



# Gas a transport fuel in the Danube region

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OMV Aktiengesellschaft & OMV Downstream

# LNG cryogenic liquefied natural gas. Countries of origin are mostly Qatar, USA, Nigeria and Asia-Pacific-region.

## What is LNG?

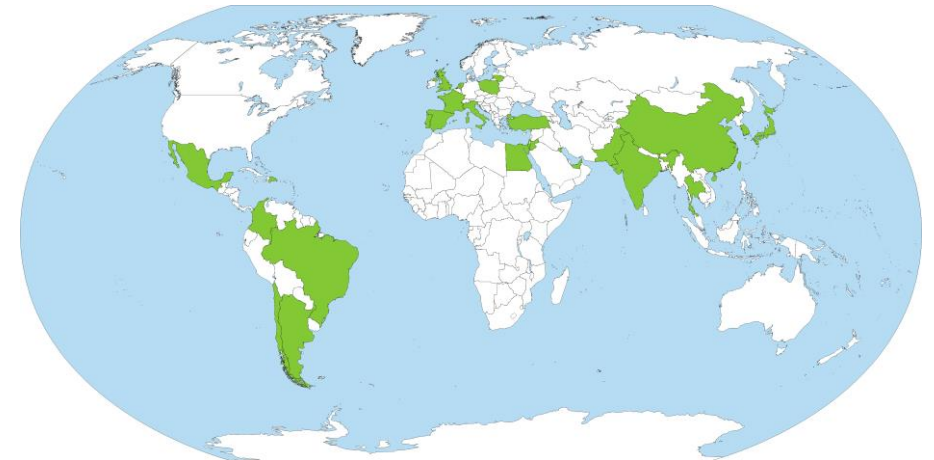
- ▶ **Cooled natural gas** becomes liquid at  $-162^{\circ}\text{C}$
- ▶ **Clear and odorless** cryogenic liquid
- ▶ 600 times higher density than natural gas, thus **highly efficient to store and transport**



LNG Vessel – Type C Tank

## How is LNG transported to Europe?

- ▶ LNG is a perfect alternative to transport via pipelines, especially in **off-grid regions and over long distances** (cross continental)
- ▶ Highest volumes come currently from **Qatar, USA and Nigeria**.
- ▶ LNG is stored and transported in **special high grade tanks** with a safety hull (and vacuum/Perlite insulation for road trailers)
- ▶ Transport and unloading is done at one of the numerous LNG terminals. Here the **mostpart is regasified** and injected into the grid, but can also be loaded into containers and trailers.



LNG Supply Sources - worldwide

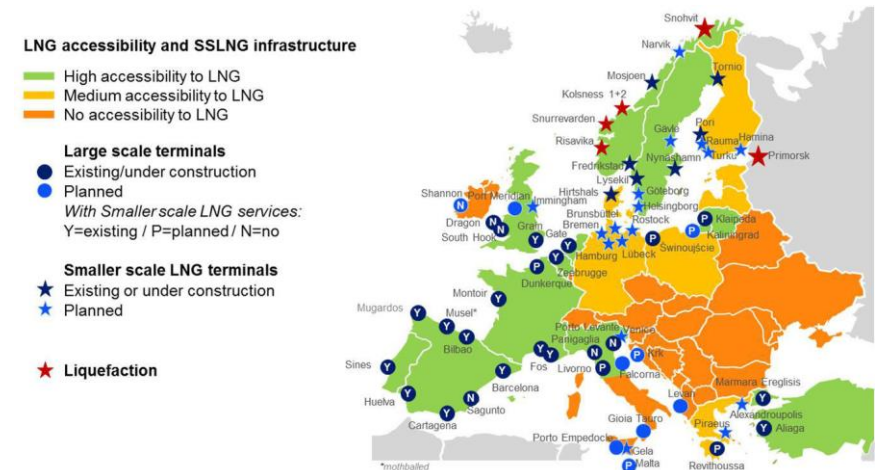
# OMV has got an own position at GATE terminal in Rotterdam. From here we can supply our customers and own assets.

- ▶ **GATE Terminal** in Maasvlakte Nord, Port of Rotterdam
- ▶ **Loading bays:** 2
- ▶ **Regasification capacity** 12 bcm/year
- ▶ **Storage capacity:** 540.000 m<sup>3</sup>
- ▶ **Number of ship transactions:** 180 pro Jahr
- ▶ **Operational since:** September 2011
- ▶ **Position OMV:** ~25% of the LNG delivered to the terminal



**Gate Terminal Rotterdam**

- ▶ Countries with sea access have an **advantage in supply and infrastructure**
- ▶ **New terminals are built in the next years:**
  - ▶ Northern Germany
  - ▶ Venice
  - ▶ Truck loading at LNG Greece



## LNG Terminals in Europe

Source: Offshore intel

# Growing European filling station network attracts customers and enables fuel switch for selected use cases



Source: NGVA, 09/2020

- ▶ **Major IOCs scale up** their LNG filling station networks and operations across Europe
- ▶ **The further eastwards, the thinner the network becomes**
- ▶ **Germany as focus region** with many new and established players pushing for fast network development

# OMVs vision: market entry 2021 and scale-up programm to connect the existing network with the East



**LNG is currently the only mature, available and economical technology to immediately reduce CO2 emissions for heavy duty transport.**

# Despite IMO obligations and structural EU funding, hardly any inland shipping projects materialize along the Danube yet



● existing riverborne LNG infrastructure

● known LNG riverborne infrastructure project in development / assessment

- ▶ Currently existing LNG fleets operate **only in Rhine area**
- ▶ Despite EU funding **only very little movement** due to low customer demand (high lead time, long usage time of vessels, regulative uncertainty)
- ▶ **New fleets feasible with new EU funded projects** (e.g. LOHC transport). Retrofitting commercially not viable.