Submission

from the German Maritime LNG Platform

for the Consultation on an EU strategy for liquefied natural gas and gas storage

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About the Platform

The German Maritime LNG Platform (*Maritime LNG Plattform e.V.*) is a cross-sector coalition of industrial / shipping companies, infrastructure providers, and port authorities as well as German and international initiatives. Only a year after its inception, the Platform has a membership of more than 70 members and partners. It is aimed at creating a more sustainable shipping sector with less pollutant emissions through establishing the use of LNG (Liquefied Natural Gas) as a marine fuel. With offices in Hamburg and Berlin, the coalition platform campaigns for improving the framework conditions for the use of LNG in shipping in Germany and beyond.

For more information, please go to: www.lng-info.de

Preface

The Platform is convinced that LNG will increasingly gain in relevance as an alternative transport fuel, both in maritime and road transport. We therefore encourage the European Commission to pro-actively work towards establishing and extending the role of LNG as an alternative fuel, particularly in inland and sea shipping, to enhance the maritime sector's sustainability and improve its environmental record. In addition, LNG can contribute to diversifying the EU's energy mix and can therefore – given the availability of various LNG producers – help to make the EU more independent in energy matters. The platform therefore envisages LNG to play an important role in the emerging European Energy Union. However, the focus of the Platform's work and activities at national and EU level and of this submission is the use of LNG as a transport fuel in the maritime sector.

The following submission provides an analysis of relevant factors for a successful market introduction of LNG as a marine fuel in Germany and beyond, based on the expertise and experience of our more than 70 national and international members and partners. It therefore mainly concentrates on question 11 which deals with the market for LNG in transport and its future development.

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LNG infrastructure / bunkering

Whilst it is true that Germany does not yet have its own network of LNG import terminals or LNG filling stations for ships and / or HGVs, this does not necessarily mean that there is no reliable supply. In fact, there are numerous energy suppliers in Germany, e.g. Bomin Linde, Gazprom Germania and Shell, that have long-term sales agreements and large storage capacities available outside Germany and in other parts of Europe. So far, tank trucks have been reliably supplying industry and shipping customers with LNG. Successful examples include the LNG Power Barge in Hamburg harbour (a project of Becker Marine Systems, a member of the Platform), the Borkum ferry in Emden and the Helgoland ferry (both projects by AG Ems, another Platform member). This means that there is a reliable mobile infrastructure in Germany that can flexibly respond to the demand of German customers in the logistics and shipping sectors. Another important trend is the development of bunker barges with a loading volume of approx. 6000 to 8000m³ LNG instead of stationary bunkering stations because demand has risen slower than initially expected. These bunkering vessels allow them to manage flexible load capacities as well as ship-to-ship bunkering. The required LNG is brought in from the Amsterdam, Rotterdam and Antwerp areas. In addition, several German port cities consider setting up a tanking infrastructure, among them Hamburg which operates Europe's second-largest container port.

These developments and ongoing plans make it clear that the private sector will provide the necessary investment for creating an infrastructure for LNG bunkering now and in the future. Relevant port authorities also have a significant job to do: they have to convey necessary plots of land; and they have to provide and round up necessary support at regional level. Port authorities and other relevant decision-makers in port towns also play an important role regarding the accessibility to the hinterland. For establishing LNG as a marine fuel in Germany in the long-term the approval of safe ship-to-ship bunkering is also important. The same applies to the introduction of internationally recognised safety distances. Overall, the standardisation and swift introduction of an internationally recognised approval process in German sea and inland ports is of paramount importance.

Management of the approval process

A competently managed approval process plays a key role in the successful introduction of LNG as a marine fuel. For example, the Hamburg Port Authority (HPA) provided investor Becker Marine Systems with a "pilot" to guide them through the approval process for the LNG Power Barge and manage the numerous public authorities who needed to be involved. An essential contribution that political decision-makers could make would be the establishment of a uniform approval process which could draw on the experience gained by implementing the Federal Emission Control Act (*Bundes-Immissionsschutzgesetz, BIm-SCHG*): here, the decision-making power rests with one authority. The long-standing practice of other countries (predominantly Sweden, Norway, and the Netherlands) should also be taken into account. Like any other fuel, LNG is not without its risks. These are, however, controllable and with appropriate training and education not higher than those of fuels already commonly used.

Uniform standards are another important factor for establishing a universal infrastructure: as part of the World Ports Climate Initiative (WPCI) international ports have developed a checklist for LNG bunkering which has already been practiced, e.g. in Stockholm. The EU's European Sustainable Shipping Forum (ESSF) also makes a key contribution to the establishment of relevant standards: this primarily involves a transfer of expertise to smaller ports as generally only bigger German ports attend the meetings of the ESSF.

Publicly owned ships

The German public sector is involved in planning, financing and operating ships in Germany in various ways. Federal Ministries and public authorities use more than 700 ships to fulfil public duties. The range of duties is also reflected by the great diversity of ship types that are utilised in Germany on rivers, lakes, adjacent seas and internationally. Among these ships are large war ships used by the German armed forces as well as operational boats used by harbour police or customs. However, the majority of ships are work boats that perform necessary duties to keep ports and waterways operational as well as carry out necessary maintenance tasks. The overwhelming majority of these ships operate on a long-term basis in water areas where already strict environmental regulations apply today or where tighter emissions guidelines will be introduced in the forthcoming years, such as the (S)ECA regulations in the North and Baltic Seas.

In addition, stricter limits on nitrogen oxide emissions are planned for new-built ships. LNG is a cost-effective marine fuel. It also allows ships on inland waterways to adhere to increasingly stricter environmental regulation. The extensive fleet of publicly owned and used ships must be updated at regular intervals. Here, public authorities, such as federal ministries, federal states and public authorities, can lead by good example and consider the use of LNG for public ships in current and future government fleet renewal and update programmes – especially, as the necessary requirements for using LNG in shipping are often fulfilled. The majority of ships owned by the state operate on a long-term basis in a limited area and regularly return to a specific home port to bunker material, food supplies or exchange ship crews. Among these are ships from the harbour police, fire department boats and labour ships but also customs or research ships that return to their home harbours after long trips of several weeks. LNG supply could be guaranteed by establishing and developing a stationary as well as mobile LNG infrastructure.

The use of LNG is already considered for some new-built ship projects. The German Federal Police currently considers purchasing two new ships which could possibly be fuelled by LNG. The German Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie, BSA*) also plans to use LNG in the new ATAIR surveying ships, and the German Federal Ministry of Defence has commissioned related studies on the use of LNG for German navy ships. At the same time, however, all of the customs ships for the North and Baltic Seas areas are to be replaced by ten customs cruisers without LNG being considered. To date, the numerous ships of waterways and shipping authorities have been constantly but irregularly updated without seriously considering using LNG. Considering that more than 25% of all public ships are older than 40 years, the potential is enormous. The state can fulfil an important role as "first mover" thereby improving the acceptance

of LNG as a marine fuel as well as increase public pressure on ship owners to invest in sustainable propulsion technology.

Incentives for ship owners / investors

The use of LNG as a marine fuel in inland and sea shipping is clearly beneficial to the environment: apart from reducing nitric oxides its use also significantly lowers the emission of fine dust particles, particularly in port cities and coastal regions. Other environmental benefits include the reduction of CO2 emissions by up to 25%. The use of LNG technology, e.g. through the conversion of appropriate ships, induces 25 to 30% higher investment costs depending on the project. Despite higher costs an appropriate conversion can make economic sense depending on the age and operating place of the ship in question. In Baltic Sea shipping in particular, it would be counterproductive if high freight rates resulted in a shift to road transport as this produces higher emissions, more congestion and a greater burden on road infrastructure.

The successful market launch of LNG in the maritime sector supports the implementation of the climate protection and environmental objectives of the EU and the German government. Alternative fuels that benefit the environment are also of great socio-political relevance as demonstrated by the example of Hamburg: shipping causes high emissions of fine dust particles in Germany's biggest port which means that its air quality is comparable to that of industrial cities of the Ruhr Valley during their industrial heyday.

Sustainable transport routes and logistics chains should be given greater importance than they have so far received in the debate on sustainably produced goods. As shipping is responsible for 90% of global commodity flows it is highly relevant to international logistics: it must and can be more sustainable and therefore make a considerable contribution to improving the environmental and climate balance sheet. The German Maritime LNG Platform is therefore convinced that the development of a corresponding support programme is one of the most important political tasks.

In a joint statement, the Maritime LNG Platform has therefore, together with the German Shipowners' Association (VDR), the German Shipbuilding and Ocean Industries Association (VSM), the Association of German Seaport Operators (ZDS) and the German Shipbrokers' Association (ZVDS), asked the German government to implement specific measures to support the introduction of LNG as a marine fuel. In particular, they have proposed three separate instruments: Germany needs an innovation offensive, a subsidisation programme for equipping ships with LNG propulsion, and uniform legal standards in ports.

For further information, please see: http://bit.ly/stellungnahmeLNG2015

Training and further education

Training and further education plays a vital role in establishing LNG in the maritime sector. Ship crews as well as the staff of ports and terminals that are responsible for LNG bunkering need to be carefully trained to guarantee a high level of safety during every step of the LNG handling process. Unfortunately, there is no training institution in Germany at the moment that is able to appropriately educate the handling and management of LNG. The Platform therefore calls for the further development of appropriate training institutions, such as the ma-co (*maritimes competenzcentrum*) or the MTC (*Maritime Trainings Center*).

Public acceptance

As a gas, even if cooled and liquefied, LNG scares many people. Although CPG as a gas fuel is well established in road transport which means that decades of gas-handling practice exists, there is, however, a high degree of ignorance regarding alleged or real risks among the general public as well as professional circles, such as port authorities.

The shipping industry and, moreover, the heavy duty road transport sector must receive objective information about the use of LNG as an alternative fuel. This is not only recommended but absolutely necessary to increase acceptance of LNG in both sectors. In addition, it is also necessary to widen the current debate about the sustainability of goods and their logistics chains. Since the catastrophic fire in a textile factory in Bangladesh consumers are increasingly aware of the need to adhere to environmental and social standards in those countries in which goods are produced. The focus should also be on how goods are transported to Europe. It should be demonstrated that sustainability is increased if goods are carried by ships which are fuelled by environmentally-friendly LNG. A change in consumer awareness that focuses on sustainability rather than costs can influence large companies, e.g. H&M, IKEA and others, to recognise the added value of cleaner transport routes and to urge their logistics partners to use LNG-fuelled ships.

LNG Power Barges for a clean power supply of ships in ports

A major cause for the emission of fine dust particles in German port cities is the power supply of ships during stationary periods as ships leave their generators running during this time. Due to their various hotel functions which require a high level of electricity, particularly large cruise liners contribute to this problem. For example, the "Queen Mary 2" needs a power supply that is equivalent to that of a town with a population of 200,000. If a ship continues to generate power during its stationary time with its own engines, CO2, nitric oxide and sulphur oxide are emitted in addition to harmful fine dust particles. LNG power barges offer an environmentally-friendly alternative to rectify this problem as they operate as small floating power stations offering LNG-generated power.

International co-operation

The introduction of LNG as a marine fuel in Germany is not merely a national task. So, the question of import terminals cannot be answered without consideration of existing capacity, for instance in the Netherlands, Belgium or in the Baltic region. Furthermore, other countries have hit the road earlier, and Germany can learn from them, as well as through European institutions: we do not need to re-invent wheel. There is already a large body of best practice and the existence of international LNG platforms, consisting of industry and other relevant partners, like the German Maritime LNG Platform, ensures a smooth and un-bureaucratic exchange of expertise and experience. The experience of other countries should therefore be involved in the German government's strategic thinking from early on.

The interface with road transport

LNG also has a large significance in heavy duty road transport. Looking at the Netherlands and the UK, an increasing number of LNG-fuelled trucks are already employed. In Germany, there are also first signs that LNG-fuelled trucks are under consideration, e.g. by the logistics company Hellmann, based in Osnabrück. Statutory provisions by European law ("Blue Corridor") are also clear about the construction of a network of LNG filling stations in Germany. Both German and European institutions should factor in the interface between the maritime economy and road transport to prevent parallel structures and to make use of synergies.

A clear commitment from government and industry

The experience of the Netherlands where a national LNG platform has existed for two years and of Norway where recently an alliance between the government and industry stakeholders has committed itself to specific measures to stimulate the use of LNG in the shipping sector demonstrate that a clear commitment from government and industry is able to influence the market. Dutch and Norwegian governments in co-operation with LNG platforms and alliances and its industry stakeholders have agreed to a "Green Deals" that outline clear objectives and specific implementations plans. This approach is an important role model for further activities at European and national level.

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