

# PERFORMING A FEASIBILITY STUDY

## OPTIMIZING AMMONIA CRACKING TECHNOLOGIES

### Project Scope

EvolutionTerminals plans to build a green energy hub for importing and storing green fuel, specifically ammonia. The terminal will handle ammonia with a loading capacity of 750 m<sup>3</sup>/h and an unloading capacity of 2,500 m<sup>3</sup>/h. It will feature five flexible storage tanks, each with a capacity of 30,000 m<sup>3</sup>, totaling 150,000 m<sup>3</sup> in the first phase. Ammonia will be loaded from these tanks onto coastal tankers, barges, and railcars. As this is a major CAPEX project, Bilfinger Engineering was requested to conduct a feasibility study to assess available ammonia cracking technologies. This study will assess their maturity, permitting requirements, cost estimates, and alignment with the project timeline, with the goal of becoming operational by 2028.

### Services Provided:

- Feasibility Study



**BILFINGER**



**Client:** EvolutionTerminals

**Location:** Vlissingen, the Netherlands

**Market:** Energy

**Product:** Ammonia Cracker

**Capacity:** Loading capacity of 750 m<sup>3</sup>/h and an unloading capacity of 2,500 m<sup>3</sup>/h

**Key feature:** Importing and Storing Ammonia

## The First Step

The feasibility study conducted by Bilfinger Engineering marks the initial crucial phase in comprehensively evaluating the project's potential and feasibility. This study is particularly essential due to the unconventional nature of the project involving various suppliers and complex technical aspects. It includes process analysis, cost assessment, and sustainability evaluation tailored to specific project requirements. The culmination of these analyses is a comprehensive report containing recommendations on how to proceed to the next phase of the project. This report will serve as a vital guide to our client for making informed decisions and advancing towards project realization.

## Transparent Collaboration

Throughout the process, Bilfinger Engineering conducted weekly progress meetings, emphasizing a high level of client intimacy and maintaining transparent communication. Despite some challenges, the client response has been positive. By actively seeking and integrating client input, Bilfinger Engineering fosters mutual collaboration and strengthens client engagement. These efforts are reflected in the client satisfaction report, which shows high ratings.

## Added Value

Bilfinger Engineering successfully delivered a comprehensive report to the client, leveraging consultancy and engineering capabilities unified under its roof. Suppliers were engaged, information was collected, and processes were selected based on their integration and technical feasibility. Additionally, environmental permits, including those for NOx emissions, were effectively managed to ensure that all client objectives were met.

A significant achievement was reducing the number of suppliers from five to three and identifying the optimal process for the ammonia cracker while managing costs through detailed estimates. Bilfinger Engineering's distinctive approach focuses on building close relationships with clients while leveraging a team dedicated to expertise and strong internal communication. This combination enables them to effectively identify and capitalize on emerging trends.

## Sustainability

The ammonia cracker represents a sustainable initiative where additional focus by Bilfinger Engineering was placed on maximizing sustainability and minimizing NOx emissions to enhance environmental benefits. This consideration was integral in selecting technologies that align with the mission and goals of Evolution Terminals, ensuring that the project not only meets but exceeds environmental standards. By prioritizing sustainability in technology selection, Bilfinger Engineering supports their commitment to environmental stewardship, contributing positively to the overall sustainability strategy of the client.

