LEAD MARKET FOR FERTILISERS

What are the market perspectives?

Hydrogen Europe

80% of ammonia is used in the production of fertilisers

CO2 emissions of the ammonia industry represents **~17 Mt CO2** per year

In 2023, **~12.7 Mt of ammonia-based fertiliser** was consumed; ~9.3 Mt imported and ~5.4 Mt exported

WHERE ARE WE TODAY

- Although there are currently 3 clean ammonia operational in Europe, accounting for around 6.3 kt/year of H2 produced, only one is currently in FID. This shows that developers are cancelling their investments in the sector due to market uncertainties.
- RED III industry targets could result in considerable RFNBO demand, but implementation remains uncertain with potential exclusion of ammonia to reach industrial targets.
- Even with a CBAM cost, imports of grey ammonia would be cheaper than EU production as long as the cost difference is not higher than 1.7 €/kg. Until that point, CBAM is ineffective in preventing carbon leakage.

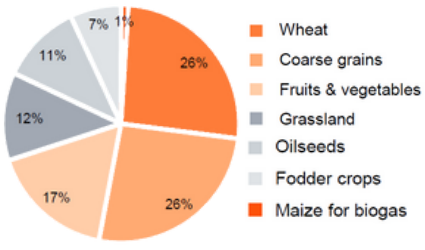
KEY FINDINGS

Clean fertiliser production becomes economically viable vs. grey fertiliser **only after 2050**

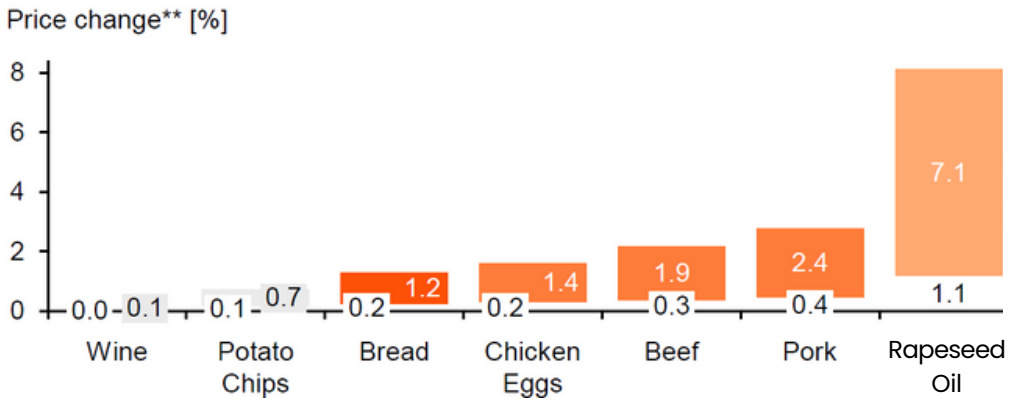
To close the gap EUA prices must rise to **at least 563 €/tCO2**

The price impact on end-products is marginal, even if 100% clean fertilisers are used

Nitrogen-fertilizer use by crop:



Effect of price change by clean fertilizer for end products



POLICY RECOMMENDATIONS

- Establish a **food-based levy-financed CfD model** for ensuring offtaking of clean and low-carbon fertilisers and **creating a market environment which ramps up demand.**
- **Implement a bonus model** that directly compensates the use of of renewable or low-carbon fertilisers **in specific value chains** where the green premium can be absorbed by final consumers.
- Develop **clean and low-carbon fertiliser certification** as a horizontal enabler, embedded in existing legislation such as the Fertilising Products Regulation and CAP eco-schemes.

Curious to know more about green lead markets? Check out the PwC report "Hydrogen lead markets framework study" available here: https://hydrogeneurope.eu/in-a-nutshell/reports/

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