

**D**RIVEN by surging newbuilding investment and a pronounced trend towards higher concentrations of shipboard power, the marine propulsion market is forecast to reach nearly US\$6bn per annum within the next two years.

A study prepared by analysts Douglas-Westwood, entitled *The World Marine Propulsion Report 2004-2008\**, predicts that main engine installations will grow from 18GW this year to 19.3GW in 2005 and 19.9GW in 2006. At its 2005-2006 peak, the market for propulsion systems is expected to amount to US\$5.7bn and US\$5.9bn in the respective years, with prime movers alone accounting for US\$4.1bn and US\$4.3bn of the whole in each case.

To put the business development into perspective, it is anticipated that the overall propulsion market will show a 21% growth in monetary terms between the two five-year periods, 1999-2003 and 2004-2008. The corresponding increase for engines is likely to be in the order of 22%.

# A rising market

With shipbuilding output set to climb above 40M gt in 2005 and 2006, encompassing over 1850 vessel deliveries and more than 2850 main engines in each year, annual newbuilding market value will have swelled to around US\$45bn.

'The world shipping and shipbuilding industry is currently enjoying a strong upturn,' according to the report's authors. 'World economic growth is buoyant, and it is expected to remain strong in the medium term, boosted by the very strong growth of the Chinese economy and to a lesser extent other developing economies.'

'The commercial shipping industry has become more profitable than during the previous decade and confidence has grown. The overall result has been a surge of orders for vessels, and yards currently have full orderbooks,' observed the Douglas-Westwood analysts. However, the view is that such high rates of economic growth are unlikely to continue for long, and that a return to more normal levels of activity may be anticipated in 2007-2008 as the new tonnage is absorbed by the market.

## Driving power

It is reckoned that the fall-off in shipbuilding production will see deliveries in 2007 at some 38.3M gt, down to 35.1M gt the following year, with associated newbuild market values of US\$42bn and US\$38.5bn. Shipbuilding output forecast for 2008 is comparable to the levels for 2003, and thus the post-2006 trend does not represent a recessive tendency but rather a return to more normal trading conditions.

When comparing the periods 1999-2003 and 2004-2008,



vessel numbers are virtually unchanged, but gross tonnage (gt) and compensated gross tonnage (cgt) are projected to increase by 20% and 16% respectively, with the value of shipyard output increasing by 13.4% overall.

While the trend towards larger vessels, especially containerships and tankers, is expected to continue, it is considered that this will not appreciably affect the average size of ships built during the forecast period. 'We may well see 10 000 TEU-plus container vessels before 2008, but their numbers will be small,' states the report.

Since the year 2000, new boxships have made up the single largest category in terms of power, albeit not by measure of tonnage. The 5.6GW of propulsion engine installations in 2004 container vessel deliveries is forecast to increase through 2005 and

2006, reaching a peak of 6.4GW, before slipping back to 5.6GW in 2008.

The second rung in the power league is occupied by tankers, where 2006 deliveries are expected to embody over 5GW of main engines, compared with an anticipated 4.4GW for the current year. In fact, the tanker category will be the predominant driver of rising shipbuilding output over the next two years, reaching a peak of 18M gt per annum, compared with just over 7M gt of containership tonnage in 2006.

## Market shares

Designers, producers and licensors MAN B&W Diesel and Wärtsilä Corporation are also predicted to strengthen their hold on the business, with a forecast, combined five-year market share of 79%. MAN B&W is expected to supply 32% more power in the 2004-2008



Source: MAN B&W Diesel

biners and steam turbines, the latter now solely confined in the mercantile sector to LNG carriers, each represent 1% of the total power installed in newbuilds over the past five years.

The report examines the various technical advances in marine engines, propulsors, transmissions and propulsion control systems, and gives over large sections to fuels and emissions. It concludes that the diesel engine with mechanical drive will continue to dominate as the primary propulsion method. However, the report notes that the gross annual market for marine electric motors and propulsion drives is estimated to grow from US\$800m to between US\$4bn and US\$5bn by the year 2013.

The study suggests that marinised gas turbines will become more widespread in

some categories of commercial shipping as this technology spills over from the naval sector. It is deemed unlikely, however, that fuel cell technology will have any impact on large vessel powering within the timeframe spanned by the report. The first fuel cell-powered fishing vessel is expected to make its debut in 2006.

Environmental regulations will be the main driver of engine technological development in the foreseeable future, and exhaust emission standards will continue to tighten, especially in US and European waters. □

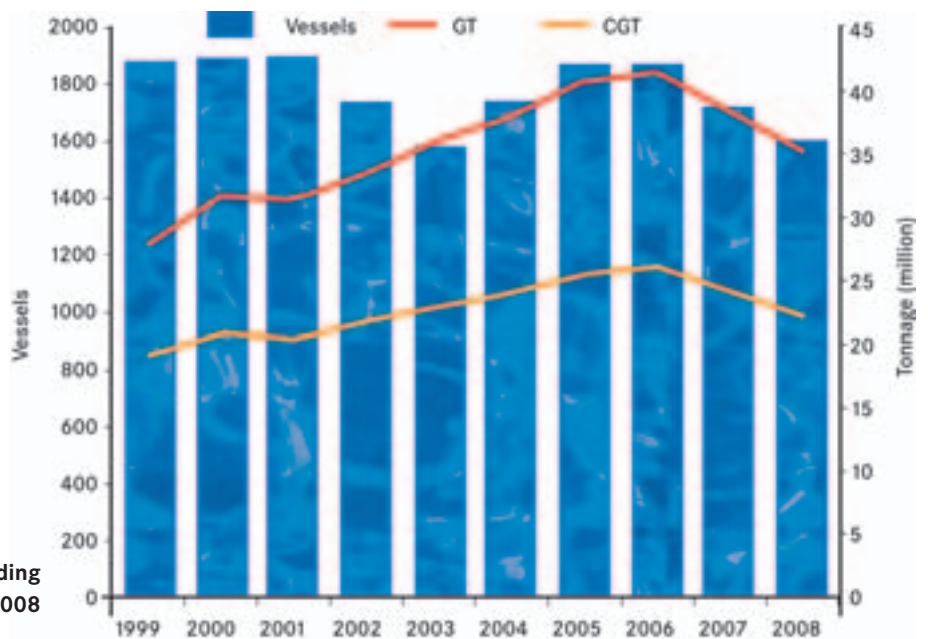
*\*The World Marine Propulsion Report 2004-2008, Technologies and Markets is available from Douglas-Westwood Ltd: tel +44 (0)1227 780999, e-mail admin@dw-1.com*

**David Tinsley** looks at what the current boom in shipping will mean for marine propulsion

period relative to 1999-2003, and to achieve a five-year market share of 53%. Wärtsilä is also expected to grow to a five-year share of 26%.

The study calculates that 97% of all vessels delivered between 1999 and 2003 were powered with diesel machinery, and that 56% were direct drive, 41% were geared, and 2% had an electric drive system. Direct drive installations account for 72% of power transmitted, with geared drives making up 21% and diesel-electric 2%. Gas tur-

■ Shipbuilding output 1999-2008



■ Market for marine propulsion systems 1999-2008

