



Knowledge grows

# IEA *Renewable Energy for Industry – Ammonia*

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# Outline

1. Yara at a glance
2. Sustainability ambition
3. Ammonia production of today generates CO<sub>2</sub> emissions
4. A future of emission free production
5. Ammonia as energy carrier

# Yara is a global crop nutrition and industry solutions company

Close to

**15,000**

employees

Sales to about

**160**

countries

Revenue

**NOK 95.2**

**Billion**

(USD 11.4 Billion)

In 2016

## Crop nutrition products

- Complex fertilizers (NPK)
- Urea
- Specialty fertilizer

## Industrial products

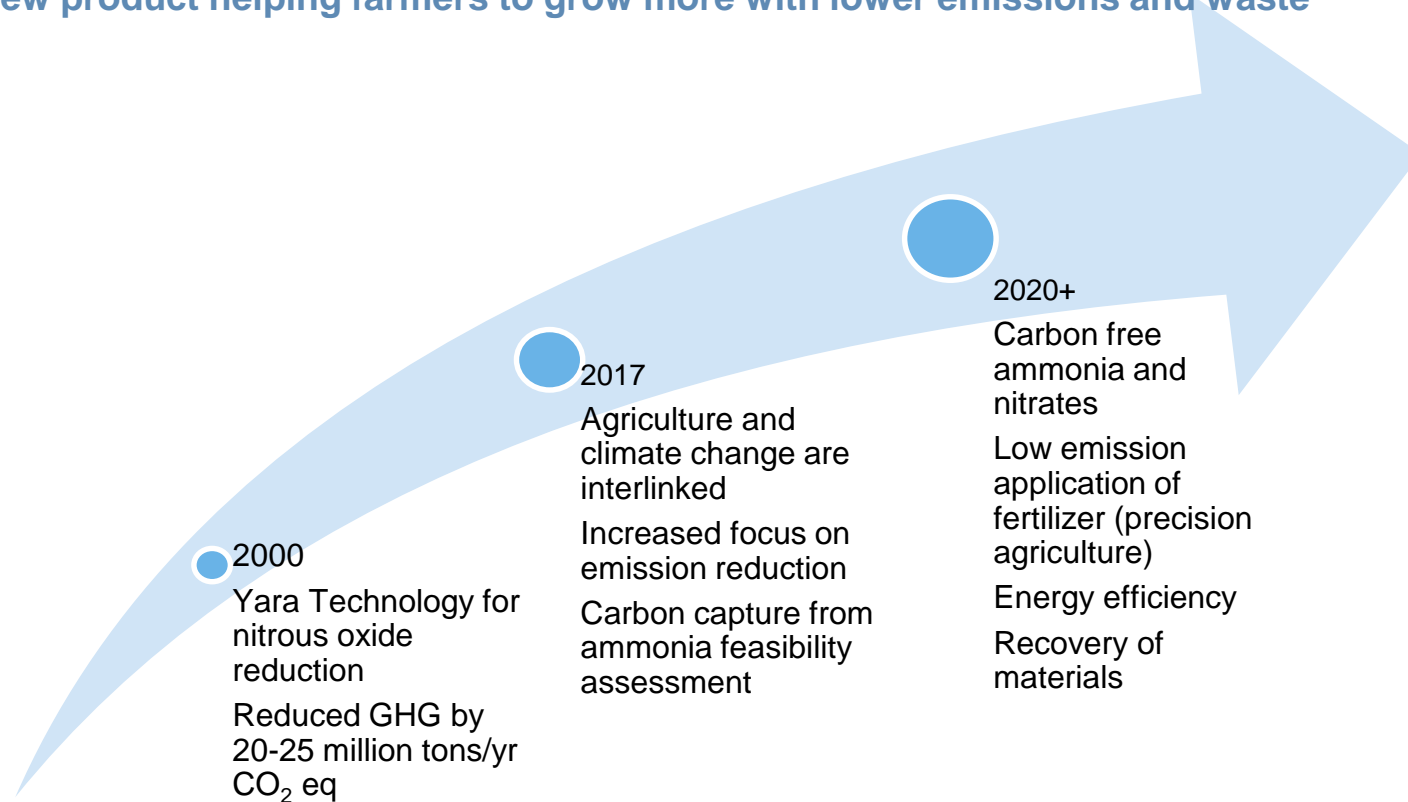
- Emission control solutions
- Nitrogen chemicals (ammonia, nitric acid)
- Nitrate industry applications

Integrated world scale production,  
effective supply chain, distribution and  
local blending

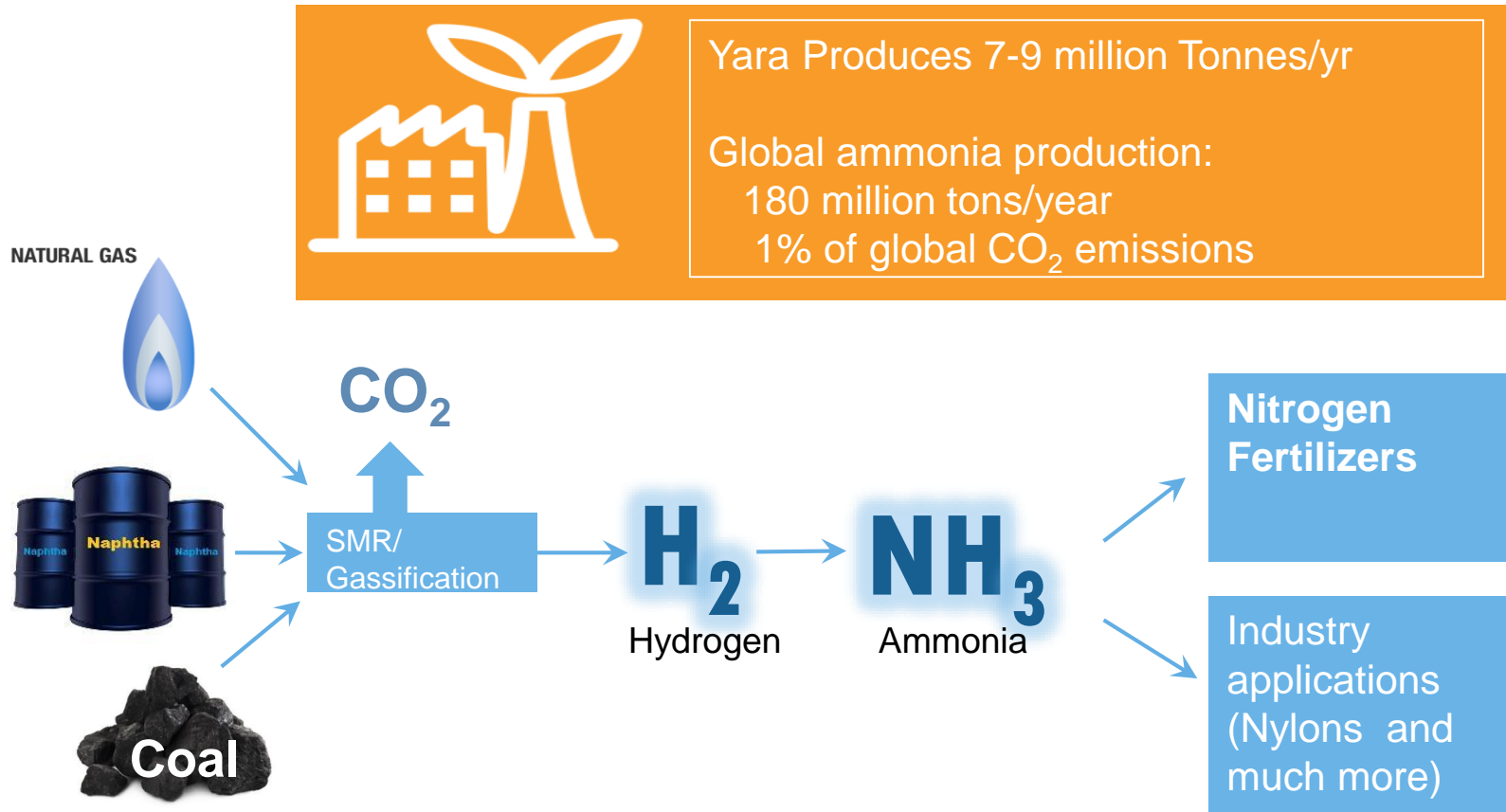
# Yara's mission is to responsibly feed the world and protect the planet

GHG emission reduction, and improved resource utilization is driving our transition in energy, raw materials, and precision agriculture

- Renewable energy / electrification
- Circular economy / lower material intensity
- New product helping farmers to grow more with lower emissions and waste

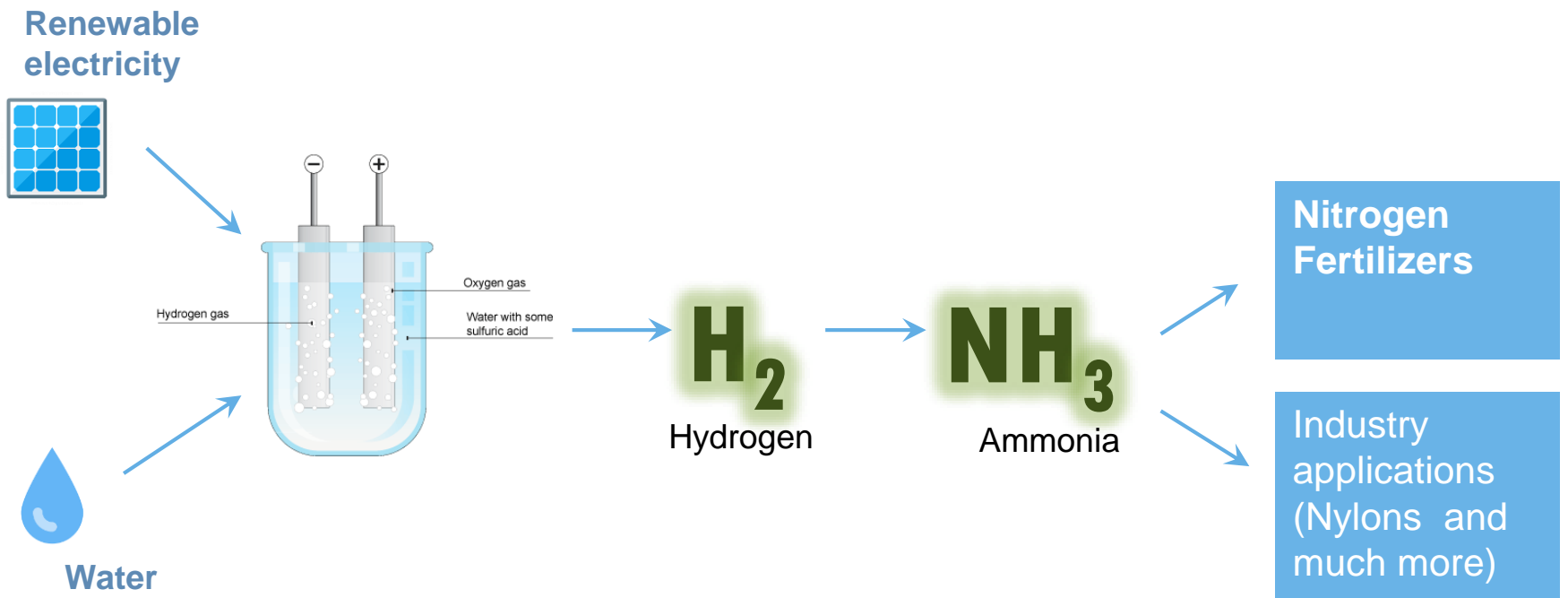


# Ammonia is a key precursor in nitrogen fertilizer and a number of industry and consumer products

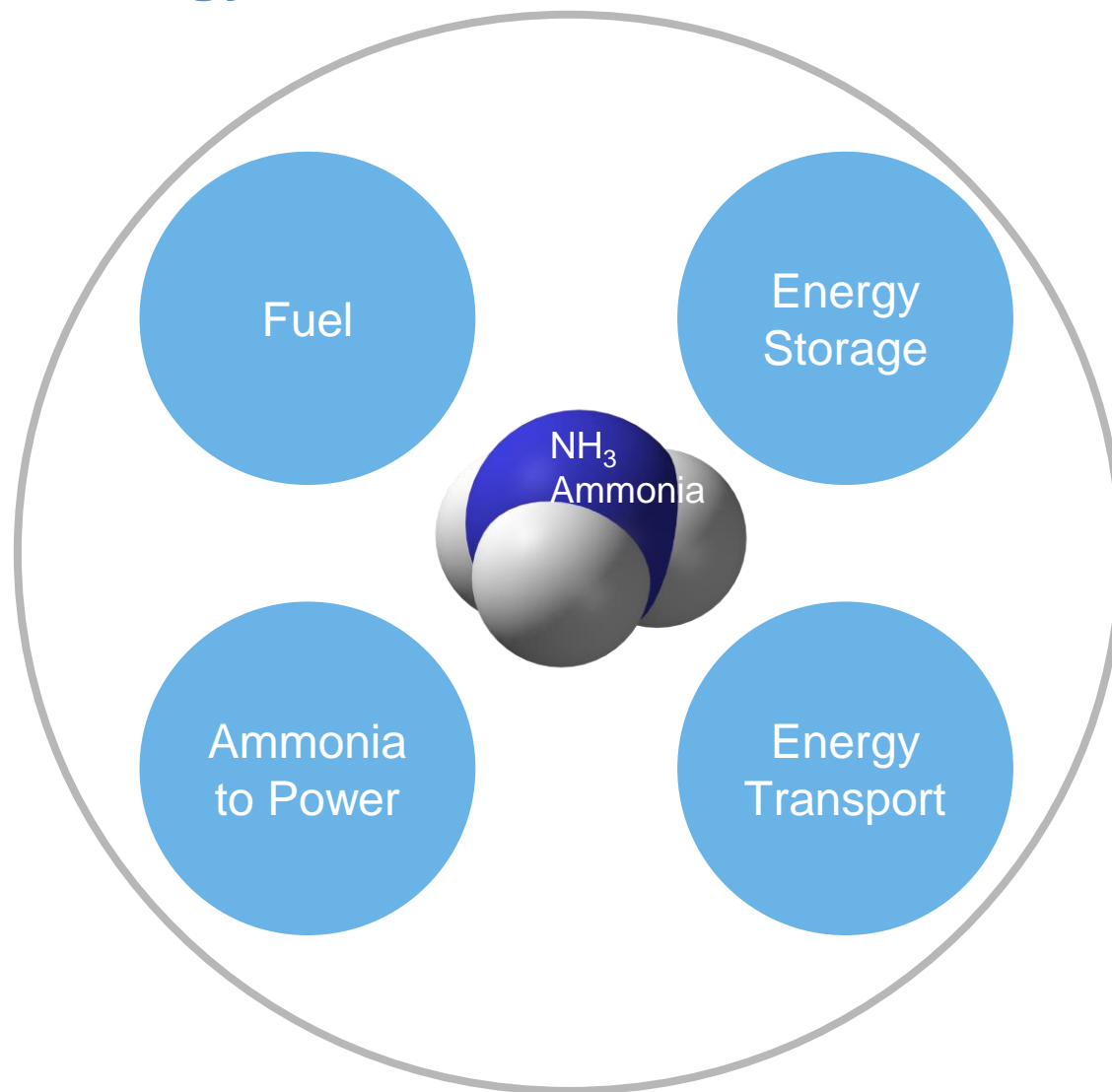


# Green Ammonia is the way forward for fertiliser and agricultural CO<sub>2</sub> reduction

- Ammonia can be produced entirely without CO<sub>2</sub> emissions from water electrolysis and renewable electricity
- Key enablers are lower cost renewable power, and efficient intermittency measures



# Green ammonia creates a world of new possibilities in renewable energy





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**Thank you for your attention**