

## **Fertilizers – An in-depth introduction**

### **Module 1 (3 hours and 10 minutes)**

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| <b>10 minutes</b> | <b>Welcome and introduction to the course</b>   |
| <b>45 minutes</b> | <b>Understanding agriculture, soil, and crop science</b> <ul style="list-style-type: none"><li>• Basics of agriculture: What the industry needs to know</li><li>• Insight into different types of soil and crop seasonality across the globe</li><li>• Types of crops and their applications</li><li>• Future trends in the agriculture sector</li></ul>  |
| <b>15 minutes</b> | <b>Break</b>  |
| <b>1 hour</b>     | <b>Ammonia</b> <ul style="list-style-type: none"><li>• Introduction to the value chain</li><li>• Production and trade</li><li>• Factors influencing the international market and prices:<ul style="list-style-type: none"><li>○ Billions of dollars are being poured into blue and green ammonia projects worldwide as part of an international decarbonisation drive, but where and why?</li><li>○ Designated as the vector for hydrogen transportation, ammonia has a crucial role to play in the battle against climate change</li><li>○ The race to develop ammonia-fuelled marine vessels is well underway, but what will this mean for the industry, how much extra capacity might be needed by 2050?</li></ul></li></ul> |
| <b>1 hour</b>     | <b>LNG market overview</b> <ul style="list-style-type: none"><li>• Insight into global LNG production</li><li>• Understanding trading dynamics within the LNG industry</li><li>• Factors influencing changes in market and prices: What it means for the fertilizers business</li><li>• Emerging trends in the LNG market</li></ul>   |

### **Module 2 (2 hours and 15 minutes)**

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| <b>30 minutes</b> | <b>Potash</b> <ul style="list-style-type: none"><li>• Introduction to the value chain</li><li>• Supply and major producing countries</li><li>• Factors influencing the international market and prices:<ul style="list-style-type: none"><li>○ Global potash market: A "big-three" producer-led industry</li><li>○ How smaller projects might redefine trade flows</li><li>○ Belarusian sanctions – and their effects on future supply and demand balance</li></ul></li><li>• Future trends: What lies ahead?</li></ul> |
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**15 minutes**

**Break**

**1 hour & 15 minutes Urea and other nitrogen products**

- Introduction to the value chain
- Urea production and trade flows
- Factors influencing the international market and prices
  - How will the global urea market be impacted by emission cuts?
  - Insight into new capacity in West Africa
  - India's buying pattern in 2021 and its impact on the global market
- Future trends: What lies ahead?

**15 minutes**

**Nitrates**

**15 minutes**

**Summary and conclusion**

**Module 3 (2 hours and 45 minutes)**

**1 hour & 15 minutes Sulphur and sulphuric acid**

- Introduction to the value chain
- Production and trade, main players
- Factors influencing the international market and prices:
  - The difference between smelter and burner acid
  - How exposed is the global sulphuric acid market to trends in related industries?
  - Could China become a global superpower in acid?
- Future trends: What lies ahead?

**15 minutes**

**Break**

**45 minutes**

**Phosphate products**

- Introduction to the value chain
- Phosphate products described
- Factors influencing the international market and prices:
  - Affordability of phosphates in India with high raw material prices and the role of the domestic maximum retail price (MRP)
  - US import duties on Russian and Moroccan phosphates and how they will affect availability in North America
  - Sufficiency of global phosphates supply from China and production ramp-ups in other regions
- Future trends: What lies ahead?

**15 minutes**

**Summary and conclusion**