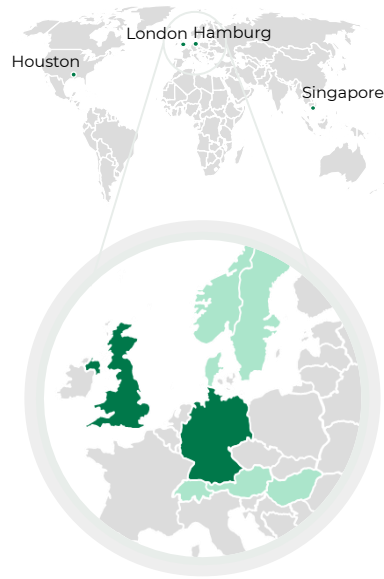




Mabanaft GmbH & Co. KG | NECG | 2023

Fuelling the Tomorrow – an energy concept for sustainable transport  
*Oleksandr Siromakha, Head of Sustainable Fuels, Mabanaft GmbH & Co. KG*

# Mabanaft Group snapshot



» Global presence with roots in Germany and core activities in north-west Europe



8m tons  
throughput in  
German and  
Hungarian terminals



337  
fuel stations  
in 5<sup>2</sup> countries



267  
truck stops  
in 5 countries



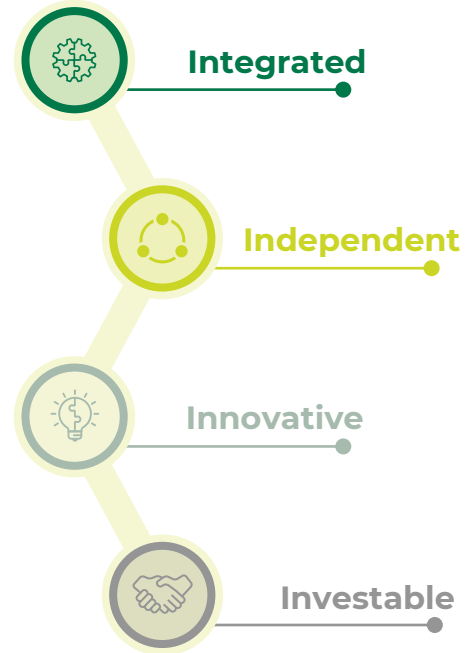
c. 1,350  
employees



16m tons  
energy products  
sales



€290m  
product  
margin

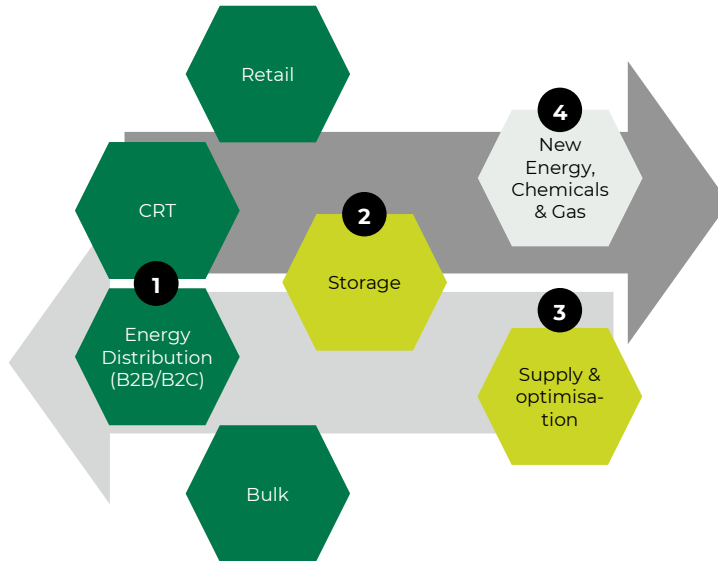


1. Germany and Hungary; 2. Franchise network in Hungary

# Direct access to the end-market side of the supply chain with support of a strong integrated business



## End customers



■ Marketing ■ SOI ■ NECG ← Supply → Demand

## Global fuel market



Renewable



Conventional

### Marketing

#### Customer access

Fuel provision and additional services to end markets  
Readily available customer access points to deliver alternative, lower-carbon fuels provided through in-house supply network

### Storage

#### Unique import and market access in key locations

Storage of (bio-)fuels for 3rd party customers, own demand and internal sourcing  
Positioned at critical hubs for international trade and domestic fuel distribution

### Optimisation, inland supply & International Trading

#### Access to global (bio)-fuel markets

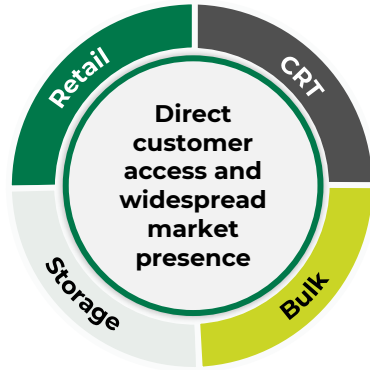
Access to local & international fuel supply to assure internal supply  
Ability to manage price risk, optimise logistics, and coordinate integrated supply chain

### New Energy Supply

#### Growing alternative fuels supply pipeline

Access to global supply of alternative, lower-carbon fuels such as e-fuels, next generation biofuels, ammonia, LPG, methanol  
Upstream investments in new energy value chain, integration with existing logistics and supply platform

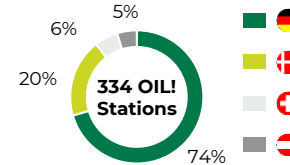
# Diverse and international customer base with direct customer access points



**Direct end-market feedback allows active customer support in managing the energy transition and to prepare for business opportunities at an early stage**

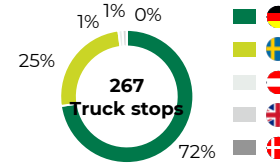
## Retail

- Extensive retail network in Europe with 334 stations
- 71% of stations are manned, offering fuel and non-fuel such as, core convenience, coffee and food, as well as car wash programs



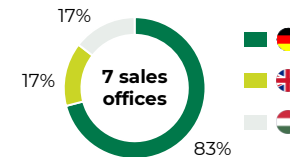
## CRT

- Part of largest independent pan-European tankpool24 network
- Building out full service offering truck stops under the Onroute brand in the UK with fuel and non-fuel services
- Providing fuel cards and fleet management solutions under Thomas Silvey brand



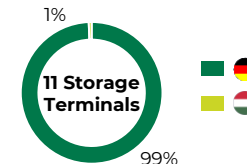
## Bulk

- >70 years of history with global reach and local network of agricultural and industrial customers coupled with unique value proposition in aviation and marine
- Access to energy retailers, major commercial customers, resellers, service stations and supermarkets as customers



## Storage

- Strategically located terminals offering a unique proposition
- Main storage services are provided for O&G majors, strategic reserves, other fuel retailers and traders and internal marketing organisation



# Our New Energy, Chemicals and Gas Business



## Sustainable Fuels



- PTL (synthetic) fuels innovation and future supply
- Hydrogen opportunities
- Sustainable Aviation Fuels
- Advanced biofuels
- Other alternative low-carbon fuels

## Chemicals



- Ammonia trading and supply
- Participation in GCA Ammonia project (USA)

## Gas



- Trading, supply and project development for NGLs and their derivatives

## Hydrogen



- Hydrogen large scale infrastructure projects

## Emissions & Energy



- Emission certificates and energy trading and optimization

# Our concepts for sustainable transport



to decarbonize the existing **car and truck fleet**, Mabanaft offers **biofuel blends** and is developing **e-fuels and advanced biofuels** to gradually replace fossil components completely.



Mabanaft is already supplying the first volumes of **SAF fuel** for Oslo Airport. **e-SAF** fuel will play a key role in the decarbonization of **aviation**. We plan to offer e-SAF from 2026 and are preparing our storage infrastructure for this.



The decarbonization of **shipping** also begins with the blending of biofuels. In the long term, ships will run on CO2-neutral **methanol and ammonia**. Mabanaft will start producing ammonia in 2023 and develop the supply of green methanol for our shipping customers.



In the long term, green **hydrogen** will play an important role in decarbonizing **transport and industry**. Mabanaft has announced a major infrastructure project for ammonia and hydrogen in the port of Hamburg. In addition, we are developing small-scale hydrogen projects to accelerate the transition and investing in promising hydrogen storage technologies.

# Sustainable fuels focus & project pipeline



**Green methanol & green ammonia bunkering**  
infrastructure & supply to maritime customers

CH<sub>3</sub>OH

NACOMPEX

Wolf Energetik develops an innovative “Feredox” **Hydrogen storage technology**. 1 MW standard storage module under development. Potential application for hydrogen and electricity storage, as well as in PTL production.

H<sub>2</sub>

**Small-scale Hydrogen** projects in Germany to start offering green hydrogen to our customers in transportation sector

HIF  
Es posible

HIF to produce up to 500.000 cbm **e-gasoline** in Chile. Mabanaft as logistics offtake partner.

Nordic  
Electrofuel  
Clean at scale

NEF is developing a PTL **e-fuels** production plant in Norway; Mabanaft as offtaker

Further sustainable projects/leads under development

P2X  
Europe

**Sourcing and marketing the PTL** (e-fuels) products in Europe; pilot plant in Hamburg to start production in 2023; commercial scale plant in Portugal under development



# Our Hydrogen storage technology

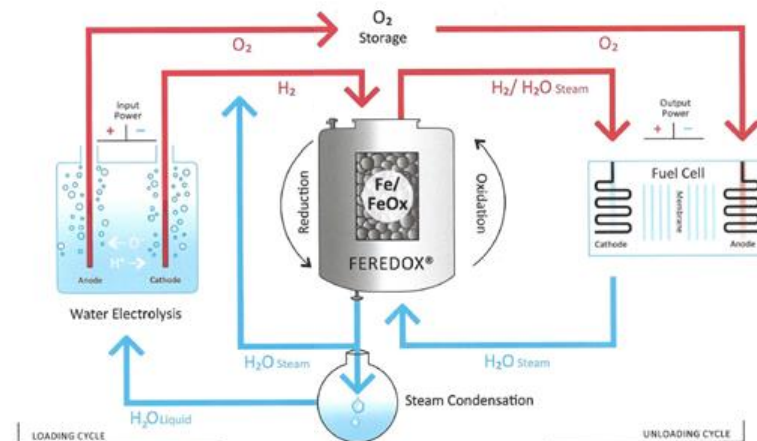
## FEREDOX® STORAGE'S ADVANTAGES

- High storage density of 800 m<sup>3</sup> H<sub>2</sub>/m<sup>3</sup> respectively 1 MWh<sub>H<sub>2</sub></sub>/m<sup>3</sup> in power storage applications
- Storing condition at ambient pressure and temperature level
- High cycle stability without performance loss

## FUNCTIONAL PRINCIPLE

- Indirect chemical storage of H<sub>2</sub> through reversible redox reactions
- Special iron masses as a cost-efficient and durable energy carrier
- Already industrially used method with operational experiences

## FEREDOX® Electricity Storage System with Fuel Cell



Application example of the FEREDOX® technology ~ High efficiency due to closed loop operation.

▶ The Feredox Technology allows an efficient storage of green hydrogen

▶ Combined with electrolysis and fuel cell Feredox also can be used for electricity storage

▶ The Feredox technology can also offer substantial advantages for the conversion of CO<sub>2</sub> to CO, which is one of the key steps in PTL (e-fuels) production



P2X  
Europe

Renewable Hydrocarbons

## First e-diesel volumes

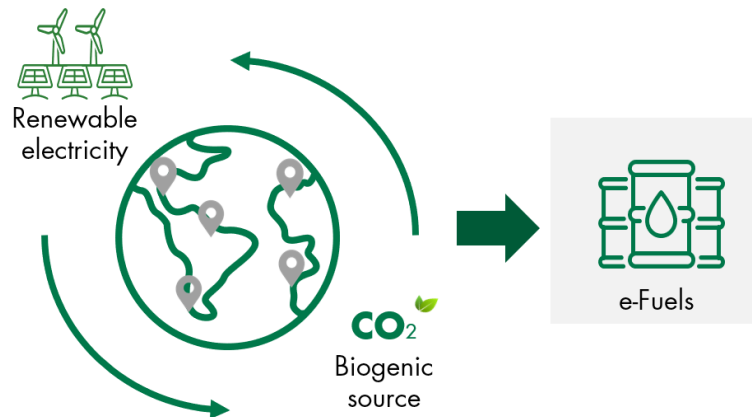


▶ Mabanaft will be the first supplier bringing volumes of e-diesel into the market from the pilot plant in Hamburg already in 2023

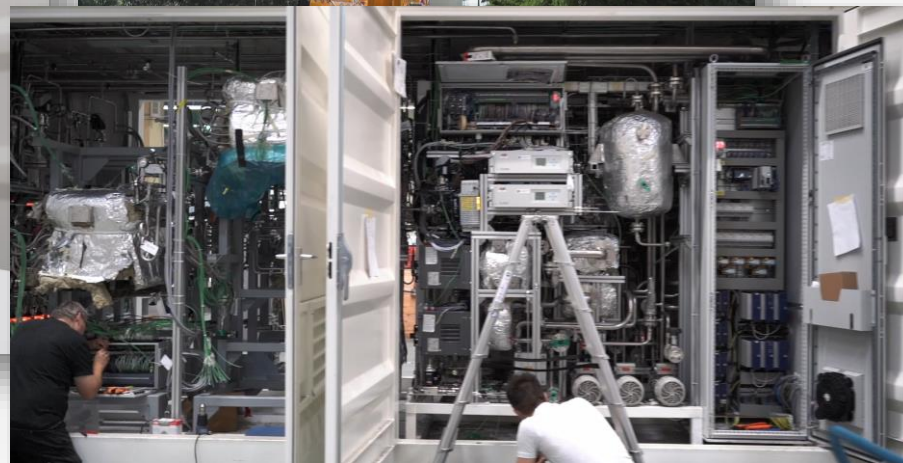
▶ We are now working with partners to use the first e-diesel volumes to demonstrate different applications in different areas of transportation

▶ Commercial scale plant in Portugal under development

▶ Some E-fuels will be produced in Germany and Europe. Large production volumes are feasible in the regions with abundant and constant renewable energy: Mabanaft storage infrastructure will be used to import e-Fuels from those regions



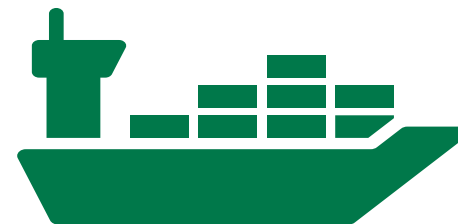
# Next Gate demo plant



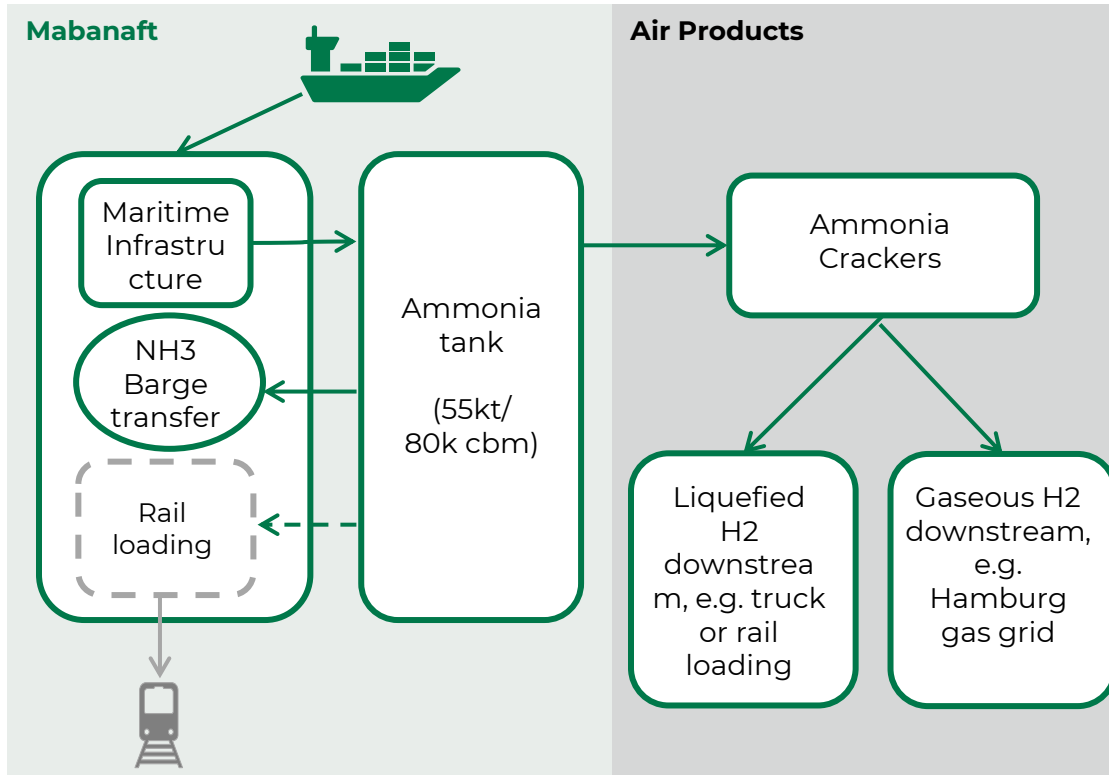
# Green Methanol/Ammonia for Shipping



- Working with our marine customers who plan to switch to green methanol or green ammonia as an alternative fuel
- Methanol storage and bunkering infrastructure development being analyzed
  - Retrofit tanks and pipelines to import and store methanol
  - Development of methanol bunkering infrastructure
- New Energy Gate Hamburg – our green Ammonia / hydrogen storage project
- MoU with Hapag-Lloyd to evaluate options for the supply of ammonia as bunker fuel

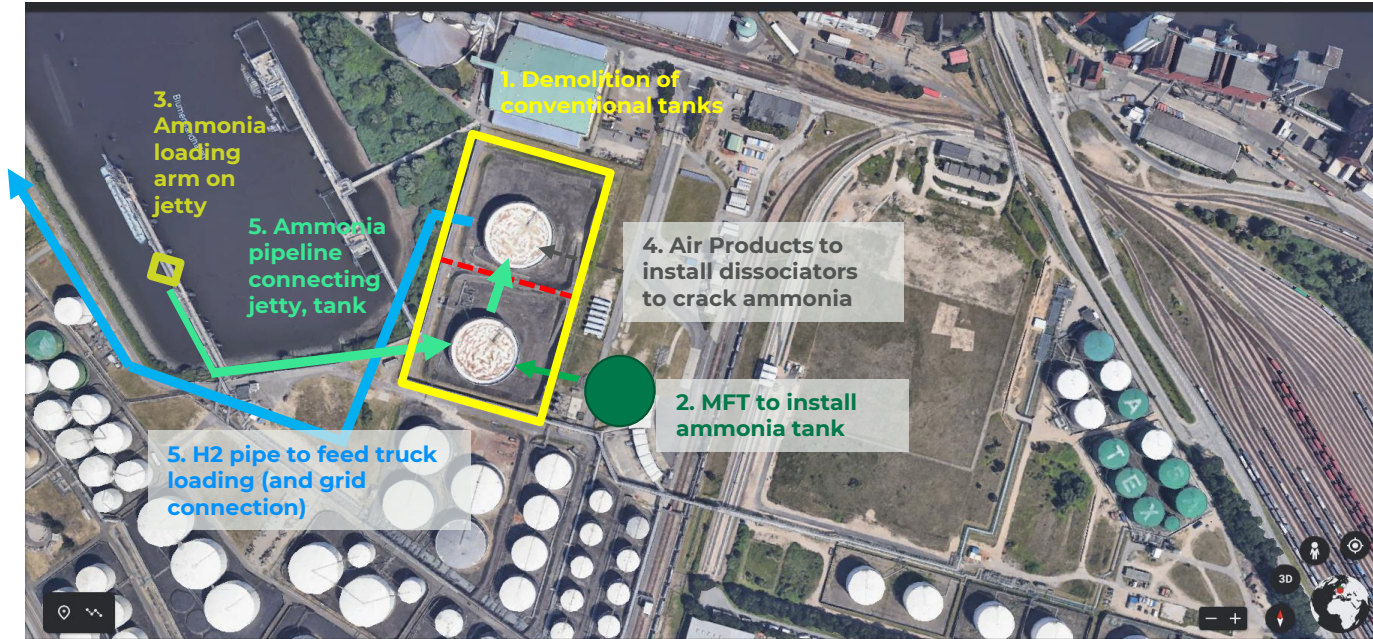


# New Energy Gate Hamburg



- Air Products will produce clean ammonia at various locations worldwide and ship it to Hamburg. Mabanaft also has the option to import clean ammonia to Hamburg.
- Importing the clean ammonia and converting it back into clean hydrogen at the Mabanaft terminal in Hamburg.
- Lighthouse project for clean energy imports. The project will also reduce dependence on Russian oil and gas imports.
- Commissioning planned for 2026

# New Energy Gate Hamburg – Blumensand Terminal





**Mabanaft – fuelling tomorrow.**

[www.mabanaft.com](http://www.mabanaft.com)