturer (OEM), for example, has introduced a web client computer that is designed to serve as the display or control panel for web-enabled PLCs, HMI systems, and Internet Protocol (IP) cameras.

In the case of the web client, the interface is designed to automatically



A well-crafted graphical user interface enhances situational awareness

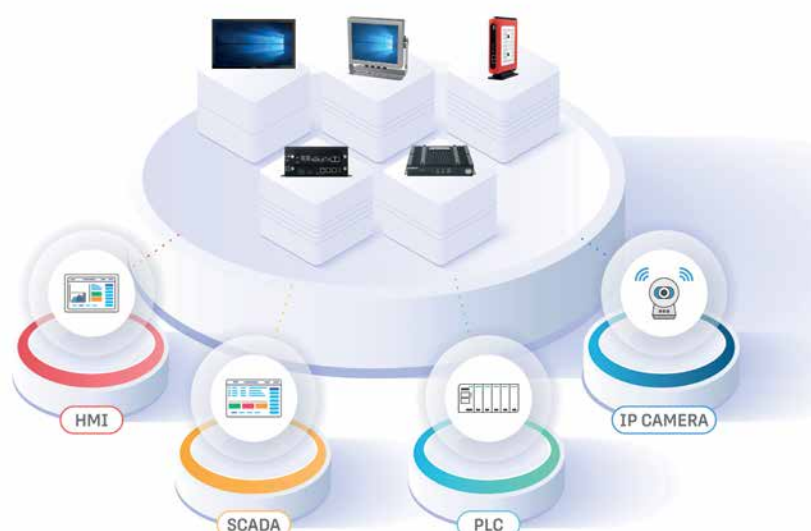
connect with the assigned web pages without opening a browser and entering an address.

After initial setup, the browser automatically launches with the assigned web link after turning on the PC's power or restarting the system, so the operator receives the required information much faster.



(top left) This innovative solution is characterized by streamlined and adaptable display features as well as improved security measures; (top right) The approach uses a web client computer like one from ARISTA, designed to serve as the display or control panel for web-enabled PLCs, HMI systems, and IP cameras; (above) After initial setup, the browser automatically launches with the assigned web link, so the operator gets to needed information much faster

Chemical manufacturers can optimize operations by utilizing software-enabled web clients to streamline web-based HMI/SCADA implementation



Enhancing productivity

Hybrid Remote Desktop Services (RDS) and web-based applications can also be launched simultaneously, when needed. The web client supports clones, duplicate screens, and multi-screen. Touch screen is supported as well. The applications can be displayed one by one by toggling a hot key, or all applications can be displayed by split screen. For data security, the USB drive function is disabled automatically after the system boot up. No external USB drive can be used to download or upload data.

In addition, the web client interface prevents access to other sites or browser features. The operator can

only see what is displayed on the screen and cannot change anything beyond the intended HMI pages.

When troubleshooting is necessary, the web client computer can be securely accessed using interactive remote mirroring by an administrator.

The approach facilitates installation of a wide range of ruggedized computers, panel PCs, monitors, and Keyboard, Video, and Mouse (KVM). To promote efficient use in space constrained areas, various types of mounts are available, including pendant arm, wall, pedestal, ceiling, and Video Electronics Standards Association (VESA).

When web client computers, panel PCs, or mobile workstations must be customized to the manufacturer's process, this can be accommodated as well.

As fertilizer manufacturing facilities continue to actively explore new avenues to enhance productivity, the utilization of web-based HMIs on industrial-grade computers can significantly boost efficiency. This innovative solution, characterized by streamlined and adaptable display features as well as improved security measures, promises to enhance the profitability and productivity of plant operations in the years ahead. ■

Modernizing fertilizer blending facilities

Upgrading legacy systems for a smarter future

Written by

Zico Zeeman, Commercial Director, EMT, The Netherlands

Across the global fertilizer industry, one thing is clear: the demand for customized, efficient, and environmentally friendly fertilizer solutions is only growing. As agriculture modernizes, blending facilities must adapt—yet many plants still operate with systems designed 20 or even 30 years ago. These legacy facilities, though often robust, are increasingly limited by outdated control systems, manual workflows, and a lack of dosing flexibility.

Rather than investing in entirely new builds, many producers are choosing to upgrade their existing blending facilities. And for good reason: upgrading can offer a faster, more cost-effective path to higher throughput, better product quality, and increased operational flexibility. Updating control systems or integrating new handling machines can increase an automation and lower labour requirements.

Identifying a bottleneck or opportunity for improvement in a fertilizer blending facility begins with a clear understanding of the factory's operational flow—from intake and storage to blending, bagging, and outbound logistics. A bottleneck often reveals itself as the stage in the process where product accumulates or throughput slows down, limiting the overall capacity of the system. This

could be due to outdated equipment, manual handling, mismatched speeds between components (e.g. a fast blender, but slow bagging line), or inadequate storage layouts.

On the other hand, an opportunity for improvement may present itself when customer demand outpaces product variety or flexibility, suggesting the need for upgraded recipe management, additive integration, or modular packaging solutions. Conducting a thorough process audit—including timing each stage, analysing downtime causes, and comparing actual versus desired throughput—is the first step in uncovering both the constraints that are holding the operation back and the areas where strategic investment can create significant performance gains.

Simultaneous filling and discharging

One of the most sought for upgrades for a blending facility is the addition of impregnation units for liquid or powdered additives. These upgrades not only increase output capacity or ease of work but also enable producers to create value-added blends with micronutrients, inhibitors, or stabilizers—products that modern agriculture increasingly relies on for targeted, sustainable nutrition.

Legacy systems typically lack the precision required to dose multiple raw materials consistently at high volumes. Continuous blending systems, such as EMT's Weighcont series, address this challenge by allowing simultaneous filling and discharging, with highly accurate weight-controlled dosing from multiple hoppers. Stainless steel construction, digital weighing systems, and computer-controlled blending all work together to deliver homogeneity and reliability across every blend produced.

The integration of impregnation units takes this even further. Today's markets demand blends that are not only nutritionally customized, but also treated with additives that improve nitrogen use efficiency, reduce leaching, or control release profiles. By adding spray nozzles or dosing screws on one component or directly into the final blending stage, producers can apply liquids such as N-(n-butyl) thiophosphoric triamide (NBPT) or powdered micronutrients without additional manual steps or handling. These additions can be controlled via the same digital interface used to manage recipes, allowing for real-time adjustments and precise application.

From a business standpoint, this creates huge benefits. Producers can respond more quickly to seasonal crop

Portable or containerized units are another smart solution

demands, regional soil variations, or changing environmental regulations. With the right system in place, a plant manager can shift from one recipe to another in minutes—without halting production.

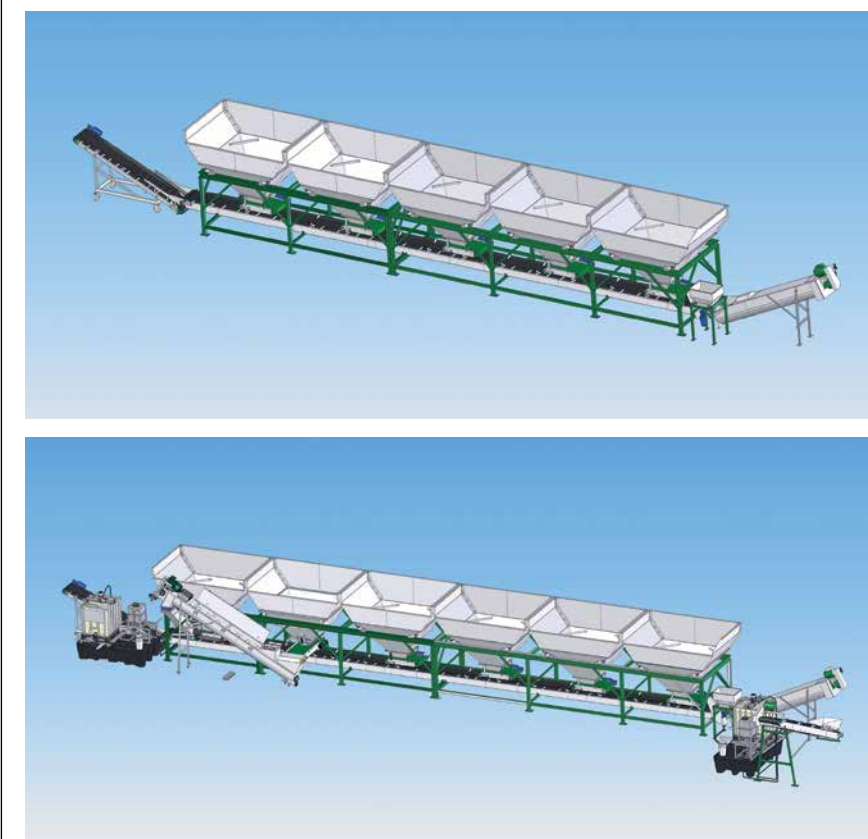
Upgrades like these also bring operational efficiency. Older batch systems often require intermediate handling or storage between processing steps, which introduces potential for segregation and product loss. In contrast, a streamlined upgrade combines intake, blending, and bagging in a direct, automated flow. Some facilities even add screening and conditioning equipment before blending, ensuring consistent granule size and removing lumps that could affect final product quality.

Improving consistency

For plants with spatial constraints—or those operating seasonally or across multiple locations—portable or containerized units are another smart solution. EMT's container-based systems offer full blending and bagging capability in 10, 20, or 40 ft formats. These mobile units are especially valuable at ports, remote fertilizer hubs, or sites where civil works must be minimized. They're also ideal for expanding capacity without interfering with ongoing operations.

But even the best equipment needs the right digital backbone. That is where blending software comes in. EMT's Optiblend software, for example, allows producers to optimize recipes based on nutrient requirements, current material prices, and raw material availability. The system calculates the most cost-effective combination of inputs while

Figure 1. (top) Existing 2008 installation at Gavriel, Volos; (bottom) New coating setup in existing blending plant at Gavriel, Volos



maintaining nutritional targets and minimizing environmental impact. With real-time nutrient tracking and batch logging, producers also gain traceability—an increasingly important factor for regulatory compliance and customer confidence.

Upgrading a blending facility is ultimately about improving consistency, variation of products, speed, and control—all while future-proofing against shifting market demands. But it's not just theory—it's happening on the ground. Take, for example, a recent EMT expansion project in Greece for Gavriel in Volos (see figure 1).

The customer, operating a continuous blending and bagging plant with which they have been operating since 2008, was facing new pressures. Market demand was shifting toward more specialized blends with additives.

Their existing line could not integrate liquid impregnation which meant they could not serve this upcoming market.

Rather than building a new facility, they re-engineered their existing facilities.

Accessing new markets

Working within the constraints of their current warehouse layout, EMT designed and installed a new inline coating unit, capable of 80 t/hr. One of the existing dosing hoppers was repurposed to redirect the product directly to a coating screw. A liquid treating unit was installed directly after this hopper at the beginning of the blending line, allowing for seamless addition of inhibitors or other treatments. After being treated the liquid is directly redirected to the central blend conveyor on which other components of the blend can

be added. This combines the two-step production process and therefore prevents the precious double handling of product.

The entire system upgraded with the most recent software application for more precise dosing and integration of the new units.

The outcome? Access to an entirely new market segment, ready to be served. Due to the reusing of existing machine parts the required investment was limited and did not require extra manual labour. This resulted in a rapid introduction of new, customized fertilizer blends— all without expanding the physical footprint of the warehouse.

This project demonstrates what is possible when innovation meets practical engineering. With the right approach, even a decades-old facility can be transformed into a high-performance, flexible production hub ready to meet the demands of today's fertilizer market.

Finally, when designing a new facility, it is essential to consider not just the current requirements, but also the potential needs of the next 10 to 20



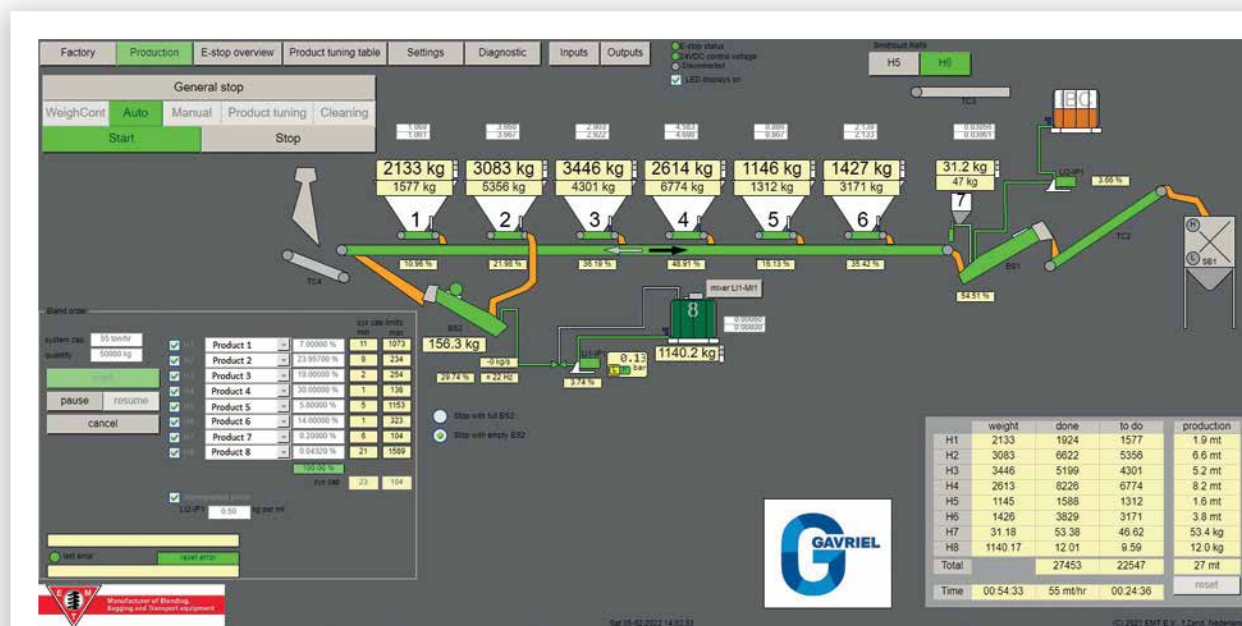
Figure 2. New coating setup installed existing blending plant

years. Taking the time to step back and envision how your operation might evolve can make all the difference - what capacities, technologies, or product lines might be needed in the future? By anticipating growth and change early in the planning phase, you can design a facility with built-in flexibility—one that can be

expanded, upgraded, or adapted with minimal disruption. Future-proofing your investment ensures that today's decisions will not become tomorrow's limitations.

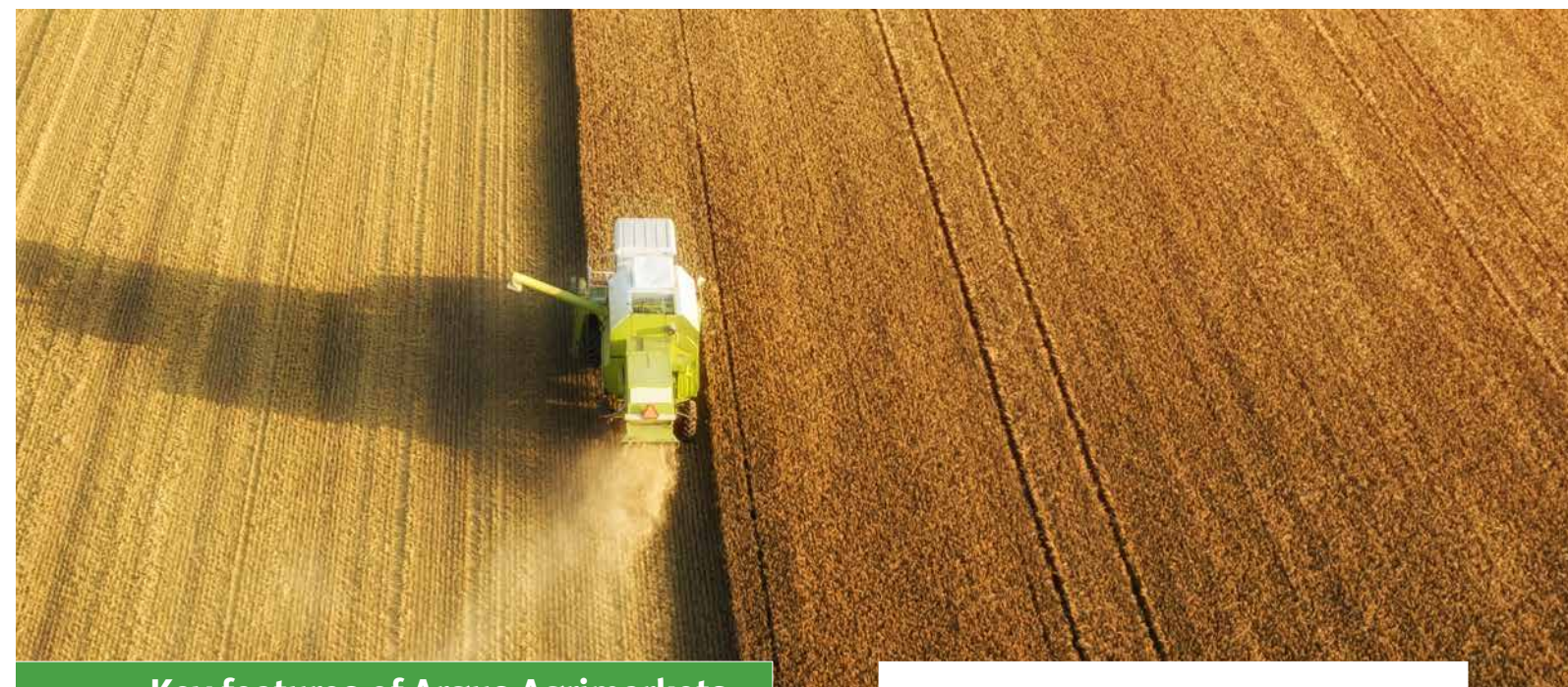
Modernization does not always mean starting over. It means building smarter—with precision, adaptability, and long-term value in mind. ■

Figure 3. Software layout



Argus AgriMarkets

Timely, accurate and dependable price assessments, news and analysis for the agriculture markets



Key features of Argus AgriMarkets:

- Executive summary
- Current and historical prices
- Grains, oilseeds and veg oils tenders
- Black Sea market - news, insight, current and forward prices
 - Ukraine wheat market
 - Ukraine corn market
 - Ukraine Barley Market
 - Russia wheat market (spot prices only)
- Brazil soybean and corn - news, insights and prices
- China soybeans market
- Global news and key market developments

For more information visit:
www.argusmedia.com/agriculture



Argus AgriMarkets
Daily grains, seeds and oils prices, news and analysis
Issue 21-203 | Thursday 14 October 2021

SUMMARY

Black Sea wheat: Russian spot at 10-day low
Russia's spot November 12.5pc wheat extended losses from earlier this week to close at a 10-day low, as rising floating taxes continued to weigh on liquidity.

Ukraine corn: Curve turns to losses
Ukrainian corn prices turned to losses, as prompt supply concerns were partially eased with corn harvest gathering pace in recent days.

Brazil soybeans: Market has deal for April/May
The Parana paper market had a slower day with only one deal reported, although premiums have remained at high levels compared with the beginning of the week.

China soybeans: Spreads widen for Brazil beans
The spread between the best bid and offer widened for deliveries from Brazil, following higher offers from exporters.

Turkey's TMO issues new wheat tender

Turkey provisionally awards corn tender
Turkish state-run grains agency TMO has provisionally agreed to buy 325,000t of corn, reportedly of Ukrainian origin to a large extent.

Rain to weigh on China's corn output
Heavy rain in north China has slowed corn harvest progress, which could impact production levels and quality this year.

Key prices

		Loading	Bid	Offer	Mid	
Wheat \$/t	Wheat 11.5% fb Ukraine (CW1)	Spot	308.00	310.00	309.00	+1.00
	Wheat 11.5% fb Ukraine (CW2)	Spot	na	na	na	na
	Wheat 12.5% fb Russia (Novosibirsk)	Spot	309.00	318.00	313.50	-2.00
	Wheat 15.5% (CWRS) Canada	Spot	na	na	na	na
Corn \$/t	Corn cpl (USC1)	Spot	271.00	275.00	273.00	-1.00
	Brazil corn fb Santos dft to C&DT r/duel	Nov	+141.0	+155.0	+148.0	-0.3
Barley \$/t	Feed barley cpl Ukraine	Spot	na	na	na	na
	Soybeans \$/duel	Feb	-54.0	-60.0	-57.0	-0.5
Soybeans \$/duel	Brazil soybeans fb Parana dft to C&DT	Nov	+375.0	+380.0	+377.5	na
	China soybeans ch dft to C&DT	Nov	+375.0	+380.0	+377.5	na

Grains, oilseeds and veg oils tenders

Route	Size	WOM	\$/t	
Santos-Qingdao	60	69.40	+0.30	
Kalama-Qingdao	60	47.25	+0.10	

AGRITEC OUTLOOK

Watch out for increasing expectations of La Nina weather this winter, with the NOAA raising the probability of such conditions to emerge in Dec-Feb to 87pc.

Buyer	Brand	Closed	Status	Cargo	Delivery	Price	Seller	Notes
Turkey's TMO	14-Oct	21-Oct	Open	300,000t milling wheat	Dec 2021-Feb 2022	\$129.75/t	Cargill	ctr Alpha
Jordan's MT	10-Oct	14-Oct	Closed	120,000t feed barley	Dec 2021-Feb 2022	\$129.75/t	Cargill	ctr Alpha
Japan's RAFF	12-Oct	14-Oct	Closed	119,512t milling wheat	Nov 2021-Jan 2022	Low 104WZ	Witaco	CWRS
Turkey's TMO	5-Oct	14-Oct	Closed	275,000t corn	15-Nov-6-Dec 2021	\$106.90-117/t		ctr
Turkey's MT	5-Oct	14-Oct	Closed	50,000t corn	15-Nov-6-Dec 2021	\$112.75-119.25/t		new
Jordan's TCF	7-Oct	13-Oct	Cancelled	120,000t milling wheat	Jan-Mar 2022			
Pakistan's TCF	9-Oct	13-Oct	Closed	90,000t milling wheat	Jan-22			

Copyright © 2021 Argus Media group

Available on the Argus Publications App

Dependable conveyor belts prevent unplanned downtime

Written by

Andrew Parker, President, CDM Systems, USA

The global fertilizer industry is seeing unprecedented growth and record-setting prices. And with the global population expected to reach nearly 9.7 bn by 2050, the need for better crop yields will continue to push demand for fertilizers.

Additionally, growers are facing the diminishing availability of suitable farmland, and arable soil can lose its natural nutrients over time. Those growers will need more fertilizers – which will cause demand and prices to remain high.

The upside is significant profits for those fertilizer facilities that are able to consistently meet high demand as the global market continues to grow.

Fertilizer market figures:

- **Annual Market Value** = USD182.2 bn (2021), expected to be USD254.87 bn by 2030
- **Compound Annual Growth Rate (CAGR)** = 3.89% from 2021-2030

To take advantage of the escalated price and demand on products such as potash, urea and monoammonium/diammonium phosphates, fertilizer operations must produce higher volumes at a faster pace. That is much more difficult with equipment that is prone to failure.

Older machinery cannot efficiently handle rigorous schedules that ramp up production levels – especially for 24/7/365 operations. Thus, fertilizer

facilities are seeking ways to eliminate the threat of costly downtime from failed equipment.

That is why dependable conveyors are so critical for fertilizer operations. The more reliably they function, the more material – whether dry, caustic or wet – can be transferred from one part of the facility to another. This improved efficiency helps crank up production – and sends profitability soaring.

Certain planned downtime is expected. Whether it is preventative maintenance, hardware updates or anything else that requires attention, facilities can plan for those types of minimal production interruptions. But, unplanned outages can be costly – even catastrophic.

Production interruptions threaten profits

It is crucial conveyors are designed specifically for fertilizer and the problems that come with the corrosive nature of material like potash. The right conveyor design should include:

- Components built to handle increased fertilizer volume
- Optimal operation and design parameters
- Thorough material and environmental data analysis
- Built to handle the stress of increased capacity

The design-to-task efficiency of the individual components is what leads

to dependable conveying. Poorly designed or ill-equipped systems will cost you more in the long term because of the increased frequencies of maintenance and downtime. To keep production strong, operations must successfully manage this threat.

Facility and maintenance managers understand the need for a conveyor built for fertilizer. With prices high, successfully boosting production capacity helps a business to expand. But how do you get there?

Custom engineering

One-size-fits-all conveyor systems may seem like a budget-friendly answer for expanding capacity. But often, such systems are not purpose-built for the application – whether that is the level of capacity, the characteristics of fertilizer or the intricacies of a site's layout. This inevitably leads to equipment failures. Given the symbiotic relationship between unplanned breakdowns and profit loss, a present-day investment in the right conveyor is key to profitability and growth. This is where the conveyor manufacturer is an important partner.

It is essential to thoroughly understand the properties of an operation to 'spec out' the right equipment for the job. Custom-engineered conveying systems with flexible chain formulas and durable construction mean your operation is set-up for the long haul.



(left) Components are built to handle increased fertilizer volumes; (right) Facility and maintenance managers understand the need for a conveyor built for fertilizer

This gives managers peace of mind. That is because they have a conveyor built to eliminate downtime and keep production – and profits – flowing.

Global agricultural markets are becoming increasingly reliant on fertilizers, with rising demand presenting significant profit

opportunities. However, meeting this growing need requires high fertilizer output, which places considerable strain on handling equipment. To address this challenge and support increased production goals, customized conveyors specifically designed for fertilizer use are essential. ■

About the author

Andrew Parker is President of CDM Systems, Inc. He has more than 20 years of experience in the bulk material handling industry. He oversees operations including conveyor design and development.

THE POWER OF PRECISION





Precision Fertilizer Blending® (PFB) delivers high-quality prescription blends by efficiently mixing granules, powders, and liquids.

Learn more at sackettwaconia.com

A tailored approach to reducing GHG in nitric acid production

Written by

Stefano Cicchinelli, Product Manager, and Carmen Perez, Process Engineer, *Stamicarbon, The Netherlands*

The nitric acid production industry is essential to global agriculture due to its role in producing nitrogen-based fertilizers. However, the environmental impact of these plants, particularly their greenhouse gas (GHG) emissions, has become a major concern. Addressing these

concerns and increasingly stringent environmental regulations necessitate modernizing existing facilities. Tertiary abatement technology offers a viable pathway to significantly reduce emissions, achieving reduction rates higher than 99%, and thereby enhance sustainability.

While many existing nitric acid plants continue to operate efficiently, often with impressive longevity, modernization is essential to improve their sustainability. Plants built before the 1990s were not subject to strict nitrogen oxides (NOx) emission regulations, and nitrous oxide (N₂O) emission regulations were introduced even later in some regions. Consequently, many older plants do not meet current environmental standards without implementing custom-designed abatement systems. The growing pressure to limit greenhouse gas emissions, driven by legislative mandates and the growing attention to corporate environmental responsibility, drives the need for facility upgrades.

Production process

The industrial production of nitric acid primarily relies on the Ostwald process, involving the high-temperature catalytic oxidation of ammonia. This two-stage process first converts ammonia (NH₃) to nitric oxide (NO), which is further oxidized to nitrogen dioxide (NO₂). Subsequently, the nitrogen dioxide (NO₂) is absorbed in water (H₂O) to produce nitric acid (HNO₃).

Equipment can be installed while the plant remains operational

Stamicarbon, the nitrogen technology licensor of NEXTCHEM (MAIRE Group), offers its proven NX STAMI Nitrates mono- or dual-pressure technologies for nitric acid production. Mono-pressure technology (see figure 1) operates at a single pressure level, optimizing both ammonia oxidation and nitric acid absorption in a compact and cost-effective layout.

In contrast, dual-pressure technology employs two different pressure levels: medium pressure for ammonia oxidation and high pressure for nitric acid absorption. This dual-pressure design (see figure 2) enables higher production capacities and greater energy efficiency, extending catalyst life and reducing operational costs, making it suitable for high-capacity plants.

The nitric acid plants excel in maximizing high-quality steam export (see figure 3) and, hence, energy efficiency.

Tertiary Vs secondary abatement

Despite continuous improvements in the design of next-generation plants over the years, the performance of existing installations—some of which have been in service for 40 to 50 years—remains competitive in the market, making their replacement with new plants financially unjustified.

When considering upgrades, plant owners often face the choice between installing a tertiary abatement or adding a secondary catalyst to the existing ammonia burner. While adding a secondary catalyst (see figure 4) might appear initially

Figure 2. NX STAMI Nitrates dual-pressure nitric acid plant

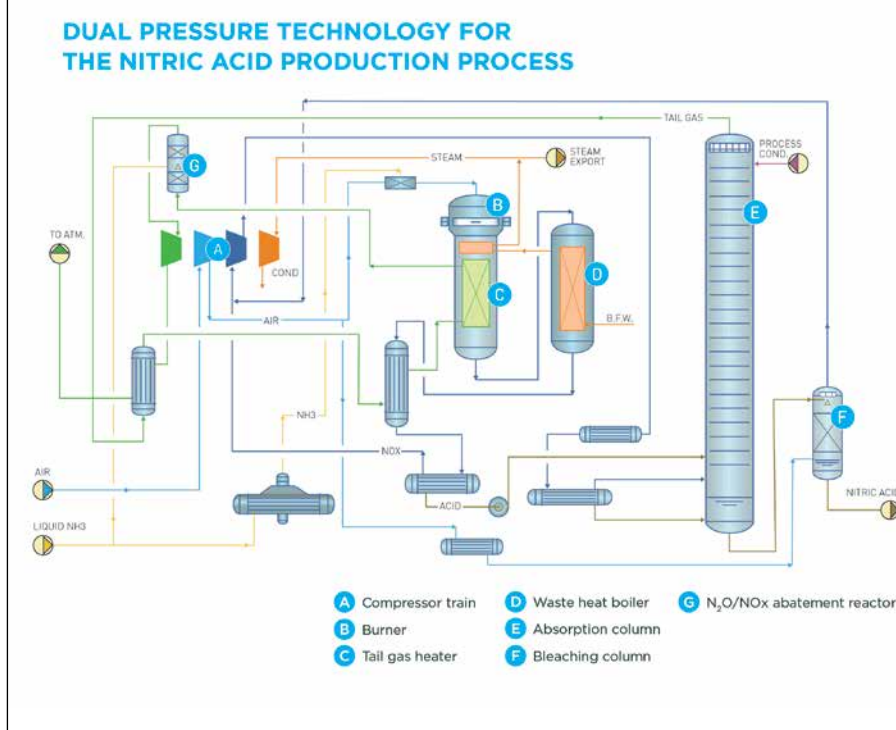


Figure 3. Steam export for mono- and dual-pressure nitric acid plants

Steam export* (45 bar, 450°C)	
MONO-PRESSURE	DUAL-PRESSURE
> 650 kg/ton HNO ₃ (100%)	> 800 kg/ton HNO ₃ (100%)

cost-effective and less disruptive, a thorough analysis often indicates that it is not the optimal long-term solution. Existing burner conditions, potential pressure drops, production downtime for modifications, and limitations in achieving high N₂O conversion rates with secondary abatement are key drawbacks. Furthermore, anticipated more strict regulations may make secondary abatement insufficient in the future.

Stamicarbon offers tertiary abatement system as the superior and more future-proof alternative. Tertiary abatement equipment can be installed while the plant remains operational, requiring minimal shutdown time for connections. Importantly, the greater N₂O reduction achieved with tertiary

abatement leads to significant carbon tax relief, making it a more cost-effective and the most sustainable choice.

For new nitric acid plants, a tertiary abatement reactor is offered as a standard solution to effectively remove or nearly eliminate NOx and N₂O from the tail gas. This reactor seamlessly integrates with the production process where the tail gas temperature is around 480°C.

Tailored solutions for diverse plant conditions

Recognizing the diversity of technologies used by existing nitric acid plants, Stamicarbon offers a

Figure 4. Secondary abatement system for N₂O removal

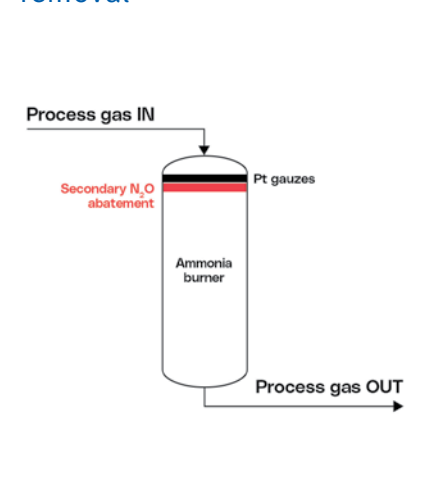
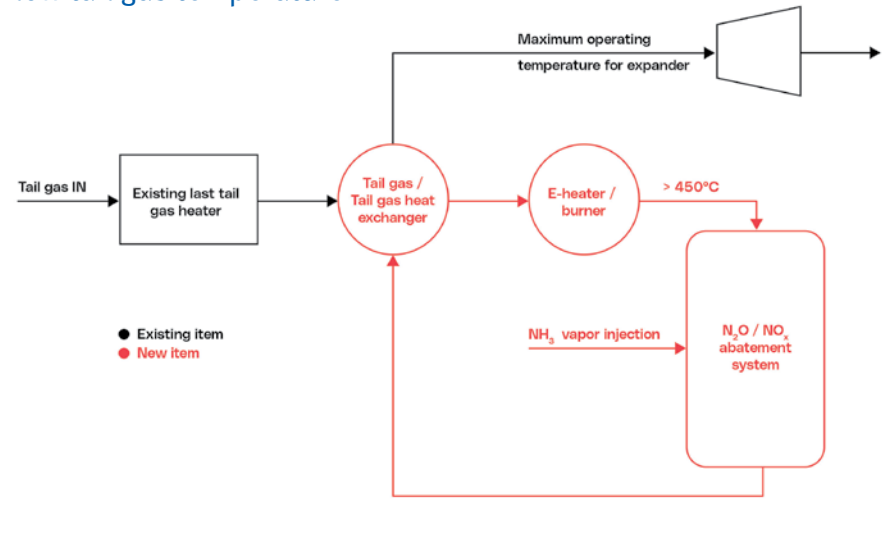


Figure 5. Typical scheme with tertiary abatement system for low tail gas temperature



A good solution requires minimal plant modifications while maintaining the energy balance

range of tailored solutions to help lower their GHG emissions. The selection of the optimal solution is primarily based on the plant's tail gas temperature.

For existing plants with tail gas temperatures between 420 and 500°C, the tertiary abatement system can be implemented with minimal layout modifications, providing a viable upgrade path. In this temperature range, N₂O is removed through thermal decomposition. For plants with tail gas temperatures below 420°C, the same solution can be applied, but N₂O removal is achieved by catalytic reduction in which a reducing agent is needed, such as natural gas or additional ammonia.

For plants with significantly lower tail gas temperatures (below 350°C), maintaining effective NO_x and N₂O abatement requires specific approaches. Stamicarbon is addressing this challenge with new catalysts that work efficiently at lower temperatures, potentially

achieving competitive N₂O emission values without extensive downstream equipment modifications. Alternatively, using external energy sources like electric heaters or gas-fired furnaces (see figure 5) can increase the tail gas temperature needed for N₂O abatement. However, this approach necessitates careful consideration since the heating steps can potentially lead to CO₂ generation, a gas that contributes as well to the greenhouse effect.

However, this raises an important question: is it feasible to reduce greenhouse gases emissions if it leads to generating different greenhouse gases? This consideration requires understanding the balance between achieving immediate emission reductions and the broader goal of sustainable and environmentally responsible operations.

For plants with high tail gas temperatures (700-800°C) upstream of the expansion turbine, N₂O removal is generally not in place, and a non-

selective catalytic reduction (NSCR) reactor is typically used for NO_x reduction and temperature increase. For these cases, Stamicarbon proposes replacing the existing NSCR catalyst with a new one, such as a honeycomb catalyst based on precious metal. This solution requires minimal plant modifications while maintaining the energy balance.

Addressing emissions

Most nitric acid plants today aim to achieve sustainability and environmental responsibility. While existing plants have demonstrated reliability, reducing emissions is crucial for environmental protection and regulatory compliance. By adopting tailored revamp solutions, particularly tertiary abatement technology, nitric acid producers can address emissions effectively, paving the way for a sustainable future.

Note: NX STAMI™ is a trademark of Stamicarbon ■

People and events

Fertilizer Canada welcomes Michael Bourque as the new President and CEO

Fertilizer Canada's Board of Directors has appointed Michael Bourque as President and CEO.

"On behalf of the Fertilizer Canada Board of Directors, we are pleased to announce the appointment of Michael Bourque and welcome him to the association," says Lindsay Kaspick, Fertilizer Canada Board Chair. "Michael brings extensive experience in policy development and industry association management, making him ideally suited to lead Canada's fertilizer sector through today's complex challenges and to advance the industry's strategic priorities."

"I'm delighted to join the Fertilizer Canada team and to advocate for a policy and regulatory environment that the Canadian fertilizer sector needs to remain globally competitive during this time of economic uncertainty," says Michael Bourque, Fertilizer Canada President and CEO. "My priority will be to advocate for policies that encourage investment, growth and productivity in Canada, and that will help the country reach its full potential as a reliable trading partner and supplier of value-added products to the world."

Michael previously served as CEO of the Canadian Real Estate Association and as President and CEO of the Railway Association of Canada. His background also includes senior public policy roles on Parliament Hill, leadership in the federal public service, and government relations in the chemical industry.

Fertilizer Canada represents producers, manufacturers, wholesale and retail distributors of nitrogen, phosphate, potash and sulphur fertilizers. The fertilizer industry plays an essential role in Canada's economy, contributing over CAD42 bn annually and employing over 118,000 workers throughout the supply chain. We are committed to supporting the industry through innovation, stewardship, safety and security. As the foundation of Canada's agri-food sector, we apply innovative solutions that positively impact agriculture, the economy, and the social fabric of Canadian life.

Cinis Fertilizer gains owner with industry expertise in connection with capital raising

Cinis Fertilizer has resolved to carry out a capital raise for the continued ramp-up of the production facility in Örnsköldsvik. Through the capital raising, Cinis will gain an owner with international industry expertise, Adam Nawrocki, who has extensive experience in building and running successful production and sales of water-soluble fertilizers. In addition, Cinis' partner and customer Van Iperen International is participating in a convertible loan. Cinis has also reached

an agreement in principle with bondholders on certain amendments and concessions, providing a liquidity boost and improving the company's capital structure.

Cinis Fertilizer is a Swedish fertilizer company producing an environmentally friendly and water-soluble mineral fertilizer, potassium sulfate (SOP). In May 2024, Cinis started up production in its first production facility in Örnsköldsvik, Sweden. The facility has an annual capacity of 100,000 tons of high-quality, environmentally friendly SOP. A little more than 18 months after ground-breaking, Cinis sent its first shipload of SOP to its customer and partner, Van Iperen International. The SOP has since been distributed and sold by Van Iperen International to end customers in more than 40 countries across all continents, with a very positive reception.

However, the start-up and ramp-up of the company's production facility in Örnsköldsvik has taken longer than expected. To strengthen the company's liquidity during the continued ramp-up of the production facility until it reaches profitability, Cinis has resolved to carry out a capital raise. The capital raise consists of directed share issues to Adam Nawrocki, founder of ADOB Fertilizers, a convertible loan to Van Iperen International and a rights issue offered to existing shareholders.

"We are grateful for the support from Van Iperen International and Adam Nawrocki. Their extensive industry knowledge and vast experience in the production and sale of specialty fertilizers will be a great asset to Cinis in our continued development. Their support is a clear indication that there is a promising future for SOP produced with fossil free electricity," says Jakob Liedberg, CEO of Cinis Fertilizer.

In summary, the capital raise consists of directed share issues to Adam Nawrocki of SEK16.2 million in two tranches. A directed convertible note issue to Van Iperen International of SEK10.8 mn, and a rights issue of up to 145 mn shares at SEK1 per share, of which SEK70 mn are guaranteed by bond holders.

"What I like most about Cinis is the continuous production process able to use by-products from, for instance paper- and battery factories that so far are often disposed in the environment. Additionally, the unique Cinis process significantly reduces energy needs and in Sweden, that energy is 100% fossil free. Cinis is a real asset for the European fertilizer industry", says Adam Nawrocki.

"Our decision to support and strengthen Cinis financially shows our firm belief in the Cinis project to produce high quality, sustainable SOP in Europe. Our partnership will show the world that innovation and entrepreneurial courage have a future in Europe — and are needed more than ever," comments Erik van den Bergh, Managing Director of Van Iperen International. ■

Conference preview:

Argus Clean Ammonia Asia 2025

2-4 June 2025 • Tokyo, Japan

Returning to Tokyo after a successful launch event, join regional and international senior stakeholders to discuss new opportunities and form partnerships at the core of one of the world's key demand centres for clean ammonia from 2-4 June in Tokyo, Japan.

Attendees will benefit from three days of networking and insights, exploring ammonia's role in the energy transition across hard-to-abate sectors in the region, including power generation, marine fuels, fertilizers, chemicals and more.

Book now to secure your place alongside 250+ attendees from more than 115 companies spanning 20 countries.

High-level content

This year has been a whirlwind for the energy transition sector, marked by uncertainty surrounding the growth trajectory of the clean ammonia industry and the adoption of clean fuels. With the event taking place at the heart of demand in Asia, this conference provides a unique opportunity to gain insights from industry leaders exploring



Network across the clean ammonia supply chain



This conference provides a unique opportunity to gain insights from industry leaders

key issues related to policy and regulation, social acceptance, production and import project development, and infrastructure advancements. Additionally, attendees will gain valuable perspectives on project financing, as well as the implications of CBAM and the IRA for the clean ammonia industry's future growth.

Featuring panel discussions, presentations, and interactive Q&A sessions, participants will gain high-level content and networking opportunities to form new connections and build a business pipeline. New for this year, dedicated meet-up stations will bring together industry participants based on business interests and location. Grab a coffee and join targeted conversations with peers in your field. Plus, join our Women in Clean Ammonia Network for exclusive resources and opportunities.

Agenda highlights

Pre-conference evening reception

Welcome drinks and networking sponsored by ExxonMobil.

Forge valuable connections in good company and exchange insights with ammonia industry experts.

Day 1

Ammonia regulatory shake up: What is the trajectory of growth for the clean ammonia industry in Asia? Explore the latest updates on Japan's contracts for difference tender and their implications for the clean ammonia market. With keynote speakers from companies including , Clean Fuel Ammonia Association, The Institute of Energy Economics (IEE), and Japan Bank for International Cooperation

The key ingredients to make your project fly. A series of case studies: Successes, challenges, present status and aspirations for future projects. Hear key insights from Exxon Mobil, Gentari, IHI, and Hygenicco.

Pioneering the future: Bridging risk and collaboration in clean ammonia offtake agreements. Insights from the Asian Development Bank and ExxonMobil.

Ammonia cracking: Current projects, hydrogen alternatives and market pathways. Hear from Mitsubishi Heavy Industries, Thyssenkrupp Uhde, Johnson Matthey.

Day 2

Ammonia pricing workshop: A deep dive into carbon-adjusted ammonia pricing



Join Argus experts to learn about the carbon-adjusted price of ammonia (CAPA), its market applications, and how it will impact and incentivize businesses.

Tackling decarbonisation: Key regulatory changes and ammonia's role in maritime fuel evolution. Expert speakers include Maritime and Port Authority of Singapore (MPA) and BHP

What new infrastructure and port developments are required to adopt clean ammonia across industries? Hear from AVL Zoellner Marine GmbH and Vopak

Featured speakers include:

- Rahmad Pribadi, *Chief Executive Officer, Pupuk Indonesia*
- Ahmed Galaby, *Asia Pacific Hydrogen Business Manager, Exxon Mobil*
- Samuel Soo, *Regional Director (Japan & Korea), Maritime and Port Authority of Singapore (MPA)*
- Richard Colwill, *Head of Engineering & Innovation, Intercontinental Energy*
- Kohei Toyoda, *Director General for Energy Transformation Strategy - Energy and Natural Resources Finance Group, Japan Bank for International Cooperation*
- Lars T. Danielsen, *Promotion Manager, Two-Stroke Promotion & Customer Support, MAN Energy Solutions*

Network and develop partnerships in Asia and around the world

With more than 250 attendees, this conference provides you with an opportunity meet with potential business partners across the ammonia and cross-sector value chains in the energy transition, including our NEW Women in Ammonia lunch, welcome drinks, coffee breaks, lunches and evening drinks reception.

Sponsorship and exhibition opportunities

A range of sponsorship and exhibition opportunities are designed to elevate your brand in this rapidly developing space.

Join us as a sponsor or exhibitor for the opportunity to showcase your brand and products before a relevant and engaged audience. Sponsorship opportunities can be tailored to help you raise your profile and engage with the industry's influential market-makers.

For more information, please visit our website here: www.argusmedia.com/en/events/conferences/clean-ammonia-asia-conference or contact our sponsorship team at sponsorship@argusmedia.com ■

Thank you to our sponsors

Platinum sponsor

ExxonMobil

Gold sponsor

MITSUBISHI HEAVY INDUSTRIES

Silver sponsor

JM Johnson Matthey

Technology partner

thyssenkrupp



Complimentary fertilizer market content from Argus

White papers | Production and trade flow maps | Webinars | Podcasts and Blogs | News



WHITE PAPERS

Learn more about key market issues and trends with Argus white papers, incorporating data and analysis from our services.



TRADE AND PRODUCTION MAPS

Access valuable, visual data on production capacities, trade flows and more for selected countries and regions.



WEBINARS

Benefit from key insight and analysis from our market experts as they present the Argus view of current market trends and outlooks.



BLOGS AND PODCASTS

Discover the Argus view on current and interesting market trends through our easy-to-digest podcast episodes and blog posts.



NEWS AND MARKET UPDATES

Keep your finger on the pulse of current market developments with a selection of the latest news articles from our global editorial team.



Argus' complimentary fertilizer market content is produced by our industry experts, and offers great insight into the market dynamics and outlooks for key fertilizer sectors.

Visit www.argusmedia.com/fertilizer to access our complimentary content.

For more information please contact us: ✉ fertilizer-m@argusmedia.com 🌐 www.argusmedia.com/fertilizer

Fertilizer
illuminating the markets

Market Reporting
Consulting
Events

Brazil fertilizer market to edge higher in 2025

Written by

Renata Gabrielli, Agriculture and Fertilizer Editor, Argus Media, Brazil

Brazil's fertilizer market is set to keep growing in 2025 thanks to an expected acreage increase in the 2025-26 cycle and potentially favourable selling opportunities of agricultural commodities for farmers considering higher prices in the international market.

Fertilizer deliveries to farmers reached 45.6mn t in 2024, according to national association fertilizer Anda. Market participants estimate that deliveries in 2025 are set to reach 47-49mn t, considering a potential increase in acreage area.

The pattern of purchases in the domestic market has changed over the last two years, as farmers reduced

Brazilian buyers are following the developments in the Chinese market

their advanced purchases and started to buy fertilizers closer to the planting period. That is also set to also happen for 2025-26 crop. Farmers started buying potash for the 2025-26 soybean crop — which starts planting in mid-September 2025 — in December 2024, while postponing purchases of phosphates, which have started to pick up in the beginning of 2025, mostly for low- P_2O_5 content.

Purchases of fertilizers with high P_2O_5 content are set to intensify, but Brazilian importers are struggling to find MAP 11-52 because of global tightness. Prices of high P_2O_5 content MAP 11-52 were assessed at USD688/t cfr on mid-April, up from USD571/t cfr a year earlier. Meanwhile, SSP 19% prices reached USD238/t cfr from USD198/t cfr in mid-April 2024. In terms of P_2O_5 nutrient, SSP is more advantageous for buyers than MAP, considering the nutrient currently has a premium of nearly 6% on MAP 11-52.

Availability of high- P_2O_5 content fertilizer is tight globally. Russia and Morocco supplied nearly 90% of the MAP 11-52 volume imported by Brazil in the first quarter of 2025. Of which, one of these countries is focused in supplying other phosphates such as the TSP 46pc, while the other has limited availability for the export market.

Brazilian buyers are also following the developments in the Chinese market, expecting its return to exports. Market participants initially expected the timeline to be similar to 2024. Market participants are now expecting that the supply could be available until up to mid-June,

Market participants estimate that deliveries in 2025 are set to reach 47-49mn t

because the increase in domestic prices in China since March can lead the country to continue focusing on supplying its inland demand.

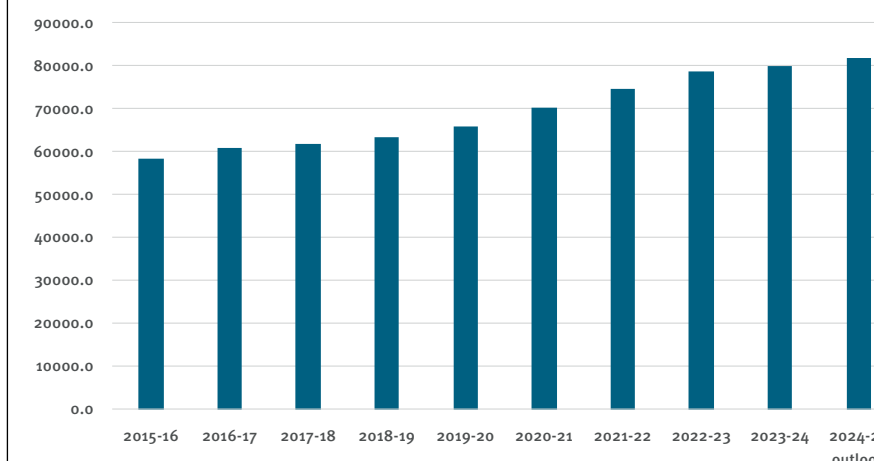
Phosphate-based fertilizers

From mid-June, Chinese phosphate would not be able to supply some of Brazil's main producing states — such as central-western Mato Grosso and southern Parana, the earliest to begin planting — in time, as the trip between origin and destination takes longer than 40 days.

Phosphate-based fertilizer prices are likely to rise because of the US tariffs, which may postpone importers' purchases in Brazil. Phosphate prices in the US may increase to attract producers to supply the country despite the tariffs. This would lead to higher prices in Brazil as well in order to continue to attract sellers. This can lead to higher competition for phosphate-based fertilizers, as nearly every country sending fertilizers to the US will be hit with import duties.

Brazil has yet to release its estimates for the 2025-26 crop, but market participants believe that acreage area will likely increase. The 2024-25 season is expected to produce an all-time high 167.9mn t of soybeans, according to national supply company Conab, contributing to a global oversupplied market. The US Department of Agriculture (USDA) expects ending stocks of global

Figure 2. Planted area in Brazil (million hectares)



soybeans at 122.5mn t this season, which may help lower prices.

Particular attention is on China, the largest soybean and corn importer. Retaliation on agricultural commodities could make China turn to other global markets, especially to Brazil, the main soybean exporter and second largest corn exporter. Chinese buyers account for the largest share of Brazilian shipments of the oilseed, taking 76% of total Brazilian exports in 2024, according to national association of cereal exporters Anec.

Brazil will continue to be reliant on fertilizer imports

Brazil will continue to rely on fertilizer imports despite its plans to decrease external dependency. Brazil imported 41.4mn t of fertilizers in 2024, according to Anda, a 5.4% increase on the year. The country also increased its domestic production on the year by nearly 4% to 7.2mn t.

Brazil is focusing on increasing production of phosphates and NPKs. National output of phosphate-based

SSP rose by 7% in 2024 from 2023, while NPK production reached 303,200t from 139,400t a year earlier, according to Anda.

Brazil's fertilizer plan expects national production to supply 45-50% of the country's demand by 2050, up from less than 15% currently.

The country has 36 spots with potential to mine phosphate-based fertilizers, most in southeastern Minas Gerais state, according to the plan. Regarding potash, five places were identified as potential mining hubs: two in northern Sergipe state and three in northern Amazonas state.

Russian fertilizer producer Eurochem started operating its phosphate fertilizer complex at Serra do Salitre city, in Minas Gerais state, in May 2024. The complex will produce 1mn t/yr of phosphate fertilizer, 1mn t/yr of sulphuric acid and 240,000 t/yr of phosphoric acid — the latter two used as feedstocks for phosphate fertilizers, when in full operation. The company expects to produce around 700,000t-800,000t of phosphate fertilizers this year, 80% of the unit's total capacity. Brazilian fertilizer producer Galvani plans

Figure 1. Fertilizer deliveries in Brazil (.000t)

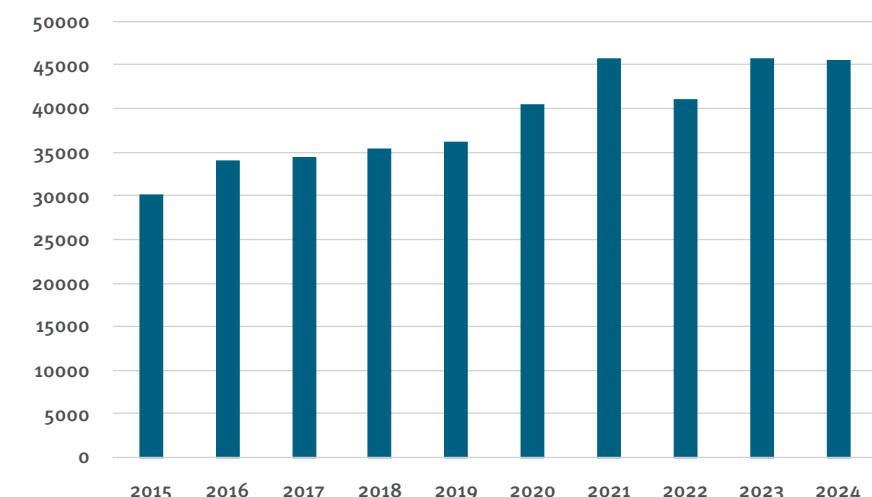
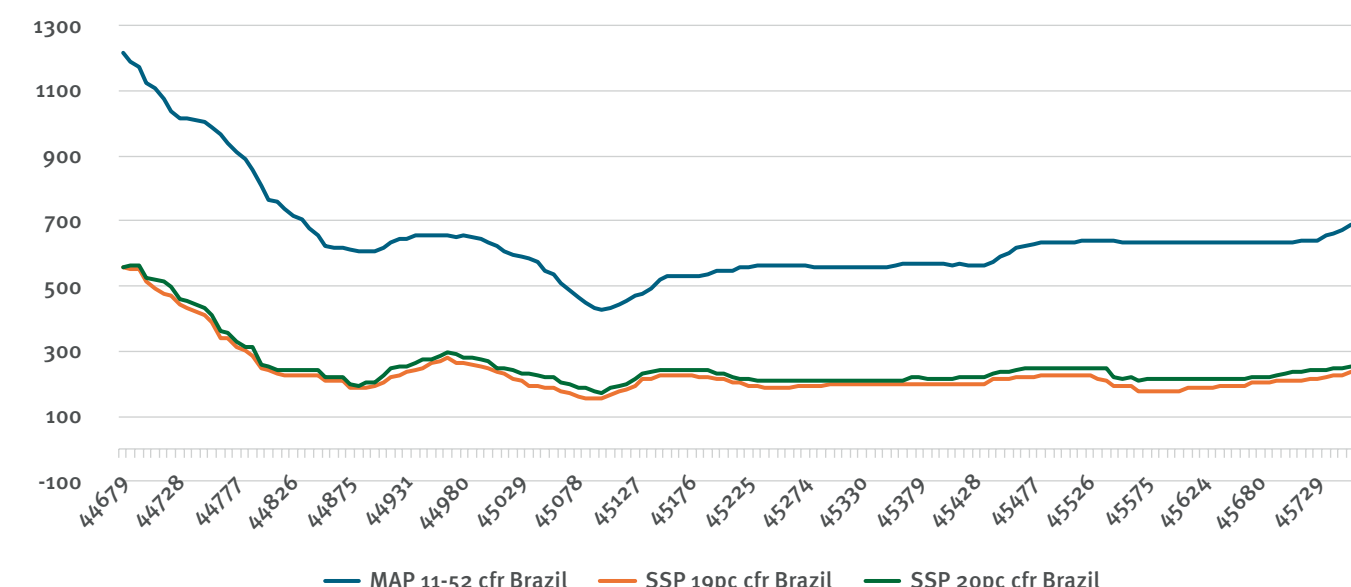


Figure 3. MAP 11-52 and SSP 19-20% P₂O₅ prices in Brazil (USD/t)



The Brazilian industry is focusing on increasing production of phosphates and NPKs

to double its phosphate production to 1.4mn t/yr by 2026 in the Luis Eduardo Magalhaes industrial complex, in northeastern Bahia state, as well as its storage and handling capacity.

The national nitrogen-based fertilizer production fell in 2024 because higher natural gas prices pushed petrochemical group Unigel to stop its nitrogen fertilizers units in the country.

In the most advanced of three such major projects, state-controlled oil company Petrobras expects to resume production at its Araucaria Nitrogenados (Ansa) fertilizer unit, in Parana, in the second half of 2025. Ansa can produce 475,000 t/yr of ammonia, 720,000 t/yr of urea and 450,000 t/yr of diesel exhaust fluid, also known as Arla 32 in the Brazilian market.

Southern Cone mimics Brazil

The Southern Cone market will attempt to mirror Brazil's trend of postponing fertilizer purchases. As a major buying market, the biggest in Latin America, Brazil influences other neighbouring countries on their fertilizer purchases. Some vessels that discharge fertilizer volumes in Brazil may also discharge in Argentina, therefore affecting supply in this market.

Farmers in Paraguay and Argentina also have been postponing fertilizer deals for the 2025-26 crop. Fertilizer deliveries in Argentina are estimated at 5.5mn t for 2025, according to market participants. That compares with 4.9mn t delivered in 2024 and 4.6mn t delivered in 2023, domestic fertilizer association 'Fertilizar' says. There is no official data just yet on the

2025-26 crop, but market participants said that acreage may increase.

As for Paraguay, market participants mostly indicate that volumes may be flat on the year in 2025 at around 1.5mn t. Purchases in the first quarter were higher than usual, but the pace decreased in April. There is no official data just yet on the 2025-26 crop, but market participants foresee a slight increase in acreage area for the season.

Paraguay and Argentina are the third and fourth main exporters of soybeans, at 7.3mn t and 4.5mn t expected to be dealt in the 2024-25 season, respectively, according to the USDA. Market participants expect the acreage area to increase in both countries, as the US tariffs and retaliatory tariffs from China may also make the Asian country turn to other global markets. ■

The importance of agribusiness in the climate agenda



Deise DallaNora, Corporate Affairs and Sustainability Director, Yara, Brazil, explains why Brazil acts as key player by positioning agricultural activity as an accelerator to reduce greenhouse gases.

Climate change is the greatest challenge modern society faces, and its impacts are increasingly being felt by all of us. From rising temperatures to extreme weather events, everything is intertwined, affecting biodiversity and the environment.

This new reality requires urgent actions that drive not only the Planet's sustainability, but also ensure food security for its population.

On Climate Change Awareness Day, we were encouraged to reflect on how agriculture can act as a transformative agent in a transiting production model, which must combine sustainable food production and climate impact mitigation.

To put this into perspective: Today, agriculture alone accounts for about

20% of global greenhouse gas emissions, according to data from FAO, the United Nations Food and Agriculture Organization. Of this portion, around 11% is from fertilizers.

Fertilizers are of utmost importance for a successful crop and to improve the productivity rates and quality of a harvest. In other words, food production involves paying attention to the health of the soil, which, when well nourished, helps to increase productivity, lowering thus the pressure to expand onto new areas and consequently reducing deforestation while preserving biodiversity.

And that is exactly why fertilizers have become fundamental to sustainability and crucial for us to achieve a regenerative and low-carbon agriculture.

In this context, Brazil is acting as key player by positioning agricultural activity as an accelerator to reduce greenhouse gases. The good news is that, in addition to goals, we provide solutions.

For example, Brazil's agribusiness already has ultra-low-carbon fertilizers. Produced from a renewable matrix, including biomethane, this input reduces the carbon footprint by 75% compared to the same fossil energy matrix product. Considering the entire cycle, from fertilizer production to application, combined with regenerative agriculture practices, this reduction may reach 40% in the final product for crops such as coffee.

In the year in which we are in the world's spotlight as Brazil is hosting COP30, the country's ultra-low-carbon fertilizer – the result of investments in research and innovation, based on agronomic and scientific expertise – is a good example to highlight the importance of including agricultural practices in the climate agenda. Providing solutions towards climate neutrality reinforces the industry's potential to collaborate with a sustainable food future.

Brazil has the ideal conditions to be one of the major players in the energy transition. Climate change, however, requires a coalition between governments, producers, companies and the industry, providing incentives and support for the entire production ecosystem so that decarbonization is integrated, from industry to the soil to the table, thus ensuring food security for the generations to come. ■

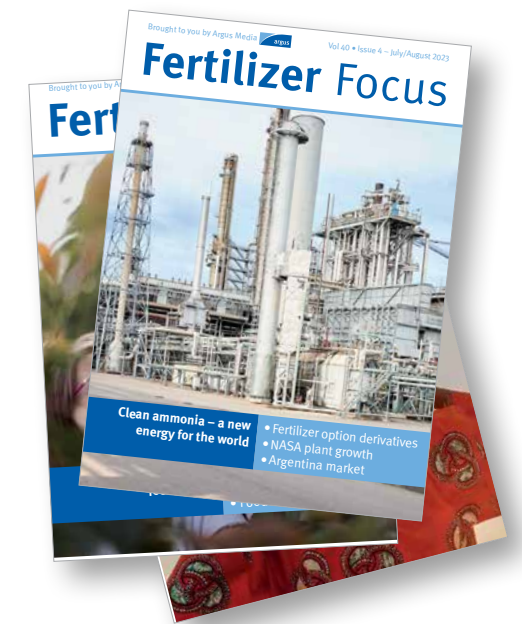


A farmer carefully examining the soil in a cornfield

Fertilizer Focus heritage

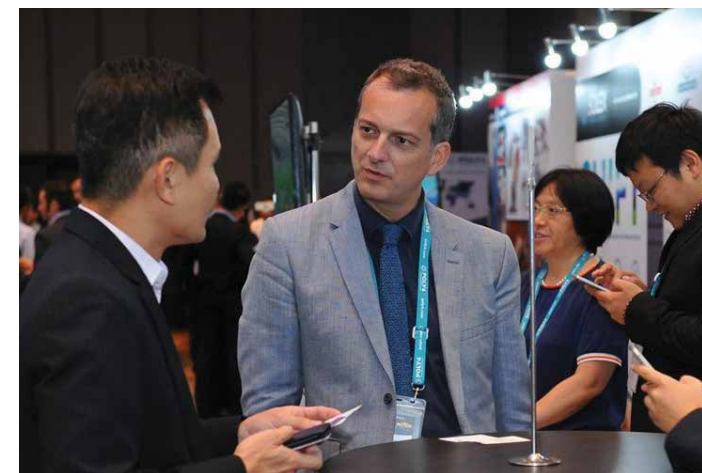
Argus produces the most comprehensive suite of pricing and market intelligence services available to the fertilizer industry

First published in February 1984 by FMB Consultants, Argus' Fertilizer Focus is the world's leading bi-monthly journal serving the international fertilizer industry. It covers the key developments influencing fertilizer and related markets, such as production economics, technology, plant and project news, and product logistics.



Drawing on Argus's unrivalled expertise and wealth of contacts from our market reporting, consulting and conferences, the editorial content in Fertilizer Focus covers the issues which are top-of-mind for senior executives in the industry. As an advertiser, your message reaches decision makers throughout the world and positions you as a thought-leader on the cutting edge topics which will define the future of the industry. The magazine features a unique blend of news, features, interviews and analysis of all aspects of the fertilizer industry, including:

- ▶ Spotlight on hot new trends and growth areas - including clean ammonia and low carbon/sustainable fertilizers
- ▶ New product developments – fertilizer blends, enhanced efficiency ingredients, micronutrients, liquid fertilizers
- ▶ Fertilizer production technology across all products
- ▶ Port logistics and shipping
- ▶ Company strategy, industry developments and emerging markets
- ▶ Agronomic analysis and changes in agricultural practice impacting fertilizers



Fertilizer Focus

Media pack 2025

Editorial schedule

January/February issue

Advertising due date - **6 December 2024**

Special Focus - INFRASTRUCTURE AND LOGISTICS

- ▶ Overview of new facilities
- ▶ Risk accessing shipping markets
- ▶ Traceability and certification

SUPPLEMENT - AFRICA

- ▶ The African Fertilizer Financing Mechanism
- ▶ Regional Hub for Fertilizer and Soil Health in West Africa and the Sahel
- ▶ Integrating Africa through technology

May/June issue

Advertising due date - **11 April 2025**

Special Focus - PRODUCTION TECHNOLOGY

- ▶ Innovations in water soluble fertilizers
- ▶ Case study: Updating production plants
- ▶ Modularisation of potash production

SUPPLEMENT - LATIN AMERICA

- ▶ Trends in Brazil's import markets
- ▶ Production facilities in Latin America
- ▶ Key crops and nutrient requirements

September/October issue

Advertising due date - **11 August 2025**

Special Focus - FERTILIZER SUSTAINABILITY

- ▶ Soil health and balancing carbon emissions
- ▶ Balancing food security with sustainability
- ▶ Greener SOP production

SUPPLEMENT - EUROPE

- ▶ Sulphur demand and supply in Europe
- ▶ CBAM update
- ▶ Sustainable nutrients market in Europe

March/April issue

Advertising due date - **14 February 2025**

Special Focus - LOW CARBON FERTILIZERS

- ▶ Adapting fertilizer production for decarbonisation
- ▶ Low carbon nitrogen processes
- ▶ Next generation enhanced efficiency fertilizers

SUPPLEMENT - ASIA

- ▶ The Asian sulphur markets
- ▶ Future growth in India
- ▶ Key transport routes

July/August issue

Advertising due date - **13 June 2025**

Special Focus - CLEAN AMMONIA

- ▶ Clean ammonia for agricultural uses
- ▶ Hydrogen transport and infrastructure
- ▶ Case study: Blue ammonia

SUPPLEMENT - MIDDLE-EAST

- ▶ Impact on fertilizers from Middle-East conflicts
- ▶ GCC investments
- ▶ Regional innovative technologies

November/December issue

Advertising due date - **10 October 2025**

Special Focus - THE FERTILIZER ECONOMY

- ▶ The impact of geopolitics and trade legislation
- ▶ The changing landscape of US phosphate import duties on Morocco
- ▶ Fertilizer price volatility outlook

SUPPLEMENT - NORTH AMERICA

- ▶ One year on: US election and the impact on agriculture
- ▶ Mexican fertilizer transport routes
- ▶ Canadian import market trends

Distribution

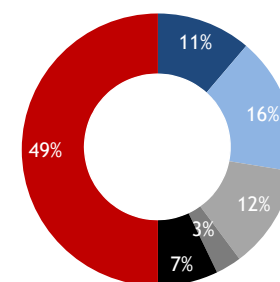
Sector leading digital and hard copy distribution

Published six times a year, the magazine is read by subscribers in over 90 countries. Fertilizer Focus has a unique, best in class distribution, benefiting from Argus' unrivaled presence in the fertilizer sector - **the digital circulation of the magazine in late 2024 was nearly 15,000 - and is growing substantially each month.** Around two thirds of our digital recipients are paying subscribers of Argus fertilizer price reporting and outlook services. This encompasses executives and decision makers in all of the major fertilizer producers, traders, importers and buyers, as well as sector focused financial institutions, shippers, engineering companies, plant contractors, government agencies and trade associations. Our key magazine features are promoted on leading social media platforms ([LinkedIn](#), [Twitter](#), [Facebook](#))

Reader profile

Our unique and unrivaled circulation means your messages reach the industry's most important decision makers.

% of all Fertilizer Focus recipients with the following in their job title



- Executive, President, Director, Vice President
- Manager, Head, Consultant, Advisor
- Sales, Commercial, Marketing, Supply
- Procurement, Buyer, Purchaser, Sourcing, Business Development
- Analyst, Intelligence, Strategy, Accountant, Finance, Investor Relations, Economics
- Other

Unique event distribution

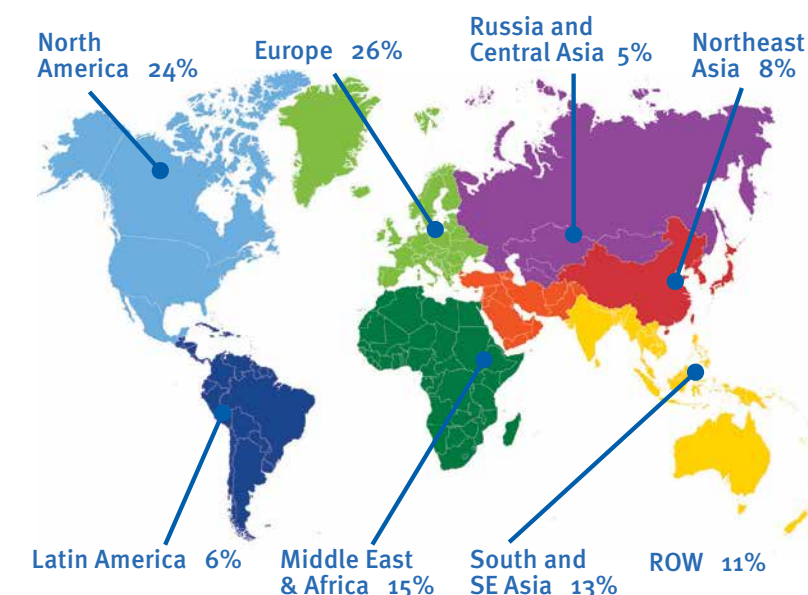
Fertilizer Focus is distributed to every one of the thousands of delegates attending Argus' fertilizer conferences around the world, and available at all of the major global and regional industry events.

Fertilizer Focus will continue to give you unrivaled events positioning. The pandemic temporarily restricted the ability of Argus and other events organizers to deliver physical events, but this is changing. Argus' industry leading conferences are returning in their traditional physical format and our magazine will be delivered to registrants at both physical and digital conferences.

Global distribution breakdown

Our geographic distribution is aligned with the broader Argus fertilizer customer base.

Regional distribution of Fertilizer Focus recipients



Argus events

- ▶ Fertilizer Latino Americano (FLA)
- ▶ Argus Asia Fertilizer
- ▶ Argus East Europe Fertilizer
- ▶ Argus Europe Fertilizer
- ▶ Argus Clean Ammonia
- ▶ Argus Vehicle Emissions and DEF Summit USA
- ▶ Argus Paris Grain Conference
- ▶ Argus Green Marine Fuels Conference

Global and regional industry events

- ▶ AFA Annual Fertilizer Forum & Exhibition, Egypt
- ▶ FAI Annual Seminar, India
- ▶ IFA Annual Conference
- ▶ IFA Crossroads
- ▶ Southwest Fertilizer, USA
- ▶ TFI Annual Meeting, USA
- ▶ TFI World Fertilizer, USA

Advertising rates 2025

Cover rates	
	USD
Outside front package	6,000
Inside front cover	3,740
Inside back cover	3,530
Outside back cover	4,080

Run of press rates	1 Issue	2 Issues (10% discount)	3 -5 Issues (20% discount)	6 Issues (30% discount)
	USD	USD	USD	USD
Double page	6,460	5,748	5,100	4,464
Full page	3,120	2,808	2,496	2,184
Half page	2,640	2,376	2,112	1,848
Third page	1,860	1,674	1,488	1,302
Quarter page	1,740	1,566	1,392	1,218

For more details or to discuss our requirements please contact
Stefan Worsley: stefan.worsley@argusmedia.com



Advertising specifications

Editorial & advertising schedule 2025	
Edition	Due date
January/February	6 December
March/April	14 February
Maj/June	11 April
July/August	13 June
September/October	11 August
November/December	10 October

SIZE & POSITION

Once you have booked your advertisement please ensure you supply the artwork at the correct size, as below. Please note: ‘Trim size’ is the actual size that the advertisement will appear in the publication. ‘Bleed size’ is the size your advertisement needs to be supplied to us including the required 3mm bleed (if full page). ‘Type area’ is the suggested area that any text or important information should sit within to ensure details have some clear space around them for clarity.

TECHNICAL SPECIFICATION

Please ensure your advertisement is produced professionally, and in accordance with the following criteria:

- ▶ All artwork should be CMYK colour (No Pantone/Spot colours)
- ▶ All fonts should be embedded or outlined
- ▶ All images within the artwork must be at least 300dpi resolution and in CMYK colour
- ▶ For Full Page adverts please include 3mm bleed and crop marks





FILE FORMAT & SUPPLY

Our preferred file type is a high resolution PDF to the the following specification when exported from Adobe InDesign:

- ▶ Adobe PDF Preset: PDF/X-4:2008
- ▶ Colour Profile: Coated FOGRA39 (ISO 12647-2:2004)

The above will ensure your advertisement appears in the best possible quality, however if you are unable to supply as a PDF we will accept a 300dpi JPEG or TIFF file in CMYK colour format.

If you have any queries regarding our specifications or to send us your files, please contact: Kate.Shanley@argusmedia.com

	Full page Trim size: 297mm(h) x 210mm(w) Bleed size: 303mm(h) x 216mm(w) Type area: 275mm(h) x 185mm(w)
	HALF PAGE (Horizontal) Trim size: 128mm(h) x 180mm(w) Type area: 118mm(h) x 170mm(w)
	HALF PAGE (Vertical) Trim size: 250mm(h) x 86mm(w) Type area: 240mm(h) x 76mm(w)
	THIRD PAGE (Horizontal) Trim size: 62mm(h) x 180mm(w) Type area: 54mm(h) x 172mm(w)
	THIRD PAGE (Vertical) Trim size: 122mm(h) x 112mm(w) Type area: 114mm(h) x 104mm(w)
Please note: Bleed is not required for Half Page and Third Page advertisements as these formats sit within the page, however we do recommend your advertisement includes a keyline/border if it has a white background.	

Fertilizer Focus

For advertising and editorial information please contact:
stefan.worsley@argusmedia.com

Brought to you by Argus Media

argus

INDEX TO ADVERTISERS

- 2 ICL Fertilizers
- 5 Argus Clean Ammonia Europe
- 9 Argus Fertilizer Europe
- 13 Argus Fertilizer Caspian, Black Sea and Eastern European Markets
- 21 EMT
- 41 Argus AgriMarkets
- 43 Sackett Waconia
- 51 Argus complimentary fertilizer market content
- 64 Argus Daily Fertilizer Price Assessments

PLANNING YOUR ADVERTISING BUDGET?

**Want the highest return on your spend?
Send for your Media Pack now!**

Fertilizer Focus is now circulated digitally giving advertisers the widest and highest quality distribution footprint:

- Fertilizer Focus is sent digitally to all Argus subscribers to its fertilizer price and market reports, and analytics services.
- This gives advertisers a global reach to many thousands of qualified individual fertilizer influencers.

Fertilizer Focus guarantees the advertiser:

- Regular and wide distribution
- Conference representation with **Fertilizer Focus** displayed at all Argus, IFA, TFI, AFA and other major conferences
- A quality product with no issue less than 60 pages and a copy to advertising ratio no lower than 60:40
- An experienced editorial team who pursue a progressive editorial policy
- Regular contributions giving insight on global fertilizer markets from Argus's sector leading team of market reporters and analysts.

For more information and to take a look at our media pack please contact **Stefan Worsley:**

stefan.worsley@argusmedia.com
+44 (0) 7711 564 219

Fertilizer Focus



argusmedia.com

Fertilizer Focus

Argus

Lacon House, 84 Theobald's Road,
London, WC1X 8NL

Tel: +44 (0)20 7780 4340

Email: fertilizer@argusmedia.com

www.argusmedia.com/fertilizer

Publisher:

Adrian Binks

Editor:

Stefan Worsley

stefan.worsley@argusmedia.com

Contributors:

Meena Chauhan, Sophie Mason,
Claire Lloyd, and David Riley

Production:

Ernest Worsley Publishing Ltd

www.ernestworsleypublishing.com

Design:

David Barden Creative Ltd

www.davidbardencreative.co.uk

Copyright © 2025 Argus Media Group

All rights reserved. All intellectual property rights in the data and other information presented in this publication (the Data) belong to Argus and/or its licensors. The Data may not be copied or reproduced, stored in a retrieval system or transmitted in any form or by any means or for any purpose whatsoever without the prior written permission of Argus. The Data is provided on an "as is" basis and Argus gives no warranties, express or implied, as to the accuracy, adequacy, timeliness, or completeness of the Data or fitness for any particular purpose and gives no warranty that this file is free of any virus or other harmful code or matter. Argus shall not be liable for any loss, claims or damage arising from any person's access to or reliance on the Data and disclaims any and all liability related to or arising out of use of the Data to the full extent permissible by law.

ARGUS, ARGUS MEDIA, the ARGUS logo are trademarks of Argus Media Limited.
Visit www.argusmedia.com/trademarks for more information about these and other Argus trademarks.

ISSN 2631-7591

IN THE NEXT ISSUE...

SPECIAL FOCUS: CLEAN AMMONIA

- Clean ammonia for agricultural uses
- Hydrogen transport and infrastructure
- Case study: Blue ammonia

SUPPLEMENT: MIDDLE-EAST

- Impact on fertilizers from Middle-East conflicts
- GCC investments
- Regional innovative technologies

Nitrogen

- **Prilled:**
 - China fob
- **Granular:**
 - Egypt fob
 - Brazil cfr
 - Nola (US Gulf) fob \$/st

Ammonia

- East Asia cfr (excluding Taiwan)
- Middle East fob

Phosphates

- DAP fob China
- DAP cfr India
- MAP cfr Brazil
- DAP barges fob Nola
- MAP barges fob Nola

Sulphur

- China cfr granular \$/t
- China domestic (ex works) Yn/t

Work smarter with groundbreaking daily fertilizer price assessments from Argus

Argus daily price assessments provide you with unique benefits, including



Greater certainty

Increased price frequency gives you immediate clarity for volatile markets.



Lower risk

Additional data points ensure your business calculations are more robust.



Smarter outcomes

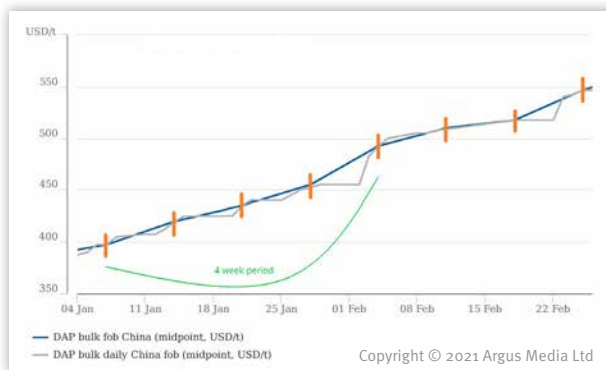
Daily data powers the most sophisticated data analysis and algorithmic trading tools.



Increased confidence

Access editorial staff in key global fertilizer hubs: Widest geographical reach and rigorous methodological adherence.

Sharp price action captured earlier with daily assessment



Over the highlighted 4 week period (7 Jan to 4 Feb 2021) the price of DAP fob China grew from \$397.50/t to \$492.50/t, an increase of 24%. The blue line on the graph, marked by the 5 weekly prices over this period (orange) clearly highlights this price growth. However, the 21 daily prices over this same period (grey line) provide greater detail on how this price growth was achieved.

For more information please contact us: fertilizer-m@argusmedia.com www.argusmedia.com/fertilizer