

COMPANY PROFILE - DK GROUP

'Air' technology poised to slash bunker costs

\$25 million technology created to reduce global CO2 emissions by 15% will simultaneously reduce a ship's bunker fuel bill by up to \$3 million per year.

The bunker and shipping industries have become used to rafts of fragmented legislation committed to reducing sulphur oxides (SOx) and nitrogen oxides (NOx) in marine fuels - yet little attention has been given to the shipping sector's 'carbon footprint', of which we hear so much about in the aviation sector.

European Union (EU) legislation culminated in the enforcement of a Sulphur Emission Control Area (SECA) in the Baltic Sea 2006 and unilateral moves in the Port of Los Angeles have seen major shipowners such as AP Moeller-Maersk switch to low-sulphur fuels in California waters. Yet these regulations have targeted 'air quality' in the light of concerns in major western port centers.

It appears 'local' concerns up until now have overridden the global impact of carbon dioxide (CO2) and the impact of the greenhouse effect on the global environment and economy.

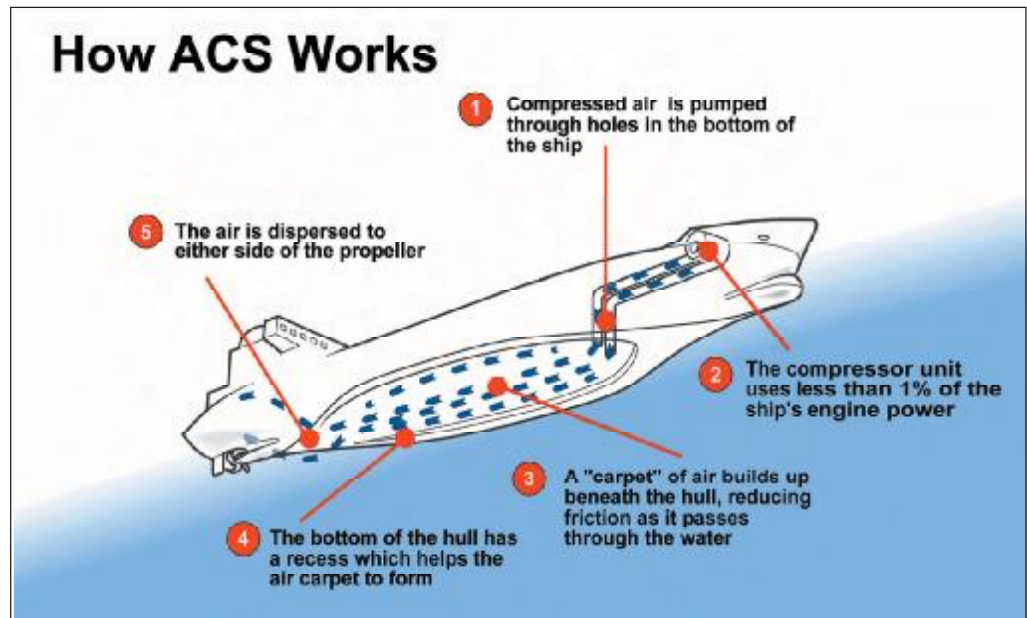
There is no concrete data on how much carbon emissions the shipping industry is responsible for. One end of the scale, Dr. Veronica Eyring from the German Institute of Physics of the Atmosphere states that the shipping industry accounts for 813 million tonnes of CO2 emissions.

On the other, the German Advisory Council on Global Change states that shipping accounts for 2% of all CO2 emissions, or 500 million metric tonnes (based on global emissions being 25 billion metric tonnes). Which ever way you look at it, it is still a significant amount when one takes into consideration that aviation accounts for 600 to 700 million tonnes per year, according to airportwatch.co.uk.

The International Maritime Organization's (IMO) study of greenhouse gas emissions states that emissions from the global fleet are expected to increase in the next two decades as international trade expands. Essentially, globalisation is driving the desire for larger, faster ships that consume more fuel; and without action, the IMO predicts that by 2020, emissions from ships are expected to rise by between 38-72% due to the increased in fuel consumption.

According to the EU's 'Clean Air for Europe impact assessment', ships are fast becoming the biggest source of air pollution in the EU.

It warns: "Unless more action is taken



Air carpet diagram flip

they are set to emit more than all land sources combined by 2020. And according to the ship's emissions assignment report,



DK Group founder Jørn Winkler speaking in New York

in 2000 EU-flagged ships emitted 200 million tonnes of CO2. This is significantly more than emissions from EU aviation."

While new technologies have been developed to reduce NOx and SOx in the form of abatement or scrubbing development, there have been few solutions tabled that can significantly reduce CO2 emissions - until now.

Maritime technology company DK Group announced in January the launch of a technology which is poised to provide huge cost savings to bunker fuel purchasers whilst slashing the entire shipping industry's global CO2 emissions by up to 15%.

The patented Air Cavity System (ACS) injects air into specially designed hulls, which reduces the friction of the hull surface against the water. It creates a layer of air between the hull and the water, allowing the vessel to effectively 'glide' through water, reducing hydrodynamic resistance.

Drag is reduced by between 5% to 15% and only 0.5% to 1% of the vessel's total power is needed to support the air cavity, according to DK Group. It says ACS is able to provide up to a 15% reduction in fuel consumption over any comparable vessel.

ACS technology is a \$25 million project that has been developed by DK Group over the past five years and will be taken to market in 2007.

DK Group says its technology could have a significant impact on limiting global warming. CO2 reductions gained by employing ACS technology would be equivalent to reducing the CO2 emitted from 450,000 flights from London to New York, the company said.

DK Group says shipowners can recoup the costs of ACS in between two to four years depending on the vessel type. Based on the increased speed that ACS generates and the reduced fuel consumption, shipowners can save up to \$1

million per vessel for tankers and \$3 million per vessel for container ships every year in bunker fuel cost savings.

With the cost of crude oil expected to rise in the coming years, savings with ACS could grow over the lifespan of a vessel.

Christian Eyde Møller, Chief Executive, DK Group, told *Bunkerworld*: "ACS technology provides the shipping industry with an opportunity for change and transformation. Not only will shipowners realise huge cost savings by millions of dollars every year, but it will reduce the shipping industry's CO2 and sulphur emissions by up to 15%.

He continued: "ACS technology demonstrates the shipping industry's commitment to finding new solutions that limit the impact of global warming."

Founder Jørn Winkler first developed the concept for ACS technology during a project that sought to increase speed using 'glide' technology on jet skis and smaller recreational vessels. He realised that ACS technology could be applied to larger ships; but instead of speeding them up, it could be used to make larger ocean-going vessels more fuel efficient, thus reducing the shipping industry's carbon footprint significantly.

ACS has the added benefit of having Maersk Brokers as exclusive distributors of the technology, one of the largest ship brokering companies in the world. ■

For further information, go to www.dkgroup.eu.