

HARBOURS review

Crude oil and fuel market

EUROPEAN PORT SECTOR FORUM

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featured article

Blending the new oil shuffle

by **Charles Daly**
*Owner and Executive Chairman
of Channoil Consulting Limited*



Charles Daly is Owner and Executive Chairman of Channoil Consulting Limited, an independent consulting business founded in 1998. Prior, in 1987, Charles co-formed its predecessor Channoil Broking, dealing with FSU and Middle East/Arabian Gulf originating products/feedstock. Charles's career in the oil industry has covered logistics, refinery planning, shipping and trading, starting with BP and then Ultramar, incl. management assignments in the Netherlands and North America. Charles Daly was also Founding Member of the IPE Steering Committee and served on its Board for six years. Outside the oil industry, Charles' experience has included soft commodity trading as Managing Director of the London-based L M Fishel and Co.

Oil markets are never static. The events of 2014 prove that any complacency in thinking about how they move will result in errors and mistaken conclusions. The major oil companies, with a long history in the industry, always use very low oil price levels in both testing the robustness of their long-term investments and acquiring competitors with attractive asset portfolios.

The logistics side of the industry has also been evolving dramatically. Today it is increasingly common to see the so-called Long Range 3 Product Tankers (LR3) being used to haul oil products to markets.

The effect of these changes and other related factors are bringing about a revolution in how the industry looks to supply the market.

The regulatory (back)shift?

Refineries were the first casualties of high oil prices and substantial regulatory changes in Europe. Most European refinery facilities were built in the 1960s and 1970s and are all small by today's world class standards. Even the largest refinery in Europe – Shell's installation at Pernis in the Netherlands (416 thou. barrels per day) – does not rank among the top 16 largest in the world.

Broadly speaking, most European refineries were built with the aim of maximizing their output of gasoline (benzene/petrol), as that was the predominant fuel for cars at the time. Diesel was only for trucks. However, pressure from EU regulators, which focused on carbon dioxide (CO₂) emissions, drove car manufacturers to make small, efficient diesel engines. This change resulted in the demand pattern swinging from gasoline to diesel. To convert their equipment to maximise diesel

production, refineries would have needed to invest around USD 1.0 bln per refinery.

At the same time, because of high oil prices and technological advances in the efficiency of motor car engines, demand for road transport fuels began to fall in Europe. This left refiners with minimal margins and virtually no profit, meaning that investment in new equipment was hard to justify.

“Refineries were the first casualties of high oil prices and substantial regulatory changes in Europe.”

Over and above this demand shift, the current plight of European refineries is to a large degree a consequence of high regulatory costs, particularly those associated with EU regulations. Even at today's high freight rates, an LR2 vessel (100-130 thou. tn) moving products through the Suez Canal from a source refinery in the Mid-East-Gulf will cost only USD 3.5 per barrel (bbl) whereas the regulatory costs are around USD 4-5 per bbl.

Another factor to be taken into account is that the cost of freighting crude oil round the Cape in Very Large Crude Carriers is today higher than shipping it via Suez in LR2s. It therefore makes economic sense



“The supply of refined oil products in Europe is still falling faster than demand. Some 10 mln m³ of older capacity is becoming increasingly uneconomic every year. This will cause utilisation rates in Europe to fall to about 70% by 2018, after which further closures of marginal refineries may be expected to be offset by further declines in utilisation rates.”



to refine crude oil at source and then ship the refined products.

Refining the utilisation rates

The supply of refined oil products in Europe is still falling faster than demand. Some 10 mln m³ of older capacity is becoming increasingly uneconomic every year. This will cause utilisation rates in Europe to fall to about 70% by 2018, after which further closures of marginal refineries may be expected to be offset by further declines in utilisation rates. Currently, refinery margins in Europe are very positive, but this is seen as a short-term phenomenon.

Channoil foresees this trend continuing well beyond 2020, as supersized (800 killobarrels of oil/day upwards) refining/petrochemical complexes, located close to crude oil sources, increasingly displace smaller, older, less complex, and inefficient refining facilities. The effect of these trends will be felt keenly both in Europe and Africa, where large product terminal hubs and smaller satellite facilities are likely to proliferate around the coastal fringes of both regions. The growing use of the latest generation of Very Large Product Carriers (VLPCs), which can transit the Suez Canal fully laden from the Middle East, will further reduce transportation costs and will hasten this process. Hub oil terminal facilities will need to accommodate such tankers.

We therefore foresee refineries closing and converting themselves to oil import terminals. This is logical as they have large tanks and deep-water jetties. As the North Sea crude oil fields deplete, refiners in Europe will need to import more and more of their crude oil from other sources, of which the Organization of the Petroleum Exporting Countries (OPEC) and Russia will be dominant.

In the Middle East (Saudi Arabia, Kuwait, Oman) four refinery developments are currently in the commissioning or construction phase; moreover, a 1,260 kb/d refinery – the largest and most complex such facility in the world – exists in Jamnagar, India.

In the United States the government is still imposing a law drawn up in 1974 when OPEC was wielding oil cuts as a weapon against the West for its support of Israel in the 1973 Yom Kippur War. This law bans exports of crude oil from the US. The effect of this has been a glut of crude in the US, which has no outlet to the world market, and a price for WTI (West Texas Intermediate) crude oil that is some USD 8.0 below its comparable marker, Brent Blend. The law does not, however, prohibit the export of oil products from the US. Consequently, this has been a bonanza for the coastal US refiners and they have been able to

undercut their European competitors in the main outlets for gasoline in West Africa of which Nigeria is the largest.

The demand for transport fuels from the side of the members of the Organisation for Economic Co-operation and Development (OECD) is declining whereas it continues to grow in the non-OECD areas. The impact of new engine technology in the car fleet in OECD Europe will be the main reason for this decline.

Harbours and bunkers

The future for oil ports in Europe is to either expand and deepen their facilities or rely on hub-and-spoke supply systems (least costly in infrastructure terms). We already have some deep ports in Europe that can easily accommodate the new LR3 ships. Amongst these we can see Rotterdam, Milford Haven and Antifer. The other major ports cannot take these sizes of ships unless they have a single buoy mooring (SBM) facility. Some new ports have been built in the south, e.g. Algeciras in Spain and Vasilikos in Cyprus. We have also seen plans for a new deep-water port at Nador in Morocco. The refineries that are closing but have deep-water jetties can convert themselves to product import terminals; however they also need to be economically viable in the hub-and-spoke concept.

Historically, the bunker fuel market has been growing linearly with the increase in GDP and more recently in line with the substantial growth in the movement of goods from the Far East to Europe and the USA (and vice versa). The main propulsion fuel for large vessels such as container ships, bulk and general cargo as well as tankers has been and remains Heavy Fuel Oil (HFO); machinery and services are generally fuelled by Marine Diesel Oil/Marine Gas Oil (MDO/MGO).

Global demand for bunker fuels (HFO plus middle distillates) is currently estimated to be about 375 mln tn a year, of which MDO/MGO is about 50 mln tn (13% of the fuel mix). We forecast that by 2025, the demand for bunker fuels will increase to somewhere in the region of 450 mln tn. Tab. 1 shows three possible scenarios, all based on Rotterdam Port Authority's demand scenarios for shipping movements to 2030.

First, the base case, namely the 'Status Quo' scenario in which global GDP grows by about 2.0% on average.

Second, the upside case, nicknamed the 'Globalisation' scenario, where the nations of the world free up global trade and harmonise tariffs, leading to higher GDP growth and higher shipping volumes. This scenario assumes no global cap on sulphur content in ships' bunker fuel. It is therefore the most optimistic scenario for

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The growing use of the latest generation of Very Large Product Carriers, which can transit the Suez Canal fully laden from the Middle East, will further reduce transportation costs and will hasten this process. Hub oil terminal facilities will need to accommodate such tankers.”

High Sulphur Fuel Oil (HSFO), but also for increasing MDO/MGO demand.

And finally, the downside case or the ‘Global Competition’ scenario. Here, globalisation is held back and tariff barriers are imposed, leading to slower global growth. In addition, it assumes that a cap of 0.5% sulphur is introduced in 2020 across the globe and the necessary investment in flue gas scrubbing is not made, causing demand for HSFO to reduce to zero by 2020. However, in this scenario, the demand for bunker HFO is assumed to switch entirely to Low Sulphur Fuel Oil (LSFO) after 2020.

This implies that the requirement for heated HFO tankage will be maintained. Furthermore, we have assumed that a small growth in the number of LNG-fuelled ships (less than 4%), as well as some biogas and diesel vessels, will be introduced towards the latter part of our forecast period, thereby reducing the demand for both LSFO and MDO/MGO.

Northern Europe we also expect tanker demand to grow as the region becomes increasingly dependent upon long haul imports of refined oil products.

Getting back to oil harbours, the Baltic Sea region is an interesting case, pinpointing some other economic and political intersections of the oil market. Here certain Baltic ports are vulnerable to Russia’s desire to control its own exports. In the last few years a number of key decisions show that this is a deliberate and long-term policy. The development of Primorsk, Vysotsk and Ust-Luga are cases in point in the Baltic, but let us not forget the ports of Murmansk, Arkhangelsk and Vitino up in the Barents and White Seas. All these ports have been increasing their throughputs over the years.

The increases are of course at the expense of nearby Baltic ports, however, the harbours of the three Baltic States of Estonia, Latvia and Lithuania are still being

Tab. 1. Global bunker fuels demand increase (mln tn)

Scenario	Bunker fuel demand increase											
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Base Case (‘Status Quo’)	1											
HSFO/LSFO	325	332	338	345	352	359	366	373	381	388	396	
MDO/MGO	50	51	52	53	54	55	56	57	59	60	61	
Total	375	383	390	398	406	414	422	431	439	448	457	
GDP Growth	102.0%											
Upside Case (‘Globalisation’) No global sulphur cap	2											
HSFO	300	309	318	328	338	348	358	369	380	391	403	
LSFO	25	0	0	0	0	0	0	0	0	0	0	
MDO/MGO	50	65	67	69	71	73	75	78	80	82	85	
Total	375	374	385	397	409	421	434	447	460	474	488	
GDP Growth	103.0%											
Downside Case (‘Global Competition’) 0.5% global sulphur cap	3											
HSFO	300	305	309	314	318	0	0	0	0	0	0	
LSFO	25	0	0	0	0	323	328	333	338	343	348	
MDO/MGO	50	65	66	67	68	69	70	71	72	73	74	
LNG/Others	0	18	18	19	19	19	19	20	20	20	21	
Total	375	388	393	399	405	411	417	424	430	437	443	
GDP Growth	101.5%											

Source: Channoil Consulting Limited

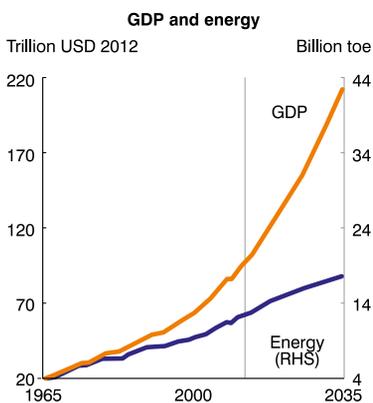
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The refineries that are closing but have deep-water jetties can convert themselves to product import terminals; however they also need to be economically viable in the hub-and-spoke concept.”

Our analysis shows that in all three scenarios, fuel oil demand will continue to grow in the foreseeable future, be it HSFO or LSFO. The reason for this is that the shipping fleet changes very slowly. The average life of a ship is between 20 and 25 years. Engine efficiency has already been pushed fairly hard during the period of historical high oil prices and any future improvements are likely to be minimal. The main worldwide driver for increasing bunker consumption will be the growth of container vessels and general cargo. In

used because they export HFO and much of this comes from Belarus’ refineries. Furthermore, Russian ports are ice bound and need to export their fuels rapidly, rather than storing HFO in heated tanks throughout the ice bound season at very high costs.

The continuing inward looking approach by Russia will put great downward pressure on oil terminals in the Baltic; because of the lack of growth in these terminals we have seen VOPAK disposing of all of its storage terminals in Sweden and Finland.

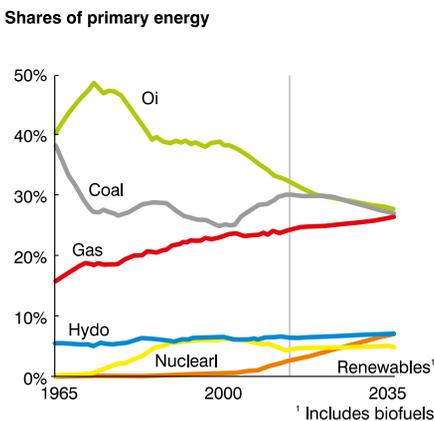
“
The main worldwide driver for increasing bunker consumption will be the growth of container vessels and general cargo. In Northern Europe we also expect tanker demand to grow as the region becomes increasingly dependent upon long haul imports of refined oil products.



Outlook for oil demand and pricing

So where is oil demand likely to be in 2022? This is a difficult question to answer as it depends on a number of different factors, the two most important of which are economic growth and energy efficiency. As for OECD countries, their overall GDP growth is forecast to be in the range of 2.5-3.0%. As can be seen from Fig. 1, energy efficiency in 2015 is about 60% but improves to around 30% by 2035. Energy efficiency is hugely dependent on technological change. If the phenomenal growth in computing power is taken as an example and replicated, even in part in the uses of energy, it is not hard to envisage that the forecast efficiency is achievable.

Fig. 1. Relationship of primary energy to GDP



Source: BP 2035 Energy Outlook, January 2015

The right-hand graph shows the sources of primary energy. Oil and coal decline as primary energy sources, whereas gas consumption increases. This is not to say that oil demand will fall, only that its share of the primary energy mix will decrease relative to gas.

“
What is interesting about the current climate is that even with the closure of Libya, the war in eastern Ukraine and the turmoil in Yemen, oil prices have not shown the historical panic-driven price rises. This is due to the potential oversupply and the diversity of supply options available to the consumer countries.

Conclusions

Oil supply and production are dependent solely on demand. If oil supply is higher than demand then the result is weak oil prices. Conversely, if supply is insufficient to meet demand, prices will rise.

What is interesting about the current climate is that even with the closure of Libya, the war in eastern Ukraine and the turmoil in Yemen, oil prices have not shown the historical panic-driven price rises. This is due to the potential oversupply and the diversity of supply options available to the consumer countries. This position is likely to persist throughout 2015, particularly when we look at the latest breakthrough in talks with Iran.

One area of radical change, however, has been and will continue to be in oil supply logistics. Oil products will travel greater distances in larger tankers. This will put pressure on coastal market based refineries, which will face increasing competition from refineries located close to crude oil sources. The effect of this will be to encourage new port developments that support more hub-and-spoke oil logistic patterns to supply the consumer countries. ■

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voices



Kristine Bitnere

Research Manager
at Stratas Advisors

The EU's measures to reduce the transportation sector's dependency on fossil fuels and to decrease tailpipe emissions from vehicles and lifecycle emissions from energy used by transport were developed separately, focusing mainly on

biofuels and efficient diesel vehicles.

As a result, vehicles powered by truly alternative fuels such as gas in its various forms and mixtures (compressed – CNG, liquefied – LNG, as well as liquefied petroleum gas – LPG) together with EVs hybrids and other solutions represented only 5% of the European car fleet in 2014, while the use of alternative fuels in heavy duty vehicles and in the maritime and aviation sectors is today negligible, with a few exceptions of LNG-driven ferries (and the world's first on methanol) sailing in the Baltic Sea.

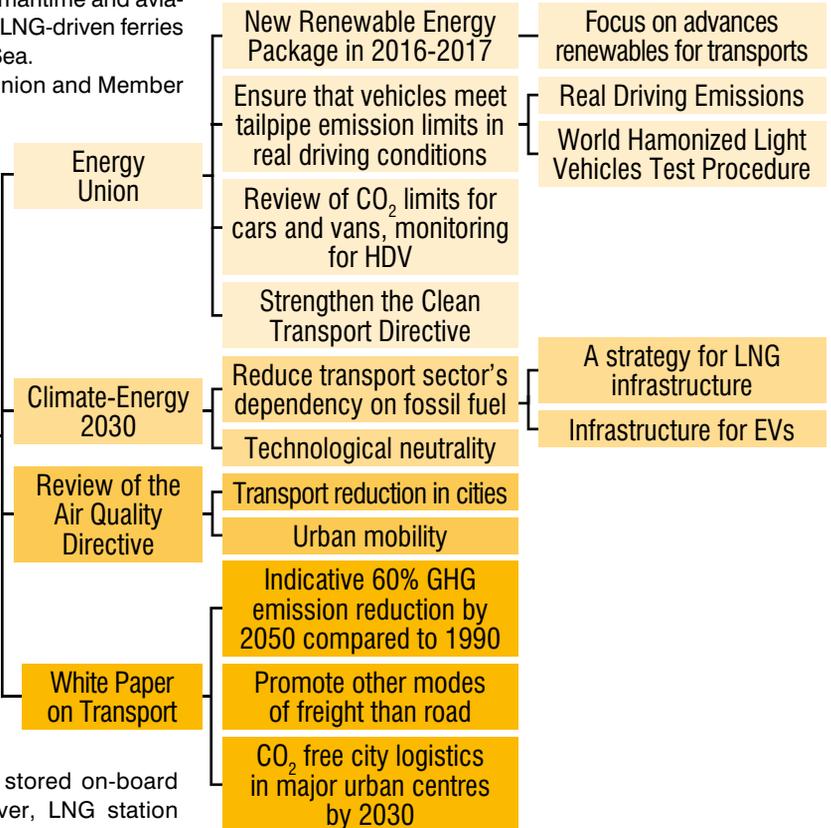
Following the recent establishment of the Energy Union and Member States' request for technological neutrality in the so-called '2030 Framework for Climate and Energy', the EU aims to harmonize its set of measures (Fig. 1), expecting that alternative fuels – especially gas and electricity – will play an essential role in the decarbonisation of transportation.

The technology for CNG and LPG vehicles is commercially available, offering a comfortable driving range of up to 500-900 km and the refuelling infrastructure is well developed, e.g. in Italy, Germany, Sweden and Austria when it comes to CNG, whereas Poland is one of the world's largest private vehicle LPG markets. However, lifecycle greenhouse gas (GHG) emissions might be of concern depending on sources of fuel – natural gas or biomethane. Worth remembering is that the EU is strongly dependent upon gas imports, which affects the final price of CNG and LNG.

Liquefied Natural Gas, on the other hand, presents an energy efficient alternative for heavy duty vehicles as more energy can be stored on-board and gas does not need to be compressed. However, LNG station



Political and legislative documents shaping the future transport sector in the EU



“ In 2013, more than half of the total electricity generated in Europe came from low-carbon facilities. Solar, wind and biomass energy could make electric vehicles an even more attractive option to reduce life-cycle GHG emissions, however, the industry is still facing a number of hurdles such as the range of battery performance additional weight, vehicle production costs and energy intensity as well as the density of the recharging infrastructure. ”

technology is costly, therefore the refuelling network and vehicle production are developing much slower than for CNG or LPG. Additionally, the requirements of the Sulphur Emission Controlled Areas (SECA) are putting pressure on the environmental performance of the shipping industry. Usage of LNG could be a viable option but the stakeholders have to solve the pricing issue of LNG and develop necessary bunkering infrastructure.

Electric vehicles (EVs) could considerably reduce tailpipe emissions from the transportation sector especially in cities and from public transport. In 2013, more than half of the total electricity generated in Europe came from low-carbon facilities. Solar, wind and biomass energy could make EVs an even more attractive option to reduce life-cycle GHG emissions. The industry is still facing a number of hurdles such as the range of battery performance additional weight, vehicle production costs and energy intensity as well as the density of the recharging infrastructure. Moreover, some EU Member States will continue to rely heavily on coal-feed powerhouses for years to come, making EVs in fact a ‘dirtier’ mode of transport than their horsepower gasoline/diesel counterparts. However, the case of Estonia is worth noting here as in 2013 the country developed a nationwide network of 165 fast-charging stations and sales of EVs and plug-in electric vehicles is on the rise due to special tax treatment.

All in all, and considering the EU’s political indications and trends in commercial availability, Stratas Advisors expects that a major shift will occur in the light duty vehicle fleet and also in public transport because of its pre-planned refuelling and trajectories. However, to successfully deploy alternative fuels on a larger scale, the EU has to tackle a number of issues, namely proper infrastructure, harmonisation of standards, connectivity,

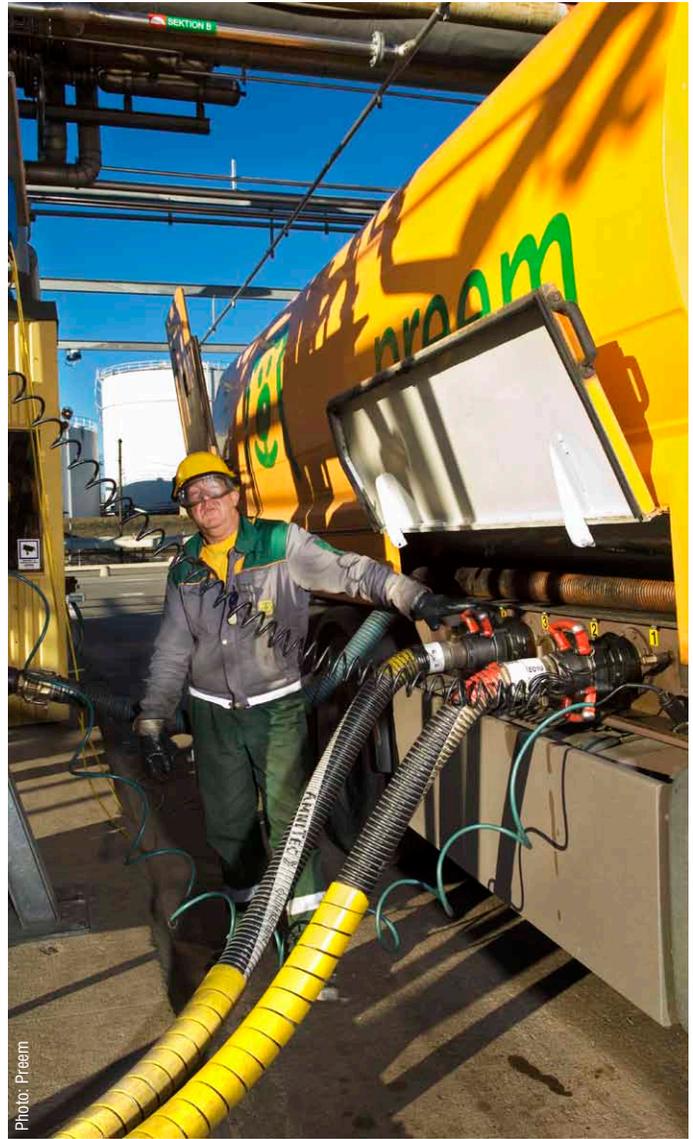


Photo: Preem

new technologies, revision of energy taxation based on CO₂ and energy content, and a freight modes shift to reduce pollution and energy consumption in transportation.



Frank Schnabel
*Brunsbüttel Ports’
Managing Director*

Brunsbüttel is a multi-purpose port where we handle a wide variety of goods. These include dry bulk, diverse heavy cargo, containers, but most importantly in the context of this edition of

the *Harbours Review* – also liquids such as oil and gas. Particularly, the oil business is running very well recently, naturally thanks to our customers. We have just invested EUR 15 mln to make our port stronger for all kinds of products in the future. However, Liquefied Natural Gas (LNG) has lately landed high on our agenda as we are thinking about expanding our harbour to include swift handlings

“ LNG has a big potential when it comes to the German market, both for traditional shipping purposes such as bunkering, but also industrial companies can take advantage of LNG as a replacement for pipeline gas. Nonetheless, while we predict the increasing role LNG will play in Germany in general, and in Brunsbüttel in particular, oil will continue to function as the main energy carrier in the future. ”

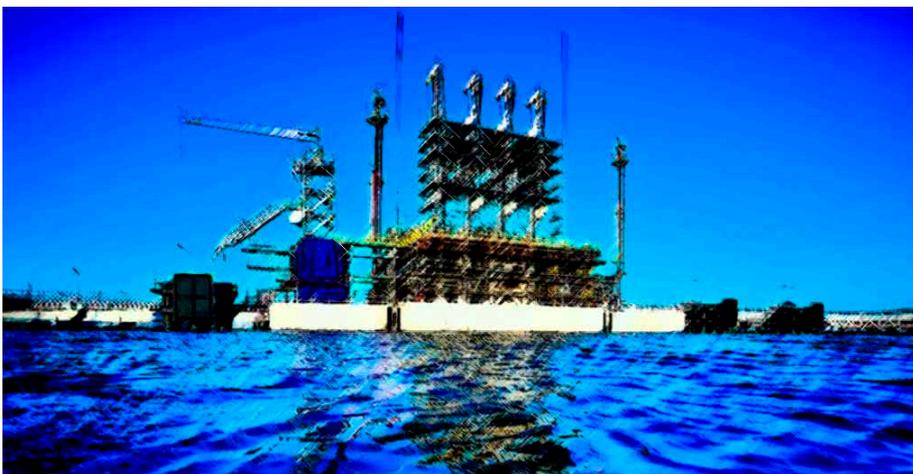
of this commodity as well. From our perspective, LNG has a big potential when it comes to the German market, both for traditional shipping purposes such as bunkering, but also industrial companies can take advantage of LNG as a replacement for pipeline gas. Nonetheless, while we predict the increasing role LNG will play in Germany in general, and in Brunsbüttel in particular, oil will continue to function as the main energy carrier in the future.

Ana Martín Martín
Port Authority of Huelva's Communication Director



With 21.8 mln tn of liquids (crude oil, oil products and natural gas) handled in 2014 (+1.7% year-on-year), the Port of Huelva is Spain's third-biggest liquid bulk harbour, just after Cartagena and Algeciras. Regarding the latest changes and developments taking place across both the European and regional oil markets, transshipment of liquid bulks in Huelva has grown substantially in recent years, chiefly due to the nearby La Rábida Refinery in Palos de la Frontera, which doubled its production capacity in 2010. The middle distillate capacity expansion project at the La Rábida was shaped between 2005-2006 by the necessity to increase safe supplies of automotive diesel oil as well as to remedy the lack of gas oil and kerosene in Spain. According to

“ Although Huelva is not yet situated in a so-called Sulphur Emission Control Area (SECA), in which the EU wants to significantly reduce the amount of sulphur content in ships' fuel as to protect sensitive areas against excessive levels of air pollution, the port authority has already engaged in activities meant to take the LNG opportunity to open new trades (since gas has some undeniable eco-advantages over oil-based bunkers). ”



the owner of the La Rábida, the Compañía Española de Petróleos (CEPSA; a Spanish multinational oil & gas company), the demand for these products was driven at that time by the overall good shape of Spain's economy and customers preferring cars powered by diesel rather than gasoline.

However, one also needs to look into the future in order not to stay behind. Therefore, the Port Authority of Huelva wants to be the first port in Spain to set up a safe & efficient supply of Liquefied Natural Gas (LNG). Although Huelva is not yet situated in a so-called Sulphur Emission Control Area (SECA), in which the EU wants to significantly reduce the amount of sulphur content in ships' fuel as to protect sensitive areas against excessive levels of air pollution, the port authority has already engaged in activities meant to take the LNG opportunity to open new trades (since gas has some undeniable eco-advantages over oil-based bunkers). To achieve that, the Port of Huelva has partnered with the Spanish gas grid owner Enagás, which has a regasification plant in our port, as well as with the gas arm of CEPSA. Moreover,

Huelva also wants to develop inter-modal gas traffic by handling LNG in ISO containers. Apart from that, Huelva together with other Spanish harbours takes part in an ambitious LNG project headed by the State Ports of Spain.

Lastly, Huelva is a core port on the new TEN-T map, where the EU plans to have LNG facilities as a means to encourage the use of cleaner energy and to reduce the emissions of polluting gases. Likewise, the International Maritime Organization and the EU have set a strict timetable for the reduction of harmful ship-borne emissions into the atmosphere; the new rules will demand that as of 2020 vessels will have to burn more eco-friendly bunkers. Consequently, the Port of Huelva wants to be prepared in advance to swiftly serve such ships and their demands, seeing the upcoming requirements as a promising challenge, and not as an obstacle in running a sound port business.



interview



The Port of Gothenburg Expanding into the future



Jill Söderwall, Vice President Business Area Energy & Cruise at the Gothenburg Port Authority

By all means the Port of Gothenburg is an energy hub for Sweden, having the refineries of Preem, Nynas and St1 in its nearest vicinity, as well as vast handling and storage capacities. But times change and new energy carriers will take a larger share in the overall picture, something each harbour dealing with liquids must take into account when preparing its development strategy. We talk with Jill Söderwall, responsible i.a. for Gothenburg port's energy affairs, about LNG, the port's short- and long-term plans, as well as wider energy trends.

■ **Could you update us on the development of the LNG terminal in Gothenburg?**

Firstly, I can truly say that the cooperation between the Port of Gothenburg and our partners regarding this project is going very well and we are optimistic about the future, even despite a delay we've now encountered. The demand for LNG services in Gothenburg will increase steadily as we expect to have some 50 calls of LNG-powered next year, and about 120 in the following year. We're also actively encouraging the shipping sector to make use of LNG as a bunker fuel by introducing a 30% port dues discount, in place as of January 1st 2015.

Moreover, quite recently we introduced our own LNG bunkering regulations, developed in close cooperation with the Port of Rotterdam and the Swedish Transport Agency. The regulations not only cover fuelling from land using a road truck but also ship-to-ship bunkering. Requirements governing safety zones, weather, bunker as well as receiving vessels, terminals and other aspects are included in the new operating regulations, too. We

are very proud of the outcome and that our regulations are now the standard.

Lastly, in this topic, it's worth noting that for some time now the world's first methanol-driven ship, Stena Line's ferry *Stena Germanica*, sailing across the Gothenburg-Kiel route, is fuelled in our harbour.

■ **Some time ago the Port of Gothenburg tabled a bold investment plan for a brand-new 60 ha big energy harbour. What is the rationale behind setting-up this facility?**

Indeed, that's a huge amount of space, however, it's vital for us to secure certain future development opportunities as we firmly believe that we have to expand the port overall. The concept in question won't be ready until the 2040s and most probably it won't be a pure energy harbour as it will also likely house other freight activities. Nonetheless, the Port of Gothenburg needs to upgrade its offer, and the long-time horizon gives us the flexibility to determine the more or less final character of the new facility as e.g. next-gen



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renewables or methanol can penetrate the energy market to a greater degree, requiring in turn proper handling and storing capacities, etc.

As a matter of fact, the nearby Preem refinery is taking in forest products, which then undergo refining processes to be turned into liquid bulk, a big change when compared to the first-generation biofuels made out of edible crops. Another oil major located in our port's neighbourhood, St1, is actively dealing with methanol. In other words, the market for new energy solutions will gradually open up. Yet, the more traditional oil business will be present in Gothenburg as we e.g. have huge caverns available for storing crude oil, maybe not chiefly for the needs of the Swedish market, but rather as part of a hub solution. As next-gen biofuels will seize a bigger portion of the market, too, we'll also see more blending taking place in refineries.

“We'll see a change, that's for sure, but our demand for fossil fuels today is still very high and the situation won't alter overnight. Nonetheless, I'm optimistic about the future in this context, and I would place my bet on electric vehicles as those which will stay with us for a longer period of time.”

- **What is your personal view on the future of the European energy market? Business as usual, a transition to cleaner fuels or will we face a completely new eco-revolution, switching e.g. from gasoline/diesel cars to electricity or hydrogen?**

Definitely hydrogen and electric vehicles will be a part of our future, something which I very much believe in, though on the other hand – it's hard to predict how fast such a bold transition like this will happen. We'll see a change, that's for sure, but our demand for fossil fuels today is still very high and the situation won't alter overnight. Nonetheless, I'm optimistic about the future in this context, and I would place my bet on electric vehicles as those which will stay with us for a longer period of time.

- **How do you see – from a seaport's perspective – the so-called Energy Union?**

It's extremely important to have energy sources as well as the overall supply chain of energy products feeding Europe firmly and securely. As such the Energy Union can provide the EU with greater stability. As for port infrastructures, it can affect new LNG terminals being constructed here and there as well as increase demand for gas-powered ships. The Energy Union can also result in more energy efficient solutions, e.g. vessels consuming less fuel. Therefore, in my opinion, the environment will also be one of the beneficiaries of the Energy Union.



Photo: Preem

HARBOURS 360 CONFERENCE

DAY 1
Container
Intermodal

DAY 2
Ro-ro & ferry
Intermodal
Silk road

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HaminaKotka

Around 2,700 ships call at HaminaKotka yearly, berthing at dedicated quays for ro-ro, ferry and cruise vessels, container operations as well as dry bulk, liquid cargo and non-unitized forest products.

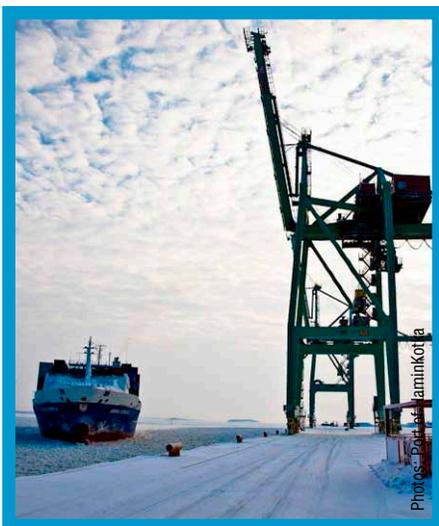
It took four decades of negotiations between the two easternmost Finnish general cargo ports to merge. The deal was fixed in December 2010 and a new joint port authority under the name of HaminaKotka started operating in May 2011, hence becoming the biggest container port unit in Finland and one of the biggest within the Baltic Sea region.

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The port in Hamina spans over 320 ha (with a further 200 ha approved for port use). The port has a total of 3.2 km of quays, on which terminals for ro-ro traffic (seven ramps), handling boxes (three STS cranes, 0.5 mln TEU of annual capacity), forest products and liquid cargo (i.e. LPG terminal) are located. All of Hamina's berths are rail-linked and the port has over 40 km of rail tracks. Additionally, there are 470 thou. m² of covered and open space for storage as well as approx. 830 thou. m³ for storing liquid bulk. The maximal draught is 12 m.

The main harbours of Kotka are Mussalo and Hietanen. The first one is the newest facility in HaminaKotka and consists of a container terminal (1 mln TEU of yearly capacity, served by seven gantry cranes), dry and liquid bulk terminals as well as a 500 ha logistics area for





value-added services. The Mussalo harbour in general, and its Jänskä quay in particular, played an important role in handling pipes for the Nord Stream project. Hietanen harbour, which used to be the main facility of Kotka port, now focuses on ro-ro traffic (six stern-to ramps alongside 900 m of berthing). The fairway to Kotka has 15.3 m of depth allowing to handle Capesize vessels.

Port of HaminaKotka's managing system consists of certified environmental and quality management standards (ISO 14001, ISO 9001) and Hamina's facilities are certified with ISO 9001.

HaminaKotka's key parameters & statistics

Technical parameters

Total port area	2,500 ha
Land area	1,100 ha
Max. draught	Kotka: 15.3 m Hamina: 12 m
No. of berths	76
Total quay length	9.0 km
Warehouse capacity	1.0 mln m ²
Tank capacity	1.1 mln m ³

Statistics (2014-2013)

	2013	2014	2014/2013 [%]	
TOTAL	14.0 mln tn	13.4 mln tn	-4.3%	
Dry bulk	3.0 mln tn	3.0 mln tn	+/-0.0%	
Liquids	3.0 mln tn	3.0 mln tn	+/-0.0%	
General cargo	7.3 mln tn	6.75 mln tn	-7.5%	
	Containers	626,791 TEU	574,982 TEU	-8.3%
Incl.	Cargo units	22,581	20,157	-10.7%
	Vehicles	91,233	74,238	-18.6%
Other	0.76 mln tn	0.62 mln tn	-18.4%	

More information, including terminals, stevedores, networks and investment possibilities at www.harboursreview.com

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