

Ports unite to propel liquefied natural gas technology

The Antwerp Port Authority, Antwerp, Belgium

At its 2011 conference in Busan, the International Association of Ports and Harbours (IAPH) identified the need to reduce toxic emissions, improve air quality and provide a platform that could work on long-term solutions to make a substantial difference to the environmental impact of ports.

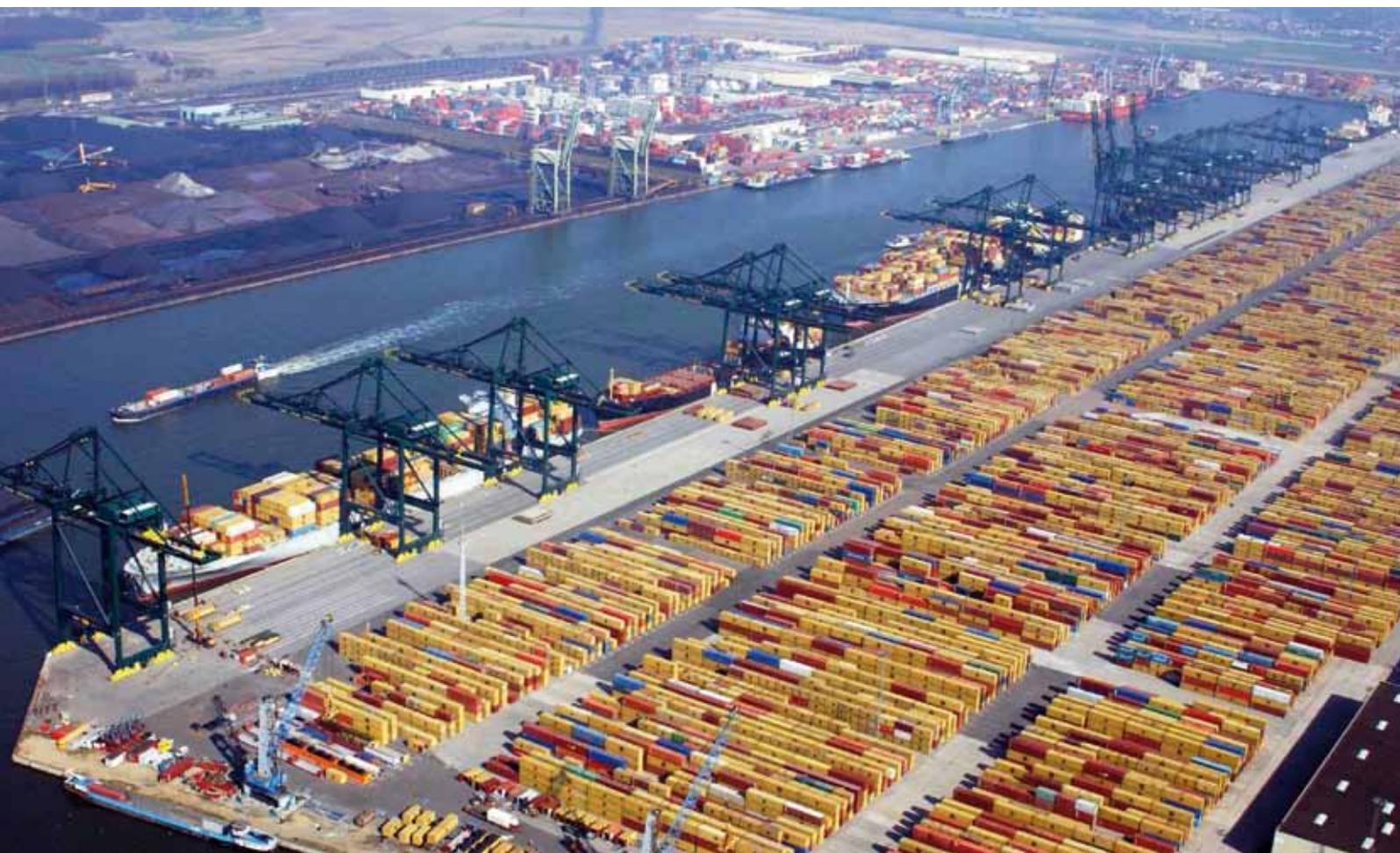
The solution in liquefied natural gas

To be able to answer the International Maritime Organisation's (IMO) call to

reduce emissions of sulphur oxide, carbon dioxide and nitrogen oxide, the shipping industry is slowly but steadily pushing liquefied natural gas (LNG) as the preferred fuel of the future for vessels.

LNG has been identified as the primary medium-term solution as it offers substantial environmental benefits in comparison to conventional fuels. Sulphur and particle emissions would be reduced to almost zero, nitrogen oxide emissions by 85-90 percent and net greenhouse gases by 15-20 percent.

According to a recent study by the Danish Maritime Authority, the current use of natural gas within the Sulphur Emission Control Area (SECA-zone), is expected to increase by 140 percent by 2020, due to the use of LNG as a shipping fuel and also its usage on land by trucks and buses. By 2015 a number of progressive shipping lines want to lead by example and feature LNG-powered vessels in their fleet. Several vessels today are already LNG-powered and more are on order.





A leading global think-tank

Many of the world's leading ports joined forces in the LNG fuelled vessels working group, established under the auspices of the World Ports Climate Initiative (WPCI), to successfully implement the technology around the world.

The switch from conventional fuel to LNG presents several challenges for the shipping industry, and ports in particular. The costs associated with switching technologies and a lack of direction on issues like bunkering options have hindered progress on LNG-fuelled shipping. That's where the LNG fuelled vessels working group comes in. In the working group many of the world's leading ports work together to oversee the implementation of LNG as a marine fuel and tackle all the challenges that lie ahead. It is a think-tank tasked with finding solutions in terms of safety, infrastructure and regulations and developing guidelines on safety procedures for LNG bunkering operations.

The goal is to provide an implementation guideline to help ports around the world in their bid to provide safe storage and bunkering of LNG for shipping lines in or near their port areas. In addition, the working group is tasked with raising awareness about LNG as a sustainable technology and source of fuel. The Port of Antwerp is pushing the boat out in the working group, chairing the initiative. It is joined by representatives of the ports of Amsterdam, Bremerhaven, Brunsbüttel, Gothenburg, Hamburg, Le Havre,

Los Angeles, Long Beach, Rotterdam, Stockholm and Zeebrugge. The working group maintains close contacts with industry stakeholders currently using and/or handling LNG, as well as government agencies, to get a feel for what the industry demands and validate the results of the working group's findings.

Further considerations of the group

The group consists of three sub-groups that tackle individual domains like safety regulations or public awareness. Industry experts are also invited to be active contributors and share their expertise. The Port of Antwerp took the initiative to come up with safe bunkering procedures, a process which will be finalised near the end of 2014. The port believes that the schedule should allow for plenty of time to take ISO recommendations and stakeholder feedback into account. The port wants to focus on coming up with a definitive standard, rather than rushing out a solution.

A switch to a completely new fuel type like LNG requires sizeable changes in infrastructure and the supply chain. The Port of Antwerp also plays a leading role in truck-to-ship bunkering solutions, having implemented the procedure as early as November 2012 and has subsequently built up its expertise on rules and requirements. In December last year, the first LNG truck-to-ship bunkering took place in the Belgian port.

The sub-working group focusing on public awareness has its job cut out to

promote the use and the benefits of LNG. The Port of Antwerp plays its part through the European Clean North Sea Shipping project. The project serves to scientifically illustrate all the environmental benefits of LNG and compare the impact on emissions and feasibility of different clean technologies. The port also supports LNG pioneers such as the BlueCargo project, which is developing LNG as a suitable fuel type for trucks.

About the organisation

The 1,650 employees of the Antwerp Port Authority ensure the efficient and safe day-to-day operation of the port. In view of their wide-ranging responsibilities the jobs of all these colleagues varies strongly: from lock keeper to accounting, from quay supervisor to promotional employee and from tug boat captain to crane operator. Together they work on a sustainable future of the Port of Antwerp.

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