LNG, the fuel of the future for the maritime industry

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Spain is the European country with the greatest logistics know-how in the distribution of liquefied natural gas (LNG), boasting more than one third of all existing European regasification terminals (18). This results in Spain holding a leadership position with regards to the transport, loading and unloading of LNG, globally trailing just behind Korea and Japan in terms of regasification capacity per inhabitant. Spain currently shifts 45,000 tanks of LNG per year of which Molgas Energía SAU handles about half (21,750 tanks per year to be specific).

Apart from having vast infrastructure Spain also counts on a privileged geo-strategic position vis-à-vis maritime navigation with the ports of Valencia, Barcelona and Algeciras being ranked amongst the world’s busiest ports in terms of traffic flows. Both elements position Spain as an ideal zone to develop the LNG industry as a fuel of the future to propel large vessels and to offer services related to Spanish ports - currently for ships passing by as well as short-sea-shipping and, in the future, for vessels covering long commercial routes that pass through the Mediterranean or the Atlantic.

The drive to use LNG as a fuel to propel large vessels has been favoured by legislation included in the International Convention for the Prevention of Pollution from Ships (MARPOL) that limits emissions of vessels whilst designating areas of special protection (Emission Control Areas - ECAs). The European Directive also fosters the development of infrastructure to use alternative transport fuels, specifying in concrete a series of Spanish ports that will have to dispose of the necessary infrastructure to supply LNG in 2025 with a forecast of more than 1,000 LNG vessels in Valencia, Barcelona, Bilbao, Cartagena, Gijon, A Corunna, Las Palmas, Palma de Mallorca, Seville, Tarragona and Algeciras.

Molas Energía SAU, the leading independent company in Spain, is present throughout the entire value chain necessary to promote LNG as a maritime fuel. It has the largest fleet of LNG trucks in Europe; it is the leader in the design and construction of regasification plants and holds supply contracts with the principal gas companies in the world. Molgas endeavours, from its leadership position, to contribute to the development and diversification of the sale of marine fuels within the framework of the future international regulation limiting maritime transport emissions. LNG is one of the options that allow the maritime transport industry to comply with the most demanding regulation, reducing CO2 emissions by 20-25%, 90% of NOx emissions and 100% of SOx emissions.

Strategy
The strategy of Molgas Energía SAU is based on supporting and promoting the use of LNG and particularly in the Port of Valencia, a privileged port given its European geographic position. Molgas disposes of the necessary means to implement the logistics infrastructure needed to supply vessels, as well as the fleet of trucks and specialised port vehicles, cranes and service vessels.

Molgas has researched for the past two years the dualization possibilities of inland vehicles (trucks) and port equipment (cranes) as well as maritime vessels.

Our objective is to be the leading company for both private as well as industrial users and be the energy supplier, partner and neighbour of choice.

We work towards this goal in our transport and LNG companies, transforming each business into a laboratory to test new ideas, to grow, to offer a better service to our clients and our communities and to offer new opportunities to the employees of each of our businesses.

The last milestone of Molgas consisted in carrying out the first simultaneous bunkering operation in Spain, specifically in the ports of Vigo and Cartagena, supplying LNG to the first tug boat using this clean energy as a fuel. The transfer was made using a pump and flexible metal hose pipe, emptying completely two full tanks in less than two hours thanks to the twin-connection system patented by Molgas.

To conclude Molgas is committed to the development and innovation of LNG supply technologies that will serve as the alternative to multiple fuels and the future of the global fuel. As our slogan says, ‘follow our energy.”
The Regional Port Authority and the Port Consortium of Lambayeque revise in situ the alternative locations for the future port terminal

As part of the activities foreseen in the process of drafting the Master Plan for the Port Terminal of Lambayeque, managed by the Lambayeque Port consortium formed by the Valenciaport Foundation, Acciona Ingeniería and OIST, a visit was made by land and by sea of the alternative locations chosen for the future development of the port terminal.

Jorge Nakazaki, the manager of the Regional Port Authority of Lambayeque, together with Javier Mey, a specialist in coasts and dredging and Rafael Angulo, the local coordinator of the consortium visited together the port development zones of Pimentel and Puerto Eten. The first zone is currently well used for spa purposes whilst the second zone, to the south of the old quay built in the 19th century, has cliffs of up to 30 metres in height which gradually descend to the sea level towards a beach area of fine sand that is quite straight and without natural protection. Such a location to the south of the current facilities of PETROPERU, which in its day manifested the consolidation of port use in the area, is located at a reasonable distance from the urban nucleus and presents a homogeneous bathymetry and a mild slope. There remains just to complete the evaluation analysis of the environmental aspects related to the potential cultural value.

The necessary basic studies are to be completed over the coming weeks to carry out a full evaluation of the design of the proposal of the facilities to be constructed.

The objective of this project is to draft the Master Plan of the port terminal in the Lambayeque region, specifying the port infrastructure and equipment needed for the smooth development of port facilities over the short, medium and long terms. Its physical, economic and strategic potential is to be identified and examined in line with traffic flow and service demand forecasts based on the evolution of international trade and transport, the requirements of the area of influence of the port including the location of a logistics area and on the expected economic development of the country.

Kick-off meeting of the BunkerLogix project

This past 19 February took place in the auditorium of the headquarters of Repsol in Madrid the kick-off meeting of the “Flexible LNG Bunkering Value Chain in the Spanish Mediterranean Coast - BunkerLogix” project. The project is co-financed by the TEN-T Programme of the European Commission (EC) and led by Repsol in collaboration with the Valenciaport Foundation, the company Ros Roca Indx Cryo Energy, S.L. and the Port Authority of Cartagena.

The principal objective of the project is to undertake a study to evaluate and design a supply chain of liquefied natural gas (LNG) that is optimised for the key ports of the Spanish Mediterranean based on existing infrastructure. A LNG supply vessel will also be designed with the goal of offering a flexible supply solution at different locations close to the Mediterranean slope. Another objective of the project is to build up the minimum demand for LNG over the mid term in order to justify economically the investment needed to launch such an LNG supply chain.

The meeting, attended by representatives of the various entities participating in BunkerLogix, served to review the contribution of each project partner as well as to present the logo, acronym and website of the project where the objectives, calendar and current status of technical activities are to be published. These activities include various studies to be carried out to determine the viability of supplying LNG using barges as well as the key technical challenges to overcome. For its part the Valenciaport Foundation presented the progress made in the compilation of existing legislation and standards to be taken into account in the LNG supply chain (regional, national and international), any problems detected during this process, as well as the calendar of upcoming activities whose purpose will be to draft a roadmap for the development of an LNG supply chain in the ports participating in the project.

Finally the design of the market test to be carried out with the objective of defining the future demand for LNG as a fuel in the Spanish Mediterranean coast was presented. Several meetings were also held with managers (fleets, business development and supply managers) of ship operators and charterers who have operations in the principal ports located along the Spanish Mediterranean coastline: Barcelona, Valencia, Cartagena and Bahía de Algeciras.

This project is of a pioneering nature and will enable Spain to offer solutions for the supply of LNG similar to those currently available in other locations in the north of Europe. This comes ahead of the coming into force of legislation on environmental restrictions (Emission Control Areas - ECAs) and will provide the key ports of the Spanish Mediterranean with the necessary equipment to supply LNG to vessels prior to 2020 in line with the directives proposed by the EC.
The COSTA project opens a debate on the introduction of LNG in Europe

This past 19 February took place in the European Parliament the conference "The COSTA solution: LNG serving as the motor for growth and development in the south of Europe", organised by the Italian Ministry, the coordinator of the COSTA project, with the support of the Greek, Spanish and Portuguese governments.

The COSTA project (CO2 & Ship Transport Emissions Abatement by LNG), counting on the participation of the ValenciaPort Foundation, is co-financed by the TEN-T programme of the European Commission (EC) and involves four member states: Italy, Spain, Portugal and Greece. The project started in 2012 with the general objective of developing the framework of conditions needed for the future use of liquefied natural gas (LNG) as a fuel source for vessels in the Mediterranean area, in the Atlantic Ocean and the Black Sea.

Europe is playing a relevant role in the global expansion of the market for LNG as an alternative fuel for vessels. Regulations on the limits of sulphur emissions of vessels, established by the International Maritime Organisation (IMO) and by the EC, are pushing ship owners as well as others in the industry to look for alternative fuels with lower sulphur levels and reasonable costs given the prohibitive prices of currently available distilled fuels. With this objective in mind LNG was identified as the most promising solution by several member states and chosen by the EC in the package "Clean Transport Fuels."

Carlo Fidanza, an Italian EC Deputy and the presenter of the directive being proposed for the development of infrastructure for alternative fuels, hosted the COSTA conference within this context. The work session not only served to present the recommendations resulting from the COSTA project but also to open in parallel a debate at a European level on the solutions to be adopted, over the coming years, to successfully implement the regulations of the EC and Priority Projects. It also served to demonstrate that LNG will without a doubt offer the greatest benefits at a regional level in terms of the development of new technologies in the economies involved, employment, air quality improvement, increased safety and security in supply chains and sustainable development.

Francisco Ferrando, the head of projects of the Valencian regional government and member of the Climate KIC Committee, participated amongst others in the conference to present the economic and social benefits related to the development of LNG regionally.

The Valenciaport Foundation designs a course on terminal operations for Noatum

The Valenciaport Foundation has designed, upon the request of Noatum, a course on the navigability of vessels and terminal operation planning with the goal of deepening the knowledge of the staff of the planning and operations department of Noatum Container Terminal Valencia.

The course, tailor-made for the specific needs of Noatum, comes as part of the 'in-company' training programme of the Valenciaport Foundation and counts on a group of lecturers formed by professionals from the sector with vast experience. The course lasts 32 hours that link the activities carried out in container terminals with the various parties that are involved in the planning of operations: vessels, with the navigability and cargo stowage conditions including dangerous goods, port authorities, representing the framework within which licences are awarded to offer port services and different types of vessel services, as well as the various fees charged by port authorities for vessels calling at ports, SEVASA and port workers, how work teams are determined and defined, how planned cargo loadings are carried out, how lashing and unlashing operations influence vessel planning, as well as the cargo loading and unloading of different types of containers and finally shipping companies, allocations and their disbursement accounts.

27 workers of Noatum Container Terminal Valencia, divided into two groups, followed the course in February whose content included several practical cases as well as visits to port lashing, mooring and tugging activities.

The Valenciaport Foundation is currently preparing the third edition of the course, this time open to the sector and targeted to professionals working in the sector as well as those wishing to complement their training to work in the port-logistics sector.
Success of the business internship programme of the Masters in Port Management and Intermodal Transport

The success of the internship programme in companies of the port-logistics sector is one of the elements offering a higher added-value to the Masters in Port Management and Intermodal Transport for students coming from other sectors looking to retrain themselves as well as for those who lack work experience and for whom these internships serve as the first step to employment.

19 out of the 26 students of the 22nd edition of the masters opted for an internship and 17 are currently carrying out their internship in companies such as IFS Internacional, NOATUM, TCV, MSC, DSV, Bernardino Abad, Ineco, Boluda, Docks, Kuehne + Nagel, Arola Comercio Internacional, Global Cargo System, Marmedsa and BDP Internacional, amongst others.

Students opting for these internships are normally graduates of business studies, economics and civil engineering. Each year more companies are collaborating with the Valenciaport Foundation to take its students as interns having been fully satisfied with their contributions and how the foundation manages its internship programme. The Masters in Port Management and Intermodal Transport is co-owned by the Port Authority of Valencia (APV) and the Comillas Pontifical University of Madrid and is managed by the Valenciaport Foundation. It has been delivered 22 times in Spain and twice internationally in Panama and Colombia.

The masters programme lasts over 500 lecture hours and combines theoretical courses with the participation of lecturers and students both individually as well as in groups, solving practical cases and exercises and/or tasks to demonstrate the students’ understanding and assimilation of problems being analysed to prepare future managers for working in groups.

The programme is complemented by a series of monographic sessions, conferences, presentations and visits to port facilities. The masters programme also includes, as an added value, these company internships, an international study trip to London to visit the key organisations of the maritime sector, an outdoor activity linked to strategy and leadership, sessions on team work and a job offer pool through the IPEC Alumni Association and the ICADE Business School.

Francisco Lorente gives a lecture in the Masters in Port Management and Intermodal Transport

One of the key differences of the Masters in Port Management and Intermodal Transport vis-à-vis other academic programmes in the sector is that its team of lecturers is composed mostly by managers with vast professional experience wishing to share their knowledge with students.

This past January Francisco Lorente, the president of MSC Spain, explained to students the role of maritime agents, the types of maritime agencies existing, the business model that they represent related to shipping companies, organisational charts, as well as the key to having a shipping company choose a port as a hub for its operations. The classes given by Lorente on this topic are of a dynamic and enjoyable nature with debates being of a fundamental nature.