

What energy saving in shipping is all about

Keynote speaker on logistics and supply chains.

Fuel costs can be more than 15% of the cost of shipping containers around the world. More than 40% of all shipping fuel can be saved at almost zero cost, which really matters since most goods are transported globally in shipping containers, so even small energy savings are highly significant in the impact on global trade.

Why energy saving in shipping really matters

90% of all goods ranging from oil, gas, coal, and grains to electronic items, are carried each year by over 80,000 merchant ships larger than 2000 tons. It's the equivalent of shipping 1000 tons of products over 30 billion miles a year and results in 5% of all carbon emissions each year. We can save at least 50% of all shipping energy costs – equivalent to 2.5% of all global carbon use – by using a combination of the measures above.

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How to save 40% of energy to drive every ship - instantly with zero refitting cost

Depending on the ship, companies can save up to 40% of their fuel costs by slowing down from 24 knots to 20 knots. Therefore we can expect slightly slower ship speeds - such an easy way to save huge energy costs.

But that is just the start. Hundreds of other smaller [innovations](#) can save additional fuel ranging from new designs of ship hulls, to engines and propellers. Even small changes to hull

shapes of huge container ships can result in significantly less drag.

Hyundai Heavy Industries, Daewoo Shipbuilding and Marine Engineering have created new energy-efficient “thrust fins” which are mounted to the ship’s rudder. They reduce water turbulence from the propellers and convert it into extra thrust, reducing fuel use up to 6%.

Another potential innovation is to use wind power. Beluga Projects produce huge kitesurf rigs which can be fitted to almost any ship, offering 15% to 30% fuel savings. Their enormous kites fly up to 300 metres above the sea where winds are stronger and more reliable. They are computer controlled, do not require extra manpower and operate in moderate winds supplementing engines. However they are experimental prototypes.

We can also expect new marine diesels to improve in efficiency by at least 2% over the next decade. Nanotech coatings on every moving part of auto engines are already producing at least 5% energy savings, so it is reasonable to think that huge marine engines will also become much more efficient.

Another hugely important way to save energy in shipping is to make sure that every container is full - a large percentage of containers are shipped empty on return voyages which is a massive waste. We see the same in lorries where in the EU typically 30% of all containers are empty on every journey.

Business Opportunity

Expect huge opportunities in every aspect of ship design – from on-board electricity generation to next-generation marine diesel engines.

If you want an immediate and potentially huge business opportunity, invest in easy to use, web-based software to match empty containers with people who want to ship goods - not just sea containers, but also those moved on roads or rail. This is a freight opportunity worth hundreds of millions of dollars a year.

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