

The Nitrogen Market - Fertiberia

- Presentation of Grupo Fertiberia
- Market Environment
- Trends of supply and demand on Nitrogen
- Impact of some of the actual events on the world market
- The case of European market
- Conclusion : the future of European production - the choices of Grupo Fertiberia

GrupoFertiberia

Grupo Fertiberia: Leading Fertilizer Producer in the Iberian Peninsula

OVERVIEW

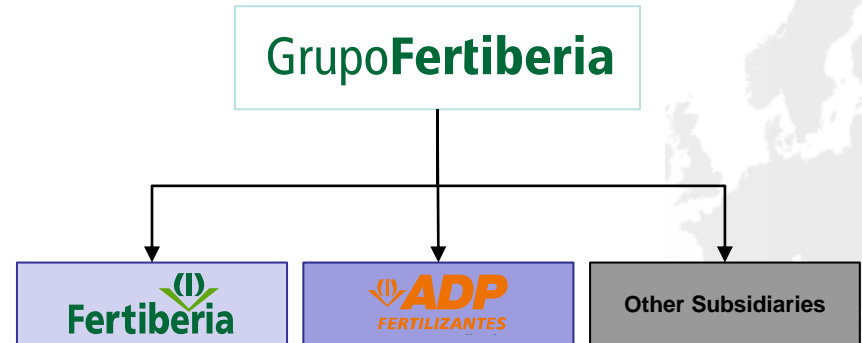
Leading producer of fertilizers and industrial products in the Iberian Peninsula, with a production capacity of c.5.5m tonnes/year

30% market share in Spain and 62% in Portugal in 2018

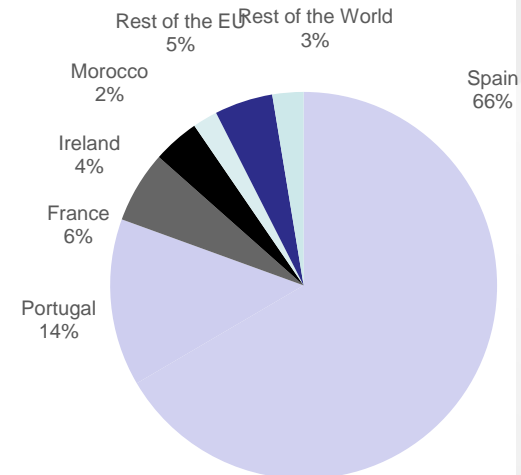
Production of traditional and special fertilizers for extensive dry land crops, traditional irrigation and drip irrigation as well as industrial products

14 manufacturing facilities located in Spain, Portugal and France

KEY BUSINESS UNITS

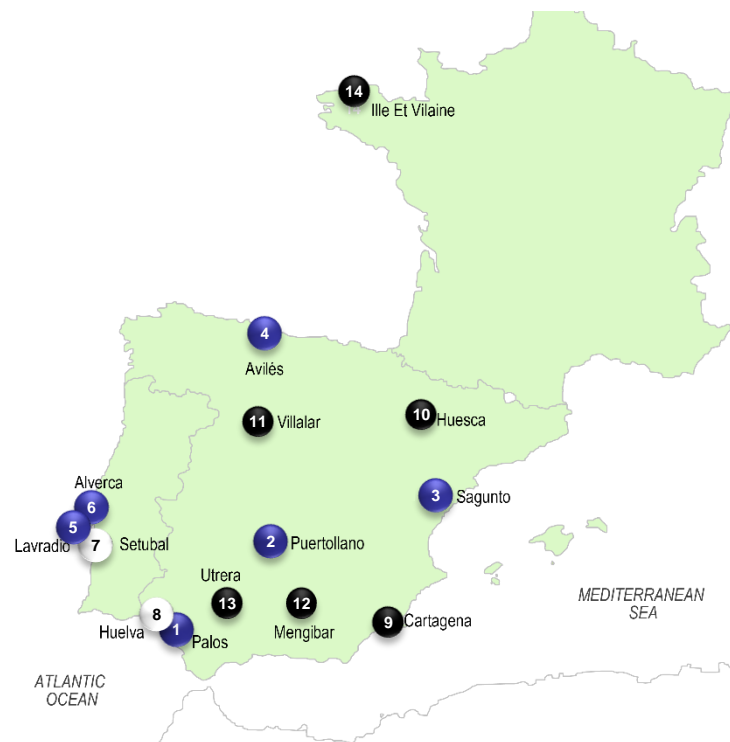
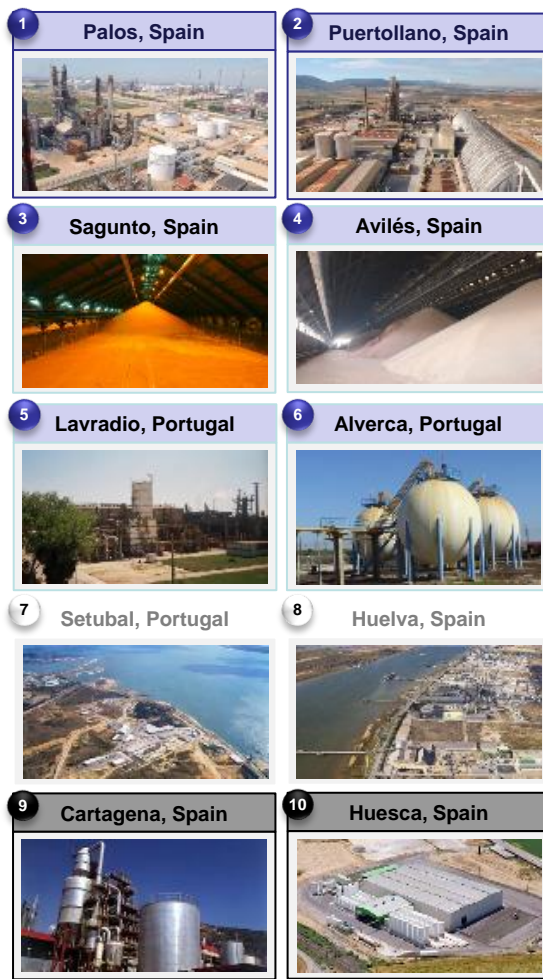


2018 SALES SPLIT BY GEOGRAPHY



Manufacturing Facilities

4 manufacturing facilities across 3 different countries with a total capacity of c.5.5m tonnes/year.



Gas-Based
Ammonia to Nitrates
NPKs
Other Facilities

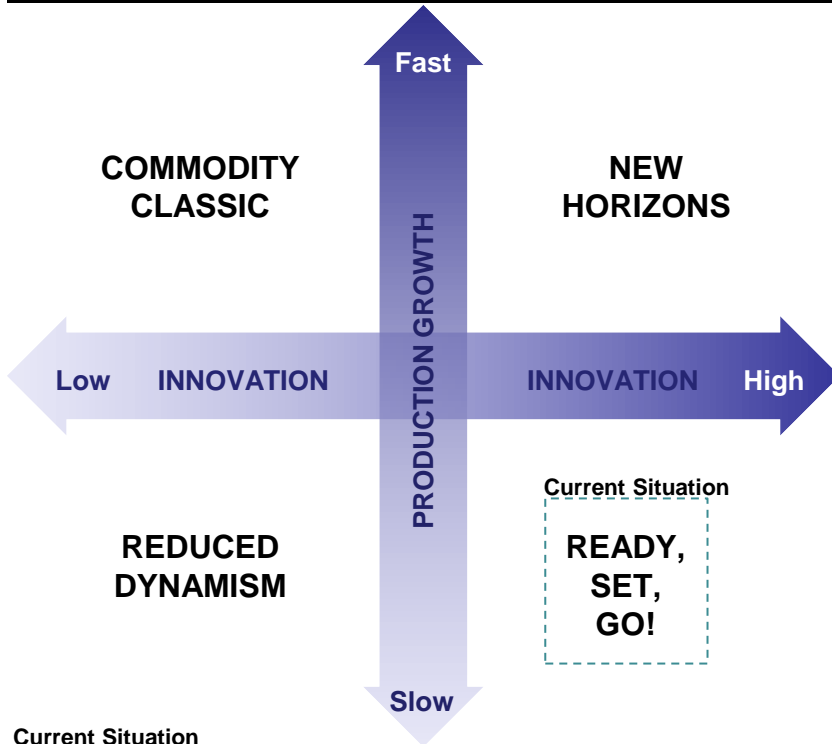


Grupo Fertiberia, one of the most complete range of fertilizers

		Fertiberia	Competitor	Competitor	Competitor
PRIMARY PRODUCTS	Ammonia	✓	✓	✓	✓
	Phosphoric Acid	✗	✓	✗	✗
FERTILIZERS FOR EXTENSIVE AGRICULTURE	CAN	✓	✓	✓	✓
	CAN + S	✓	✓	✗	✓
	Ammonium Nitrosulphate	✓	✗	✗	✗
	Urea fertilizer grade	✓	✓	✓	✓
	Protected UAS	✓	✓	✗	✗
	Advanced NPK (coated, reinforced) TECH	✓	✓	✗	✗
	Adapted NPKs Classic +	✓	✓	✓	✗
	Classic NPKs	✓	✓	✓	✗
	Nitrogen solutions	✓	✓	✓	✓
	MAP/DAP	✗	✗	✗	✗
	SSP/TSP	✓	✗	✗	✗
	PKs	✓	✗	✗	✗
	FERTILIZERS FOR INTENSIVE AGRICULTURE	Nitric Acid fertilizer grade	✓	✓	✓
Protected Nitrate solution		✓	✓	✗	✗
Soluble Ammonium Nitrate		✓	✓	✓	✗
Calcium Nitrate crystal		✓	✗	✗	✗
Granulated Calcium Nitrate		✓	✓	✗	✗
Potassium Nitrate crystal		✓	✗	✗	✗
Magnesium Nitrate crystal		✓	✗	✗	✗
Calcium Nitrate solution		✓	✓	✗	✗
Magnesium Nitrate solution		✓	✗	✗	✗
Crystal Urea		✓	✓	✗	✗
NPK Solutions		✓	✓	✓	✗

Market environment

GLOBAL AGRICULTURAL PARADIGM



Current Situation

- Limited additional arable land results in lower production growth
- Focus on agricultural technology leads to increased emphasis on innovation
- Higher yields supported by current suite of available agrochemicals and fertilisers

MARKET ACTORS SUPPORTING CHANGE

FARMERS	<ul style="list-style-type: none"> • Better educated than before with higher productivity and able to run larger operations
REGULATION	<ul style="list-style-type: none"> • Use of nutrients increasingly heavily regulated • Decarbonisation is an important driver of legislation
CONSUMERS	<ul style="list-style-type: none"> • The increase in population, together with the rising food demand, will trigger an increase in global food requirement (+72% from 2000-2050) • Growing middle class consuming more food and more fertilizer intensive food per capita

Source: IFA, IHS.

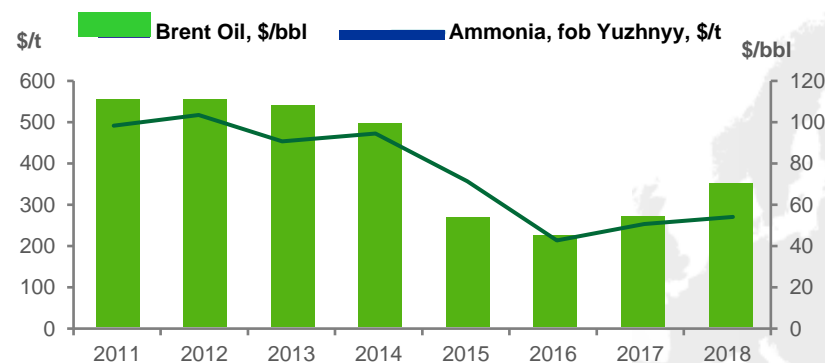
Market environment to date

DEVELOPMENTS

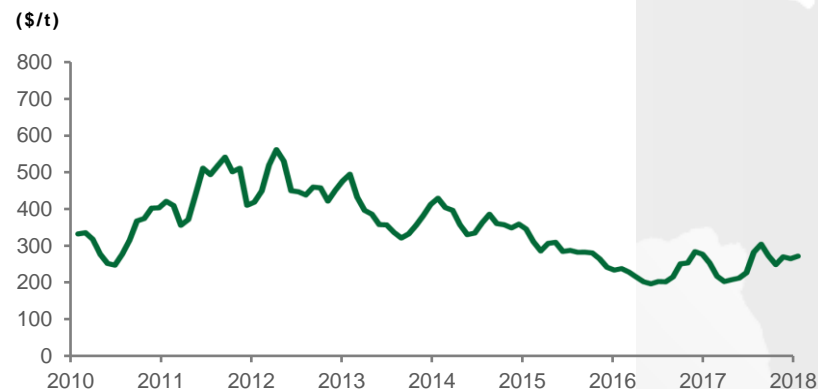
- After a period of high prices the fertilizer sector began its bearish phase in 2013, reaching minimum levels in the second half of 2016
- Main reasons of the bearish cycle were:
 - Strong increases in production capacity in the US (derived from lower prices of natural gas-shale gas-) and other geographical areas
 - Overcapacity of ammonia and fertilizers production drove ammonia and fertilizers prices to historical low levels
 - Growth of China's exports, which in 2011 went from level of 3m tonnes of urea to more than 13m tonnes in 2014 and 2015 respectively
 - General weakness of emerging economies (large importers) derived from multiple factors (economic deterioration, currency depreciation (i.e. Real, Rupee, etc.))
 - Weakening of agricultural prices (3 consecutive years of production records, weakness in oil prices and other commodities)

Source: Fertecon.

AMMONIA PRICE EVOLUTION



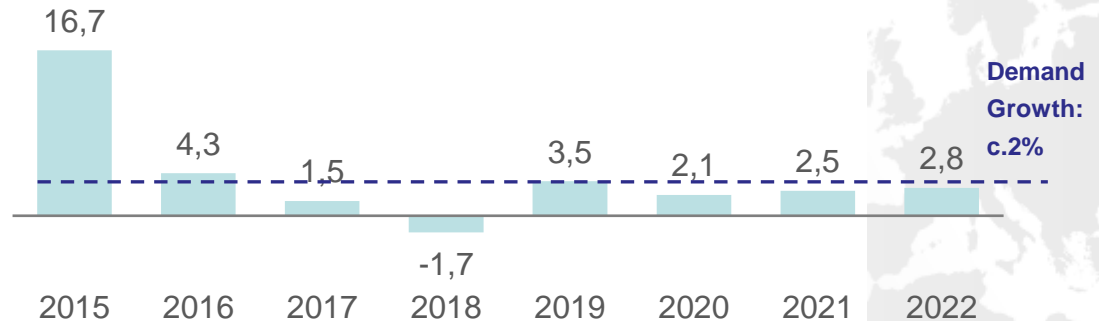
UREA PRICE EVOLUTION



NITROGEN SUPPLY FORECASTED TO BE REDUCED SIGNIFICANTLY

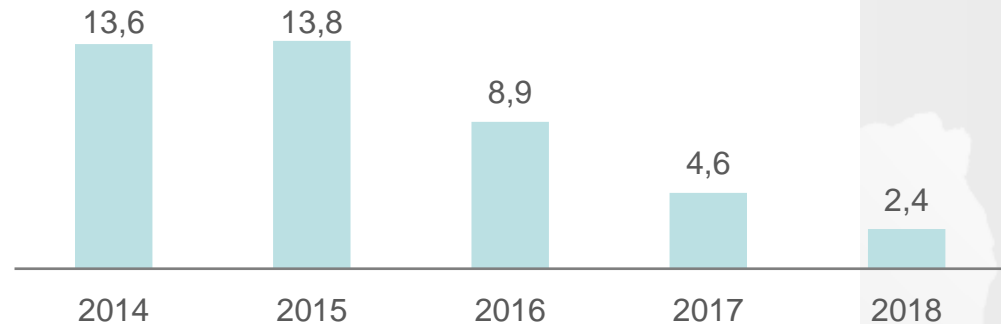
- Nitrogen supply growth largely expected to grow well bellow nitrogen demand in the long-term (consistent global nitrogen demand with 2-3% p.a. growth)

NET UREA CAPACITY ADDITIONS (MILLION TONNES)



- China's urea exports continue to decline (higher coal prices / newly imposed environmental regulations). Iranian sanctions have also curtailed global supply

ANNUAL UREA CHINESE EXPORTS (MILLION TONNES)

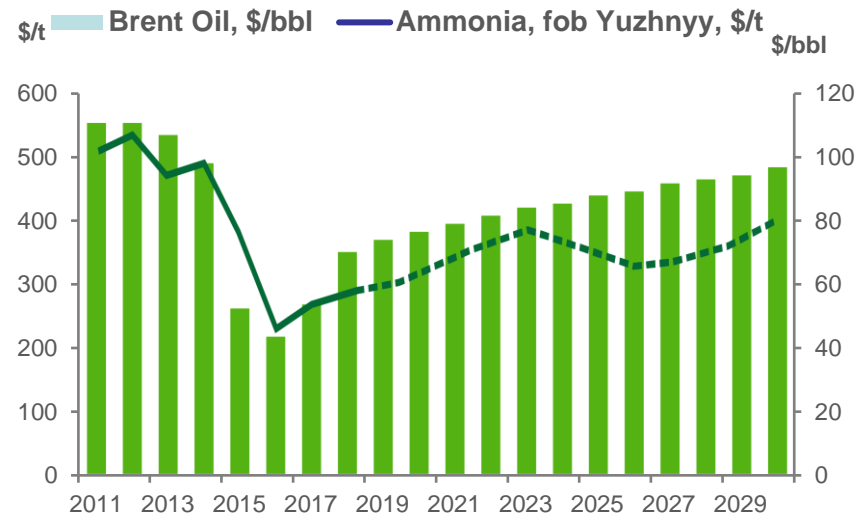


Source: CF Industries.

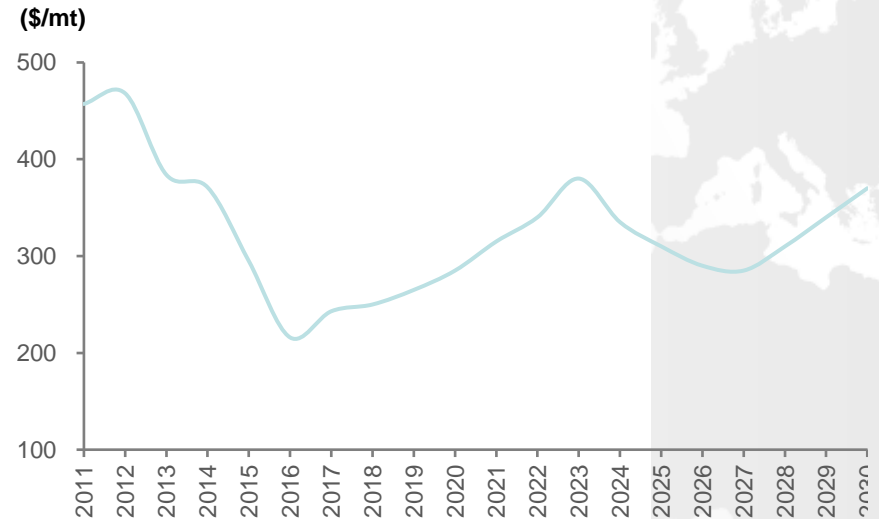
Future pricing dynamics

Multiple indicators imply that the market is heading for a strong pricing environment, which should accelerate from 2019 onwards.

AMMONIA PRICING EVOLUTION



UREA PRICING EVOLUTION



- Ammonia pricing closely linked to the price of oil
- Recent uptick in prices supported by Fertecon forecasts of a long term oil price of ~\$98 a barrel implying an ammonia price in the future of c.\$400 per tonne

- Urea pricing has fallen through declining input pricing and increased global capacity
- Urea pricing expected to increase in future through increased input pricing and slowing increase in supply

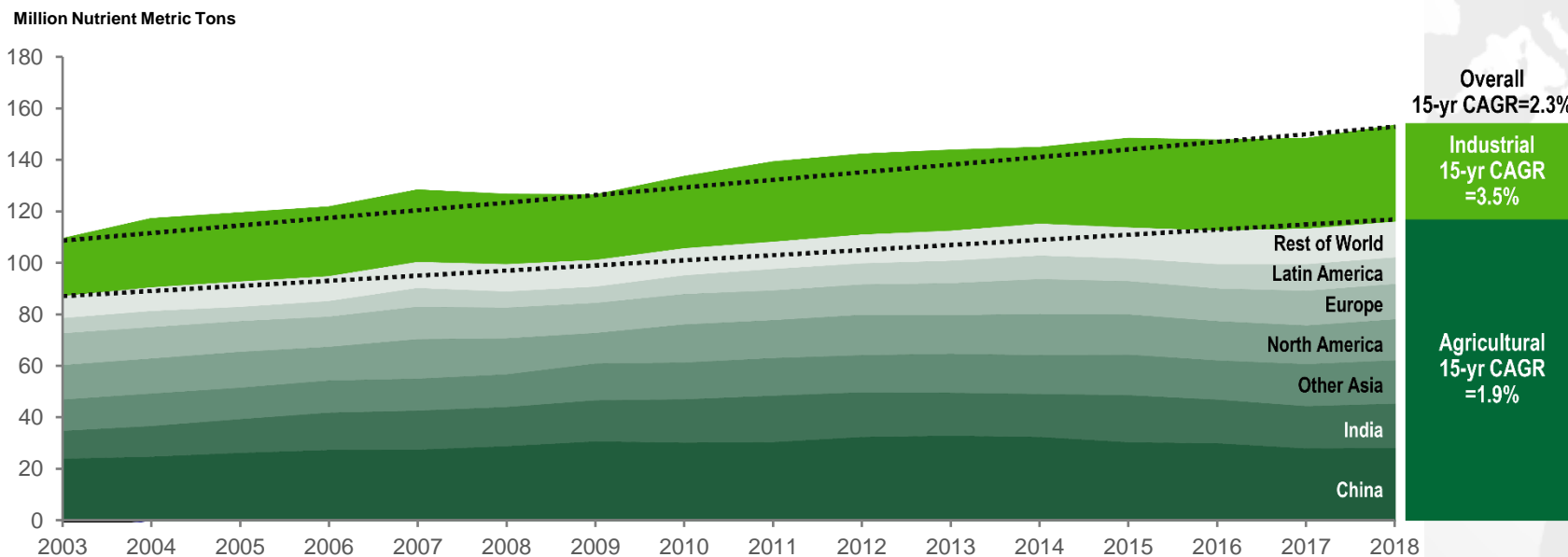
Source: Fertecon.

DEMAND EXPECTED TO GROW STEADILY

Expected global nitrogen demand growth driven by:

- Global population expected to increase 1% per annum
- Global GDP expected to increase 2-2.5% per annum, increasing personal income
- Industrial growth driven by increased adoption of emission control, industrial intermediates, and recovering mining sector

TOTAL NITROGEN CONSUMPTION 2003-2018⁽¹⁾



Source: Fertecon, IFA, AAPFCO, Fertilizers Europe, ANDA, IMF, World Bank, OECD, FAO, CF Industries
 (1) 2003-2017 actuals, 2018F. CAGRs calculated as 2018 over 2003 demand.

Actual events and outlooks

- **Iran /US relations :**

- Just before 2017, Iran was positioning itself as a new sourcing of urea on the market
- The ban imposed by USA since has cancelled any hopes of exports. There is no expectation of situation improvement on short term, urea being part of the sensitive products.

- **USA commercial war :**

- Restriction on US grain exports to China is supposed to have direct consequence on fertilizer consumption on domestic market
- US N market is an exporting market on Nitrogen Fertilizer, and is expected to be more aggressive towards Europe in the near future
- The adoption of antidumping measures on UAN against USA is part of the conflictual relations with USA

- **Brexit :**

- Who knows?
- But in case of hard Brexit most evident consequences will be :
 - EU import duties and Anti dumping duties against Russia and US supposed to be removed on UAN and AN.
 - More imports to UK coming from overseas production, less competitiveness for continental Europe producers
 - Unknown consequence on the European Emission Ceiling Directive application (see next slides)

Source: Fertecon, IFA, AAPFCO, Fertilizers Europe, ANDA, IMF, World Bank, OECD, FAO, CF Industries
(1) 2003-2017 actuals, 2018F. CAGRs calculated as 2018 over 2003 demand.

The case of Europe

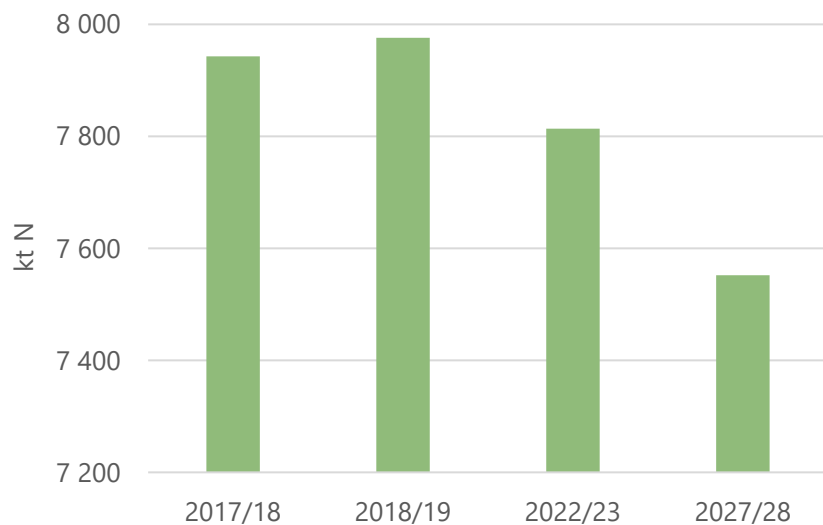
European market : some basics

- **European (EU 28) Market with 11mt nitrogen for agriculture represents approx.10% of the total world N market**
- Only 21% of this consumption is Urea which is the leading reference on the world market (60% of world nitrogen). This % is stabilizing since a few years.
- UAN represents 13% of Nitrogen, but 55% is pouring into French market
- **European producers are net importers of Ammonia**
Europe does not strictly follow the trends of the world urea but rather the trends of the free ammonia market which is imperfectly correlated to urea trends.

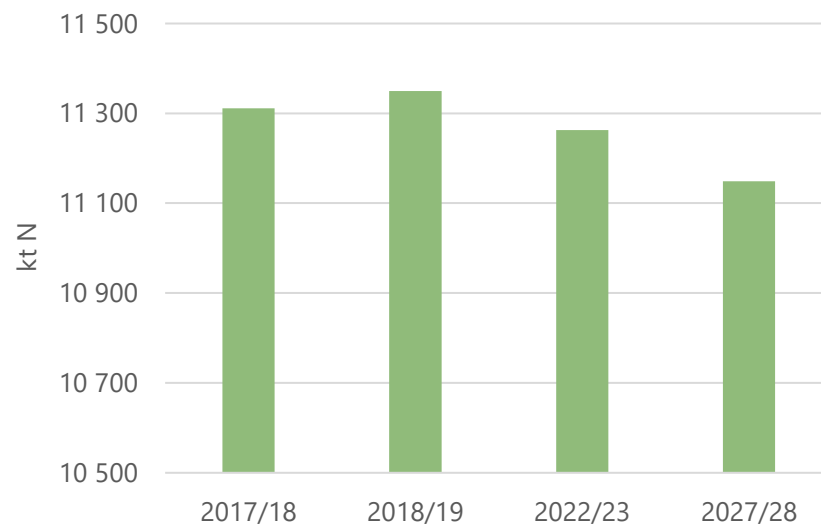
N CONSUMPTION IN THE UE

Decline in the N consumption in the UE

UE 15



UE 28



Source: Fertilizers Europe, 2018

The case of Europe

- The impact of sustainability sensitiveness
 - Europe is the only place in the world where consumption of fertilizers is stable , and in the case of WE even regularly declining , including on Nitrogen
 - The impact of organic food is sharply hitting some traditional N consuming sectors such as dairy, and probably explains the decline of nitrate consumptions in the last years
- The impact of legislation and regulation
 - European producers are the most pressurized producers in the world , which keeps their unit costs higher than in any other area despite heavy investments in productivity. The offer of European production is condemned to continue restructuring , cost cutting and change of product mix strategy.
 - Strong regulation coming on GHG emissions and all toxic gas emissions is to change the frame of Nitrogen form to be used in the near future : ban of plain urea use (Germany), new taxation projects, ...

European markets are becoming niche markets and will be less attractive for low cost/low standard producing countries

Therefore, a growing part of the market will be less depending on traditional fundamentals of the world trends

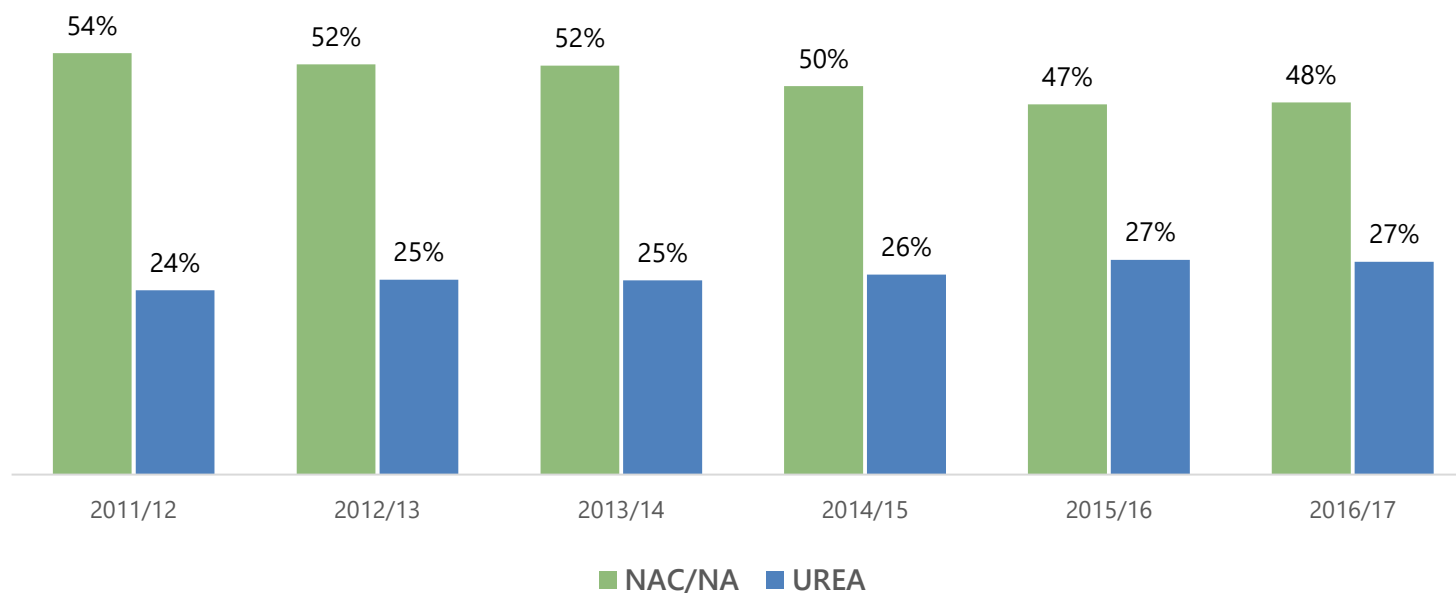
EMISSION REGULATION IN THE EU

- European Emission Ceiling Directive (Directive (EU) 2016/2284), adopted by the EU: reduction targets for 2020 and 2030 for certain gases, NH₃ among them.
- Regarding NH₃, the main pollutant derived from Agriculture and livestock:
 - Very ambitious reduction commitments by 2030: 32% in Hungary, 29% in Germany 26% in Spain and 13% in France.
 - 94% of total emissions are of agricultural origin; only 20% come from fertilizers, the rest, from livestock.
 - Although emissions decreased between 2000 and 2015 in the UE 28, they increased in the last tracked years.
 - Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions, developed by United Nations Economic Commission for Europe (UNECE) proposes a number of measures relating to the manure management, the use of mineral fertilizers minerals or cattle feed strategies
 - European Emission Ceiling Directive, based on this Code, proposes measures as **the use of fertilizers based on ammonium nitrate instead of urea.**
 - Based on this, EU members are preparing their own Action Plans.

NITROGEN FERTILIZERS CONSUMPTION

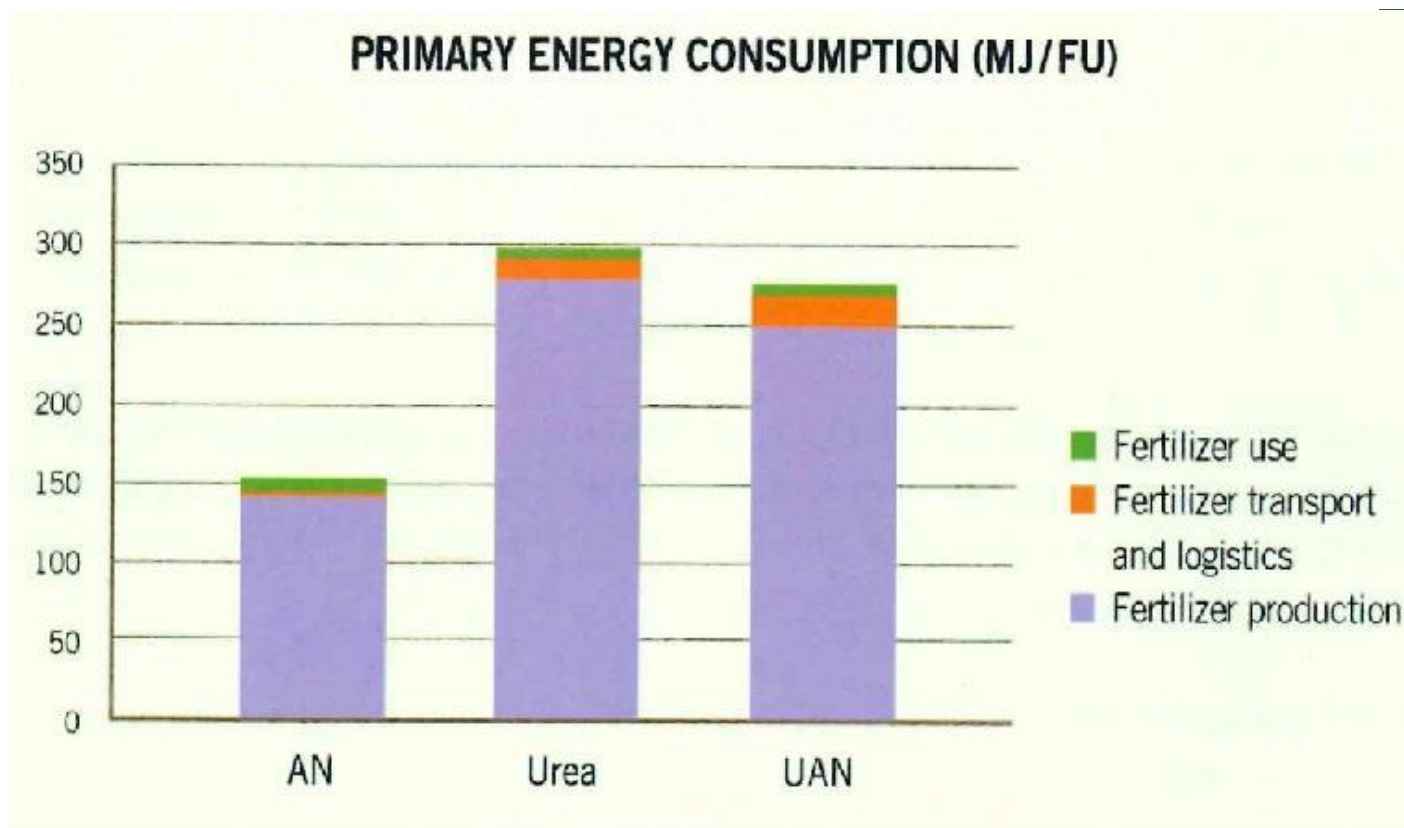
Contrary to what was established in the regulations, the consumption of CAN/AN in the EU, in relation to the total consumption of nitrogen fertilizers, is decreasing in comparison to urea and UAN

Urea and nitrates consumption percentage in the EU



Source: Fertilizers Europe, 2017

ENERGETIC CONSUMPTION IN THE UREA/AN/UAN LIFE CYCLE



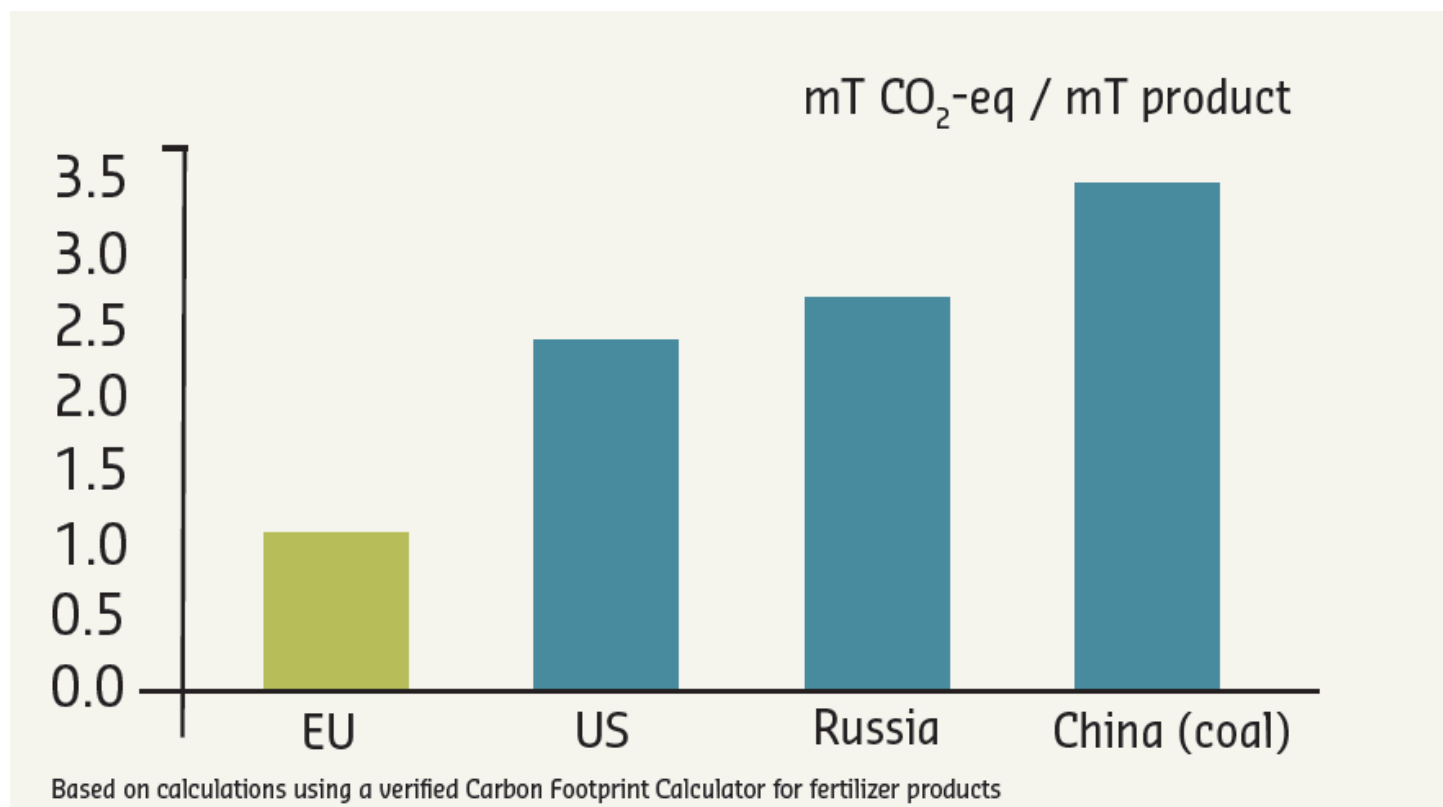
Fuente: CORPEN*, 2006; UNECE**

Ammonia synthesis, precursor of nitrogen fertilizers, accounts for 4% of the total energy consumed in the industrial sector globally (Pach, 2007).

*CORPEN: Comité d'Orientation pour des Pratiques agricoles respectueuses de l'ENvironnement

**UNECE: United Nations Economic Commission for Europe

AN CARBON FOOTPRINT BY REGION



Source: Fertilizers Europe, 2012

Measures adopted by European Fertilizer Industry in order to:

- Improve energetic efficiency.
- Reduce emissions.



THE MOST EFFICIENT IN THE
WORLD! THE ONE WITH LOWEST
CARBON FOOTPRINT

REGULATION REGARDING UREA APPLICATION IN EU MEMBERS

GERMANY: since february 2020, all urea based fertilizers, will only be able to be used if:

- They have urease inhibitors.
- They are buried within a maximim of 4 hours from their application.

Verordnung zur Neuordnung der guten fachlichen Praxis beim Düngen. Vom 26. Mai 2017

FRANCE: See presentation from Mr Vericel

UNITED KINGDOM: CLEAN AIR STRATEGY 2019: proposals for farmers to reduce their ammonia emmisions:

- Good Practices Code (COGAP).
- Infrastructure and Equipment Investments
- Future Soil Environmental Management System, which will be financing especific measures in order to protect habitats affected by ammonia.
- Regulations to reduce this emisiones (nitrates use versus urea).

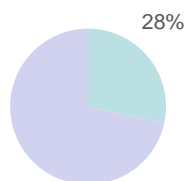
Clean Air Strategy 2019

Other EU members are studying nowadays similar measures, all orientated to reduce ureic nitrogen use

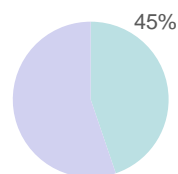
The response of Fertiberia: Shifting towards N+S and special products

PRODUCT MIX EVOLUTION

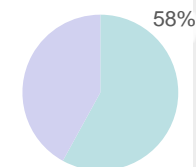
REVENUE
BREAKDOWN



2013



2018



2023

Special Products

Traditional Products

Fertiberia Tech – Key Products

Products

Overview



- Complex fertilizers with enhanced nutrients
- Formulated with C-VIDA Technology, based on the action of beneficial microorganisms and their metabolites, that stimulate the microbial life of the soil, promoting enzymatic activity and the availability and efficiency of the use of nutrients by plants



- Launched in January 2019
- Formulated with AntiOX technology, based on an activated complex of siliceous minerals that increase the antioxidant content in plants, selectively regulating the circulation of nutrients at the xylem level, making the crops more efficient and more profitable



- Nitrogen fertilizers and complex fertilizers of high nitrogen concentration with protected nutrients
- Formulated with C-PRO Technology, based on the action of a regulating polymer that covers the fertilizer, protecting its nutrients from losses, such as leaching and volatilization, increasing its availability for plants

Fertiberia Tech

