

# Low-carbon ammonia from ExxonMobil is an advantaged carbon reduction solution

ExxonMobil™ Low Carbon Ammonia brings to market an efficient and versatile solution for lowering GHG emissions – underpinned by advantaged value chain integration, techno-economic expertise and supply reliability at scale.

ExxonMobil is working to develop the world's largest low-carbon hydrogen facility, with low-carbon intensity ammonia available for offtake at its Baytown, Texas complex<sup>1</sup>. The project will have access to lower GHG emission natural gas from the Permian Basin. The facility is expected to produce differentiated, low-carbon intensity hydrogen with approximately 98% of carbon dioxide (CO<sub>2</sub>) captured and sequestered<sup>2</sup>. Through our advantaged value chain integration and conversion of the low-carbon intensity hydrogen, ExxonMobil intends to bring a commercially-competitive, low-carbon ammonia product into the market.

## What we offer

- ExxonMobil can provide customers with lower-carbon intensity ammonia underpinned by advantaged value chain integration<sup>3</sup>.
- Supply reliability to meet the demands of growing markets looking to progress the energy transition.
- Our expertise and proven track record in execution of large-scale projects safely and reliably.
- Trusted technical advisors providing risk/benefit analysis and insights to navigate complex policy and regulatory requirements.

## Low-carbon ammonia benefits

- Low-carbon ammonia is an effective solution for customers with limited access to renewable resources, space constraints, or geology unfavorable to CCS.
- For power generation, ammonia is a lower-carbon alternative that can be used for fuel switching – direct or co-fired with coal and natural gas<sup>4</sup>.
- Low-carbon ammonia supports the energy transition and GHG emission reduction goals.

## Applications

Today, ammonia is a critical component in the production of fertilizers (which accounts for 70% of demand)<sup>5</sup>, refrigeration, textiles, and pharmaceuticals. Global demand for ammonia could be 2-3 times current levels by 2050<sup>6,7</sup>. ExxonMobil is exploring the potential of low-carbon ammonia beyond these purposes, in hard-to-decarbonize sectors – like power generation and transportation that are critical to modern life<sup>8</sup>.



**Fuel switching** provides a direct and accelerated path to lowering their carbon emissions with potentially minimal retrofit requirements<sup>9</sup>.



**Low-carbon feedstock** supports value creation through the development of a lower carbon intensity product, compared to traditional ammonia production methods.

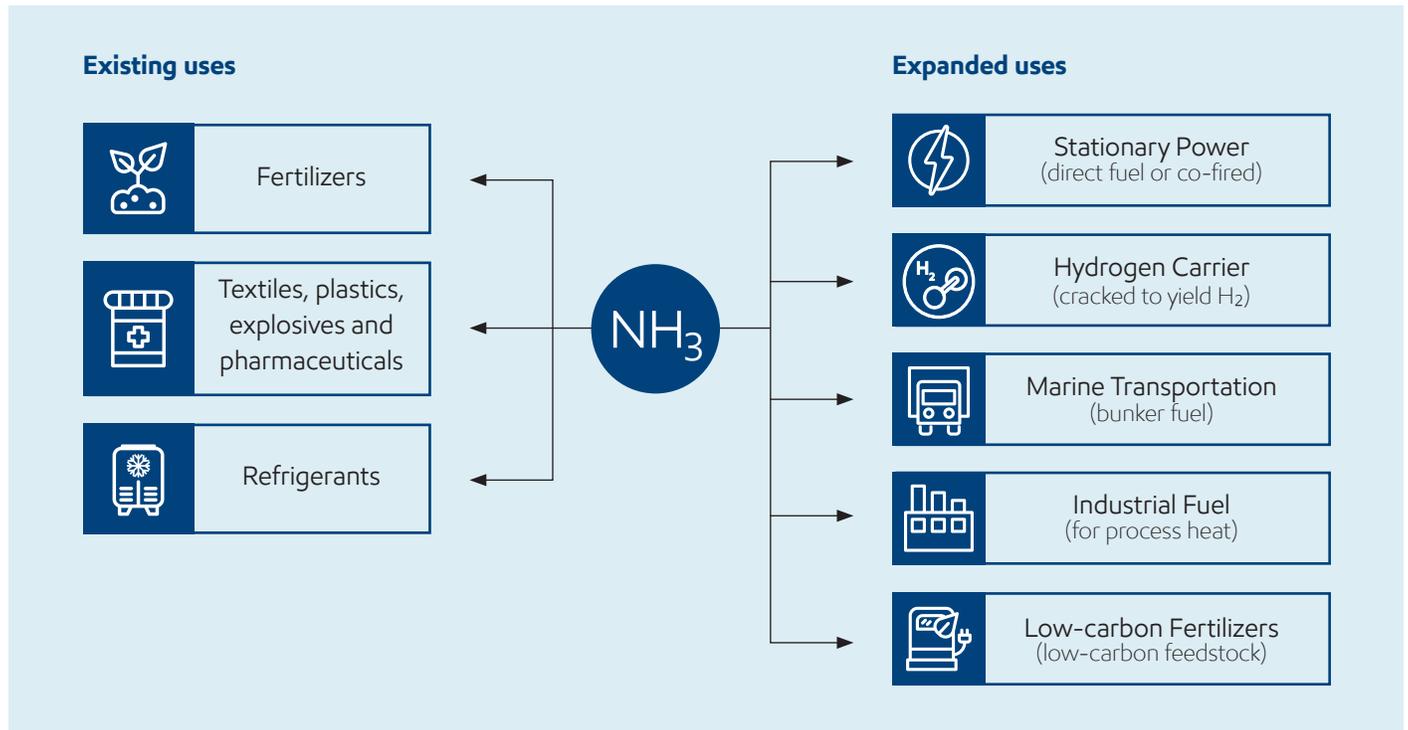


**Hydrogen carrier** for long-distance energy transport.



**Transportation** industry potential as a lower-carbon fuel for ships, trains and heavy-duty vehicles.

# A versatile low-carbon solution from a premium provider



## What sets us apart

Customers will benefit from the full suite of capabilities that have been developed from more than 140 years of delivering differentiated products like ExxonMobil™ Low Carbon Ammonia to the market. Here's a look at some of those capabilities:

- **Integration:** ExxonMobil's advantaged lower-GHG emission natural gas<sup>10</sup> and carbon capture and storage capabilities result in lower-carbon-intensity ammonia production.
- **Scale:** ExxonMobil's expertise in large-scale project execution ensures a reliable source of supply for years to come. Our Baytown facility includes plans for producing more than 1 million metric tons of low-carbon ammonia per day, with anticipated startup in 2029.
- **Commercial viability:** ExxonMobil is leading in the creation of new markets for low-carbon intensity ammonia. Already we have secured agreements around the world to offtake our ammonia, delivering real-world progress in this space.



Contact your local ExxonMobil representative to learn more about our ExxonMobil™ Low Carbon Ammonia solutions and how we can help lower your carbon footprint.



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1 - Final investment decision (FID) for the Baytown low carbon hydrogen and ammonia facility is expected in 2025. FID is contingent on supportive government policy and necessary regulatory permits.

2 - CO<sub>2</sub> associated with production of ExxonMobil Low Carbon Hydrogen at Baytown is ~98% captured and sequestered. The carbon intensity of the ExxonMobil™ Low Carbon Ammonia will vary depending on factors such as transportation.

3 - Using differentiated natural gas (DNG) as feedstock will result in significantly lower carbon intensity of the products, including hydrogen and ammonia. ExxonMobil's integrated value chain, starting with advantaged, lower-emission natural gas from the Permian Basin, allows for managing emissions across the production process.

4,5,6,7,8,9,10 - Disclaimer/Cautionary statement at <https://lowcarbon.exxonmobil.com/lower-carbon-technology/ammonia>