

AMMONEX

Industrial scale ammonia cracking pilot

AMMONia Cracking Reactor for NEXt Generation Efficiency & Reliability

2025-2027

PROJECT TIMELINE

Rotterdam

PORT OF ROTTERDAM

0 CO₂

FROM CRACKING

H₂

FROM IMPORTED NH₃

The project

Duiker Clean Technologies is building an industrial-scale pilot to validate its Ammonia Cracking Reactor (ACR), converting imported low-carbon ammonia into pure hydrogen without CO₂ emissions from cracking. Reusing Rotterdam's existing ammonia infrastructure enables long-distance hydrogen transport. The pilot will generate performance and reliability data to support commercial deployment across hydrogen supply chains and industrial decarbonisation.



3D model of the AMMONEX pilot plant. Critical test elements match the full-scale unit.

Expected impact

Acceleration Unlocks ammonia as a near-term carrier for industrial hydrogen.

Scale De-risks modular technology for ports, starting in Rotterdam.

Cost Lowers H₂ production cost through energy-efficient ammonia cracking.

Talent Builds technical expertise in hydrogen conversion.



Duiker Clean Technologies and project partners at Plant One.

Project status

FID taken; site secured at Plant One, Port of Rotterdam, Netherlands; engineering and full 3D plant model complete.

Delivery schedule

2026 Engineering, fabrication and construction

2027 Start-up and testing

Validation goals

Validate performance, materials, thermal efficiency and reliability of Duiker's ammonia cracking technology.



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