Summary

LNG market in Germany

CNG, LCNG and LNG filling stations

Germany has an almost nationwide natural gas supply through natural gas grids. These gas grids are, however, due to their low pressure properties and high operating costs not suitable for a full supply of natural gas for passenger cars and light duty trucks. This can mean only the solution LCNG. By itself explains that a LNG market launch for the supply of heavy duty trucks and inland waterway transport is not possible without the expansion of LNG filling stations.

European Clean Power for Transport (CPT) package

In April 2014 the European Parliament gave its final approval to the Clean Power for Transport (CPT) package. CPT highlights LNG as one of four alternative fuel options for the future and calls for minimum infrastructure coverage for LNG filling stations along major motorways of the Trans-European Transport network (TEN-T) by 2025. Supporting national policy frameworks must be developed by 2016, and member states will set their own paths for further infrastructural development.
(Source: dena 2014)

National Energy Concept 2010

The German government intends to reduce emissions in all sectors by at least 40 % by 2020 compared to the 1990 levels. If the transport sector is to contribute toward this target, dramatic action must be taken. That’s the chance for LNG.

Performance in LNG

In the following pages, ADK Gas-Technologies will present some of the key issues for LNG applications, how infrastructure is evolving with the needs of the market and the importance of ensuring you have the right product for the right application.
Political targets

EU package of measures to ensure the build-up of alternative fuel stations

LNG filling stations for inland waterway transport

The Commission is proposing that LNG refuelling stations be installed in all 139 maritime and inland ports on the Trans European Core Network by 2020 and respectively 2025. These are not major gas terminals, but either fixed or mobile refuelling stations. This covers all major EU ports.

LNG filling stations for heavy duty trucks

The Commission is proposing that by 2020, refuelling stations are installed every 400 km along the roads of the Trans European Core Network.

LCNG filling stations for passenger cars and light duty trucks

The Commission proposal will ensure that publically accessible refuelling points, with common standards, are available Europe-wide with maximum distances of 150 Km by 2020.

Pilot project

So as to assess LNG supply costs, certification issues and environmental impacts in Germany, a pilot LNG station should be built. It should be situated at a motorway prime location with typical demand profile. A feasibility study should investigate different supply scenarios (LNG ship and/or LNG trailer supply as well as onsite generation from fossil and/or renewable sources) and draw “lessons learned” for application to other locations and demand profiles.
Applications and Systems

What ADK provides

Natural gas filling station

LCNG filling stations use liquefied natural gas to refuel gas-powered vehicles. Here, high-pressure pumps feed the LNG into environmental evaporators and convert it into a gaseous state. In addition, the high-pressure pumps compress the natural gas to approx. 300 bar and fill specially-positioned gas cylinders - so-called storage banks or buffers. Natural gas vehicles can be rapidly refueled from these buffers.

LNG / LCNG filling stations can be combined so that both vehicle variants can be operated with their respective fuel types.

LNG filling stations to refuel mainly heavy duty trucks and inland waterway transport.

Regasification

Permanent and secure energy supply for industry, commerce, services and households is absolutely necessary!

With regasification plants, energy suppliers are in a position to cover peak loads that occur in natural gas consumption. To do this, liquefied natural gas (LNG) is re-evaporated and is additionally fed into the supply grid.

This means that energy suppliers are in a position to make additionally-required energy available at peak times or during cold weather periods. The decentralized energy supply created by the use of LNG provides local authorities and municipal utilities with a grid-independent district heating supply and ensures that industrial enterprises with high energy requirements are provided with natural gas independently of suppliers.
Applications and Systems

What ADK provides

Combined heat and power plant

Make yourself independent of the gas grid and hence from shifting political decisions with combined heat and power plants from ADK Gas-Technologies. With our turnkey solutions, we can take care of all services from planning and production right up to commissioning. Our modular design guarantees rapid and flexible production times without significant influence on your ongoing business operations.

LNG supply to your combined heat and power plant ensures the high economic potential of your plant: Higher energy efficiency than conventional energy sources, no grid utilization fees and the full benefit of fiscal advantages and state subsidies.

ADK Gas-Technologies offers you technically high-quality solutions. Noise interference is kept to a minimum with appropriate noise protection measures. If desired, your combined heat and power plant will be visually attractively integrated into its environment.

Automotive

The continuously-growing LNG market offers innovative solutions in the area of fuel supply for commercial vehicles, port and construction site logistics. ADK Gas-Technologies develops complete system solutions for this customer group.
Self-sufficient energy supply without connection to the gas grid

We fulfill your individual requirements

When using our turnkey solution liquefied natural gas supply plants you benefit from our holistic service: We provide you a complete solution from one source, from planning and plant construction right up to commissioning!

We take care of all necessary TUEV approvals, authorizations, permits and certifications.

Avail yourself of our experience with cryogenic gases! Our long-standing collaboration with proven system suppliers guarantees that our services attain the highest levels of quality, entirely to the benefit of our customers.

Our extensive competence in modular design allows mobile and hence flexible plant concepts to fulfill all customer requirements. Naturally, we can also provide fixed plants in accordance with your specifications.

ADK Gas-Technologies is a company of the ADK Group

The other companies:
- **ADK Modulraum GmbH**
  Modular construction:
  ADK Modulraum GmbH is one of the leading manufacturers of transportable modules for free spatial configuration. Due to the high level of flexibility, solutions from ADK Modulraum are used all around the world.

- **ADK Leasing GmbH**
  Leasing and financing services:
  ADK Leasing GmbH offers leasing solutions and hire-purchase financing within the product portfolio of ADK Modulraum GmbH and ADK Gas-Technologies GmbH.
Whitepaper

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