

Asia's maritime industry sees benefits of a green revolution

While many in the shipping industry continue to struggle with the impacts of the economic meltdown, Asia recognises the financial reward in emission reduction measures.

At a time when the world is looking to pick itself up and dust off those stubborn remnants of the global economic crisis, many within the Asian maritime sector have decided now is the time to get ahead of the competition and realised that the only way to ensure financial stability is to invest in the idea of corporate social responsibility, also known as going green.

Over the past year there have been a number of well documented 'green' efforts, such as slow steaming by some of the big shipping including the CKYH Green Alliance partners that consists of COSCO, K-Line, Yang Ming and Hanjin Shipping. Post-crisis, these organisations decided to start a super-slow-steaming programme to control operation costs, save energy resources, and reduce fuel and greenhouse gas (GHG) emissions.

Admittedly, the same programmes were being implemented by European and US shipping lines, but it seemed that this new drive by Asia was part of a collaborative effort to be at the forefront of a new movement.

A green drive

One of the first big signs of this new focus was seen in Spring 2009 when Hong Kong's Climate Change Business Forum (CCBF) and the Hong Kong General Chamber of Commerce (HKGCC) came together to release the guide entitled, Capitalising on the Business Opportunity: The Hong Kong Business Guide to Emission Reduction.

The guide emphasised that energy efficiency delivers cost savings, competitive advantages, and enhanced corporate leadership and reputation. It stated that "if no action is taken now, the overall costs and risks of climate change will grow to five to 20% of GDP or more."

At the same time Hong Kong's Secretary for the Environment, Edward Yau announced that the Hong Kong Government was implementing vigorous measures to reduce its GHG emissions. Yau went on to advise that every business should take up the challenges arising from its transition into a low carbon economy.

Then came the announcements by the shipping lines. Hong Kong-based Orient Overseas Container Line (OOCL) told Bunkerworld that it would continue to voluntarily cooperate with a variety of programmes and standards to minimise their carbon footprint, as well as other harmful pollutants such as sulphur oxides (SO_x), nitrogen oxides (NO_x) and particulate matters. China Ocean Shipping (Group) Company (COSCO) revealed it was in talks with the national nuclear authorities to develop the 'cleaner' nuclear powered ships, and Young Min Kim, president & CEO of Hanjin Shipping reiterated the need

for shippers to cooperate on environmental issues including eco-steaming and reducing carbon dioxide (CO₂) emissions.

This commitment continued through 2010. In April Capt. Wei Jiafu, president and CEO of COSCO once again emphasised the company's commitment during the 4th Singapore Maritime Lecture (SML), saying that fluctuating oil and bunker prices were burdening operators in China.

Capt. Wei said that the effects of burning large volumes of bunkers, "which emit harmful pollutants," should impel the shipping industry to take measures in reducing environmental footprints, adding that "Green-shipping" will become a trend of the industry and that Cosco now planned to implement cold ironing technology at its terminals to further minimise greenhouse gases.

While these and other socially responsible measures were all going ahead, it was in green technologies that the Asian industry seemed to be making its mark, albeit on a more discreet level as far as the world media was concerned.

Investing

In March a report by non-profit organisation Pew Charitable Trusts announced that China had surpassed the United States as the "top investor in clean energy", commenting that the "rising Asian power" was becoming a "powerhouse" in this emerging field.

The study found that Chinese investment in clean energy increased by a whopping 50% in 2009 to reach 34.6 billion dollars, far more than any other country in the Group of 20 major economies.

"This represents a dramatic growth when you consider that just five years ago their investment totalled 2.5 billion dollars," Phyllis Cuttino, global warming campaign director of the Pew Environment Group, told the press.

One of the biggest announcements over the past few months was when South Korean-based shipbuilder Samsung Heavy Industries (SHI) announced that it would begin building only eco-friendly ships from 2015. Setting a date made the world realise Samsung was serious. Under its new green management policies Samsung said it would develop the ships with a goal of reducing greenhouse gas (GHG) emissions by 30%.

The new vessel designs would have an optimal shape to maximise fuel efficiency. There would also be a focus on 'diverse technologies' such as heat recovery devices and low-temperature combustion devices to improve energy efficiency and reduce emissions.

"In particular, the company has set a goal of building the world's first eco-friendly ship by developing LNG (lique-

fied natural gas) and hydrogen fuel cells, superconduction electricity-powered motors and cables, and CO₂ collection technology, jointly with universities and private research centres," Samsung said.

The plan, according to CEO Roh In-sik, was to "preoccupy the eco-friendly ship market and contribute to the preservation of the earth by voluntarily introducing green management before environmental regulations are tightened."

This then was followed by a pledge from Kenneth Koo, CEO of Tai Chong Cheang Steamship Co. (TCCHK), who signed a memorandum of understanding (MoU) with the University of Southern California (USC) Viterbi School of Engineering to commit over \$4 million to fund a research programme aimed at reducing ship emissions and improving combustion efficiency in marine diesel engines.

Koo emphasised the need for a collaboration between industry and academia to substantially reduce GHG emissions and harmful pollutants emitted by conventional large bore two-stroke single-acting marine diesel engines used by the world's merchant shipping fleets.

Captain Vinay Patwardhan, TCCHK's director of group planning and development and a merchant ship captain, added that the design and method of operation of large diesel engines is virtually unchanged from 100 years ago and that investment in technology could "revolutionise" the industry.

The number of companies committing to the environment just kept going. There was Mitsui OSK Lines (MOL) who announced its new technology research centre can accommodate two 40-foot reefer containers and has a test engine room with sound insulation and vibration-proof devices. Then there was Singapore-based Transcu Green Tech Pte. Ltd. (TGT) that has set up a joint venture (JV) in Singapore with Nanomizer Pte. Ltd. (NPL) to develop and commercialise the Nano-Emulsion Fuel System (NEFS) for global markets, that is said to reduce fuel consumption and emissions by about 15% on average.

It seems that no matter where you look money is being thrown into developing radical new technologies.

Focus

But this increasing focus has not gone undetected, with number of recent reports on the subject.

Once such report by Energy Futures, Inc., entitled Container Ports and Air Pollution said that environmental efforts in Asia were being led by container terminal operators, and noted that "unlike the US, where natural gas is currently leading other alternatives to diesel, in Asia, various uses of electrical energy are the alter-

native of choice."

In fact, the subject of Asia's increasing investment in the idea of a green future is putting some regions on high alert.

MARTEC, a partnership of 19 European ministries and funding organisations responsible for funding research and technological development in maritime technologies from 15 countries, is one organisation that has recognised the shift in focus.

"The competition with South Korea, China and Japan are putting great pressure on Europe's maritime industry. The maritime industry is dependent on emerging technologies in areas such as shipping, shipbuilding and marine technologies," said MARTEC.

"Europe's approach to research is fragmented, as different countries tend to focus on different research topics. However, general themes are being addressed in almost all national research programmes. The European sector must maximise the value of research by creating a sustainable R&D strategy that can bring together Europe's key players," it added.

Even the European Commission realised that something needed to be done and signed an agreement with the maritime research project BESST (Breakthrough in European Ship and Shipbuilding Technologies) to increase the competitiveness of European built ships by reducing the lifecycle cost and environmental impact, and improving their safety.

BESST was formed by Europe's leading shipbuilders, including STX Finland, STX France, Fincantieri, Meyer Werft, Thyssen Krupp Marine Systems, and Damen Group. The agreement plans to increase the focus on areas of technical development such as space optimisation, improving energy efficiency and cutting emissions, as well as reducing noise and vibration.

"Continuously improved research and development co-operation and networking is seen by the project consortium as the European answer to the challenge of large Asian yards, overcoming the historic fragmentation of European shipbuilding and combining the high flexibility of smaller industry groups with the critical mass to achieve a breakthrough in innovation and market impact," Germanischer Lloyd said of the BESST project.

Meanwhile, reports continue to indicate that Asian nations are lagging behind on moving toward the low-carbon development model that is needed to sustain growth. And while world leaders will continue to dispute emission targets and who should pay green technologies, there are those in the maritime sector that will forge ahead with measures that will ensure a strong shipping sector regardless. ■

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