

Knowledge grows

Yara International ASA

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Geopolitical situation strengthens business case for operational flexibility and resilience





Low carbon ammonia offers an attractive solution to decarbonize hard-to-abate sectors...





Source: "Net-Zero Europe", McKinsey & Company, 2020; "Global Carbon Budget 2021", Global Carbon Project, 2021; Arkwright market study 2021

- Based on direct EU emissions in CO2 equivalents
- 2) KPIs include density, cost, scalability and distribution

... through being a superior low carbon solution across four sizable segments







Source: Company information; Arkwright market study 2021

- 1) Source: "Reversible ammonia-based and liquid organic hydrogen carriers for high-density hydrogen storage: Recent progress", International Journal of Hydrogen, 2019
- 2) At 1% extra cost on a loaf of bread, clean ammonia can deliver a 15-30% reduction in carbon footprint

Significant expected ammonia demand driven by a mix of conventional and new applications

The demand for ammonia is expected to grow significantly to 2050



Key market drivers



Shipping fuel

Adoption expected to increase rapidly from 2030E driven by anticipated **regulations and customers' environmental focus**

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Power generation

Market players expect **40-50% co-firing on operational coal-fired plants** in selected countries by 2050E, driven by Japan, Korea and Taiwan

Agriculture/Industrial

High-value brands with ability to achieve up to **20% premium on sustainable-labelled food products,** highlighting strong adoption incentive. Ammonia market for fertilizer is anticipated to continue to grow

Hydrogen carrier

Market based **on Europe as major import hub** for cheap renewablebased hydrogen and **Japan as key import market in Asia**



Unrivalled ammonia system is Yara's core competitive edge

Yara's global ammonia system



- World's largest ammonia system, highly scalable
- Balance between asset-backed and third-party sourcing provides unique flexibility, market insight, and competitive supply
- Unique ability to optimize offtake based on value creation:
 - 1-3 million tonnes of internal high-value demand in the Yara system
 - Yara is in a pole position to serve new markets for low-emission ammonia and crop nutrition
 - Flexibility to handle shifts in market development and regulatory change

Countries present²

Third-party terminals



YCA is the clear #1 in ammonia, built on a global integrated business model backed by Yara



Asset-backed and active across the value chain from sourcing to sales, YCA has >20% market share³ in traded ammonia



Source: Company information

- 1) Including leased and YCA-owned vessels
- 2) YCA has exclusive access, and manages and optimizes use of Yara's ammonia tank infrastructure at terminals through sourcing and supply agreements with Yara
- 3) Based on volumes of traded ammonia in 2021 Argus market study (2022)

Equity investment in US ammonia can create significant shareholder value, given Yara's unique position

Illustrative ammonia cash cost USD/t



- Competitive gas and well-advanced onshore CCS
- Yara's unique capability for value-creation:
 - Off-take security through own consumption
 - Higher scale and lower capex per tonne
 - Attractive project partner sharing equity and risk
- Strong US ammonia project track record

FID planned 2H25 – provided projects are set for strong double-digit returns



- Assumptions European ammonia production cash costs: gas price*37+70. 2 MtCO2/t NH3, EU ETS 100 USD/tCO2e
- Assumptions US production cash costs: gas price*35+50, 1.7 tCO2/t NH3, 45Q tax credit 85 USD/t CO2, 95% capture rate
- Gas price HH: 4 USD/MMBtu and TTF: 8 USD/MMBtu as illustrated in 2023 Capital Markets Day.

Ammonia system and EU set-up positions Yara for increased nitrate and NPK margins

European nitrate upgrade position

USD/t, Urea equivalents



illustrative nmargin above ammonia cost³

Premium NPK and nitrate capacity are well aligned with lower carbon future as:

- NPK and Nitrate capacity can be operated on imported (low-emission) ammonia
- CBAM and ETS likely to lift prices on urea in Europe, driving margins for low-carbon footprint nitrates and NPKs



2)

Historical values for period season 2012/13-2021/22, based on market publications Urea Granular FOB Egypt + 50 USD/t in transport N-margin above ammonia cost before upgrading cost and freight cost to market **Scenario assumptions**: average historical nitrate premium above historical urea price, carbon cost of 100 USD/t CO2 (approx. 1 tonne CO2 per tonne urea), cost of ammonia from US based on 4 USD/MMBtu * 35 + 50 USD/t other cash cost, 140 in 45Q tax credits plus 50 USD/t NH3 freight to Europe

Focus on high-return core operations and growth, future-proofing to increase profitability and value creation

